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 – Tuesday, January 18, 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. Fiducient's
   - December Investment Update
   - 2022 Capital Market Assumptions

4. Approve Minutes
   - December 20, 2021

5. Approve Return of Contributions

	Effective Date of Benefit
Bruce Hathaway, Class B $2,624.11	02/01/2022
Michael Z. Rebeor, Class A $10,931.22	11/01/2021
Ryan O. Furmanchin, Class B $6,125.03	02/01/2022
Ryan P. Alger, Class B $5,599.83	02/01/2022
Sara DeGaetano, Class B $1,387.30	02/01/2022
Wayne Place, Class B $4,018.56	02/01/2022

6. Approve Retirement Applications

	Effective Date of Benefit	Actual First Payment Date
Jeffrey Herwood, Class B $2,319.37	12/01/2021	12/15/2021

7. Update from Hooker & Holcombe
   - 2021 BERS Preliminary Valuation Report

8. Adjourn

FIDUCIENT
Advisors
Helping Clients Prosper

City of Burlington Employees Retirement System

Monthly Performance Update - December 2021

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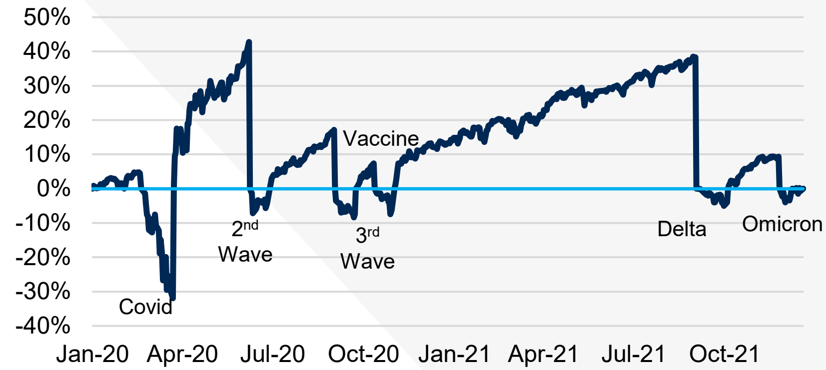
December 2021 Portfolio Review

Market Themes

1. Adaptation and flexibility should prove key for investors in 2022, driven by concern for moderating return opportunities and heightened capital market volatility.
2. Investors should remain attuned to a more differentiated array of central bank responses in the New Year as authorities increasingly customize policies to their particular economic circumstances.
3. U.S. large cap equities were among the leaders this quarter as the reopening trade took a back seat and large growth outpaced value. Real estate markets continued their banner year while fixed income was relatively flat, despite increased rate volatility.

S&P 500 Drawdowns (% Change from Previous High/Low)

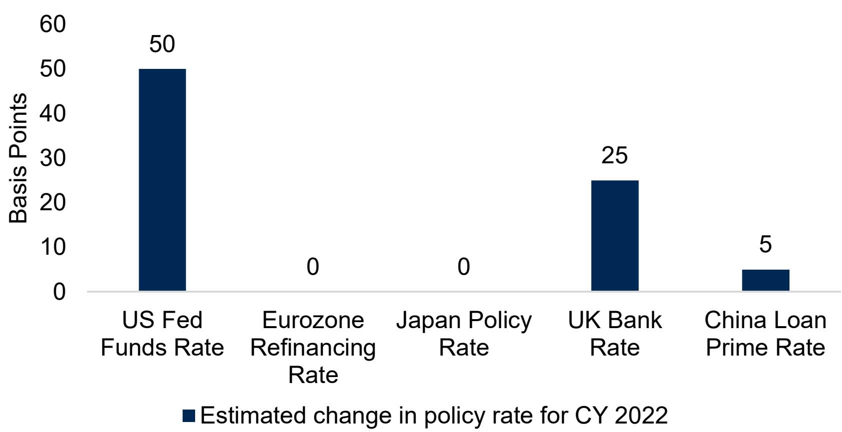
The COVID-19 pandemic has driven volatility over the past two years. Recent variants have had a more subdued impact.



Source: FactSet. As of December 20, 2021

Global Policy Rates

Market expectations are such that central bank coordination is likely to wane in 2022 as policy makers around the world react to their individual markets.This may present both opportunities and risks for investors in the coming quarters.



Source: FactSet. As of January 5, 2022

Elevated Rate Volatility

The 10-year U.S. Treasury yield experienced elevated volatility in Q4 as investors digested the emergence of the omicron variant, elevated inflation, an increasingly hawkish Fed and prospects for further economic recovery.

