



BURLINGTON RETIREMENT SYSTEM

City of Burlington

City Hall, Room 20, 149 Church Street, Burlington, VT 05401

Robert Hooper, Chairman of the Board

Munir Kasti, Vice-Chairman

Meeting – Monday, March 21, 2022

Start Time – 9:00 AM – 11:00 AM

Location – Burlington City Hall, 1st Floor, Councilor Bushor Conference Room

Or

Join Zoom Meeting:

<https://us02web.zoom.us/j/85261644826?pwd=SmI1amsvSkRmNzFSU29sV2VOMXhNUT09>

Meeting ID: 852- 6164- 4826

Passcode: 834923

You may join by phone, dial +1 929 205 6099, meeting # 852-6164-4826

1. Agenda
2. Public Forum
3. Approve Minutes
 - February 22, 2021
4. Approve Return of Contributions

	Effective Date of Benefit
• Christen LaFountain, Class B \$3,252.38	04/01/2022
• John C. Montgomery, Class A \$31,337.47	03/01/2022
• Trey Bowman, Class B \$4,200.68	04/01/2022
5. Approve Retirement Applications

	Effective Date of Benefit	Actual First Payment Date
• Craig Chaffee, Class B \$653.71	04/01/2022	04/15/2022
• James Pebler, Class B \$69.00	09/01/2021	09/15/2021
6. Approve FY21 Valuation Report
7. Administrative Updates
 - Retirement Administrative Position – Interviews in April
 - Board Meetings – Stipends, no City Councilors or Employees
8. Fiducient
 - February Portfolio & Market Update
9. Adjourn

**BURLINGTON RETIREMENT BOARD
REMOTE MEETING WITH CALL-IN
BURLINGTON, VERMONT
MINUTES OF MEETING
DRAFT
February 22, 2022**

MEMBERS PRESENT:	Patrick Robins David Mount Ben O'Brien Matthew Dow Dan Gilligan
OTHERS PRESENT:	Rich Goodwin Chris Rowllins Richard Carey Hayley McClenahan

1.0 CALL TO ORDER

Ben O'Brien called the Retirement Board meeting to order at 9:05 AM.

MOTION by Patrick Robins, SECOND by Matthew Dow, to adopt the agenda.

VOTING: unanimous; motion carries.

2.0 PUBLIC FORUM (VERBAL)

2.01 Verbal Comments

None at this time.

3.0. APPROVE MINUTES

3.01 Minutes of January 18, 2022

MOTION by Patrick Robins, SECOND by Dan Gilligan, to approve the minutes of January 18, 2022.

VOTING: unanimous; motion carries.

4.0 APPROVE RETURN OF CONTRIBUTIONS

4.01 Approve Return of Contributions

Approve Return of Contributions	Amount	Effective Date of Benefit
Cory R. Marceau, Class B	\$1,091.01	03/01/2022

MOTION by Dan Gilligan, SECOND by Matthew Dow, to approve the return of contributions applications as presented.

VOTING: unanimous; motion carries.

5.0 APPROVE RETIREMENT APPLICATIONS

5.01 Approve Retirement Applications

Approve Retirement Applications	Amount	Effective Date of Benefit	Actual First Payment Date
Jason A. Lawson, Class A	\$5,905.31	01/01/2022	01/15/2022
Martha Q. Keenan, Class B	\$624.33	02/01/2022	02/15/2022

MOTION by Matthew Dow, SECOND by Daniel Gilligan, to approve the retirement applications as presented.

VOTING: unanimous; motion carries.

6.0 ADMINISTRATIVE UPDATES

6.01 Retirement Administrative Position – Interviews in late March/early April

Finance Director Goodwin said that the City is seeking approval for a full-time retirement administrative position from the Board of Finance in March, and that based on that timing, they anticipate beginning to conduct interviews for the position in late March or early April.

7.0 FIDUCIARY'S

7.01 BERS Fourth Quarter 2021 Investment Report

Chris Rowlinson noted that fourth quarter figures were covered at the BERS January meeting.

7.02 BERS Monthly Investment Update as of 1/31/2022

Mr. Rowlinson began with observations on January 2022. He said that after a solid fourth quarter, January had a rocky start. He said that investors are preoccupied with inflation and a hawkish tone by the Federal Reserve, which has spooked the market somewhat. He noted that bonds have come under pressure as interest rates spiked higher in January. He noted that both fixed income and equities sold off in January. He noted that in the equity market, small caps saw more of a sell-off than large cap, though both declined. He noted that the international markets have performed slightly stronger than U.S. markets in January. He provided more detail on returns by sector, noting declines across the board except for in the energy and financials sectors.

Mr. Rowlinson spoke about the portfolio's asset allocation as of the end of January and noted that the allocation was consistent with the long-term targets. He said that Fiduciant is performing manager due diligence in the emerging markets space for the inclusion of active managers.

He said that active management in that area could be beneficial to the portfolio and that they are preparing to present findings to the BERS board at an upcoming meeting.

Mr. Rowlins noted that the portfolio was down 4.3% for the month of January, though he noted that this is after an extremely strong performance in the previous quarter. He said that performance was impacted by rising rates and sell off in global equities. He noted that the portfolio received a redemption from UBS Trumbull Property Fund of \$1.2 million in January. He said that the unconstrained strategy in the fixed income allocation was funded at around 3%.

Mr. Robins asked if Fiducient's market outlook has changed at all in the last 30 days, looking at the rest of the year. Mr. Rowlins said that they are anticipating a more modest economic recovery in 2022, given waning monetary and fiscal stimulus support from the federal government. He said that there are more headwinds to the market in this environment in the form of rising interest rates and geopolitical risks, but that the consumer and corporate picture look relatively healthy. He said that some of the increase in inflation seems to be transitory, as supply chain issues are resolved. Mr. Robins asked if they think that equities will come up net positive at the end of the year. Mr. Rowlins said Fiducient's outlook for 2022 suggested heightened volatility for the capital markets and that equities remain attractive from a valuation perspective. He noted that global equities and that they continue to provide a solid long-term return profile for the portfolio.

7.03 Review of Asset Allocation Modeling

Mr. Rowlins said that as part of Fiducient's fourth quarter governance calendar, they conduct a re-underwriting of the portfolio's asset allocation using the firm's most recent capital market assumptions. This exercise is to ensure that the portfolio's asset allocation continues to align with the BERS board's goals and objectives. He said that with allocations of 18% to fixed-income, 75% to equities, and 7% to real assets and alternatives, they are predicting returns of around 7.5% for the portfolio's 20-year expected return profile (which is in line with the portfolio's 7.2% return assumption).

Mr. Robins asked about any assumptions around the federal reserve's target interest rate. Mr. Rowlins replied that the federal reserve will likely proceed cautiously and modestly, and they are anticipating around 4 rate hikes for this year and a 0.25% or 0.5% increase for each increase.

8.0 ADJOURN

8.01 Motion to Adjourn

The meeting adjourned without objection at 9:26 AM.

RScty: AACoonrad

Calculation of Return of Employee Contributions

Form A

Burlington Employees' Retirement System

Christen LaFountain

IMPORTANT: City of Burlington reserves the right to correct any errors in the Calculation of Pension Benefit and Options. If it is determined at any time that the information provided in this Pension Distribution Kit conflicts with the terms of the Plan, the terms of the Plan will govern. Under the law, a plan must be operated in accordance with its terms and errors must be corrected. As a Plan participant, you may have made post-tax contributions to the Plan. As a result, a portion of your benefit may be non-taxable. **Consult with your tax advisor if you have any questions.**

Information Used in Determination

Participant Name:	Christen LaFountain	Class:	B
Date of Birth:		Department:	School
Date of Hire:	08/21/2014	Post-Tax Employee Contributions:	\$0.00
Date of Termination:	04/13/2018	Normal Retirement Date (NRD):	02/06/2056
Beneficiary Date of Birth:		Payment Start Date:	04/01/2022
		Vesting Percentage:	0.0000%

Determination of Employee Contribution Balance with Interest

<u>Period Ending</u>	<u>Description</u>	<u>Transaction</u>	<u>Balance at End of Period</u>
04/22/2015	Contributions	\$521.19	\$521.19
06/30/2015	Interest at 5.5%	\$0.00	\$521.19
04/30/2016	Contributions	\$385.98	\$907.17
06/30/2016	Interest at 5.5%	\$28.67	\$935.84
06/30/2017	Contributions	\$944.46	\$1,880.30
06/30/2017	Interest at 5.5%	\$51.47	\$1,931.77
12/31/2017	Contributions	\$528.48	\$2,460.25
12/31/2017	Interest at 5.5%	\$52.41	\$2,512.66
04/13/2018	Contributions	\$481.03	\$2,993.69
06/30/2018	Interest at 2%	\$25.00	\$3,018.69
06/30/2019	Interest at 2%	\$60.37	\$3,079.06
06/30/2020	Interest at 2%	\$61.58	\$3,140.64
06/30/2021	Interest at 2%	\$62.81	\$3,203.45
03/31/2022	Interest at 2%	\$47.93	\$3,251.38

(1) Pre-Tax Employee Contributions (Taxable):	\$2,861.14
(2) Interest Accrued on Employee Contributions (5.5% through 12/31/2017, 2% thereafter):	\$390.24
(3) Total Return of Employee Contributions with Interest:	\$3,251.38

Determination of Taxable Portion of Benefit

<u>Form of Payment</u>	<u>Total Benefit</u>	<u>Taxable Portion</u>	<u>Non-Taxable Portion</u>
Return of Contributions	\$3,251.38	\$3,251.38	0.00

Calculation of Return of Employee Contributions

Form A

Burlington Employees' Retirement System

John C. Montgomery

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Information Used in Determination

Participant Name:	John C. Montgomery	Class:	A
Date of Birth:		Department:	Fire Union
Date of Hire:	05/08/2017	Post-Tax Employee Contributions:	\$0.00
Date of Termination:	12/25/2021	Normal Retirement Date (NRD):	05/08/2042
Beneficiary Date of Birth:	N/A	Payment Start Date:	03/01/2022
		Vesting Percentage:	0.0000%

Determination of Employee Contribution Balance with Interest

<u>Period Ending</u>	<u>Description</u>	<u>Transaction</u>	<u>Balance at End of Period</u>
06/30/2017	Contributions	\$696.33	\$696.33
06/30/2017	Interest at 5.5%	\$0.00	\$696.33
12/31/2017	Contributions	\$2,522.55	\$3,218.88
12/31/2017	Interest at 5.5%	\$18.89	\$3,237.77
06/30/2018	Contributions	\$2,615.62	\$5,853.39
06/30/2018	Interest at 2%	\$32.22	\$5,885.61
06/30/2019	Contributions	\$6,036.89	\$11,922.50
06/30/2019	Interest at 2%	\$117.71	\$12,040.21
06/30/2020	Contributions	\$6,776.76	\$18,816.97
06/30/2020	Interest at 2%	\$240.80	\$19,057.77
06/30/2021	Contributions	\$7,142.55	\$26,200.32
06/30/2021	Interest at 2%	\$381.16	\$26,581.48
12/25/2021	Contributions	\$4,402.74	\$30,984.22
02/28/2022	Interest at 2%	\$353.25	\$31,337.47

(1) Pre-Tax Employee Contributions (Taxable):	\$30,193.44
(2) Interest Accrued on Employee Contributions (5.5% through 12/31/2017, 2% thereafter):	\$1,144.03
(3) Total Return of Employee Contributions with Interest:	\$31,337.47

Determination of Taxable Portion of Benefit

<u>Form of Payment</u>	<u>Total Benefit</u>	<u>Taxable Portion</u>	<u>Non-Taxable Portion</u>
Return of Contributions	\$31,337.47	\$31,337.47	0.00

Calculation of Return of Employee Contributions

Burlington Employees' Retirement System

Form A

Trey Bowman

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Information Used in Determination

Participant Name:	Trey Bowman	Class:	B
Date of Birth:		Department:	AFSCME Local 1343
Date of Hire:	08/03/2020	Post-Tax Employee Contributions:	\$0.00
Date of Termination:	02/02/2022	Normal Retirement Date (NRD):	03/05/2061
Beneficiary Date of Birth:		Payment Start Date:	04/01/2022
		Vesting Percentage:	0.0000%

Determination of Employee Contribution Balance with Interest

<u>Period Ending</u>	<u>Description</u>	<u>Transaction</u>	<u>Balance at End of Period</u>
06/30/2021	Contributions	\$2,254.99	\$2,254.99
06/30/2021	Interest at 2%	\$0.00	\$2,254.99
02/02/2022	Contributions	\$1,911.95	\$4,166.94
03/31/2022	Interest at 2%	\$33.74	\$4,200.68

(1) Pre-Tax Employee Contributions (Taxable):	\$4,166.94
(2) Interest Accrued on Employee Contributions (5.5% through 12/31/2017, 2% thereafter):	\$33.74
(3) Total Return of Employee Contributions with Interest:	\$4,200.68

Determination of Taxable Portion of Benefit

<u>Form of Payment</u>	<u>Total Benefit</u>	<u>Taxable Portion</u>	<u>Non-Taxable Portion</u>
Return of Contributions	\$4,200.68	\$4,200.68	0.00

Calculation of Benefit Options

Form A

Burlington Employees' Retirement System, Class B - AFSCME Local 1343

Craig Chaffee

IMPORTANT: City of Burlington reserves the right to correct any errors in the Calculation of Pension Benefit and Options. If it is determined at any time that the information provided in this Pension Distribution Kit conflicts with the terms of the Plan, the terms of the Plan will govern. Under the law, a plan must be operated in accordance with its terms and errors must be corrected.

Type of Calculation

Vested - Late Retirement

Information Used in Benefit Determination

Participant Name:	Craig Chaffee	Class:	B
Date of Birth:		Department:	AFSCME Local 1343
Date of Hire:	09/13/2012	Vesting Percentage:	100.0000%
Date of Termination:	03/08/2022	Normal Retirement Date (NRD):	07/08/2021
Beneficiary Date of Birth:	N/A	Payment Start Date:	04/01/2022
		Employee Contribution Balance w/ Interest as of 04/01/2022:	\$21,363.80

Earnings

Average Final Compensation*: \$53,006.02

Determination of Benefit Amount

(1) Years of Creditable Service (CS)	9.50000
(2) Years of CS on or prior to 06/30/2006 [(2) + (3) is not to exceed 25 years]	0.00000
(3) Years of CS after 06/30/2006 [(2) + (3) is not to exceed 25 years]	9.50000
(4) Years of CS in excess of 25 years	N/A

COLA Option

Full COLA

(5) Accrual Rate on or prior to 06/30/2006 (not to exceed 25 years)	1.400%
(6) Accrual Rate after 06/30/2006 (not to exceed 25 years)	1.400%
(7) Accrual Rate in excess of 25 years	0.500%
(8) Retirement Accrual Percentage = [(2) x (5)] + [(3) x (6)] + [(4) x (7)]	13.3000%
(9) Monthly Vested Benefit Payable at Payment Start Date = (8) x Average Final Compensation/12 x Vesting Percentage	\$587.48
(10) Monthly Vested Benefit at NRD: = [Years of CS on or prior to 06/30/2006 and prior to NRD (0.00000) x (5)] + [Years of CS after 06/30/2006 and prior to NRD (8.83333) x (6)] + [Years of CS in excess of 25 years and prior to NRD (0.00000) x (7)] x Average Final Compensation/12 x Vesting Percentage	\$546.26
(11) Month Vested Benefit Payable as of your Payment Start Date: = [Greater of (10)] x 1.079771 Late Adjustment Factor or (9)	\$589.83

Benefit Options Available

Form of Payment	Option Factor	Full COLA	
		Initial Benefit	Survivor's Benefit ⁽¹⁾
Straight Life Annuity	1.1083	\$653.71	**
10 Year Certain & Life Annuity	1.0000	\$589.83	\$589.83
100% Joint & Survivor Annuity	N/A	N/A	N/A
50% Joint & Survivor Annuity	N/A	N/A	N/A
100% Joint & Survivor Pop-Up Annuity	N/A	N/A	N/A
50% Joint & Survivor Pop-Up Annuity	N/A	N/A	N/A
Return of Employee Contributions	N/A	\$21,363.80	N/A

(1) **Survivor Benefits:** for the Joint and Survivor Annuity payments, the survivor's benefit is only payable if the chosen survivor is alive upon the participant's death. If the chosen survivor is not alive, then no additional benefit is payable upon participant death. The choice of survivor may not be changed after benefit payments have commenced.

* Average is of the five highest years of base earnings

**Amount in excess (if any) of accumulated employee contributions, with interest, over payments made

Calculation of Benefit Options

Form A

Burlington Employees' Retirement System, Class B - AFSCME Local 1343

James Pebler

IMPORTANT: City of Burlington reserves the right to correct any errors in the Calculation of Pension Benefit and Options. If it is determined at any time that the information provided in this Pension Distribution Kit conflicts with the terms of the Plan, the terms of the Plan will govern. Under the law, a plan must be operated in accordance with its terms and errors must be corrected.

Type of Calculation

Vested - Early Retirement

Information Used in Benefit Determination

Participant Name:	James Pebler	Class:	B
Date of Birth:		Department:	AFSCME Local 1343
Date of Hire:	09/26/2001	Vesting Percentage:	83.3333%
Date of Termination:	11/21/2007	Normal Retirement Date (NRD):	12/26/2030
Beneficiary Date of Birth:		Payment Start Date:	09/01/2021
		Employee Contribution Balance w/ Interest as of 09/01/2021:	\$388.32

Earnings

Average Final Compensation*: \$19,633.74

Determination of Benefit Amount

(1) Years of Creditable Service (CS)	6.16667
(2) Years of CS on or prior to 06/30/2006 [(2) + (3) is not to exceed 25 years]	4.75000
(3) Years of CS after 06/30/2006 [(2) + (3) is not to exceed 25 years]	1.41667
COLA Option	Full COLA Half COLA No COLA
(4) Accrual Rate on or prior to 06/30/2006 (not to exceed 25 years)	1.600% 1.900% 2.200%
(5) Accrual Rate after 06/30/2006 (not to exceed 25 years)	1.600% 1.800% 2.000%
(6) Retirement Accrual Percentage = [(2) x (4)] + [(3) x (5)]	9.8667% 11.5750% 13.2833%
(7) Monthly Vested Benefit Payable at NRD = (6) x Average Final Compensation/12 x Vesting Percentage	\$134.53 \$157.82 \$181.11
(8) Early Retirement Reduction Factor	0.381 0.381 0.381
(9) Monthly Vested Benefit Payable at Payment Start Date (7) x (8)	\$51.25 \$60.13 \$69.00

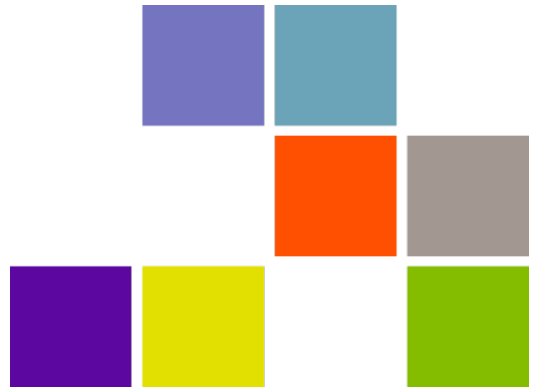
Benefit Options Available

Form of Payment	Option Factor	Full COLA		Half COLA		No COLA	
		Initial Benefit	Survivor's Benefit ⁽¹⁾	Initial Benefit	Survivor's Benefit ⁽¹⁾	Initial Benefit	Survivor's Benefit ⁽¹⁾
Straight Life Annuity	1.0330	\$52.95	**	\$62.11	**	\$71.28	**
10 Year Certain & Life Annuity	1.0000	\$51.25	\$51.25	\$60.13	\$60.13	\$69.00	\$69.00
100% Joint & Survivor Annuity	0.8295	\$42.52	\$42.52	\$49.88	\$49.88	\$57.24	\$57.24
50% Joint & Survivor Annuity	0.9200	\$47.15	\$23.58	\$55.32	\$27.66	\$63.48	\$31.74
100% Joint & Survivor Pop-Up Annuity	0.8274	\$42.41	\$42.41	\$49.75	\$49.75	\$57.09	\$57.09
50% Joint & Survivor Pop-Up Annuity	0.9184	\$47.07	\$23.54	\$55.22	\$27.61	\$63.37	\$31.69
Return of Employee Contributions	N/A	\$388.32	N/A	\$388.32	N/A	\$388.32	N/A

(1) **Survivor Benefits:** for the Joint & Survivor Annuity payments, the survivor's benefit is only payable if the chosen survivor is alive upon the participant's death. If the chosen survivor is not alive, then no additional benefit is payable upon participant death. The choice of survivor may not be changed after benefit payments have commenced.