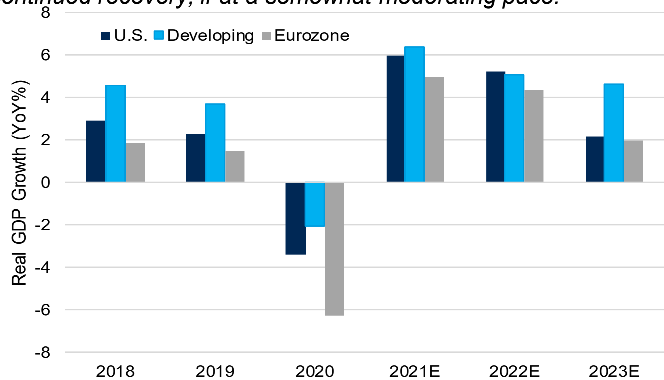
Source: FactSet. As of December 31, 2021.

See disclosures for list of indices representing each asset class. Past performance does not indicate future performance and there is a possibility of a loss.

Economic Review

Real GDP Growth (YoY)

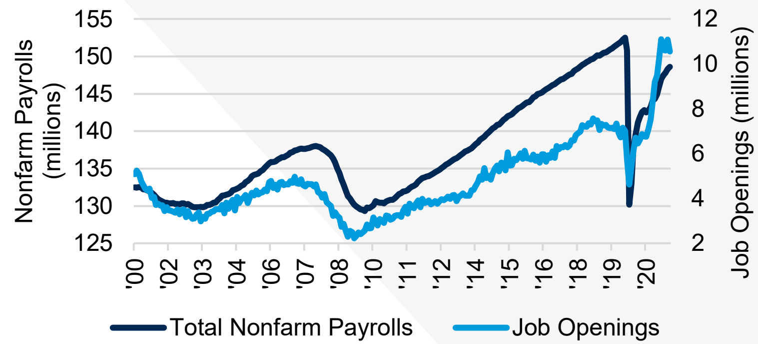
Estimates for positive GDP growth remain strong for 2022. A favorable consumer profile and corporate health provide a solid foundation for continued recovery, if at a somewhat moderating pace.



Source: FactSet, IMF World Economic Outlook. As of December 31, 2021.

U.S. Labor Market

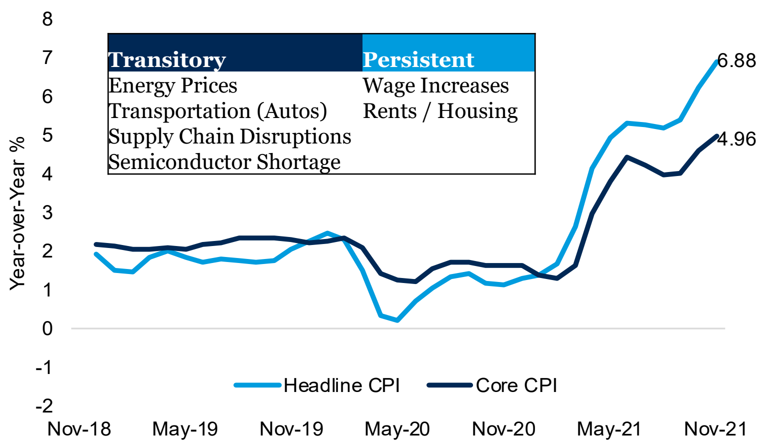
Job openings are at twenty-year highs, yet employment levels (nonfarm payrolls) are still below pre-pandemic levels. This supply/demand imbalance could lead to higher wages and a stronger consumer.



Source: FactSet, U.S. DOL. As of November 30, 2021

U.S. Inflation

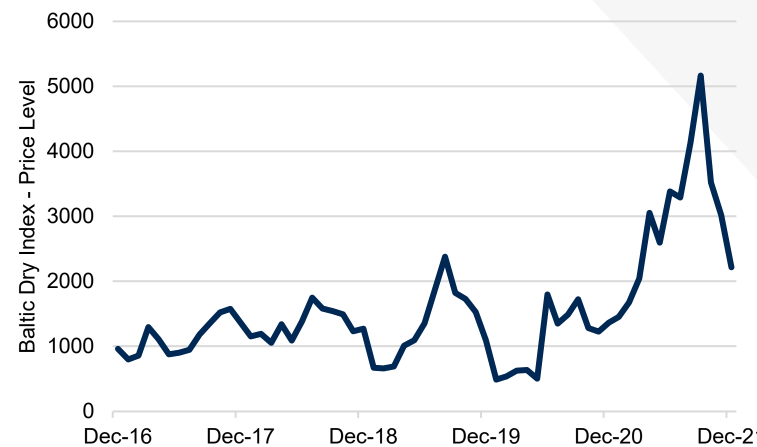
Inflation remains elevated, with energy and transportation seeing the largest increases year-over-year. Inflation may moderate but we don't expect it to revert to benign pre-pandemic levels.



Source: FactSet, Fiducient Advisors. As of November 30, 2021.

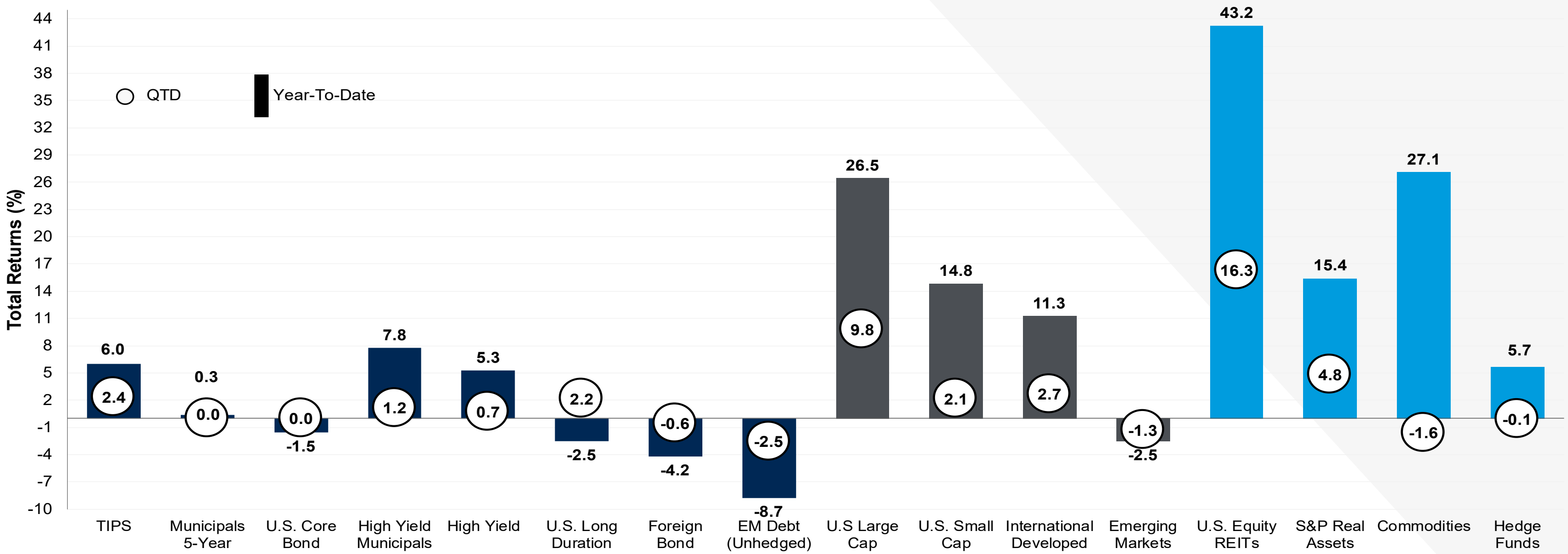
Shipping Costs

Supply chain issues are easing somewhat. The Baltic Dry Index, a measure of shipping costs of raw materials, has come off recent highs, which could alleviate inflation pressure in the future.



Source: FactSet, Baltic Exchange. As of December 31, 2021

Asset Class Returns



*Hedge fund returns are lagged 1 month. Sources: FactSet, J.P. Morgan, Russell, MSCI, FTSE Russell, Alerian, Morningstar. As of December 31, 2021.

Fixed Income (4Q)

+/- U.S. bonds were flat on the quarter. A hawkish Federal Reserve incited a flatter yield curve.

+ Credit spreads ultimately ended the quarter tighter as investors continued to demand yield in the low-rate environment.

- Non-USD debt struggled in the period. A rising U.S. dollar coupled with Evergrande's debt default was a headwind for EM debt.

Equity (4Q)

+ Despite a volatile quarter, U.S. and developed international equities ultimately ended the quarter higher following a year-end rally.

- Government regulation and intervention in China continued to weigh on investor enthusiasm, pushing emerging markets into negative territory for the quarter.

Real Asset / Alternatives (4Q)

+ REITs benefited from strong industrial, self-storage and residential performance, areas that have continued to benefit during the COVID-19 era.

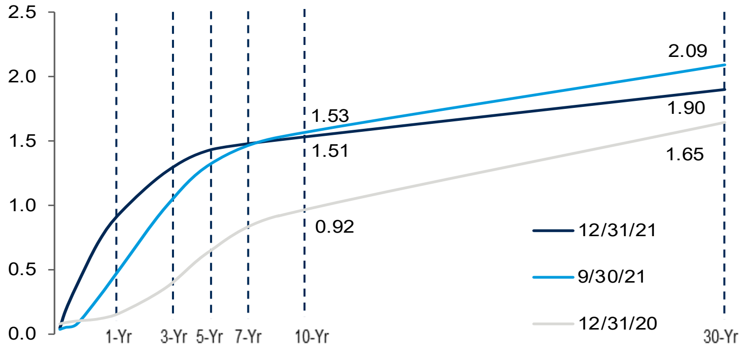
- Perceptions of lower energy demand due to COVID outbreaks led to falling energy prices, which weighed on the commodity market.