* Average is of the three highest years of base earnings

**Amount in excess (if any) of accumulated employee contributions, with interest, over payments made



BURLINGTON EMPLOYEES' RETIREMENT SYSTEM

ACTUARIAL VALUATION REPORT

JUNE 30, 2021

DRAFT





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Executive Summary

	June 30, 2021			June 30, 2020		
	Class A	Class B	Total	Class A	Class B	Total
Number of members						
Active employees	164	718	882	173	707	880
Terminated vested members	27	350	377	22	371	393
Vested in employee contributions only	24	255	279	22	212	234
Retired, disabled and beneficiaries	206	608	814	198	569	767
Total	421	1,931	2,352	415	1,859	2,274
Covered employee payroll	10,983,976	40,650,238	51,634,214	11,530,183	39,073,315	50,603,498
Average plan salary	66,975	56,616	58,542	66,648	55,266	57,504
Actuarial present value of future benefits	175,631,548	186,334,932	361,966,480	167,512,142	176,215,668	343,727,810
Actuarial accrued liability	146,637,414	164,141,496	310,778,910	139,440,152	153,731,046	293,171,198
Plan assets						
Market value of assets	108,154,375	140,780,547	248,934,922	83,542,707	111,063,917	194,606,624
Actuarial value of assets	95,312,732	124,065,055	219,377,787	90,091,570	119,770,152	209,861,722
Unfunded accrued liability	51,324,682	40,076,441	91,401,123	49,348,582	33,960,894	83,309,476
Funded ratio	65.0%	75.6%	70.6%	64.6%	77.9%	71.6%
Actuarially determined employer contribution (ADEC)						
Fiscal year ending	2023	2023	2023	2022	2022	2022
ADEC	6,877,748	5,601,701	12,479,449	6,522,368	5,163,863	11,686,231



Valuation Results and Highlights

Purpose of the Valuation

The purpose of the valuation is to develop the Actuarially Determined Employer Contribution (ADEC).

The ultimate cost of a pension plan is based primarily on the level of benefits promised by the plan. The pension fund's investment earnings serve to reduce the cost of plan benefits and expenses. Thus,

$$\text{Ultimate cost} = \text{Benefits Paid} + \text{Expenses Incurred} - \text{Investment Return} - \text{Employee Contributions}$$

The actuarial cost method distributes this ultimate cost over the working lifetime of current plan participants. By means of this budgeting process, costs are allocated to both past and future years, and a cost is assigned to the current year. The current year's allocated cost, or normal cost, is the building block upon which the actuarially determined employer contribution is developed. The June 30, 2021 valuation produces the contribution for the fiscal year ending 2023.

Information Available in the Valuation Report

The Executive Summary is intended to emphasize the notable results of the valuation from the perspective of the Plan Sponsor. Supporting technical detail is documented in Results of the Valuation, Supporting Exhibits and Description of Actuarial Methods and Assumptions. A concise summary of the principal provisions of the Plan is outlined in Summary of Plan Provisions.

Changes Reflected in the Valuation

The investment rate of return and mortality improvement assumptions were updated, which increased the unfunded accrued liability and ADEC by \$3,181,000 and \$354,000, respectively. In addition, the outcome of the IBEW arbitration was reflected, which increased the unfunded accrued liability and ADEC by \$3,889,000 and \$348,000, respectively. Finally, the asset smoothing method was changed, which increased the unfunded accrued liability and ADEC by \$1,325,000 and \$117,000, respectively.

Cash Contribution for Fiscal Year Ending 2023

	Class A	Class B
Normal Contribution Rate	17.9%	3.5%
Past Service Contribution	\$4,753,575	\$3,942,317
The City cost is:		
	2023 Fiscal Year	
Class A	\$6,877,748	
Class B	5,601,701	
Total	\$12,479,449	

Liability Experience During Period Under Review

The plan experienced a net actuarial loss on liabilities of approximately \$648,000 since the prior valuation. This was mainly due to losses from actual turnover and retirement patterns, partially offset by gains from retiree mortality and COLA increases that were less than expected.



Asset Experience During Period Under Review

The plan's assets provided the following rates of return during the past fiscal year:

	2021 Fiscal Year
Market Value Basis	31.1%
Actuarial Value Basis	7.2%

The Actuarial Value of assets, rather than the Market Value, is used to determine plan contributions. The Actuarial Value spreads the asset volatility over 5 years, thereby smoothing out fluctuations that are inherent in the Market Value.

Assessment and Measurement of Risks

Financial Significance of Plan

It is important to understand the size of the pension plan compared to the size of the sponsor of that plan. Additional pension contributions may be required at inopportune times for the plan sponsor. In general, a plan sponsor with assets or revenue that are much larger than the liabilities in its pension plans will be better able to withstand increases in required pension contributions.

Plan Maturity Measurements

	June 30, 2021	June 30, 2020
Actuarial accrued liability for members currently in pay status as a percentage of the total actuarial accrued liability	60.6%	59.7%
<ul style="list-style-type: none"> • A lower percentage results in greater volatility as the investment return assumption changes. • A higher percentage results in greater demand on cash due to a proportionately higher percentage of benefits being in pay status. 		

	June 30, 2021
Duration of benefit payments using an investment rate of return of 7.20%	13.2 years
<ul style="list-style-type: none"> • A higher duration will occur if the plan's percentage of members in pay status decreases. A plan with a higher duration will have a liability that is more sensitive to changes in the investment return assumption. 	

	June 30, 2021	June 30, 2020
Ratio of market value of assets to covered payroll	4.8	3.8
<ul style="list-style-type: none"> • A higher ratio is more typical of relatively mature plans with a larger percentage of inactive members and may cause more potential contribution volatility as pension fund assets fluctuate. 		



Risks to Assess

Estimated Impact of a 5% Reduction in Market Value of Assets

	Fiscal Year Ending 2023
Increase in actuarially determined employer contribution (ADEC)	219,388
<ul style="list-style-type: none"> Plans would generally be subject to a larger amortization payment if the market value of assets were 5% smaller. As a result, the ADEC would generally be higher for up to 30 years. 	

Due to the asset smoothing method, the ADEC will additionally increase by the same amount in each of the next few years. Each of these additional contributions will continue for up to 30 years.

Estimated Impact of a 1 Year Increase in Life Expectancies

	Fiscal Year Ending 2023
Increase in actuarially determined employer contribution (ADEC)	594,920
<ul style="list-style-type: none"> If members live longer than expected, it generally results in larger benefits and/or additional benefit payments made. As a result, the ADEC would generally be higher for up to 30 years. 	

Historical Results

Valuation Year Beginning	Investment Return Assumption	Annual Effective Rate of Return on Market Value of Assets	Market Value of Assets as a % of Actuarial Accrued Liability	Benefit Payments as a % of Market Value of Assets
2021	7.20%	N/A	80.1%	N/A
2020	7.30%	31.1%	66.4%	9.5%
2019	7.40%	2.3%	70.0%	8.9%
2018	7.50%	5.1%	71.4%	8.8%
2017	8.00%	9.6%	69.5%	8.9%
2016	8.00%	14.1%	63.8%	9.4%
2015	8.00%	-1.3%	69.3%	8.8%



Certification

This report presents the results of the June 30, 2021 Actuarial Valuation for Burlington Employees' Retirement System (the Plan) for the purpose of estimating the funded status of the Plan and determining the Actuarially Determined Employer Contribution (ADEC) for the fiscal year ending June 30, 2023. This report may not be appropriate for any other purpose.

The valuation has been performed in accordance with generally accepted actuarial principles and practices. It is intended to comply with all applicable Actuarial Standards of Practice.

As required under Part II, Section 24-61 of the Burlington Code of Ordinances, experience studies are performed at least once in every five-year period. The assumptions in this report were based on an experience study covering the period July 1, 2012 to June 30, 2017.

In our opinion, the actuarial assumptions used in this report are reasonably related to the experience of the Plan and to reasonable long-term expectations.

In preparing this valuation, I have relied on employee data provided by the Plan Sponsor, and on asset and contribution information provided by the Trustee. I have audited neither the employee data nor the financial information, although I have reviewed them for reasonableness.

The results in this valuation report are based on the Plan as summarized in the *Summary of Plan Provisions* section of this report and the actuarial assumptions and methods detailed in the *Description of Actuarial Methods and Assumptions* section of this report.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to factors such as, but not limited to, the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the Plan's funded status); and changes in plan provisions or applicable law. Due to the limited scope of this report, an analysis of the potential range of such future measurements has not been performed.

I have no relationship with the employer or the Plan that would impair, or appear to impair, my objectivity in performing the work presented in this report. I am a member of the American Academy of Actuaries and meet its Qualification Standards to render the actuarial opinion contained herein.

Steve A. Lemanski, FSA, FCA, MAAA
Enrolled Actuary 20-05506

Robert P. Lessard, ASA, FCA, MAAA
Enrolled Actuary 20-08801

December 29, 2021

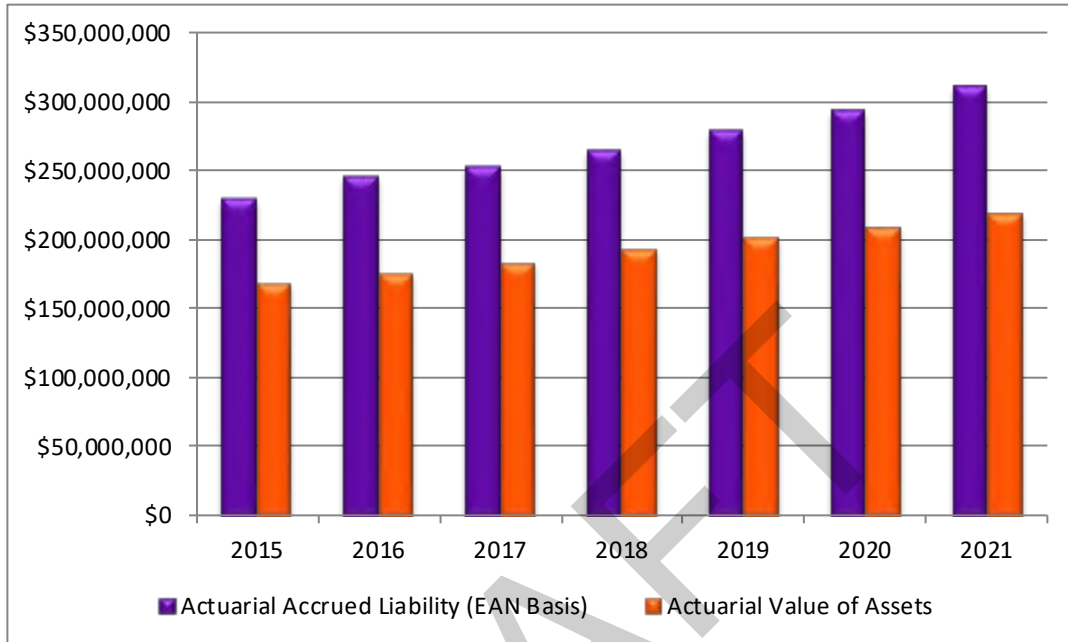


Development of Unfunded Accrued Liability and Funded Ratio

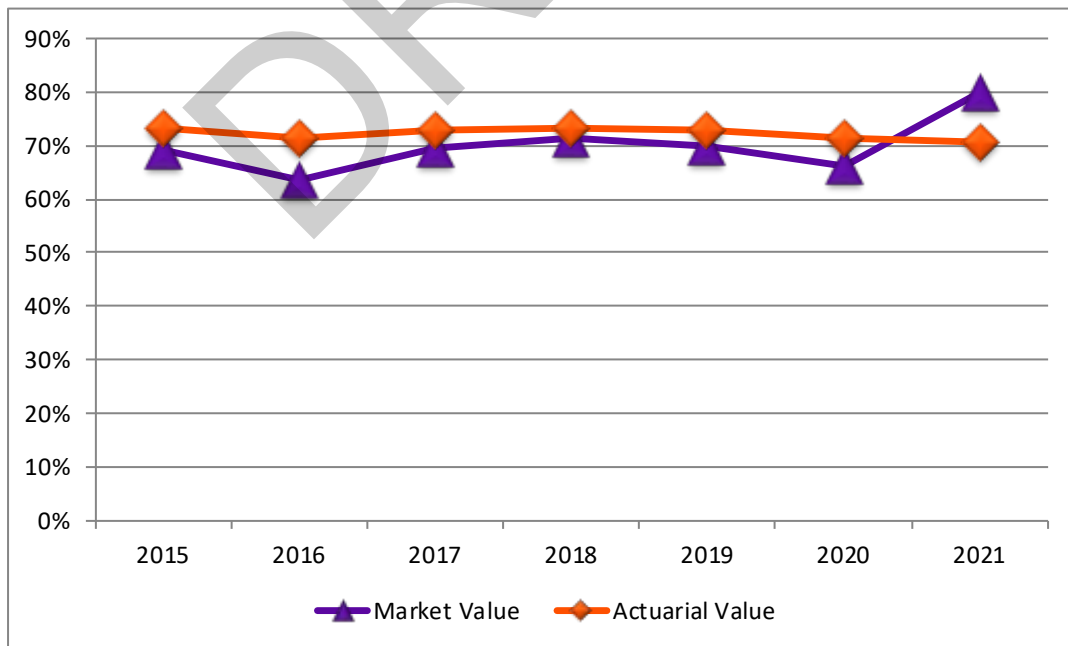
	June 30, 2021			June 30, 2020		
	Class A	Class B	Total	Class A	Class B	Total
Actuarial accrued liability for inactive members						
Retired, disabled and beneficiaries	\$96,292,776	\$92,060,864	\$188,353,641	\$90,897,696	\$84,175,188	\$175,072,884
Terminated vested members	2,938,814	9,935,872	12,874,685	1,589,919	10,390,803	11,980,722
Due refund of employee contributions only	363,418	1,086,066	1,449,484	273,752	716,371	990,123
Total	99,595,008	103,082,802	202,677,810	92,761,367	95,282,362	188,043,729
Actuarial accrued liability for active employees	47,042,406	61,058,694	108,101,100	46,678,785	58,448,684	105,127,469
Total actuarial accrued liability	146,637,414	164,141,496	310,778,910	139,440,152	153,731,046	293,171,198
Actuarial value of assets	95,312,732	124,065,055	219,377,787	90,091,570	119,770,152	209,861,722
Unfunded accrued liability	51,324,682	40,076,441	91,401,123	49,348,582	33,960,894	83,309,476
Funded ratio	65.0%	75.6%	70.6%	64.6%	77.9%	71.6%



Actuarial Accrued Liability vs. Actuarial Value of Assets



Funded Ratio

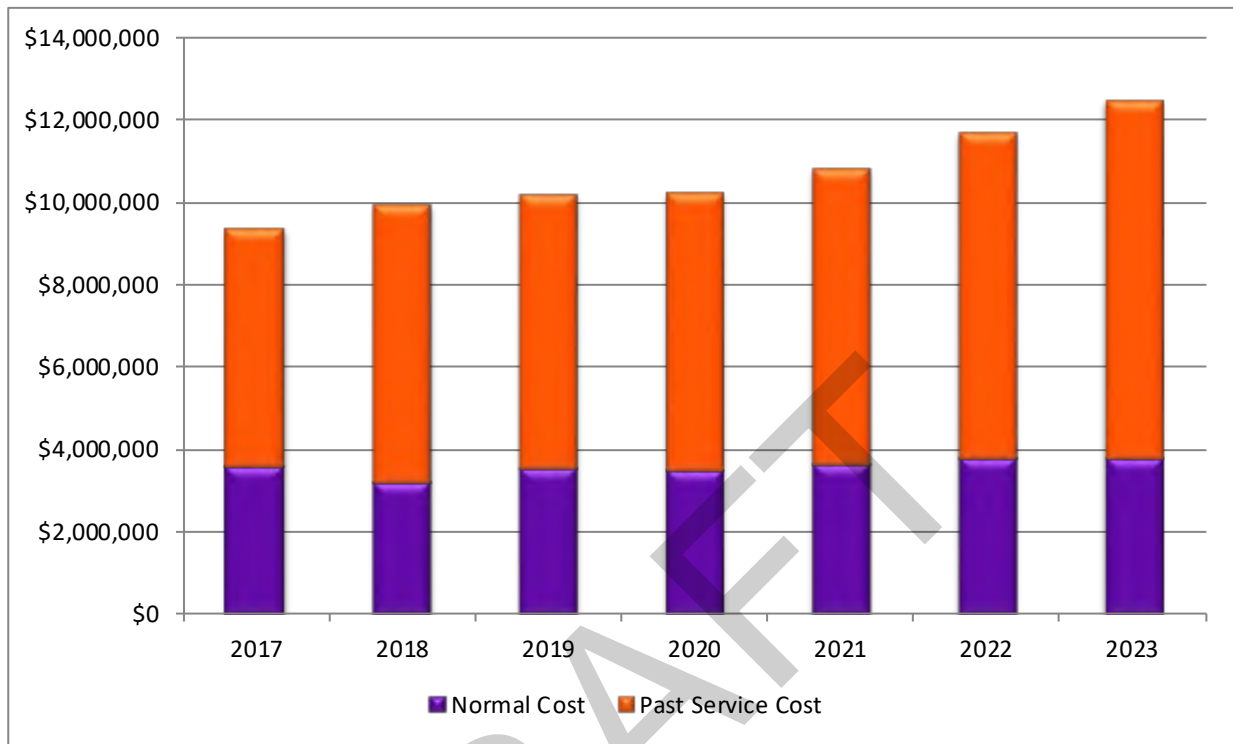




Determination of Normal Cost and Actuarially Determined Employer Contribution

	June 30, 2021		June 30, 2020	
	Cost	Percent of payroll	Cost	Percent of payroll
Gross normal cost	\$6,776,297	12.6%	\$6,676,008	12.6%
Estimated employee contributions	(3,102,941)	-5.8%	(3,047,573)	-5.8%
City's normal cost	3,673,356	6.8%	3,628,435	6.8%
Amortization of unfunded accrued liability	8,695,892	16.2%	7,948,943	15.1%
Contribution before adjustment as of the valuation date	12,369,248	23.0%	11,577,378	21.9%
Estimated valuation year payroll for actives not yet at 100% assumed retirement age	53,775,322		52,984,543	
Fiscal year ending	2023		2022	
Adjustment for interest and inflation	110,201		108,853	
Actuarially determined employer contribution	12,479,449		11,686,231	

Actuarially Determined Employer Contribution



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Actuarially Determined Employer Contribution per Group

	Class A	Class B IBEW Local 300	Class B BED Non-Union	Class B School	Class B Other	Class B	Total
Gross normal cost	\$3,327,283	\$406,232	\$354,300	\$937,612	\$1,750,870	\$3,449,014	\$6,776,297
Estimated employee contributions	<u>(1,264,980)</u>	<u>(274,392)</u>	<u>(173,632)</u>	<u>(411,108)</u>	<u>(978,829)</u>	<u>(1,837,961)</u>	<u>(3,102,941)</u>
City's normal cost	2,062,303	131,840	180,668	526,504	772,041	1,611,053	3,673,356
Actuarial accrued liability	146,637,414	28,529,109	21,805,295	23,324,902	90,482,190	164,141,496	310,778,910
Actuarial value of assets	<u>95,312,732</u>	<u>21,563,502</u>	<u>16,481,360</u>	<u>17,629,943</u>	<u>68,390,250</u>	<u>124,065,055</u>	<u>219,377,787</u>
Unfunded accrued liability	51,324,682	6,965,607	5,323,935	5,694,959	22,091,940	40,076,441	91,401,123
Amortization of unfunded accrued liability	4,753,575	685,206	523,715	560,213	2,173,183	3,942,317	8,695,892
Contribution before adjustment as of the valuation date	6,815,878	817,046	704,383	1,086,717	2,945,224	5,553,370	12,369,248
Estimated valuation year payroll for actives not yet at 100% assumed retirement age	11,499,816	6,365,861	4,134,106	10,246,769	21,528,770	42,275,506	53,775,322
City's normal cost as a percentage of payroll	17.9%	2.1%	4.4%	5.1%	3.6%	3.8%	6.8%
Contribution as a percentage of payroll	59.3%	12.8%	17.0%	10.6%	13.7%	13.1%	23.0%
Fiscal year ending June 30, 2023							
Adjustment for interest and inflation	<u>61,870</u>	<u>3,955</u>	<u>5,420</u>	<u>15,795</u>	<u>23,161</u>	<u>48,331</u>	<u>110,201</u>
Actuarially determined employer contribution	6,877,748	821,001	709,803	1,102,512	2,968,385	5,601,701	12,479,449

Determination of Actuarial Gain/Loss

The Actuarial Gain/Loss is the difference between the expected unfunded accrued liability and the actual unfunded accrued liability, without regard to any changes in actuarial methods, actuarial assumptions or plan provisions. This can also be referred to an Experience Gain/Loss, since it reflects the difference between what was expected and what was actually experienced.