 See disclosures for list of indices representing each asset class. Past performance does not indicate future performance and there is a possibility of a loss.

Fixed Income Market Update

U.S. Treasury Yields Curve

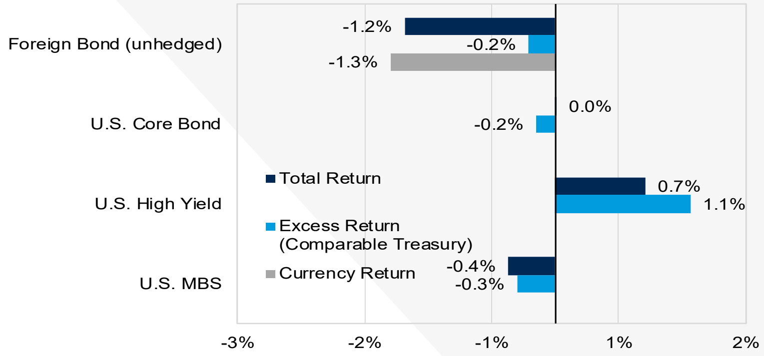
The U.S. curve flattened as the Fed accelerated their tapering program and outlook for rate hikes in 2022 solidified. Concerns about the impact of the omicron variant on the economy put pressure on the long-dated rates.



Source: FactSet

Index Performance Attribution (4Q 2021)

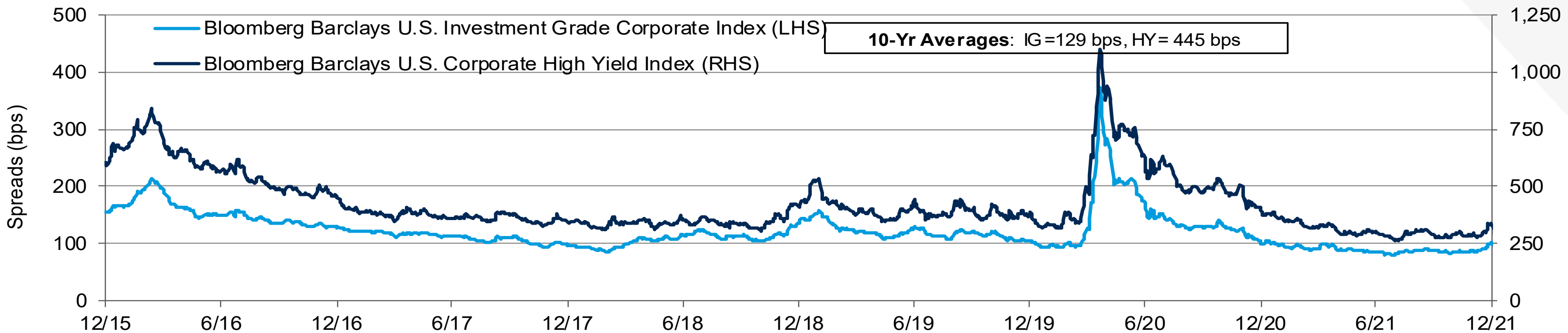
On a duration adjusted basis, high yield outpaced U.S. Treasuries while the mortgage market came under pressure as the Fed began its tapering program. A strengthening U.S. dollar was a major headwind for non-USD debt.



Source: FactSet. As of December 31, 2021

Credit Market Spreads – Trailing 5 Years

Credit spreads ultimately ended the quarter tighter, but the ride through the quarter was bumpy. Investor demand for yield continued to provide a tailwind for credit. Credit spreads sit well within their 10-year averages and, when coupled with heightened rate volatility, we currently favor active management.



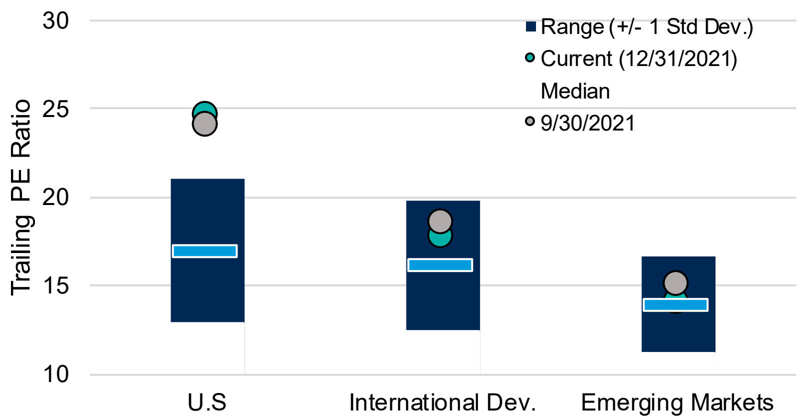
Source: FactSet. As of December 31, 2021

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

Equity Market Update

Equity Valuations (Trailing 15 Years)

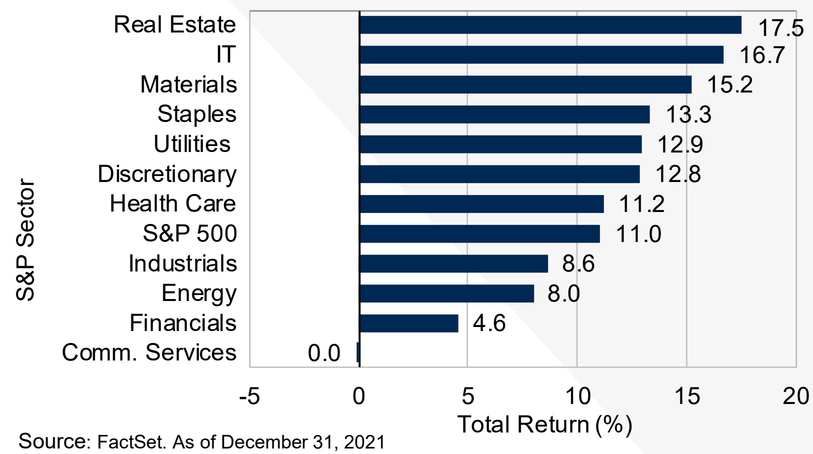
Valuations persist above longer-term averages in the U.S. but are less pronounced elsewhere in the world. Falling equity prices within emerging markets moved valuations lower and in-line with the 15-year median.



Source: FactSet. As of December 31, 2021

U.S. Equities – Return by Sector (4Q 2021)

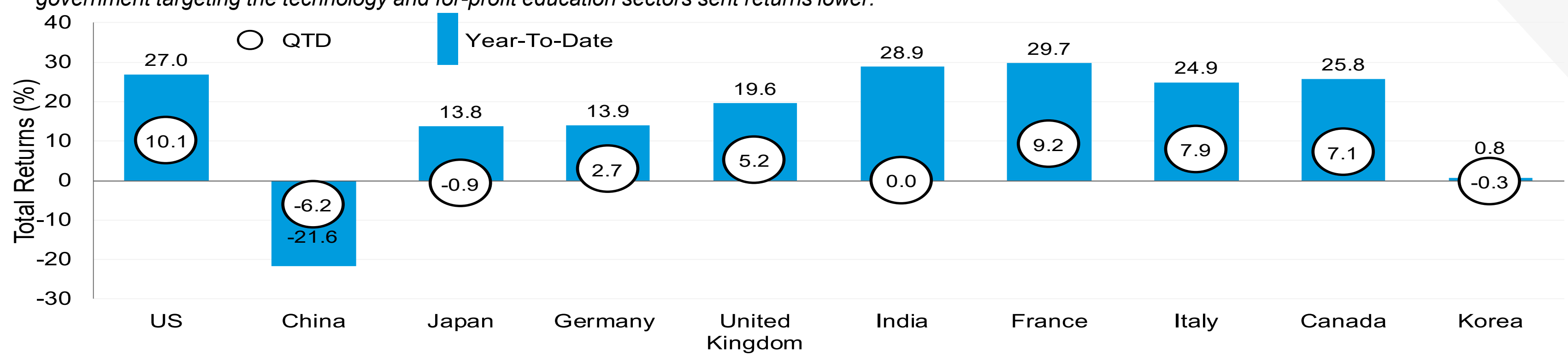
Real Estate and Information Technology led the way as the reopening trade reversed course, while energy and financials lagged the broader equity market.



Source: FactSet. As of December 31, 2021

Country Total Returns (%) – Top 10 Largest Economies

Equities were generally positive within developed regions, with the United States leading the way as COVID precautionary measures domestically were not as intense as those abroad. Chinese equities continued to be a drag on emerging market performance. Lingering concerns about the Chinese government targeting the technology and for-profit education sectors sent returns lower.



Source: FactSet. As of December 31, 2021.