Actuarial Gain / Loss	
Expected unfunded accrued liability June 30, 2021	
Expected unfunded accrued liability June 30, 2021	
Unfunded accrued liability June 30, 2020	\$83,309,476
Gross normal cost June 30, 2020	6,676,008
City and employee contributions for 2020-2021	(13,759,208)
Interest at 7.30% to June 30, 2021	6,079,701
Expected unfunded accrued liability June 30, 2021	<u>82,305,977</u>
Actuarial (gain) / loss June 30, 2021	<u>258,949</u>
Actual unfunded accrued liability June 30, 2021, prior to plan provision, assumption and method changes	82,564,926
Sources of (gain) / loss	
Assets	(390,000)
Salary increases	276,000
Retiree mortality	(78,000)
Turnover, disability and retirements	1,956,000
New entrants	279,000
Data adjustments	(922,000)
COLA increases	(971,000)
Other experience	109,000
Total (gain) / loss (rounded to nearest \$1,000)	<u>259,000</u>
Assumption and method changes since prior valuation	4,947,205
Plan provision changes since prior valuation	<u>3,888,992</u>
Actual unfunded accrued liability June 30, 2021, after plan provision, assumption and method changes	<u>91,401,123</u>

Development of Asset Values

Summary of Fund Activity		
	Market Value	Actuarial Value
1. Beginning value of assets June 30, 2020		
Trust assets	\$194,606,624	\$209,861,722
2. Contributions		
City contributions during year	10,236,862	10,236,862
Employee contributions during year	3,522,346	3,522,346
Total for plan year	13,759,208	13,759,208
3. Disbursements		
Benefit payments during year	18,411,850	18,411,850
Administrative expenses during year	762,205	762,205
Other disbursements	50,100	50,100
Total for plan year	19,224,155	19,224,155
4. Net investment return		
Interest and dividends	11,771,317	N/A
Realized and unrealized gain / (loss)	48,458,023	N/A
Expected return	N/A	14,013,747
Recognized gain / (loss)	N/A	967,265
Required adjustment due to corridor	N/A	0
Reversal of prior year required adjustment	N/A	0
Investment-related expenses	(436,095)	N/A
Total for plan year	59,793,245	14,981,012
5. Ending value of assets June 30, 2021		
Trust assets: (1) + (2) - (3) + (4)	248,934,922	219,377,787
6. Approximate rate of return	31.1%	7.2%

Relationship of Actuarial Value to Market Value

1. Market value 6/30/2021	\$248,934,922
2. Gain / (loss) not recognized in actuarial value 6/30/2021	<u>29,557,135</u>
3. Preliminary actuarial value 6/30/2021: (1) - (2)	219,377,787
4. Preliminary actuarial value as a percentage of market value: (3) ÷ (1)	88.1%
5. Gain / (loss) recognized for corridor minimum / maximum	N/A
6. Actuarial value 6/30/2021 after corridor minimum / maximum: (3) + (5)	219,377,787
7. Actuarial value as a percentage of market value: (6) ÷ (1)	88.1%

Development of Market Value Gain / Loss for 2020-2021 Plan Year

1. Market value 6/30/2020	\$194,606,624
2. City contributions	10,236,862
3. Employee contributions	3,522,346
4. Benefit payments and other disbursements	18,461,950
5. Administrative expenses	762,205
6. Expected return at 7.30%	<u>14,013,747</u>
7. Expected value 6/30/2021: (1) + (2) + (3) - (4) - (5) + (6)	203,155,424
8. Market value 6/30/2021	<u>248,934,922</u>
9. Market value gain / (loss) for 2020-2021 plan year: (8) - (7)	45,779,498

Recognition of Gain / Loss in Actuarial Value

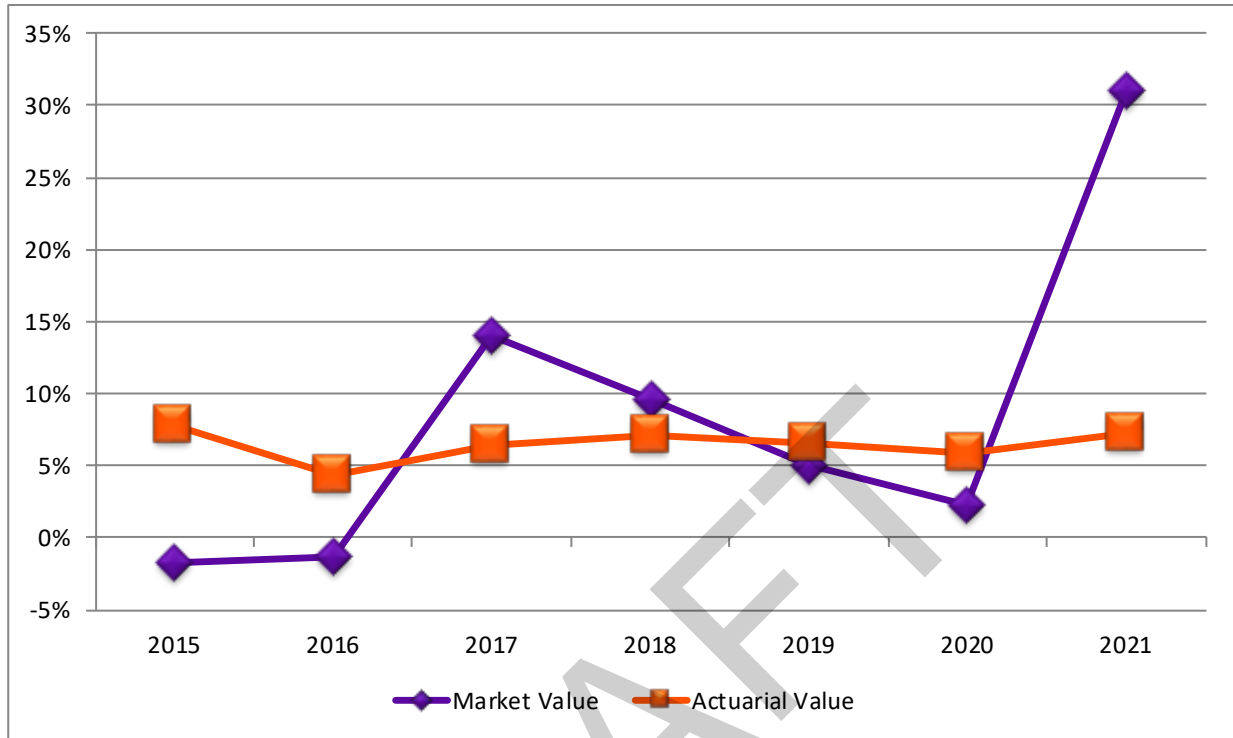
Year	(a) Gain / (loss)	(b) Total recognized as of 6/30/2020	(c) Recognized in current year	(d) Total recognized as of 6/30/2021: (b) + (c)	(e) Not recognized as of 6/30/2021: (a) - (d)
2016-2017	\$9,463,116	\$3,785,248	\$5,677,868	\$9,463,116	\$0
2017-2018	2,849,687	854,907	1,424,845	2,279,752	569,935
2018-2019	(4,474,973)	(894,994)	(1,789,988)	(2,684,982)	(1,789,991)
2019-2020	(9,744,015)	(974,402)	(2,923,206)	(3,897,608)	(5,846,407)
2020-2021	45,779,498	0	<u>9,155,900</u>	9,155,900	<u>36,623,598</u>
Total			967,265		29,557,135

Rate of Return on Market Value of Assets					
Period Ending	Average Annual Effective Rate of Return				
	June 30	1 Year	3 Years	5 Years	10 Years
2012	1.4%	13.4%	1.7%	N/A	
2013	6.5%	9.4%	4.5%	N/A	
2014	15.0%	7.5%	12.3%	6.3%	
2015	-1.7%	6.4%	8.2%	5.4%	
2016	-1.3%	3.7%	3.8%	4.2%	
2017	14.1%	3.4%	6.3%	3.9%	
2018	9.6%	7.3%	6.9%	5.7%	
2019	5.1%	9.5%	5.0%	8.6%	
2020	2.3%	5.6%	5.8%	7.0%	
2021	31.1%	12.1%	12.0%	7.8%	

Rate of Return on Actuarial Value of Assets					
Period Ending	Average Annual Effective Rate of Return				
	June 30	1 Year	3 Years	5 Years	10 Years
2012	2.4%	2.7%	3.3%	N/A	
2013	6.2%	4.3%	3.0%	N/A	
2014	11.0%	6.5%	5.0%	4.8%	
2015	7.8%	8.3%	6.3%	5.6%	
2016	4.4%	7.7%	6.3%	5.6%	
2017	6.5%	6.2%	7.2%	5.2%	
2018	7.1%	6.0%	7.3%	5.1%	
2019	6.6%	6.7%	6.5%	5.7%	
2020	5.9%	6.6%	6.1%	6.2%	
2021	7.2%	6.6%	6.7%	6.5%	



Actual Rate of Return on Assets



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Amortization of Unfunded Liability

Schedule of Amortization Bases - Total					
	Date established	Original amount	Amortization installment	Years remaining	Present value of remaining installments as of June 30, 2021
Initial base	June 30, 2004	\$10,020,499	\$859,241	13	\$7,425,162
2005 base	June 30, 2005	13,325,808	1,218,582	14	10,959,890
2006 base	June 30, 2006	7,669,440	696,011	15	6,488,721
2007 base	June 30, 2007	(2,444,427)	(221,077)	16	(2,128,844)
2008 base	June 30, 2008	(2,492,739)	(224,987)	17	(2,230,862)
2009 base	June 30, 2009	12,784,050	1,151,581	18	11,725,818
2010 base	June 30, 2010	8,547,645	768,508	19	8,016,547
2011 base	June 30, 2011	6,255,018	552,297	20	5,889,438
2012 base	June 30, 2012	3,602,242	322,714	21	3,511,181
2013 base	June 30, 2013	5,490,961	482,143	22	5,343,230
2014 base	June 30, 2014	1,295,623	115,686	23	1,303,873
2015 base	June 30, 2015	(2,956,424)	(263,567)	24	(3,016,944)
2016 base	June 30, 2016	10,621,866	945,524	25	10,978,133
2017 base	June 30, 2017	(1,422,825)	(126,473)	26	(1,487,781)
2018 base	June 30, 2018	3,786,540	334,831	27	3,986,633
2019 base	June 30, 2019	5,678,255	501,455	28	6,037,288
2020 base	June 30, 2020	8,781,940	774,681	29	9,423,022
2021 base	June 30, 2021	9,176,618	808,742	30	9,176,618
Total			8,695,892		91,401,123



Schedule of Amortization Bases - Class A					
	Date established	Original amount	Amortization installment	Years remaining	Present value of remaining installments as of June 30, 2021
Initial base	June 30, 2004	\$3,698,048	\$316,289	13	\$2,733,223
2005 base	June 30, 2005	6,655,535	604,534	14	5,437,161
2006 base	June 30, 2006	2,588,959	234,645	15	2,187,534
2007 base	June 30, 2007	(1,715,997)	(155,197)	16	(1,494,456)
2008 base	June 30, 2008	713,490	64,398	17	638,531
2009 base	June 30, 2009	3,308,275	298,008	18	3,034,423
2010 base	June 30, 2010	3,969,991	356,937	19	3,723,321
2011 base	June 30, 2011	3,564,353	315,652	20	3,365,960
2012 base	June 30, 2012	2,191,929	196,368	21	2,136,518
2013 base	June 30, 2013	2,337,776	200,136	22	2,217,963
2014 base	June 30, 2014	2,892,368	258,260	23	2,910,784
2015 base	June 30, 2015	(50,538)	(4,506)	24	(51,572)
2016 base	June 30, 2016	4,439,699	395,208	25	4,588,612
2017 base	June 30, 2017	2,901,660	257,924	26	3,034,130
2018 base	June 30, 2018	6,440,134	569,480	27	6,780,452
2019 base	June 30, 2019	2,016,721	178,100	28	2,144,237
2020 base	June 30, 2020	5,074,681	447,653	29	5,445,133
2021 base	June 30, 2021	2,492,728	219,686	30	2,492,728
Total			4,753,575		51,324,682



Schedule of Amortization Bases - Class B					
	Date established	Original amount	Amortization installment	Years remaining	Present value of remaining installments as of June 30, 2021
Initial base	June 30, 2004	\$6,322,451	\$542,952	13	\$4,691,939
2005 base	June 30, 2005	6,670,273	614,048	14	5,522,729
2006 base	June 30, 2006	5,080,481	461,366	15	4,301,187
2007 base	June 30, 2007	(728,430)	(65,880)	16	(634,388)
2008 base	June 30, 2008	(3,206,229)	(289,385)	17	(2,869,393)
2009 base	June 30, 2009	9,475,775	853,573	18	8,691,395
2010 base	June 30, 2010	4,577,654	411,571	19	4,293,226
2011 base	June 30, 2011	2,690,665	236,645	20	2,523,478
2012 base	June 30, 2012	1,410,313	126,346	21	1,374,663
2013 base	June 30, 2013	3,153,185	282,007	22	3,125,267
2014 base	June 30, 2014	(1,596,745)	(142,574)	23	(1,606,911)
2015 base	June 30, 2015	(2,905,886)	(259,061)	24	(2,965,372)
2016 base	June 30, 2016	6,182,167	550,316	25	6,389,521
2017 base	June 30, 2017	(4,324,485)	(384,397)	26	(4,521,911)
2018 base	June 30, 2018	(2,653,594)	(234,649)	27	(2,793,819)
2019 base	June 30, 2019	3,661,534	323,355	28	3,893,051
2020 base	June 30, 2020	3,707,259	327,028	29	3,977,889
2021 base	June 30, 2021	6,683,890	589,056	30	6,683,890
Total			<u>3,942,317</u>		<u>40,076,441</u>



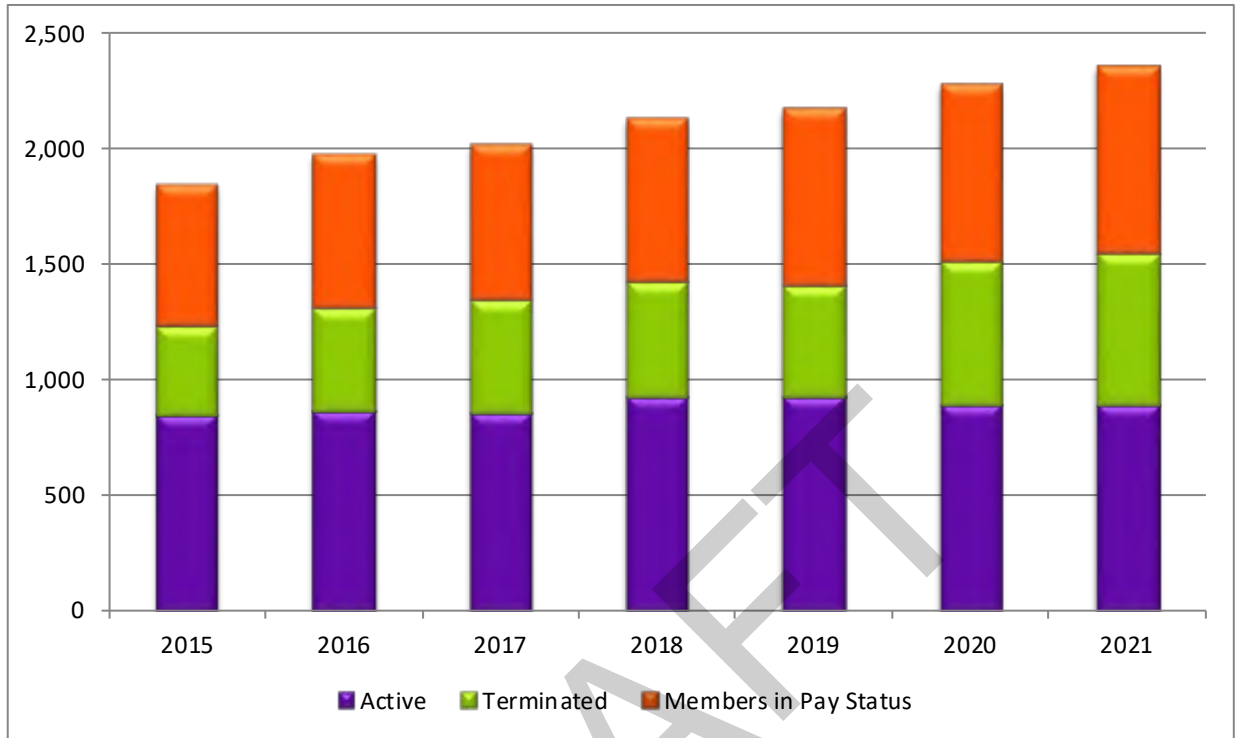
Member Data

The data reported by the Plan Sponsor for this valuation includes 882 active employees who met the Plan's minimum age and service requirements as of June 30, 2021.