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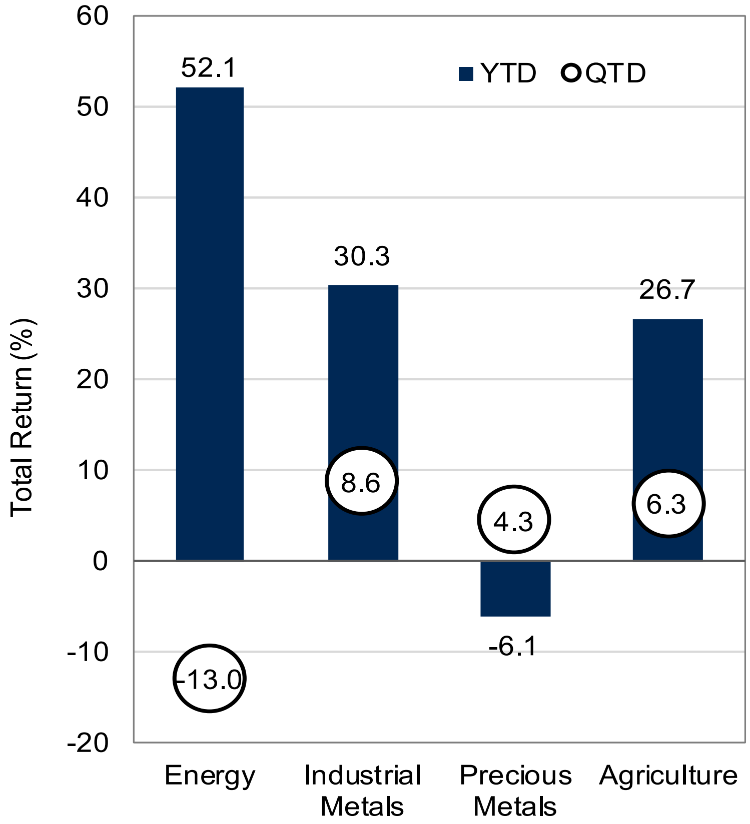
Alternatives Market Update

Real Assets Performance

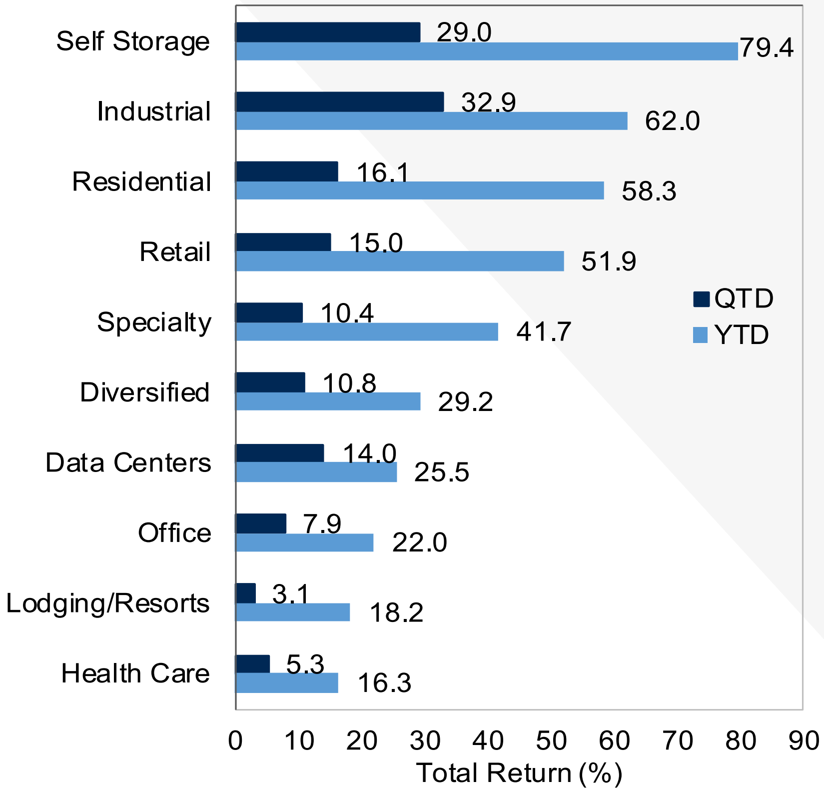
Energy reversed course in the fourth quarter as the breakout of COVID-19 cases weakened demand amid new lockdowns around the globe, while the supply chain backlog pushed industrial metals prices higher.



Source: FactSet. As of December 31, 2021

REIT Sector Performance

The Industrial and Self Storage sectors were the highlights this quarter, driven by the uncertainty generated by the omicron wave. Conversely, Lodging and Office lagged in the quarter. Real Estate, overall, performed well for the 2021 calendar year.



Source: FactSet. As of December 31, 2021

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The Case For Diversification