Member Data					
	Active	Terminated vested	Due refund of contributions	Members in pay status	Total
Total members June 30, 2020	880	393	234	767	2,274
Adjustments	-5	+10	+13	+1	+19
Retirements	-24	-35	N/A	+59	0
Disabilities	-3	N/A	N/A	+3	0
Terminations					
Vested	-13	+13	N/A	N/A	0
Lump sum payments	-16	-2	-24	N/A	-42
Due contributions only	-51	N/A	+51	N/A	0
Deaths					
With death benefit	0	0	0	-8	-8
Without death benefit	0	-1	0	-14	-15
Transfers	0	0	0	N/A	0
Rehires	+2	-1	0	-1	0
New beneficiaries	N/A	N/A	N/A	+7	+7
New entrants	+112	N/A	+5	N/A	+117
Total members June 30, 2021	882	377	279	814	2,352



Member Counts by Status



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Member Data				
	Active	Terminated vested	Due refund of contributions	Members in pay status
Average age				
June 30, 2020	44.9	54.1	37.5	69.2
June 30, 2021	44.8	53.9	38.0	69.4
Average service				
June 30, 2020	10.3	N/A	N/A	N/A
June 30, 2021	10.2	N/A	N/A	N/A
Covered employee payroll				
June 30, 2020	\$50,603,498	N/A	N/A	N/A
June 30, 2021	51,634,214	N/A	N/A	N/A
Total annual benefits				
June 30, 2020	N/A	\$2,277,926	N/A	\$17,337,211
June 30, 2021	N/A	2,255,208	N/A	18,601,968

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Member Data - Class A					
	Active	Terminated vested	Due refund of contributions	Members in pay status	Total
Total members June 30, 2020	173	22	22	198	415
Adjustments	0	+2	-1	+3	+4
Retirements	-8	-1	N/A	+9	0
Disabilities	-1	N/A	N/A	+1	0
Terminations					
Vested	-5	+5	N/A	N/A	0
Lump sum payments	-4	-1	-4	N/A	-9
Due contributions only	-4	N/A	+4	N/A	0
Deaths					
With death benefit	0	0	0	-3	-3
Without death benefit	0	0	0	-5	-5
Transfers	0	0	0	N/A	0
Rehires	0	0	0	N/A	0
New beneficiaries	N/A	N/A	N/A	+3	+3
New entrants	+13	N/A	+3	N/A	+16
Total members June 30, 2021	164	27	24	206	421



Member Data - Class B					
	Active	Terminated vested	Due refund of contributions	Members in pay status	Total
Total members June 30, 2020	707	371	212	569	1,859
Adjustments	-5	+8	+14	-2	+15
Retirements	-16	-34	N/A	+50	0
Disabilities	-2	N/A	N/A	+2	0
Terminations					
Vested	-8	+8	N/A	N/A	0
Lump sum payments	-12	-1	-20	N/A	-33
Due contributions only	-47	N/A	+47	N/A	0
Deaths					
With death benefit	0	0	0	-5	-5
Without death benefit	0	-1	0	-9	-10
Transfers	0	0	0	N/A	0
Rehires	+2	-1	0	-1	0
New beneficiaries	N/A	N/A	N/A	+4	+4
New entrants	+99	N/A	+2	N/A	+101
Total members June 30, 2021	718	350	255	608	1,931



Description of Actuarial Methods

Asset Valuation Method

The Actuarial Value of assets used in the development of plan contributions phases in the recognition of differences between the actual return on Market Value and expected return on Market Value over a 5-year period at 20% per year.

Prior: The Actuarial Value of assets used in the development of plan contributions phases in the recognition of differences between the actual return on Market Value and expected return on Market Value over a 10-year period at 10% per year.

Actuarial Cost Method

Changes in Actuarial Cost Method: None.

Description of Current Actuarial Cost Method: Entry Age Normal (level percentage of salary)

Normal Cost: Under this method, the total normal cost is the sum of amounts necessary to fund each active member's normal retirement benefit if paid annually from entry age to assumed retirement age. Entry age is the age at which the employee would have been first eligible for the plan, if it had always been in effect. The normal cost for each participant is expected to remain a level percentage of the employee's salary. The normal cost for the plan is the difference between the total normal cost for the year and the anticipated member contributions for that year.

Past Service Liability: The present value of future benefits that relates to service before the valuation date is the total past service liability. The unfunded past service liability is the difference between the total past service liability and any assets (including accumulated member contributions).

Unfunded accrued liabilities as of June 30, 2004 were amortized over a closed 30-year period. Future changes in the unfunded accrued liability will be amortized separately, assuming a new 30-year amortization each valuation.

Experience Gains and Losses: All experience gains and losses (the financial effect of the difference between the actual experience during the prior period and the result expected by the actuarial assumptions for that prior period) appear directly in the past service liability and are amortized at the same rate the plan is amortizing the remaining unfunded past service liability.



Description of Actuarial Assumptions

Changes in Actuarial Assumptions

The valuation reflects changes in the actuarial assumptions listed below. (The assumptions used before and after these changes are more fully described in the next section.)

- Investment rate of return
- Mortality improvement

The assumptions indicated were changed to better reflect the Enrolled Actuary's current best estimate of anticipated experience of the plan.

Investment rate of return (net of investment-related and administrative expenses)

7.20%. (Prior: 7.30%)

Rate of compensation increase (including inflation)

Class A

Completed Years of Service	Rate
<1	10.0%
1	8.5%
2	7.3%
3	6.3%
4	5.9%
5	5.6%
6	5.4%
7	5.2%
8	5.0%
9	4.8%
10	4.7%
11	4.6%
12	4.5%
13	4.4%
14	4.3%
15	4.2%
16	4.0%
17	3.8%
18	3.7%
19	3.6%
20+	3.5%

Class B

Completed Years of Service	Rate
<1	6.6%
1	6.0%
2	5.5%
3	5.1%
4	4.9%
5	4.7%
6	4.5%
7	4.4%
8	4.3%
9	4.3%
10	4.2%
11	4.2%
12	4.1%
13	4.0%
14	3.9%
15	3.8%
16	3.8%
17	3.8%
18	3.7%
19	3.6%
20+	3.5%

The actuarial assumption in regards to rate of compensation increases shown above are based on the results of an actuarial experience study for the period July 1, 2012 through June 30, 2017.



Inflation

2.60%.

This assumption is consistent with the Social Security Administration's best estimate of the ultimate long-term (75-year horizon) annual percentage increase in CPI, as published in the 2018 OASDI Trustees Report.

Mortality

Class A (Non-Disabled): RP-2014 Adjusted to 2006 Total Dataset Mortality Table, projected to the valuation date with Scale MP-2021.

Class B (Non-Disabled): RP-2014 Adjusted to 2006 Total Dataset Mortality Table, projected to the valuation date with Scale MP-2021, set forward 2 years.

Class A and B (Disabilities): RP-2014 Adjusted to 2006 Disabled Mortality Table, projected to the valuation date with Scale MP-2021.

Prior: Class A (Non-Disabled): RP-2014 Adjusted to 2006 Total Dataset Mortality Table, projected to the valuation date with Scale MP-2020.

Class B (Non-Disabled): RP-2014 Adjusted to 2006 Total Dataset Mortality Table, projected to the valuation date with Scale MP-2020, set forward 2 years.

Class A and B (Disabilities): RP-2014 Adjusted to 2006 Disabled Mortality Table, projected to the valuation date with Scale MP-2020.

Mortality Improvement

Projected to date of decrement using Scale MP-2021 (generational).

Prior: Projected to date of decrement using Scale MP-2020 (generational).

We have selected this mortality assumption because it is based on a recently published pension mortality study released by the Society of Actuaries.

The mortality improvement assumption was updated to better reflect anticipated experience.



Retirement age

Class A

Completed Years of Service	Rate
<15	0%
15-18	5%
19	15%
20-23	25%
24	30%
25	75%
26-29	50%
30-34	75%
35+	100%

Compulsory retirement is assumed at age 60.

Class B

Age	Rate
55-59	5.0%
60	7.5%
61	12.5%
62	18.0%
63	22.5%
64-65	25.0%
66-69	30.0%
70-74	50.0%
75+	100.0%

Termination prior to retirement

Class A

Completed Years of Service	Rates
<1	8.0%
1	7.0%
2-6	6.0%
7	5.0%
8	4.5%
9	4.0%
10+	0.0%



Termination prior to retirement (continued)

Class B: 100% of the Vaughn Select & Ultimate Withdrawal Table for service prior to 3 years, and 130% of the Vaughn Select & Ultimate Withdrawal Table thereafter.

Sample rates

Completed Years of Service				
Age	0	1	2	3+
20	29.8%	25.0%	21.0%	24.18%
25	27.8%	22.5%	18.5%	17.68%
30	25.8%	20.0%	16.0%	13.13%
35	23.8%	17.8%	13.8%	10.27%
40	21.8%	15.8%	11.8%	8.45%
45	19.8%	14.1%	10.1%	7.15%
50	17.8%	12.6%	8.6%	5.85%
55	0.0%	0.0%	0.0%	0.00%

Disability

Class A: 1985 Pension Disability Study Class 2 Table for Males and Females.

Class B: 1985 Pension Disability Study Class 1 Table for Males and Females.

The actuarial assumptions in regards to rates of decrement shown above are based on the results of an actuarial experience study for the period July 1, 2012 through June 30, 2017.

Administrative expenses

Currently, there is no expense load assumed for administrative expenses.

Cost of living increases

2.60%.

Accrual rate election

Class A: 85% of retiring members are assumed to elect the no COLA accrual rate and 15% of retiring members are assumed to elect the full COLA accrual rate.

Class B: 75% of retiring members are assumed to elect the no COLA accrual rate and 25% of retiring members are assumed to elect the full COLA accrual rate.

Payroll growth

3.00% per year.

Percent of active employees married

80%.

Spouse's age

Husbands are assumed to be 3 years older than wives.

The assumption changes increased liabilities by about 1.2%.



Summary of Plan Provisions

This exhibit summarizes the major provisions of the Plan. It is not intended to be, nor should it be interpreted as a complete statement of all plan provisions. To the extent that this summary does not accurately reflect the plan provisions, then the results of this valuation may not be accurate.

Plan identification

Single-employer pension plan.

Effective date

July 1, 1954.

Average Final Compensation (AFC)

For Class A Police non-union employees, Class A Police employees hired after January 10, 2011, Class A Fire employees hired after October 7, 2011 Class B AFSCME Local 1343 employees hired after June 7, 2011, Class B IBEW Local 300 employees hired after October 30, 2012 or any employees hired on or after January 1, 2018, it is the average earnable compensation during the highest 5 non-overlapping 12-month periods. For all others, it is the average earnable compensation during the highest 3 non-overlapping 12-month periods.

Membership eligibility

Regular employees of the City of Burlington excluding elective officers other than the mayor and excluding teachers other than certain teachers employed prior to July 1, 1947.

Membership classification

Class A

Members of the Fire and Police Departments not including clerical employees.

Class B

All other members.

Service retirement

Eligibility

Class A

For Police employees hired before July 1, 2006, age 42 and 5 years of creditable service. For Police employees hired after January 10, 2011, age 40 and 20 years of creditable service. For other Police Union employees, age 45 and 5 years of creditable service. For Fire employees hired after January 10, 2011, age 45 and 20 years of creditable service. For Fire Union employees hired on or before January 10, 2011, age 45 and 5 years of creditable service. For all others, age 42 and 5 years of creditable service. Compulsory at age 60.

Class B

Age 55 and 5 years of creditable service.



Service retirement (continued)

Amount of Benefit

Class A

For Fire employees hired before January 1, 2007 and Police employees hired before July 1, 2006, 2.75% of AFC times creditable service not in excess of 25 years plus 0.50% of AFC times creditable service between 25 and 35 years. For Police employees hired after January 10, 2011, 2.50% of AFC times creditable service not in excess of 20 years plus 5.00% of AFC times creditable service between 20 and 25 years. For Fire employees hired after January 10, 2011, 3.00% of AFC times creditable service not in excess of 25 years plus 0.50% of AFC times creditable service between 25 and 35 years. For all others, 2.65% of AFC times creditable service not in excess of 25 years plus 0.50% of AFC times creditable service between 25 and 35 years. Benefit increased by Cost of Living Adjustment detailed below.

In lieu of this benefit, at the time of retirement, a member may choose either (i) an accrual rate of 3.25% for the first 25 years of creditable service, plus an accrual of 0.50% for creditable service between 25 and 35 years, and a Cost of Living Adjustment equal to one half of the Cost of Living Adjustment detailed below, or (ii) an accrual rate of 3.80% for all years of service prior to June 30, 2006 for the first 25 years, an accrual rate of 3.60% for all years of service commencing July 1, 2006 for the first 25 years, plus an accrual rate of 0.50% for creditable service between 25 and 35 years, and no Cost of Living Adjustment.

A Fire employee hired on or after January 1, 2007 or a Police employee hired on or after July 1, 2006 may only select a benefit with a full Cost of Living Adjustment. Any Fire employee hired after October 5, 2015 cannot receive a pension that exceeds 90% of the employee's average final compensation.

For Police employees hired after January 10, 2011, the above benefits based on AFC and creditable service at retirement are reduced actuarially for the period of time by which retirement precedes age 50.

For all other Police employees, prior to age 55, the above benefit based on AFC and creditable service at retirement is reduced actuarially for the period of time by which retirement precedes the earlier of 25 years of creditable service and age 55. For employees who terminate with 20 to 25 years of creditable service the above benefit based on AFC and creditable service at retirement is reduced by 1.82% for each year that creditable service is less than 25 years.

For Fire employees hired on or after January 10, 2011, who are at least age 45 with 20 years of creditable service, the normal retirement benefit is reduced actuarially for the period of time by which retirement precedes age 50. For employees who terminate with 20 to 25 years of creditable service who retire at age 50 or later, the above benefit based on AFC and creditable service at retirement is reduced by 1.82% for each year that creditable service is less than 25 years. Employees that retire at age 50 with at least 25 years of creditable service receive an unreduced benefit.

For Fire employees hired on or after January 1, 2007 but before January 10, 2011, the normal retirement benefit is reduced actuarially for the period to time by which retirement precedes age 55. For employees who terminate with 20 to 25 years of creditable service and have attained age 48, the above benefit based on AFC and creditable service at retirement is reduced by 1.82% for each year that creditable service is less than 25 years. Employees that retire at age 50 with at least 20 years of creditable service or at age 45 with at least 25 years of creditable service receive an unreduced benefit.

For Fire employees hired before January 1, 2007, the normal retirement benefit is reduced actuarially for the period of time by which retirement precedes the earlier of age 55 or 25 years of creditable service. For employees who terminate with 20 to 25 years of creditable service, the above benefit based on AFC and creditable service at retirement is reduced by 1.82% for each year that creditable service is less than 25 years. Employees that retire at age 45 with at least 25 years of creditable service receive an unreduced benefit.



Service retirement (continued)

Class B

For employees hired prior to July 1, 2006 (on or before May 4, 2008 for IBEW): Age 65 and older, the greater of (i) 1.60% of AFC (at age 65) times creditable service not in excess of 25 years plus 0.50% of AFC (at age 65) times creditable service in excess of 25 years or (ii) the actuarial equivalent of the benefit determined at age 65. This benefit will be increased by the Cost of Living Adjustment detailed below.

In lieu of this benefit, at the time of retirement, an IBEW member may choose (i) an accrual rate of 1.90% for all years of service prior on or before May 4, 2008 and an accrual rate of 1.80% for all years of service after May 4, 2008, and a Cost of Living Adjustment equal to one-half of the Cost of Living Adjustment detailed below, or (ii) an accrual rate of 2.20% for all years of service on or before May 4, 2008 and an accrual rate of 2.00% for all years of service after May 4, 2008, and no Cost of Living Adjustment.

In lieu of this benefit, at the time of retirement, a member not in IBEW may choose (i) an accrual rate of 1.90% for all years of service prior to June 30, 2006 for the first 25 years, an accrual rate of 1.80% for all years of service on or after July 1, 2006 for the first 25 years, plus an accrual of 0.50% for creditable service in excess of 25 years, and a Cost of Living Adjustment equal to one-half of the Cost of Living Adjustment detailed below, or (ii) an accrual rate of 2.20% for all years of service prior to June 30, 2006 (on or before May 4, 2008 for IBEW) for the first 25 years, an accrual rate of 2.00% for all years of service on or after July 1, 2006 for the first 25 years, plus an accrual of 0.50% for creditable service in excess of 25 years, and no Cost of Living Adjustment.

For employees hired on or after July 1, 2006 (after May 4, 2008 for IBEW): Age 65 and older, the greater of (i) 1.40% of AFC (at age 65) times creditable service not in excess of 25 years plus 0.50% of AFC (at age 65) times creditable service in excess of 25 years or (ii) the actuarial equivalent of the benefit determined at age 65. This benefit will be increased by the Cost of Living Adjustment detailed below.

An employee hired on or after July 1, 2006 (after May 4, 2008 for IBEW) may only select a benefit with a full Cost of Living Adjustment.

Except for employees detailed below, prior to age 65, the above benefit based on AFC and creditable service at retirement reduced by 2% for each year that retirement precedes age 65. For IBEW employees hired before May 4, 2008, who elect a contribution rate of 4% is elected the early reduction factor is 2% for each year the retirement precedes age 65. For IBEW employees hired before May 4, 2008, who elect a contribution rate of 3% the benefit is reduced by a factor which varies with age. The factor equals 1 at 65 and .4 at 50.

For IBEW employees hired after May 4, 2008, the benefit is reduced by a factor which varies by age. The factor equals 1 at 65 but is equal to .356 at age 55.

For AFSCME Local 1343 employees hired before January 1, 2006 that meet the Rule of 82 by December 7, 2011 but retire later than December 7, 2011, the reduction is 4% per year at ages 55 to 59 for each year under age 65, and the standard 2% per year reduction for ages 60 to 65. For other AFSCME Local 1343 employees retiring after December 7, 2011, there will be full actuarial reduction from ages 55 to 59 and the standard 2% per year reduction for ages 60 to 65.



Cost of Living Adjustment

Benefits increase annually by changes in the Consumer Price Index of more than 1%. For Class A Fire employees retiring after October 5, 2015, Class A Police employees retiring after August 29, 2016, Class B AFSCME employees retiring after October 30, 2015, Class B IBEW employees retiring after March 9, 2016, and all employees retiring after July 1, 2017, the maximum annual increase is 2.75%. For all other members, the maximum annual increase is 5%. Increases are not applicable to deferred vested benefit prior to commencement, survivor income benefit, disability benefit prior to normal retirement age or members who choose to have no cost of living adjustment. For Class B employees that retire after July 1, 2018, the retirement COLA will be determined annually by the BERS Board equal to the CPI-U Northeast Region, with a maximum COLA increase of 2.75%, except that if the funding level of the BERS falls below 81%, the BERS Board may reduce or vote for no COLA for payees prior to age 65 for the upcoming year. For Class A Police employees who retire after February 1, 2019 and Fire employees who retire after March 28, 2019, the retirement COLA will be determined annually by the BERS Board equal to the CPI-U Northeast Region, with a maximum COLA of 2.75%, except that if the Class A funding level of the BERS falls below 73%, the BERS Board may reduce or vote for no COLA for the upcoming year.

Service Adjustment

Class A service for calculation of benefits shall be adjusted such that any Class A employee shall be granted 1.07 years of credit for each year in which the employee worked prior to July 1, 1996, and 1.17 years thereafter, in a position regularly assigned a workweek consisting on average of fifty-three or more hours of work per week.

Disability Retirement

Eligibility

All Members. Permanently disabled. Class B AFSCME Local 1343 employees must have 2 years of creditable service to be eligible for disabilities that are not work-related. Class A Fire employees hired after October 7, 2011 must have 1 year of creditable service to be eligible for disabilities that are not work-related. All other employees are immediately eligible.

Amount of Benefit

A benefit payable until normal service retirement eligibility (Class A - age 55 and 5 years of creditable service, Class B - age 65 and 5 years of creditable service). For Class A Fire employees hired after October 7, 2011, it is equal to 66 2/3% of the member's earnable compensation less workmen's compensation. For Class B IBEW employees hired after October 20, 2012 and Class B AFSCME employees, it is equal to 66 2/3% of the member's earnable compensation less workmen's compensation and Social Security. For all others, it is equal to 75% of the member's earnable compensation less workmen's compensation and, in the case of Class B, less Social Security.

After normal service retirement eligibility, a service retirement benefit based on AFC at retirement and creditable service at normal service retirement eligibility, including the period while permanently disabled and receiving a disability benefit from the System.

Accidental Death

Eligibility

Class A only. Death due to accident while in the performance of duty.