2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	YTD	10Yr (Ann)
TIPS 13.6	Emerging Markets 18.2	U.S. Small Cap 38.8	U.S. Equity REITs 30.1	U.S. Equity REITs 3.2	U.S. Small Cap 21.3	Emerging Markets 37.3	High Yield Munis 4.8	U.S. Large Cap 31.5	U.S. Small Cap 20.0	U.S. Equity REITs 43.2	US Large Cap 16.5
High Yield Munis 9.3	High Yield Munis 18.1	U.S. Large Cap 32.4	High Yield Munis 13.8	Municipals 5-Year 2.4	High Yield 17.1	International Dev. 25.0	Municipals 5-Year 1.7	U.S. Equity REITs 26.0	U.S. Large Cap 18.4	Commodities 27.1	US Small Cap 13.2
U.S. Equity REITs 8.3	U.S. Equity REITs 18.1	International Dev. 22.8	U.S. Large Cap 13.7	High Yield Munis 1.8	U.S. Large Cap 12.0	U.S. Large Cap 21.8	Foreign Bond 0.5	U.S. Small Cap 25.5	Emerging Markets 18.3	US Large Cap 26.5	U.S. Equity REITs 11.4
Core Bond 7.8	International Dev. 17.3	Balanced 12.2	Core Bond 6.0	U.S. Large Cap 1.4	Commodities 11.7	EM Debt (unhedged) 15.2	Core Bond 0.0	International Dev. 22.5	TIPS 11.0	US Small Cap 14.8	International Dev. 8.0
Municipals 5-Year 6.9	EM Debt (unhedged) 16.9	Hedge Funds 9.0	Balanced 5.1	Core Bond 0.6	Emerging Markets 11.2	U.S. Small Cap 14.6	TIPS -1.3	Emerging Markets 18.4	Balanced 8.8	International Dev. 11.3	Balanced 7.4
High Yield 5.0	U.S. Small Cap 16.3	High Yield 7.4	U.S. Small Cap 4.9	Hedge Funds -0.3	EM Debt (unhedged) 9.9	Balanced 13.6	High Yield -2.1	Balanced 17.5	International Dev. 7.8	Balanced 9.8	High Yield 6.8
Foreign Bond 4.2	U.S. Large Cap 16.0	U.S. Equity REITs 2.5	TIPS 3.6	International Dev. -0.8	U.S. Equity REITs 8.5	High Yield Munis 9.7	Hedge Funds -4.0	High Yield 14.3	Core Bond 7.5	High Yield Munis 7.8	High Yield Municipals 6.7
U.S. Large Cap 2.1	High Yield 15.8	Municipals 5-Year 0.8	Hedge Funds 3.4	TIPS -1.4	Balanced 7.6	Hedge Funds 7.8	U.S. Large Cap -4.4	EM Debt (unhedged) 13.5	Hedge Funds 7.1	TIPS 6.0	Emerging Markets 5.5
Balanced 0.9	Balanced 11.5	Foreign Bond -1.0	Municipals 5-Year 3.2	Foreign Bond -2.3	TIPS 4.7	High Yield 7.5	U.S. Equity REITs -4.6	High Yield Munis 10.7	High Yield 7.1	Hedge Funds 5.7	Hedge Funds 4.4
EM Debt (unhedged) -1.8	TIPS 7.0	Core Bond -2.0	Foreign Bond 2.9	Balanced -3.3	Foreign Bond 3.2	Foreign Bond 6.5	Balanced -5.8	Core Bond 8.7	Foreign Bond 7.0	High Yield 5.3	TIPS 3.1
U.S. Small Cap -4.2	Foreign Bond 5.3	Emerging Markets -2.6	High Yield 2.5	U.S. Small Cap -4.4	High Yield Munis 3.0	U.S. Equity REITs 5.2	EM Debt (unhedged) -6.2	TIPS 8.4	High Yield Munis 4.9	Municipals 5-Year 0.3	Core Bond 2.9
Hedge Funds -5.7	Hedge Funds 4.8	High Yield Munis -5.5	Emerging Markets -2.2	High Yield -4.5	Core Bond 2.6	Core Bond 3.5	U.S. Small Cap -11.0	Hedge Funds 7.8	Municipals 5-Year 4.3	Core Bond -1.5	Municipals 5-Year 2.4
Commodities -13.3	Core Bond 4.2	TIPS -8.6	International Dev. -4.9	Emerging Markets -14.9	International Dev. 1.0	Municipals 5-Year 3.1	Commodities -11.2	Commodities 7.7	EM Debt (unhedged) 2.7	Emerging Markets -2.5	Foreign Bond 2.3
International Dev. -12.1	Municipals 5-Year 3.0	EM Debt (unhedged) -9.0	EM Debt (unhedged) -5.7	EM Debt (unhedged) -14.9	Hedge Funds 0.5	TIPS 3.0	International Dev. -13.8	Foreign Bond 6.3	Commodities -3.1	Foreign Bond -4.2	EM Debt (unhedged) 0.7
Emerging Markets -18.4	Commodities -1.1	Commodities -9.5	Commodities -17.0	Commodities -24.7	Municipals 5-Year -0.4	Commodities 1.7	Emerging Markets -14.6	Municipals 5-Year 5.4	U.S. Equity REITs -8.0	EM Debt (unhedged) -8.7	Commodities -2.9

Source: FactSet & Morningstar as of December 31, 2021. Periods greater than one year are annualized. All returns are in U.S. dollar terms. One month lag for Hedge Funds.

See disclosures for list of indices representing each asset class. Past performance does not indicate future performance and there is a possibility of a loss.