Amount of Benefit

A benefit to the spouse until death or remarriage of the greater of (i) 55% of AFC, and (ii) the participant's current accrued retirement benefit. Upon death or remarriage of the spouse, the benefit will be payable to children until age 21.



Survivor Income

Eligibility

All members. Death in active service.

Amount of Benefit

Class A

30% of compensation during the July preceding death payable to spouse until earlier of death or 2nd anniversary of remarriage. An additional 5% per unmarried child under 21 (maximum additional 10%) is payable until benefits cease or children no longer eligible. If there is no spouse or spouse dies, the benefit is payable to unmarried children under age 21 until earlier of death, marriage or age 21.

Class B

30% of compensation during the July preceding death payable to spouse until earlier of death, 2nd anniversary of remarriage or age 62. Upon the spouse's attainment of age 62 (if not remarried) a benefit based on the 50% Joint and Survivor form of payment will be paid to the spouse for life. If there is no spouse or spouse dies, the benefit is payable to unmarried children under age 21 until earlier of death, marriage or age 21.

Return of Contributions

Accumulated contributions returned upon separation with no vested benefits under the plan or upon death with no accidental death benefit payable. Interest will accrue on these contributions at a rate of 5.5% until December 31, 2017 and 2.0% thereafter, or at a higher rate as may be set by the Retirement Board. Interest will only accrue on contributions made after June 30, 1980.

Upon death of a retired member, the excess of his contribution at retirement over the benefits paid will be paid to his beneficiary or estate.

Vested Retirement

Eligibility

5 years of creditable service.

Vesting percentage.

100% after 5 years. Prior to July 1, 2017, several groups had a graded vesting schedule of 20% after completion of 3 years of creditable service to 100% after completion of 7 years of creditable service.

Amount of Benefit

Class A

Vesting percentage times the benefit calculated using AFC and creditable service at termination. The benefit is payable commencing at age 55. Member may elect early receipt with reduction as for service retirement prior to age 55.

Class B

Vesting percentage times the benefit calculated using AFC and creditable service at termination. The benefit is payable commencing at age 65. Member may elect early receipt with reduction as for service retirement prior to age 65.



Survivor Spouse's Pension

Eligibility

All members. Death of a terminated member entitled to a vested retirement benefit prior to commencement of such benefit.

Amount of Benefit

50% of reduced accrued benefit reflecting the 50% Joint and Survivor form of payment (ages as of date payments commence) payable at member's early retirement date. Spouse may elect to receive payments later than member's early retirement date with no reduction for receipt at member's 65th birthday.

Offsets on Benefits

Disability and accidental death benefits are offset by workmen's compensation paid for the same disability or death.

Employee Contributions

Class A

11.0% of earnable compensation for Class A employees for the first 35 years of creditable service, and none thereafter.

Class A employees shall contribute to the BERS a percentage of their salary. The total contribution required from both the City and employees will be based on the annual system valuation prepared by the City's actuaries. Effective retroactive to July 1, 2018, employees shall contribute a percentage so that all employees are contributing 28% (and the City is contributing 72%) of the total contribution required. For Fiscal Year 2019, this means that each Class A employee contributed 12.69% of the employee's base pay. The individual employee contribution for each subsequent fiscal year will be determined prior to the beginning of the fiscal year.

Effective July 1, 2020, employees shall contribute a percentage so that all employees are contributing 29% (and the City is contributing 71%) of the total contribution required.

Effective July 1, 2021, employees shall contribute a percentage so that all employees are contributing 30% (and the City is contributing 70%) of the total contribution required.

Class B

Member contributions for Class B employees, who elected to continue to be eligible for early retirement benefits at 2% per year deduction between ages 55 and 65, in accordance with the 2006-2009 collective bargaining agreement will be 4.8% in fiscal year 2016-2017, and 5.2% beginning with fiscal year 2017-2018. Member contributions for all other Class B employees will be 3.8% in fiscal year 2016-2017, and 4.2% beginning with fiscal year 2017-2018.

Class B employees shall contribute to the BERS a percentage of their annual salary. The total contribution required from both the City and employees will be based on the annual system valuation prepared by the City's actuaries.

Effective retroactive to July 1, 2018, employees shall contribute a percentage so that all employees are contributing 28% (and the City is contributing 72%) of the total contribution required. For Fiscal Year 2019, this shall mean that the contribution rate for a Class B employee was 4.41% of the employee's base pay.



Contributions (continued)

Effective July 1, 2020, employees shall contribute a percentage so that all employees are contributing 29% (and the City is contributing 71%) of the total contribution required.

Effective July 1, 2021, employees shall contribute a percentage so that all employees are contributing 30% (and the City is contributing 70%) of the total contribution required.

Notwithstanding the above, an individual Class B employee's contribution shall not exceed 5.6% of their eligible wages in Fiscal Year 2019, 5.8% in Fiscal Year 2020, 6.2% in Fiscal Year 2021, or 7% in Fiscal Year 2022.

DRAFT



City of Burlington Employees Retirement System

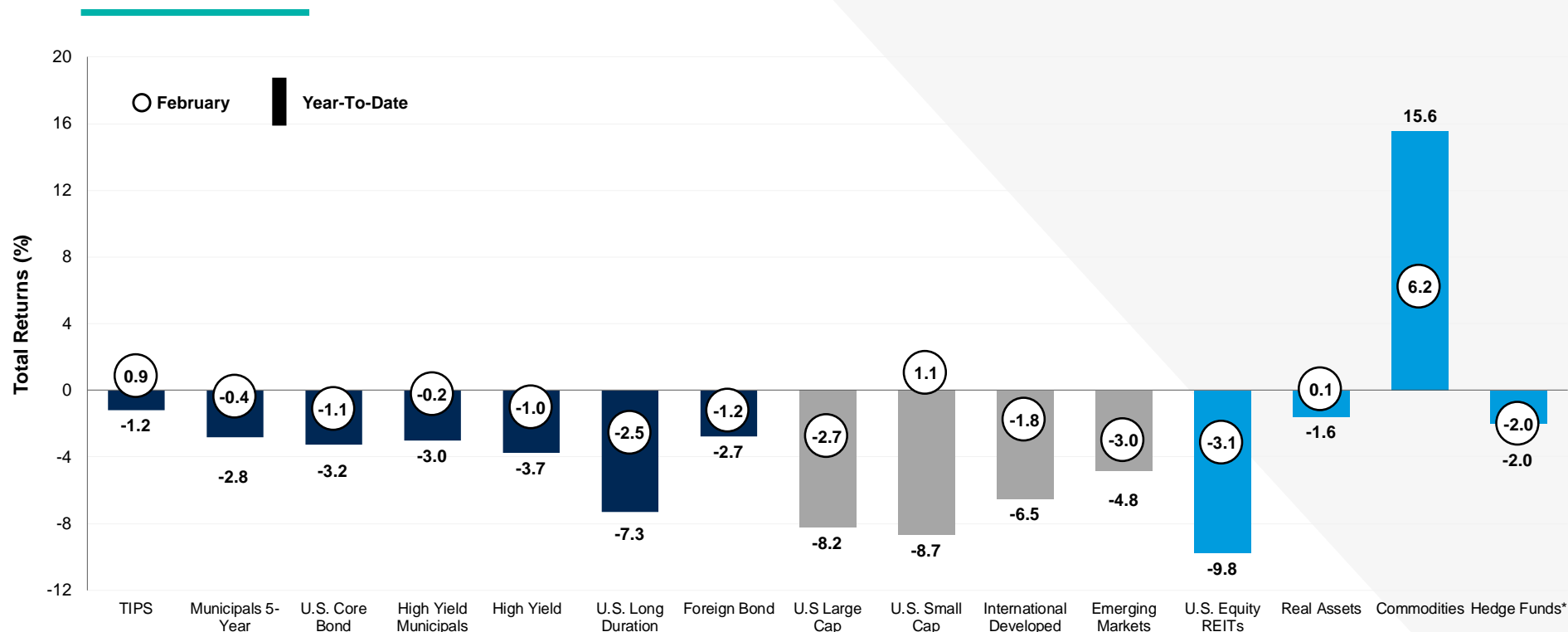
Monthly Performance Update - February 2022

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Past performance does not indicate future performance and there is possibility of a loss.



Asset Class Performance



*Hedge fund returns are lagged 1 month. Sources: FactSet, Morningstar. As of February 28, 2022.

Fixed Income (February)

- Fixed income markets were largely negative on the back of rising interest rates early in the month.
- Spread sectors generally underperformed in the risk off environment.
- + Breakeven inflation levels moved higher, and real yields declined, providing a tailwind for the TIPS market.

Equity (February)

- The eruption of war between Russia and Ukraine and anticipation of tighter monetary policy roiled equity markets.
- + U.S. small-cap stocks were a bright spot in an otherwise challenged market. These companies are typically more domestic focused compared to their large-cap counterparts.
- Emerging markets were hardest hit driven by weakness in Russia, China and India.

Real Asset / Alternatives (February)

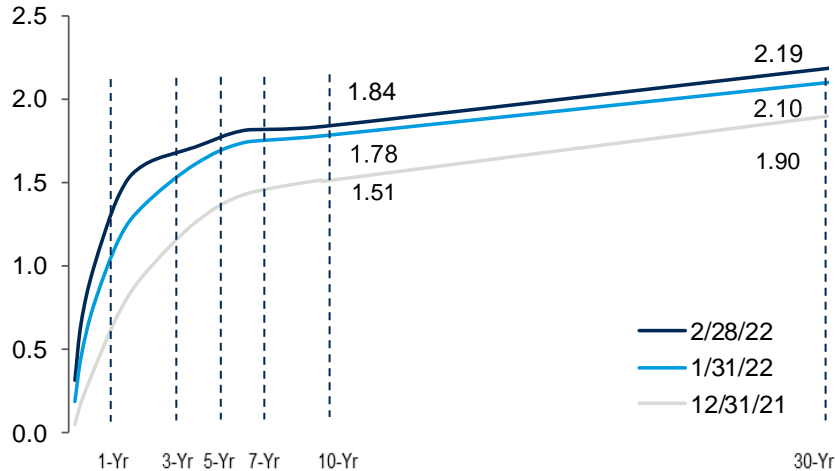
- Rising interest rates put pressure on the real estate market and sectors with higher valuations and longer lease terms struggled.
- + Commodities were among the top performers this quarter as tensions in Eastern Europe and continued global supply chain imbalances pushed commodity prices higher.



Fixed Income Market Update

U.S. Treasury Yields Curve

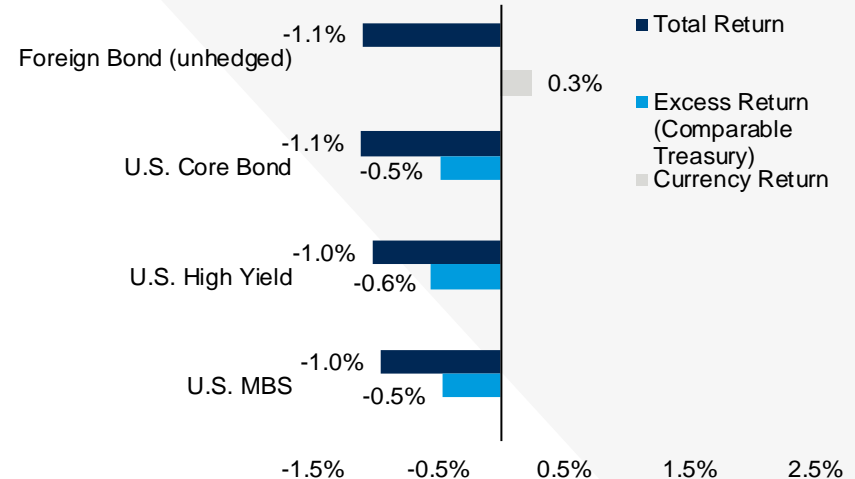
Interest rates rose early in the month as investors anticipated a 50 basis point increase at the Fed's March meeting but expectations eased following Russia's invasion of Ukraine.



Source: FactSet. As of February 28, 2022

Index Performance Attribution (February 2022)

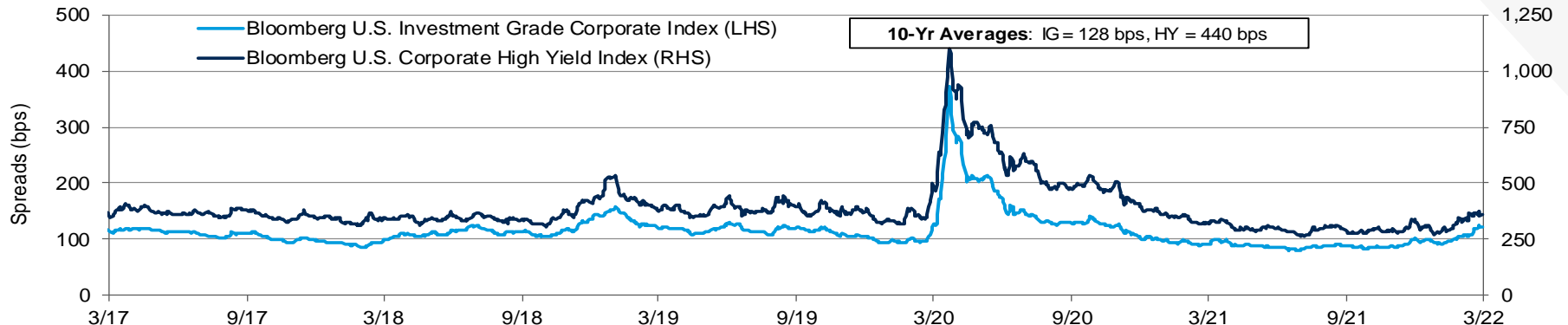
Spread sectors generally underperformed Treasuries in the risk off environment. The U.S. dollar fell early in the month but recovered ground later as geopolitical tensions grew in abroad.



Source: FactSet. As of February 28, 2022

Credit Market Spreads – Trailing 5 Years

Credit spreads moved wider during the risk-off trade in February. Investment grade spreads ended the period 16 basis points higher while high yield spreads experienced a 17 basis point move wider.



Source: FactSet. As of February 28, 2022

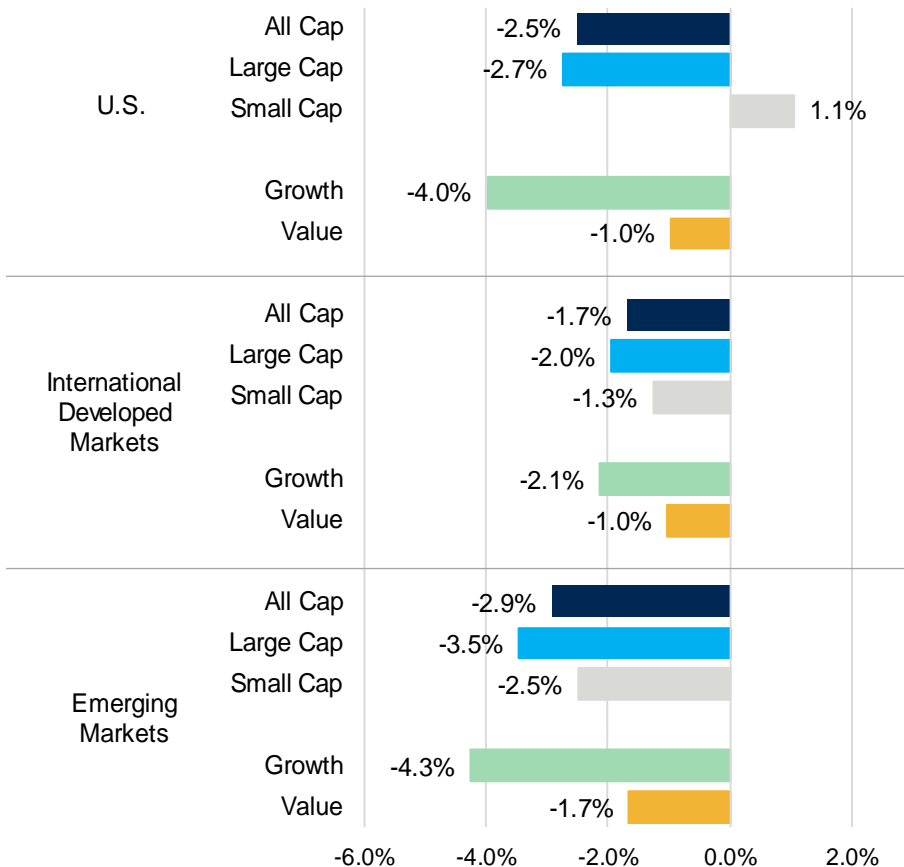
www.FiducientAdvisors.com Past performance does not indicate future performance and there is a possibility of a loss.



Equity Market Update

Market Capitalization & Style Performance (February 2022)

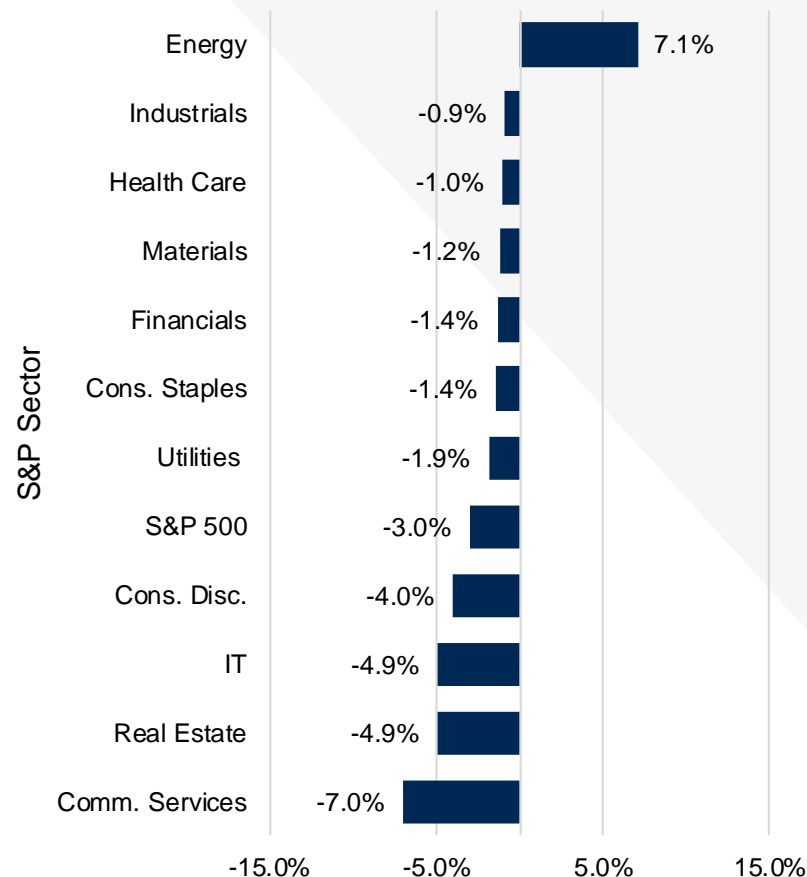
Large-cap stocks, which are traditionally thought of as more defensive compared to small-cap, underperformed in the month. Small-cap companies generally have less exposure to the global economy and as such were more insulated during the month. Value stocks outpaced their growth counterparts.



Source: FactSet. As of February 28, 2022

U.S. Equities – Returns by Sector (February 2022)

Energy was the lone positive sector in February, driven by rising oil prices as the conflict in Eastern Europe broke out and supply/demand imbalances remain in the global economy.



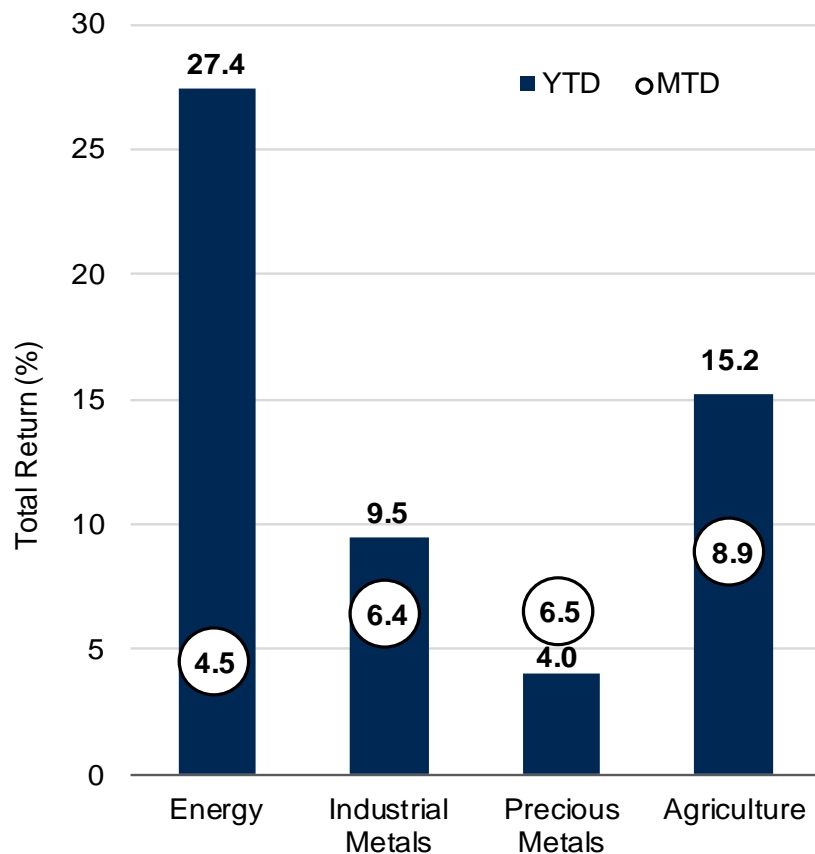
Source: FactSet. As of February 28, 2022



Real Asset Market Update

Real Assets Performance

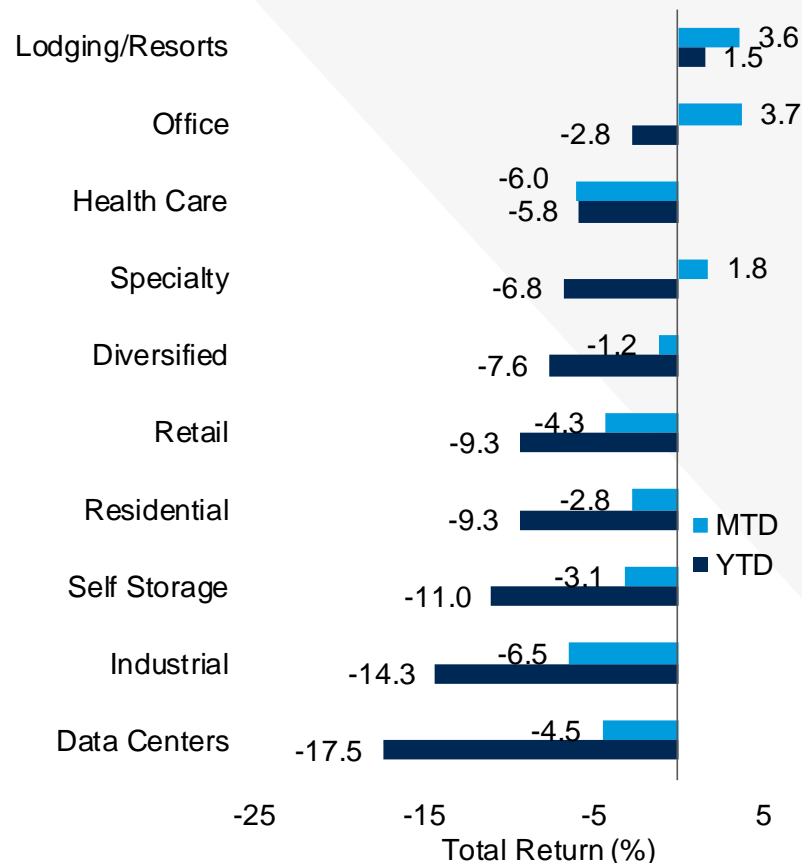
Conflict between Russia and Ukraine, coupled with continued supply chain backlogs, pushed commodity prices higher in February. Agriculture was a standout as Russia and Ukraine account for a significant portion of the world's trade in wheat and barley. Crude oil breached \$100/barrel for the first time since 2014 pushing Energy higher.



Source: FactSet. As of February 28, 2022

REIT Sector Performance

Real Estate was not immune to the broader equity market decline during the month. Industrial and Data Centers were among the weakest performers while Lodging/Resorts benefited from increased consumer travel and shorter lease durations, which are more insulated from rising interest rates.



Source: FactSet. As of February 28, 2022



Financial Markets Performance

Total Return as of February 28, 2022
Periods greater than one year are annualized
All returns are in U.S. dollar terms

Global Fixed Income Markets	MTD	YTD	1YR	3YR	5YR	7YR	10YR	15YR
Bloomberg 1-3-Month T-Bill	0.0%	0.0%	0.0%	0.8%	1.1%	0.8%	0.6%	0.8%
Bloomberg U.S. TIPS	0.9%	-1.2%	6.1%	7.5%	4.8%	3.8%	2.8%	4.4%
Bloomberg Municipal Bond (5 Year)	-0.4%	-2.8%	-1.7%	1.9%	2.0%	1.9%	1.9%	3.2%
Bloomberg High Yield Municipal Bond	-0.2%	-3.0%	3.5%	6.2%	6.1%	5.4%	5.9%	4.9%
Bloomberg U.S. Aggregate	-1.1%	-3.2%	-2.6%	3.3%	2.7%	2.4%	2.5%	3.8%
Bloomberg U.S. Corporate High Yield	-1.0%	-3.7%	0.6%	5.3%	4.9%	5.1%	5.9%	6.6%
Bloomberg Global Aggregate ex-U.S. Hedged	-1.4%	-2.5%	-1.7%	2.0%	2.6%	2.6%	3.4%	3.7%
Bloomberg Global Aggregate ex-U.S. Unhedged	-1.1%	-3.0%	-7.1%	1.1%	2.0%	1.4%	0.3%	2.4%
Bloomberg U.S. Long Gov / Credit	-2.5%	-7.3%	-2.8%	7.3%	5.3%	4.1%	4.8%	6.3%
JPMorgan GBI-EM Global Diversified	-5.0%	-5.0%	-10.0%	-1.1%	1.0%	0.4%	-0.8%	3.1%
Global Equity Markets	MTD	YTD	1YR	3YR	5YR	7YR	10YR	15YR
S&P 500	-3.0%	-8.0%	16.4%	18.2%	15.2%	13.2%	14.6%	10.1%
Dow Jones Industrial Average	-3.3%	-6.4%	11.6%	11.7%	12.7%	11.9%	12.7%	9.7%
NASDAQ Composite	-3.3%	-12.0%	4.9%	23.3%	19.9%	16.8%	17.9%	13.5%
Russell 3000	-2.5%	-8.3%	12.3%	17.6%	14.7%	12.7%	14.3%	9.9%
Russell 1000	-2.7%	-8.2%	13.7%	18.1%	15.1%	13.0%	14.5%	10.1%
Russell 1000 Growth	-4.2%	-12.5%	12.5%	23.2%	20.2%	16.5%	17.0%	12.7%
Russell 1000 Value	-1.2%	-3.5%	15.0%	12.2%	9.5%	9.1%	11.7%	7.3%
Russell Mid Cap	-0.7%	-8.0%	7.1%	14.3%	12.0%	10.3%	12.8%	9.4%
Russell Mid Cap Growth	-1.2%	-14.0%	-4.3%	14.7%	14.9%	11.7%	13.6%	10.3%
Russell Mid Cap Value	-0.5%	-4.7%	13.8%	12.7%	9.2%	8.8%	11.9%	8.2%
Russell 2000	1.1%	-8.7%	-6.0%	10.5%	9.5%	8.9%	11.2%	8.0%
Russell 2000 Growth	0.4%	-13.0%	-17.4%	9.2%	10.5%	8.7%	11.4%	8.8%
Russell 2000 Value	1.7%	-4.3%	6.6%	10.9%	8.0%	8.7%	10.7%	6.9%
MSCI ACWI	-2.6%	-7.4%	7.8%	13.4%	11.4%	9.1%	9.8%	6.5%
MSCI ACWI ex. U.S.	-2.0%	-5.6%	-0.4%	7.7%	7.3%	4.9%	5.4%	3.3%
MSCI EAFE	-1.8%	-6.5%	2.8%	7.8%	7.2%	4.8%	6.2%	3.0%
MSCI EAFE Growth	-2.2%	-12.5%	-0.9%	10.2%	9.4%	6.6%	7.4%	4.4%
MSCI EAFE Value	-1.4%	-0.3%	6.3%	4.8%	4.6%	2.7%	4.7%	1.5%
MSCI EAFE Small Cap	-1.3%	-8.5%	-1.5%	8.6%	7.9%	7.2%	8.3%	4.7%
MSCI Emerging Markets	-3.0%	-4.8%	-10.7%	6.0%	7.0%	4.8%	3.2%	4.2%
Alternatives	MTD	YTD	1YR	3YR	5YR	7YR	10YR	15YR
Consumer Price Index*	0.6%	0.6%	7.5%	3.7%	3.0%	2.7%	2.2%	2.2%
FTSE NAREIT Equity REITs	-3.1%	-9.8%	24.1%	10.0%	7.8%	7.3%	9.7%	5.8%
S&P Real Assets	0.1%	-1.6%	11.6%	7.8%	6.5%	4.8%	5.1%	5.2%
FTSE EPRA NAREIT Developed	-2.6%	-6.9%	22.7%	6.6%	5.1%	5.0%	9.4%	4.6%
FTSE EPRA NAREIT Developed ex U.S.	-1.0%	-4.9%	2.5%	2.5%	5.0%	3.2%	5.5%	1.7%
Bloomberg Commodity Total Return	6.2%	15.6%	34.4%	12.9%	6.6%	2.3%	-1.9%	-1.9%
HFRI Fund of Funds Composite*	-2.0%	-2.0%	4.6%	6.8%	5.0%	3.7%	4.2%	2.5%
HFRI Fund Weighted Composite*	-2.0%	-2.0%	6.6%	8.8%	6.4%	5.3%	5.3%	4.4%
Alerian MLP	4.8%	16.4%	43.1%	3.2%	-0.7%	-2.8%	0.7%	4.9%

*One month lag.

Source: FactSet, Morningstar. As of February 28, 2022. Periods greater than 1 year are annualized. All returns are in U.S. dollar terms.

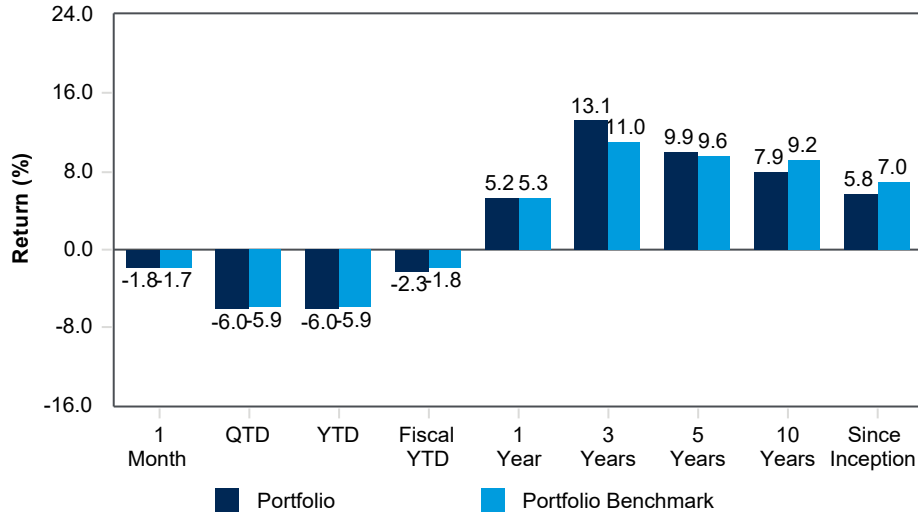


Portfolio Dashboard

Total Plan

As of February 28, 2022

Historical Performance



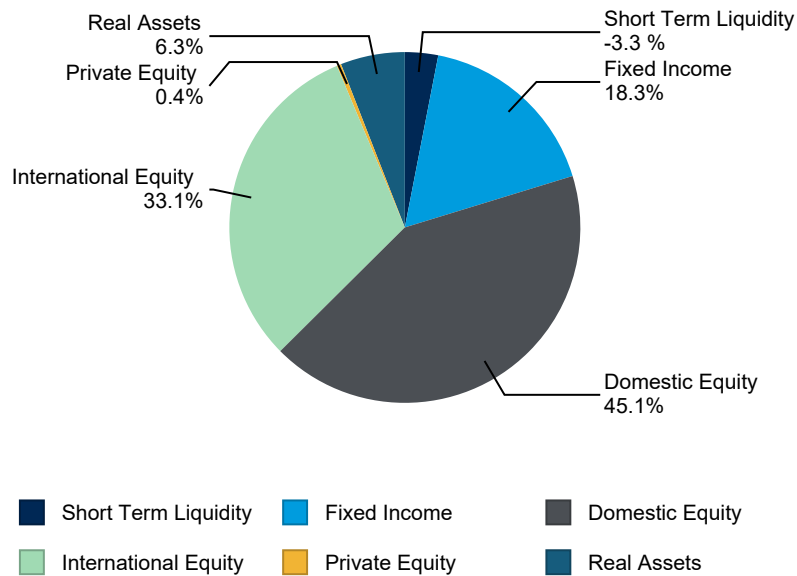
Summary of Cash Flows

	1 Month	QTD	YTD	Fiscal YTD	1 Year
Beginning Market Value	239,022,325	251,078,853	251,078,853	247,406,843	232,102,302
Net Flows	-1,288,250	-2,466,570	-2,466,570	-8,470,172	-11,029,123
Net Investment Change	-4,349,473	-15,196,540	-15,196,540	-5,454,198	12,494,742
Ending Market Value	233,384,602	233,384,602	233,384,602	233,384,602	233,384,602

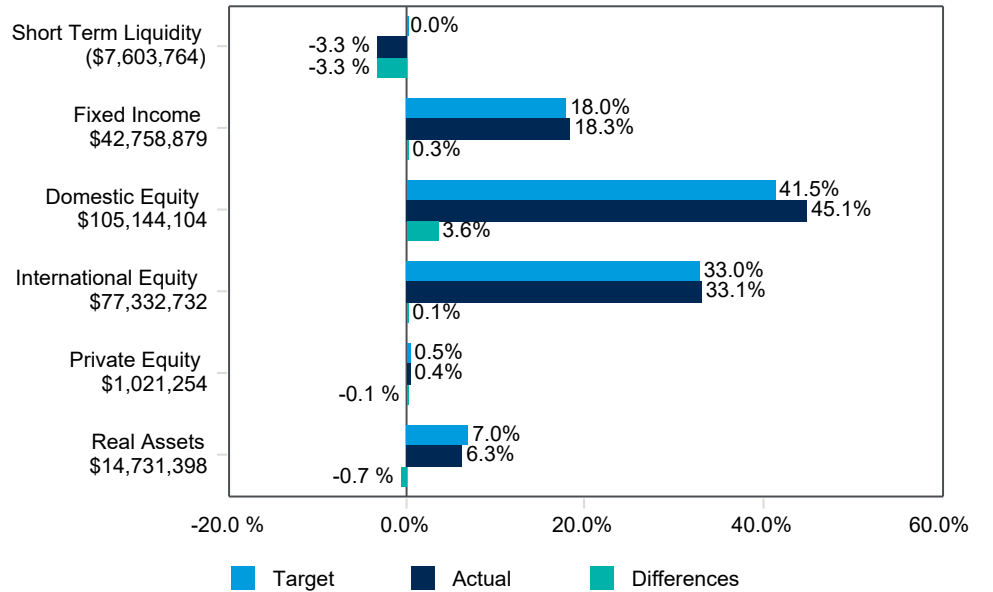
Current Benchmark Composition

From Date	To Date	Composition
05/2021	Present	18% Blmbg. U.S. Aggregate, 31.5% S&P 500, 10.5% Russell 2500 Index, 23% MSCI EAFE (Net), 10% MSCI Emerging Markets (Net), 6% NCREIF Fund Index - ODCE (net), 1% NCREIF Timberland Index

Portfolio Allocation



Actual vs. Target Allocations





Asset Allocation

Total Plan

As of February 28, 2022

	Asset Allocation (\$)	Asset Allocation (%)	Target Allocation (%)	Differences (%)
Total Plan	233,384,602	100.0	100.0	0.0
Short Term Liquidity	-7,603,764	-3.3	0.0	-3.3
Key Bank Cash Portfolio	-	0.0	0.0	0.0
First American Govt Oblig Fund Z	38,637	0.0	0.0	0.0
Pooled Cash	-7,642,402	-3.3	0.0	-3.3
Fixed Income	42,758,879	18.3	18.0	0.3
JIC Core Bond Fund I	35,419,763	15.2	15.0	0.2
BlackRock Strategic Income Opportunities K	7,339,116	3.1	3.0	0.1
Equity	183,498,090	78.6	75.0	3.6
Domestic Equity	105,144,104	45.1	41.5	3.6
Mellon Large Cap Core	79,618,420	34.1	31.0	3.1
Mellon Smid Cap Core	25,525,684	10.9	10.5	0.4
International Equity	77,332,732	33.1	33.0	0.1
Mellon EAFE Fund	54,672,286	23.4	23.0	0.4
Mellon Emerging Markets	22,660,446	9.7	10.0	-0.3
Private Equity	1,021,254	0.4	0.5	-0.1
Hamilton Lane II	56,030	0.0	-	-
Hamilton Lane VII A	674,592	0.3	-	-
Hamilton Lane VII B	290,632	0.1	-	-
Real Assets	14,731,398	6.3	7.0	-0.7
UBS Trumbull Property Fund	12,423,457	5.3	6.0	-0.7
Molpus SWF II	2,307,941	1.0	1.0	0.0



Manager Performance

Total Plan

As of February 28, 2022

	Allocation		Performance(%)									
	Market Value (\$)	%	1 Month	QTD	YTD	Fiscal YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date
Total Plan	233,384,602	100.0	-1.8	-6.0	-6.0	-2.3	5.2	13.1	9.9	7.9	5.8	01/2008
<i>Policy Benchmark</i>			-1.7	-5.9	-5.9	-1.8	5.3	11.0	9.6	9.2	7.0	
Short Term Liquidity	-7,603,764	-3.3	0.0	0.0	0.0	-2.3	-2.3	-	-	-	-2.0	01/2021
<i>90 Day U.S. Treasury Bill</i>			0.0	0.0	0.0	0.0	0.0	0.9	1.1	0.6	0.0	
Key Bank Cash Portfolio	-	0.0	0.0	0.0	0.0	0.0	0.0	-	-	-	0.0	01/2021
<i>90 Day U.S. Treasury Bill</i>			0.0	0.0	0.0	0.0	0.0	0.9	1.1	0.6	0.0	
First American Govt Oblig Fund Z	38,637	0.0	-	-	-	-	-	-	-	-	-	02/2022
<i>90 Day U.S. Treasury Bill</i>			0.0	0.0	0.0	0.0	0.0	0.9	1.1	0.6	0.0	
Pooled Cash	-7,642,402	-3.3	0.0	0.0	0.0	0.0	0.0	-	-	-	0.0	01/2021
<i>90 Day U.S. Treasury Bill</i>			0.0	0.0	0.0	0.0	0.0	0.9	1.1	0.6	0.0	
Fixed Income	42,758,879	18.3	-1.3	-3.4	-3.4	-3.6	-2.7	-	-	-	-4.6	01/2021
<i>Blmbg. U.S. Aggregate</i>			-1.1	-3.2	-3.2	-3.2	-2.6	3.3	2.7	2.5	-4.1	
JIC Core Bond Fund I	35,419,763	15.2	-1.2	-3.3	-3.3	-3.5	-2.6	-	-	-	-0.3	03/2020
<i>Blmbg. U.S. Aggregate</i>			-1.1	-3.2	-3.2	-3.2	-2.6	3.3	2.7	2.5	-0.7	
IM U.S. Broad Market Core Fixed Income (MF) Median			-1.2	-3.3	-3.3	-3.5	-2.7	3.5	2.8	2.6	-0.1	
JIC Core Bond Fund I Rank			43	51	51	55	44	-	-	-	56	
BlackRock Strategic Income Opportunities K	7,339,116	3.1	-1.4	-	-	-	-	-	-	-	-1.4	02/2022
<i>Blmbg. U.S. Aggregate</i>			-1.1	-3.2	-3.2	-3.2	-2.6	3.3	2.7	2.5	-1.1	
IM Alternative Credit Focus (MF) Median			-1.1	-2.1	-2.1	-2.4	-1.2	2.5	2.5	2.5	-1.1	
BlackRock Strategic Income Opportunities K Rank			65	-	-	-	-	-	-	-	65	

Manager performance for mutual funds and ETFs is based on NAV and provided by Lipper. Performance for non-mutual fund or ETF investments is based on the returns provided by managers, calculations based on a manager statement, or calculations based on a statement or data from the client's custodian. Funds may include returns of an equivalent share class with a longer return history if period includes dates prior to the fund's inception. Returns are net of fees unless otherwise stated. The fund's inception date represents the first month the client made the investment. Composite performance includes all funds held in the composite since inception. Inception dates for asset class composites reflect the start date at which these returns could be calculated using historical and existing system capabilities and may vary from the inception dates of underlying component strategies.



Manager Performance

Total Plan

As of February 28, 2022

	Allocation		Performance(%)									
	Market Value (\$)	%	1 Month	QTD	YTD	Fiscal YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date
Equity	183,498,090	78.6	-2.0	-7.0	-7.0	-3.1	6.1	-	-	-	8.8	01/2021
<i>MSCI AC World Index (Net)</i>			-2.6	-7.4	-7.4	-2.2	7.8	13.4	11.4	9.8	8.3	
Domestic Equity	105,144,104	45.1	-2.0	-7.8	-7.8	0.1	11.0	-	-	-	16.2	12/2020
<i>Domestic Equity Benchmark</i>			-2.0	-7.8	-7.8	0.4	11.8	16.8	14.0	13.9	17.8	
Mellon Large Cap Core	79,618,420	34.1	-3.0	-8.0	-8.0	2.7	16.4	18.2	15.1	-	15.7	04/2016
<i>S&P 500</i>			-3.0	-8.0	-8.0	2.7	16.4	18.2	15.2	14.6	15.7	
IM U.S. Large Cap Core Equity (MF) Median			-2.6	-7.7	-7.7	1.5	14.7	16.6	13.8	13.3	14.5	
Mellon Large Cap Core Rank			66	59	59	33	31	27	23	-	19	
Mellon Smid Cap Core	25,525,684	10.9	1.1	-7.3	-7.3	-6.2	0.7	13.0	11.4	-	13.2	04/2016
<i>Russell 2500 Index</i>			1.1	-7.3	-7.3	-6.3	0.4	12.9	11.2	12.1	13.1	
IM U.S. SMID Cap Equity (MF) Median			0.3	-7.9	-7.9	-4.9	1.3	12.9	11.5	12.0	12.9	
Mellon Smid Cap Core Rank			25	44	44	56	53	47	51	-	48	
International Equity	77,332,732	33.1	-2.1	-6.0	-6.0	-8.1	-3.2	-	-	-	-0.6	01/2021
<i>International Equity Benchmark</i>			-2.1	-6.0	-6.0	-7.2	-2.2	7.7	7.6	5.0	0.2	
Mellon EAFE Fund	54,672,286	23.4	-1.7	-6.5	-6.5	-4.3	3.1	8.2	7.7	-	8.0	04/2016
<i>MSCI EAFE (Net)</i>			-1.8	-6.5	-6.5	-4.4	2.8	7.8	7.2	6.2	7.5	
IM International Large Cap Core Equity (MF) Median			-4.0	-6.5	-6.5	-5.7	2.0	7.4	6.3	5.1	6.7	
Mellon EAFE Fund Rank			6	50	50	28	35	40	19	-	21	
Mellon Emerging Markets	22,660,446	9.7	-3.0	-4.8	-4.8	-13.7	-10.6	6.0	7.0	-	8.3	04/2016
<i>MSCI Emerging Markets (Net)</i>			-3.0	-4.8	-4.8	-13.7	-10.7	6.0	7.0	3.2	8.3	
IM Emerging Markets Equity (MF) Median			-5.4	-7.3	-7.3	-15.5	-12.9	6.3	6.5	3.2	7.8	
Mellon Emerging Markets Rank			17	27	27	34	37	55	39	-	40	
Private Equity	1,021,254	0.4	0.0	0.0	0.0	0.7	17.5	-	-	-	14.8	01/2021
Hamilton Lane II	56,030	0.0	0.0	0.0	0.0	0.0	-5.3	16.2	17.5	15.5	17.6	03/2009
Hamilton Lane VII A	674,592	0.3	0.0	0.0	0.0	4.0	31.0	19.6	16.6	14.7	13.8	07/2011
Hamilton Lane VII B	290,632	0.1	0.0	0.0	0.0	-6.3	-2.0	7.5	8.3	10.4	10.1	07/2011

Manager performance for mutual funds and ETFs is based on NAV and provided by Lipper. Performance for non-mutual fund or ETF investments is based on the returns provided by managers, calculations based on a manager statement, or calculations based on a statement or data from the client's custodian. Funds may include returns of an equivalent share class with a longer return history if period includes dates prior to the fund's inception. Returns are net of fees unless otherwise stated. The fund's inception date represents the first month the client made the investment. Composite performance includes all funds held in the composite since inception. Inception dates for asset class composites reflect the start date at which these returns could be calculated using historical and existing system capabilities and may vary from the inception dates of underlying component strategies.



Manager Performance

Total Plan

As of February 28, 2022

	Allocation		Performance(%)									
	Market Value (\$)	%	1 Month	QTD	YTD	Fiscal YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date
Real Assets	14,731,398	6.3	0.0	0.0	0.0	12.2	16.0	-	-	-	13.3	01/2021
UBS Trumbull Property Fund	12,423,457	5.3	0.0	0.0	0.0	11.1	15.5	2.0	3.4	-	3.7	07/2016
<i>NCREIF Fund Index - ODCE (net)</i>			<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>14.6</i>	<i>21.0</i>	<i>8.2</i>	<i>7.7</i>	<i>9.4</i>	<i>7.5</i>	
Molpus SWF II	2,307,941	1.0	0.0	0.0	0.0	19.3	18.6	4.9	2.6	3.7	3.0	03/2009
<i>NCREIF Timberland Index</i>			<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>6.5</i>	<i>9.2</i>	<i>3.7</i>	<i>3.6</i>	<i>5.1</i>	<i>3.6</i>	

Valuations data as of:

Hamilton Lane - 9/30/2021

UBS Trumbull Property Fund and Molpus SWF II - 12/31/2021

All private equity and real estate assets are adjusted for any capital activity.

Manager performance for mutual funds and ETFs is based on NAV and provided by Lipper. Performance for non-mutual fund or ETF investments is based on the returns provided by managers, calculations based on a manager statement, or calculations based on a statement or data from the client's custodian. Funds may include returns of an equivalent share class with a longer return history if period includes dates prior to the fund's inception. Returns are net of fees unless otherwise stated. The fund's inception date represents the first month the client made the investment. Composite performance includes all funds held in the composite since inception. Inception dates for asset class composites reflect the start date at which these returns could be calculated using historical and existing system capabilities and may vary from the inception dates of underlying component strategies.



Benchmark History

Policy Benchmark

As of February 28, 2022

Members	Weight (%)
May-2021	
Blmbg. U.S. Aggregate	18.00
S&P 500	31.50
Russell 2500 Index	10.50
MSCI EAFE (Net)	23.00
MSCI Emerging Markets (Net)	10.00
NCREIF Fund Index - ODCE (net)	6.00
NCREIF Timberland Index	1.00
Dec-2019	
Blmbg. U.S. Aggregate	20.00
S&P 500	32.00
Russell 2500 Index	18.00
MSCI EAFE (Net)	10.00
MSCI Emerging Markets (Net)	10.00
NCREIF Fund Index - ODCE (net)	8.00
NCREIF Timberland Index	2.00
Jun-2017	
Blmbg. Intermed. U.S. Government/Credit	20.00
S&P 500	30.00
Russell 2500 Index	18.00
S&P Completion Index	2.00
MSCI EAFE (Net)	10.00
MSCI Emerging Markets (Net)	10.00
NCREIF Fund Index - ODCE (net)	8.00
NCREIF Timberland Index	2.00

Members	Weight (%)
Jan-2016	
Blmbg. Intermed. U.S. Government/Credit	28.00
S&P 500	30.00
Russell 2500 Index	18.00
S&P Completion Index	2.00
MSCI EAFE (Net)	10.00
MSCI Emerging Markets (Net)	10.00
NCREIF Timberland Index	2.00
Jan-2000	
Blmbg. U.S. Aggregate	20.00
S&P 500	32.00
Russell 2500 Index	18.00
MSCI EAFE (Net)	10.00
MSCI Emerging Markets (Net)	10.00
NCREIF Fund Index - ODCE (net)	8.00
NCREIF Timberland Index	2.00



Definitions & Disclosures

Please note: Due to rounding methodologies of various data providers, certain returns in this report might differ slightly when compared to other sources

REGULATORY DISCLOSURES

Offer of ADV Part 2A: Rule 204-3 under the Investment Advisers Act of 1940 requires that we make an annual offer to clients to send them, without charge, a written disclosure statement meeting the requirements of such rule. We will be glad to send a copy of our ADV Part 2A to you upon your written request to compliance@fiducient.com.

INDEX DEFINITIONS

- **Citigroup 3 Month T-Bill** measures monthly return equivalents of yield averages that are not marked to market. The Three-Month Treasury Bill Indexes consist of the last three three-month Treasury bill issues.
- **Ryan 3 Yr. GIC** is an arithmetic mean of market rates of \$1 million Guaranteed Interest Contracts held for three years.
- **Bloomberg Barclays Treasury U.S. T-Bills-1-3 Month Index** includes aged U.S. Treasury bills, notes and bonds with a remaining maturity from 1 up to (but not including) 3 months. It excludes zero coupon strips.
- **Bloomberg Barclays Capital US Treasury Inflation Protected Securities Index** consists of Inflation-Protection securities issued by the U.S. Treasury.
- **Bloomberg Barclays Muni Index** is a rules-based, market-value-weighted index engineered for the long-term tax-exempt bond market. Bonds must be rated investment-grade by at least two ratings agencies.
- **Bloomberg Barclays Muni 1 Year Index** is the 1-year (1-2) component of the Municipal Bond index.
- **Bloomberg Barclays Muni 3 Year Index** is the 3-year (2-4) component of the Municipal Bond index.
- **Bloomberg Barclays Muni 5 Year Index** is the 5-year (4-6) component of the Municipal Bond index.
- **Bloomberg Barclays Muni 7 Year Index** is the 7-year (6-8) component of the Municipal Bond index.
- **Bloomberg Barclays Intermediate U.S. Gov't/Credit** is the Intermediate component of the U.S. Government/Credit index, which includes securities in the Government and Credit Indices. The Government Index includes treasuries and agencies, while the credit index includes publicly issued U.S. corporate and foreign debentures and secured notes that meet specified maturity, liquidity, and quality requirements.
- **Bloomberg Barclays U.S. Aggregate Index** covers the U.S. investment grade fixed rate bond market, with index components for government and corporate securities, mortgage pass-through securities, and asset-backed securities.
- **Bloomberg Barclays Global Aggregate ex. USD Indices** represent a broad-based measure of the global investment-grade fixed income markets. The two major components of this index are the Pan-European Aggregate and the Asian-Pacific Aggregate Indices. The index also includes Eurodollar and Euro-Yen corporate bonds and Canadian government, agency and corporate securities.
- **Bloomberg Barclays U.S. Corporate High Yield Index** covers the universe of fixed rate, non-investment grade debt. Eurobonds and debt issues from countries designated as emerging markets (sovereign rating of Baa1/BBB+/BBB+ and below using the middle of Moody's, S&P, and Fitch) are excluded, but Canadian and global bonds (SEC registered) of issuers in non-EMG countries are included.
- **JP Morgan Government Bond Index-Emerging Market (GBI-EM) Index** is a comprehensive, global local emerging markets index, and consists of regularly traded, liquid fixed-rate, domestic currency government bonds to which international investors can gain exposure.
- **The S&P 500** is a capitalization-weighted index of 500 stocks designed to measure performance of the broad domestic economy through changes in the aggregate market value of 500 stocks representing all major industries.
- **The Dow Jones Industrial Index** is a price-weighted average of 30 blue-chip stocks that are generally the leaders in their industry.
- **The NASDAQ** is a broad-based capitalization-weighted index of stocks in all three NASDAQ tiers: Global Select, Global Market and Capital Market.
- **Russell 3000** is a market-cap-weighted index which consists of roughly 3,000 of the largest companies in the U.S. as determined by market capitalization. It represents nearly 98% of the investable U.S. equity market.
- **Russell 1000** consists of the largest 1000 companies in the Russell 3000 Index.
- **Russell 1000 Growth** measures the performance of those Russell 1000 companies with higher P/B ratios and higher forecasted growth values.
- **Russell 1000 Value** measures the performance of those Russell 1000 companies with lower P/B ratios and lower forecasted growth values.
- **Russell Mid Cap** measures the performance of the 800 smallest companies in the Russell 1000 Index.
- **Russell Mid Cap Growth** measures the performance of those Russell Mid Cap companies with higher P/B ratios and higher forecasted growth values.
- **Russell Mid Cap Value** measures the performance of those Russell Mid Cap companies with lower P/B ratios and lower forecasted growth values.
- **Russell 2000** consists of the 2,000 smallest U.S. companies in the Russell 3000 index.
- **Russell 2000 Growth** measures the performance of the Russell 2000 companies with higher P/B ratios and higher forecasted growth values.
- **Russell 2000 Value** measures the performance of those Russell 2000 companies with lower P/B ratios and lower forecasted growth values.
- **Russell 2500** consists of the 2,500 smallest U.S. companies in the Russell 3000 index.
- **Russell 2500 Growth** measures the performance of the Russell 2500 companies with higher P/B ratios and higher forecasted growth values.
- **Russell 2500 Value** measures the performance of those Russell 2500 companies with lower P/B ratios and lower forecasted growth values.
- **MSCI World** captures large and mid-cap representation across 23 Developed Markets countries. With 1,645 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in each country.
- **MSCI ACWI (All Country World Index) ex. U.S. Index** captures large and mid-cap representation across 22 of 23 Developed Markets countries (excluding the United States) and 23 Emerging Markets countries. With 1,859 constituents, the index covers approximately 85% of the global equity opportunity set outside the US.
- **MSCI ACWI (All Country World Index) ex. U.S. Small Cap Index** captures small cap representation across 22 of 23 Developed Markets countries (excluding the US) and 23 Emerging Markets countries. With 4,368 constituents, the index covers approximately 14% of the global equity opportunity set outside the US.
- **MSCI EAFE** is an equity index which captures large and mid-cap representation across Developed Markets countries around the world, excluding the US and Canada. With 930 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in each country.



- **MSCI EAFE Value** captures large and mid-cap securities exhibiting overall value style characteristics across Developed Markets countries around the world, excluding the US and Canada. The value investment style characteristics for index construction are defined using three variables: book value to price, 12-month forward earnings to price and dividend yield. With 507 constituents, the index targets 50% coverage of the free float-adjusted market capitalization of the MSCI EAFE Index.
- **MSCI EAFE Growth** captures large and mid-cap securities exhibiting overall growth style characteristics across Developed Markets countries around the world, excluding the US and Canada. The growth investment style characteristics for index construction are defined using five variables: long-term forward EPS growth rate, short-term forward EPS growth rate, current internal growth rate and long-term historical EPS growth trend and long-term historical sales per share growth trend. With 542 constituents, the index targets 50% coverage of the free float-adjusted market capitalization of the MSCI EAFE Index.
- **MSCI Emerging Markets** captures large and mid-cap representation across 23 Emerging Markets countries. With 836 constituents, the index covers approximately 85% of the free-float adjusted market capitalization in each country.
- **Consumer Price Index** is a measure of prices paid by consumers for a market basket of consumer goods and services. The yearly (or monthly) growth rates represent the inflation rate.
- **FTSE NAREIT Equity REITs Index** contains all Equity REITs not designed as Timber REITs or Infrastructure REITs.
- **S&P Developed World Property** defines and measures the investable universe of publicly traded property companies domiciled in developed markets. The companies in the index are engaged in real estate related activities, such as property ownership, management, development, rental and investment.
- **S&P Developed World Property x U.S.** defines and measures the investable universe of publicly traded property companies domiciled in developed countries outside of the U.S. The companies included are engaged in real estate related activities, such as property ownership, management, development, rental and investment.
- **Fund Specific Broad Real Asset Benchmarks:**
 - **DWS Real Assets:** 30%: Dow Jones Brookfield Infrastructure Index, 30%: FTSE EPRA/NAREIT Developed Index, 15%: Bloomberg Commodity Index, 15%: S&P Global Natural Resources Index, 10%: Barclays U.S. Treasury Inflation Notes Total Return Index
 - **PIMCO Inflation Response Multi Asset Fund:** 45% Barclays U.S. TIPS, 20% Bloomberg Commodity Index, 15% JP Morgan Emerging Local Markets Plus, 10% Dow Jones Select REIT, 10% Bloomberg Gold Subindex Total Return
 - **Principal Diversified Real Assets:** 35% BBgBarc U.S. Treasury TIPS Index, 20% S&P Global Infrastructure Index NTR, 20% S&P Global Natural Resources Index NTR, 15% Bloomberg Commodity Index, and 10% FTSE EPRA/NAREIT Developed Index NTR
 - **Wellington Diversified Inflation H:** 50% MSCI ACWI Commodity Producers Index, 25% Bloomberg Commodity Index, and 25% Bloomberg Barclays US TIPS 1 – 10 Year Index
- **Bloomberg Commodity Index** is calculated on an excess return basis and reflects commodity futures price movements. The index rebalances annually weighted 2/3 by trading volume and 1/3 by world production and weight-caps are applied at the commodity, sector and group level for diversification.
- **HFRI Fund Weighted Composite Index** is a global, equal-weighted index of over 2,000 single-manager funds that report to HFR Database. Constituent funds report monthly net of all fees performance in US Dollar and have a minimum of \$50 Million under management or a twelve (12) month track record of active performance. The HFRI Fund Weighted Composite Index does not include Funds of Hedge Funds.
- **The Alerian MLP Index** is the leading gauge of energy Master Limited Partnerships (MLPs). The float adjusted, capitalization-weighted index, whose constituents represent approximately 85% of total float-adjusted market capitalization, is disseminated real-time on a price-return basis (AMZ) and on a total-return basis.
- **The Adjusted Alerian MLP Index** is commensurate with 65% of the monthly returns of the Alerian MLP Index to incorporate the effect of deferred tax liabilities incurred by MLP entities.
- **Cambridge Associates U.S. Private Equity Index** is based on data compiled from more than 1,200 institutional-quality buyout, growth equity, private equity energy, and mezzanine funds formed between 1986 and 2015.
- **Cambridge Associates U.S. Venture Capital Index** is based on data compiled from over 1,600 institutional-quality venture capital funds formed between 1986 and 2015.
- **Vanguard Spliced Bloomberg Barclays US1-5Yr Gov/Cr Flt Adj Index:** Bloomberg Barclays U.S. 1–5 Year Government/Credit Bond Index through December 31, 2009; Bloomberg Barclays U.S. 1–5 Year Government/Credit Float Adjusted Index thereafter.
- **Vanguard Spliced Bloomberg Barclays US5-10Yr Gov/Cr Flt Adj Index:** Bloomberg Barclays U.S. 5–10 Year Government/Credit Bond Index through December 31, 2009; Bloomberg Barclays U.S. 5–10 Year Government/Credit Float Adjusted Index thereafter.
- **Vanguard Spliced Bloomberg Barclays US Agg Flt Adj Index:** Bloomberg Barclays U.S. Aggregate Bond Index through December 31, 2009; Bloomberg Barclays U.S. Aggregate Float Adjusted Index thereafter.
- **Vanguard Spliced Bloomberg Barclays US Long Gov/Cr Flt Adj Index:** Bloomberg Barclays U.S. Long Government/Credit Bond Index through December 31, 2009; Bloomberg Barclays U.S. Long Government/Credit Float Adjusted Index thereafter.
- **Vanguard Balanced Composite Index:** Made up of two unmanaged benchmarks, weighted 60% Dow Jones U.S. Total Stock Market Index (formerly the Dow Jones Wilshire 5000 Index) and 40% Bloomberg Barclays U.S. Aggregate Bond Index through May 31, 2005; 60% MSCI US Broad Market Index and 40% Bloomberg Barclays U.S. Aggregate Bond Index through December 31, 2009; 60% MSCI US Broad Market Index and 40% Bloomberg Barclays U.S. Aggregate Float Adjusted Index through January 14, 2013; and 60% CRSP US Total Market Index and 40% Bloomberg Barclays U.S. Aggregate Float Adjusted Index thereafter.
- **Vanguard Spliced Intermediate-Term Tax-Exempt Index:** Bloomberg Barclays 1–15 Year Municipal Bond Index.
- **Vanguard Spliced Extended Market Index:** Dow Jones Wilshire 4500 Index through June 17, 2005; S&P Transitional Completion Index through September 16, 2005; S&P Completion Index thereafter.
- **Vanguard Spliced Value Index:** S&P 500 Value Index (formerly the S&P 500/Barra Value Index) through May 16, 2003; MSCI US Prime Market Value Index through April 16, 2013; CRSP US Large Cap Value Index thereafter.
- **Vanguard Spliced Large Cap Index:** Consists of MSCI US Prime Market 750 Index through January 30, 2013, and the CRSP US Large Cap Index thereafter.
- **Vanguard Spliced Growth Index:** S&P 500 Growth Index (formerly the S&P 500/Barra Growth Index) through May 16, 2003; MSCI US Prime Market Growth Index through April 16, 2013; CRSP US Large Cap Growth Index thereafter.
- **Vanguard Spliced Mid Cap Value Index:** MSCI US Mid Cap Value Index through April 16, 2013; CRSP US Mid Cap Value Index thereafter.
- **Vanguard Spliced Mid Cap Index:** S&P MidCap 400 Index through May 16, 2003; the MSCI US Mid Cap 450 Index through January 30, 2013; and the CRSP US Mid Cap Index thereafter.
- **Vanguard Spliced Mid Cap Growth Index:** MSCI US Mid Cap Growth Index through April 16, 2013; CRSP US Mid Cap Growth Index thereafter.
- **Vanguard Spliced Total Stock Market Index:** Dow Jones U.S. Total Stock Market Index (formerly known as the Dow Jones Wilshire 5000 Index) through April 22, 2005; MSCI US Broad Market Index through June 2, 2013; and CRSP US Total Market Index thereafter.
- **Vanguard Spliced Small Cap Value Index:** SmallCap 600 Value Index (formerly the S&P SmallCap 600/Barra Value Index) through May 16, 2003; MSCI US Small Cap Value Index through April 16, 2013; CRSP US Small Cap Value Index thereafter.



- **Vanguard Spliced Small Cap Index:** Russell 2000 Index through May 16, 2003; the MSCI US Small Cap 1750 Index through January 30, 2013; and the CRSP US Small Cap Index thereafter.
- **Vanguard Spliced Small Cap Growth Index:** S&P SmallCap 600 Growth Index (formerly the S&P SmallCap 600/Barra Value Index) through May 16, 2003; MSCI US Small Cap Growth Index through April 16, 2013; CRSP US Small Cap Growth Index thereafter.
- **Vanguard Spliced Total International Stock Index:** Consists of the Total International Composite Index through August 31, 2006; the MSCI EAFE + Emerging Markets Index through December 15, 2010; the MSCI AC USA IMI Index through June 2, 2013; and FTSE Global All Cap ex US Index thereafter. Benchmark returns are adjusted for withholding taxes.
- **Vanguard Spliced Developed Markets Index:** MSCI EAFE Index through May 28, 2013; FTSE Developed ex North America Index through December 20, 2015; FTSE Developed All Cap ex US Transition Index through May 31, 2016; FTSE Developed All Cap ex US Index thereafter. Benchmark returns are adjusted for withholding taxes.
- **Vanguard Spliced Emerging Markets Index:** Select Emerging Markets Index through August 23, 2006; MSCI Emerging Markets Index through January 9, 2013; FTSE Emerging Transition Index through June 27, 2013; FTSE Emerging Index through November 1, 2015; and FTSE Emerging Markets All Cap China A Transition Index thereafter. Benchmark returns are adjusted for withholding taxes.
- **Vanguard REIT Spliced Index:** MSCI US REIT Index adjusted to include a 2% cash position (Lipper Money Market Average) through April 30, 2009; MSCI US REIT Index through January 31, 2018; MSCI US Investable Market Real Estate 25/50 Transition Index through July 24, 2018; MSCI US Investable Market Real Estate 25/50 Index thereafter.

Additional:

- Equity sector returns are calculated by Russell and MSCI for domestic and international markets, respectively. MSCI sector definitions correspond to the MSCI GICS® classification (Global Industry Classification System); Russell uses its own sector and industry classifications.
- MSCI country returns are calculated by MSCI and are free float-adjusted market capitalization indices that are designed to measure equity market performance in each specific country.
- Currency returns are calculated using Bloomberg's historical spot rate indices and are calculated using the U.S. dollar as the base currency.
- The Index of Leading Economic Indicators, calculated by The Conference Board, is used as a barometer of economic activity over a range of three to six months. The index is used to determine the direction and stability of the economy. The composite index of leading indicators, which is derived from 10 leading indicators, helps to signal turning points in the economy and forecast economic cycles. The leading indicators are the following: average weekly hours, average weekly initial claims, manufacturers' new orders, both consumer and non-defense capital goods, vendor performance, building permits, stock prices, money supply (M2), the interest rate spread and the index of consumer expectations.
- S&P Target Date Indexes are constructed using a survey method of current target date investments with \$100 million or more in assets under management. Allocations for each vintage are comprised of exchange-traded funds that represent respective asset classes used in target date portfolios. The indexes are designed to represent a market consensus glide path.

DEFINITION OF KEY STATISTICS AND TERMS

- **Returns:** A percentage figure used when reporting historical average compounded rate of investment return. All returns are annualized if the period for which they are calculated exceeds one year.
- **Universe Comparison:** The universe compares the fund's returns to a group of other investment portfolios with similar investment strategies. The returns for the fund, the index and the universe percentiles are displayed. A percentile ranking of 1 is the best, while a percentile ranking of 100 is the worst. For example, a ranking of 50 indicates the fund outperformed half of the universe. A ranking of 25 indicates the fund was in the top 25% of the universe, outperforming 75%.
- **Returns In Up/Down Markets:** This measures how the fund performed in both up and down markets. The methodology is to segregate the performance for each time period into the quarters in which the market, as defined by the index, was positive and negative. Quarters with negative index returns are treated as down markets, and quarters with positive index returns are treated as up markets. Thus, in a 3 year or 12 quarter period, there might be 4 down quarters and 8 up quarters. A simple arithmetic average of returns is calculated for the fund and the index based on the up quarters. A simple arithmetic average of returns is calculated for the fund and the index based on the down quarters. The up market capture ratio is the ratio of the fund's return in up markets to the index. The down market capture ratio is the ratio of the fund's return in down markets to the index. Ideally, the fund would have a greater up market capture ratio than down market capture ratio.
- **Standard Deviation:** Standard deviation is a statistical measure of the range of performance within which the total returns of a fund fall. When a fund has a high standard deviation, the range of performance is very wide, meaning there is a greater volatility. Approximately 68% of the time, the total return of any given fund will differ from the average total return by no more than plus or minus the standard deviation figure. Ninety-five percent of the time, a fund's total return will be within a range of plus or minus two times the standard deviation from the average total return. If the quarterly or monthly returns are all the same the standard deviation will be zero. The more they vary from one another, the higher the standard deviation. Standard deviation can be misleading as a risk indicator for funds with high total returns because large positive deviations will increase the standard deviation without a corresponding increase in the risk of the fund. While positive volatility is welcome, negative is not.
- **R-Squared:** This reflects the percentage of a fund's movements that are explained by movements in its benchmark index. An R-squared of 100 means that all movements of a fund are completely explained by movements in the index. Conversely, a low R-squared indicates very few of the fund's movements are explained by movements in the benchmark index. R-squared can also be used to ascertain the significance of a particular beta. Generally, a higher R-squared will indicate a more reliable beta figure. If the R-squared is lower, then the beta is less relevant to the fund's performance. A measure of diversification, R-squared indicates the extent to which fluctuations in portfolio returns are explained by market. An R-squared = 0.70 implies that 70% of the fluctuation in a portfolio's return is explained by the fluctuation in the market. In this instance, overweighting or underweighting of industry groups or individual securities is responsible for 30% of the fund's movement.
- **Beta:** This is a measure of a fund's market risk. The beta of the market is 1.00. Accordingly, a fund with a 1.10 beta is expected to perform 10% better than the market in up markets and 10% worse than the market in down markets. It is important to note, however, a low fund beta does not imply the fund has a low level of volatility; rather, a low beta means only that the fund's market-related risk is low. Because beta analyzes the market risk of a fund by showing how responsive the fund is to the market, its usefulness depends on the degree to which the markets determine the fund's total risk (indicated by R-squared).
- **Alpha:** The Alpha is the nonsystematic return, or the return that can't be attributed to the market. It can be thought of as how the manager performed if the market's return was zero. A positive alpha implies the manager added value to the return of the portfolio over that of the market. A negative alpha implies the manager did not contribute any value over the performance of the market.
- **Sharpe Ratio:** The Sharpe ratio is the excess return per unit of total risk as measured by standard deviation. Higher numbers are better, indicating more return for the level of risk experienced. The ratio is a fund's return minus the risk-free rate of return (30-day T-Bill rate) divided by the fund's standard deviation. The higher the Sharpe ratio, the more reward you are receiving per unit of total risk. This measure can be used to rank the performance of mutual funds or other portfolios.
- **Treynor Ratio:** The Treynor ratio measures returns earned in excess of that which could have been earned on a riskless investment per each unit of market risk. The ratio relates excess return over the risk-free rate to the additional risk taken; however, systematic risk is used instead of total risk. The Treynor ratio is similar to the Sharpe ratio, except in the fact that it uses the beta to evaluate the returns rather than the standard deviation of portfolio returns. High values mean better return for risk taken.



- **Tracking Error:** Tracking error measures the volatility of the difference in annual returns between the manager and the index. This value is calculated by measuring the standard deviation of the difference between manager and index returns. For example, a tracking error of +/- 5 would mean there is about a 68% chance (1 standard deviation event) that the manager's returns will fall within +/- 5% of the benchmark's annual return.
- **Information Ratio:** The information ratio is a measure of the consistency of excess return. This value is determined by taking the annualized excess return over a benchmark (style benchmark by default) and dividing the standard deviation of excess return.
- **Consistency:** Consistency shows the percent of the periods the fund has beaten the index and the percent of the periods the index has beat the fund. A high average for the fund (e.g., over 50) is desirable, indicating the fund has beaten the index frequently.
- **Downside Risk:** Downside risk is a measure similar to standard deviation but focuses only on the negative movements of the return series. It is calculated by taking the standard deviation of the negative quarterly set of returns. The higher the factor, the riskier the product.
- **M-Squared:** M-squared, or the Modigliani risk-adjusted performance measure is used to characterize how well a portfolio's return rewards an investor for the amount of risk taken, relative to that of some benchmark portfolio and to the risk-free rate.

DEFINITION OF KEY PRIVATE EQUITY TERMS

- **PIC (Paid in Capital):** The amount of committed capital that has been transferred from the limited partner to the general partner.
- **TVPI (Total Value to Paid in Capital):** Money returned to limited partners plus the fund's unrealized investments, divided by money paid-in to the partnership. The TVPI should equal RVPI plus DPI.
- **DPI (Distribution to Paid In Capital):** Money returned (distributions) to limited partners divided by money paid in to the partnership. Also called cash-on-cash multiple.
- **RVPI (Residual Value to Paid In Capital):** The value of a fund's unrealized investments divided by money paid-in to the partnership.
- **Internal rate of return (IRR):** This is the most appropriate performance benchmark for private equity investments. It is a time-weighted return expressed as a percentage. IRR uses the present sum of cash drawdowns (money invested), the present value of distributions (money returned from investments) and the current value of unrealized investments and applies a discount.
- **Commitment:** Every investor in a private equity fund commits to investing a specified sum of money in the fund partnership over a specified period of time. The fund records this as the limited partnership's capital commitment. The sum of capital commitments is equal to the size of the fund.
- **Capital Distribution:** These are the returns that an investor in a private equity fund receives. It is the income and capital realized from investments less expenses and liabilities. Once a limited partner has had their cost of investment returned, further distributions are actual profit. The partnership agreement determines the timing of distributions to the limited partner. It will also determine how profits are divided among the limited partners and general partner.
- **Carried Interest:** The share of profits that the fund manager is due once it has returned the cost of investment to investors. Carried interest is normally expressed as a percentage of the total profits of the fund.
- **Co-Investment:** Co-Investments are minority investments made alongside a private equity investor in an LBO, a recapitalization, or an expansion capital transaction. It is a passive, non-controlling investment, as the private equity firm involved will typically exercise control and perform monitoring functions.
- **General Partner (GP):** This can refer to the top-ranking partners at a private equity firm as well as the firm managing the private equity fund.
- **GP Commitments:** It is normal practice for the GP managing a private equity fund to also make a financial commitment to the fund on the same basis as the LPs in the fund, and this is seen as an important factor driving the alignment of GP and LP interests. The historic benchmark for GP commitments has been 1% of the total fund size, but this is by no means universal, and many GPs commit significantly larger amounts. Furthermore, there has been a marked trend towards GPs making larger commitments to their funds over recent years.
- **Leveraged Buy-Out (LBO):** The acquisition of a company using debt and equity finance.
- **Limited Partner (LP):** Institutions or high-net-worth individuals/sophisticated investors that contribute capital to a private equity fund.
- **Public Market Equivalent (PME):** Performance measure used to evaluate performance relative to the market. It is calculated as the ratio of the discounted value of the LP's inflows divided by the discounted value of outflows, with the discounting performed using realized market returns.
- **Primaries:** An original investment vehicle that invests directly into a company or asset.

VALUATION POLICY

Fiducient Advisors does not engage an independent third-party pricing service to value securities. Our reports are generated using the security prices provided by custodians used by our clients. Our custodial pricing hierarchy is available upon request. If a client holds a security not reported by the first custodian within the hierarchy, the valuation is generated from the next custodian within the hierarchy, and so forth. Each custodian uses pricing services from outside vendors, where the vendors may generate nominally different prices. Therefore, this report can reflect minor valuation differences from those contained in a custodian's report. In rare instances where FA overrides a custodial price, prices are taken from Bloomberg.

REPORTING POLICY

This report is intended for the exclusive use of the client listed within the report. Content is privileged and confidential. Any dissemination or distribution is strictly prohibited. Information has been obtained from a variety of sources believed to be reliable though not independently verified. Any forecast represents median expectations and actual returns, volatilities and correlations will differ from forecasts. Please note each client has customized investment objectives and constraints and the investment strategy for each portfolio is based on a client-specific asset allocation model. Past performance does not indicate future performance and there is a possibility of a loss. Performance calculated net of investment fees. Certain portfolios presented may be gross of Fiducient Advisors' fees and actual performance would be reduced by investment advisory fees. This report does not represent a specific investment recommendation. Please consult with your advisor, attorney, and accountant, as appropriate, regarding specific advice.



Custodian reports are the reports that govern the account. There will be different account values between Fiduciant Advisors' reports and the custodian reports based on whether the report utilizes trade date or date to calculate value. Additionally, difference between values contained on reports may be caused by different accrued income values. Any forecasts represent future expectations and actual returns, volatilities and will differ from forecasts. This report does not represent a specific investment recommendation. Please consult with your advisor, attorney, and accountant, as appropriate, regarding specific advice. Past performance does not indicate future performance and there is a possibility of a loss.

Manager performance for mutual funds and ETFs is based on NAV and provided by Lipper. Performance for non-mutual fund or ETF investments is based on the returns provided by managers, calculations based on a manager statement, or calculations based on a statement or data from the client's custodian. Unless specified otherwise, all returns are net of individual manager fees, represent total returns and are annualized for periods greater than one year. The deduction of fees produces a compounding effect that reduces the total rate of return over time. As an example, the effect of investment management fees on the total value of a client's portfolio assuming (a) quarterly fee assessment, (b) \$1,000,000 investment, (c) portfolio return of 8% a year, and (d) 0.50% annual investment advisory fee would be \$5,228 in the first year, and cumulative effects of \$30,342 over five years and \$73,826 over ten years. Additional information on advisory fees charged by Fiduciant Advisors are described in Part 2 of the Form ADV.

OTHER

By regulation, closed-end funds utilizing debt for leverage must report their interest expense, as well as their income tax expense, as part of their total expense ratio. To make for a useful comparison between closed-end funds and both open-end funds and exchange-traded funds, adjusted expense ratios excluding interest and income tax expenses are utilized for closed-end funds within this report. See disclosure on closed-end fund fact sheets for information regarding the total expense ratio of each closed-end fund.

Please advise us of any changes in your objectives or circumstances.

CUSTODIAN STATEMENTS

Please remember to review the periodic statements you receive from your custodian. If you do not receive periodic statements from your custodian or notice issues with the activity reported in those statements, please contact FA or your custodian immediately.

GENERAL DISCLOSURES

Barron's Institutional Consulting Teams ranking is based on quantitative and qualitative factors including team's assets, revenue, size and character of the team itself. Barron's invites firms that, in their opinion, are competitive given size and sophistication. There is no fee associated with participating in the ranking. Fiduciant Advisors' ranking took into consideration the combined capabilities of the firm and its subsidiary, Fiduciary Investment Advisors, LLC.

P&I's 2020 Best Places to Work in Money Management ranking is a proprietary survey produced by Pension & Investment in partnership with Best Companies Group. 94 companies were recognized in 2020 and results are based on evaluating each nominated company's workplace policies, practices, philosophy, systems, and demographics, as well as an employee survey to measure employee experience. Fiduciant Advisors' rankings are representative of the firm and its subsidiary, Fiduciary Investment Advisors, LLC. There is no fee associated with participating in the ranking.

P&I's Consultant Ranking is a proprietary survey produced by Pension & Investment. Results are based on 80 questionnaire responses sent to 213 consultants determined by P&I that self-reported institutional assets under advisement as of June 30, 2020. Consultants with multiple subsidiaries are asked to provide information on a consolidated basis. There is no fee associated with participating in the ranking. The ranking is not indicative of Fiduciant Advisors' future performance.