Financials Markets Performance

Financial Markets Performance

Total return as of December 31, 2021

Periods greater than one year are annualized
All returns are in U.S. dollar terms

Global Fixed Income Markets	QTD	YTD	1YR	3YR	5YR	7YR	10YR	15YR
Bloomberg 1-3-Month T-Bill	0.0%	0.0%	0.0%	0.9%	1.1%	0.8%	0.6%	0.8%
Bloomberg U.S. TIPS	2.4%	6.0%	6.0%	8.4%	5.3%	4.2%	3.1%	4.7%
Bloomberg Municipal Bond (5 Year)	0.0%	0.3%	0.3%	3.3%	3.0%	2.4%	2.4%	3.5%
Bloomberg High Yield Municipal Bond	1.2%	7.8%	7.8%	7.8%	7.5%	6.0%	6.7%	5.2%
Bloomberg U.S. Aggregate	0.0%	-1.5%	-1.5%	4.8%	3.6%	3.0%	2.9%	4.1%
Bloomberg U.S. Corporate High Yield	0.7%	5.3%	5.3%	8.8%	6.3%	6.1%	6.8%	7.1%
Bloomberg Global Aggregate ex-U.S. Hedged	-1.2%	-1.4%	-1.4%	3.3%	3.1%	3.1%	3.8%	4.0%
Bloomberg Global Aggregate ex-U.S. Unhedged	-1.2%	-7.0%	-7.0%	2.5%	3.1%	1.5%	0.8%	2.6%
Bloomberg U.S. Long Gov / Credit	2.2%	-2.5%	-2.5%	10.6%	7.4%	5.7%	5.7%	7.0%
JPMorgan GBI-EM Global Diversified	-2.5%	-8.7%	-8.7%	2.1%	2.8%	1.0%	0.7%	3.5%

Global Equity Markets	QTD	YTD	1YR	3YR	5YR	7YR	10YR	15YR
S&P 500	11.0%	28.7%	28.7%	26.1%	18.5%	14.9%	16.6%	10.7%
Dow Jones Industrial Average	7.9%	20.9%	20.9%	18.5%	15.5%	13.3%	14.2%	10.1%
NASDAQ Composite	8.4%	22.2%	22.2%	34.3%	25.0%	19.8%	21.0%	14.4%
Russell 3000	9.3%	25.7%	25.7%	25.8%	18.0%	14.5%	16.3%	10.6%
Russell 1000	9.8%	26.5%	26.5%	26.2%	18.4%	14.8%	16.5%	10.7%
Russell 1000 Growth	11.6%	27.6%	27.6%	34.1%	25.3%	19.6%	19.8%	13.7%
Russell 1000 Value	7.8%	25.2%	25.2%	17.6%	11.2%	9.7%	13.0%	7.5%
Russell Mid Cap	6.4%	22.6%	22.6%	23.3%	15.1%	12.2%	14.9%	10.2%
Russell Mid Cap Growth	2.8%	12.7%	12.7%	27.5%	19.8%	14.9%	16.6%	11.7%
Russell Mid Cap Value	8.5%	28.3%	28.3%	19.6%	11.2%	10.0%	13.4%	8.8%
Russell 2000	2.1%	14.8%	14.8%	20.0%	12.0%	10.8%	13.2%	8.7%
Russell 2000 Growth	0.0%	2.8%	2.8%	21.2%	14.5%	11.7%	14.1%	10.0%
Russell 2000 Value	4.4%	28.3%	28.3%	18.0%	9.1%	9.5%	12.0%	7.2%
MSCI ACWI	6.7%	18.5%	18.5%	20.4%	14.4%	10.9%	11.9%	7.1%
MSCI ACWI ex. U.S.	1.8%	7.8%	7.8%	13.2%	9.6%	6.6%	7.3%	3.8%
MSCI EAFE	2.7%	11.3%	11.3%	13.5%	9.5%	6.8%	8.0%	3.6%
MSCI EAFE Growth	4.1%	11.3%	11.3%	19.0%	13.6%	9.7%	10.1%	5.5%
MSCI EAFE Value	1.2%	10.9%	10.9%	7.8%	5.3%	3.6%	5.8%	1.6%
MSCI EAFE Small Cap	0.1%	10.1%	10.1%	15.6%	11.0%	9.5%	10.8%	5.6%
MSCI Emerging Markets	-1.3%	-2.5%	-2.5%	10.9%	9.9%	6.1%	5.5%	4.5%

Alternatives	QTD	YTD	1YR	3YR	5YR	7YR	10YR	15YR
Consumer Price Index*	1.7%	6.6%	6.2%	3.3%	2.9%	2.4%	2.1%	2.2%
FTSE NAREIT Equity REITs	16.3%	43.2%	43.2%	18.4%	10.8%	9.3%	11.4%	6.9%
S&P Real Assets	4.8%	15.4%	15.4%	11.0%	7.4%	5.2%	5.9%	5.5%
FTSE EPRA NAREIT Developed	12.5%	36.9%	36.9%	13.1%	7.2%	7.9%	11.0%	5.4%
FTSE EPRA NAREIT Developed ex U.S.	2.1%	8.8%	8.8%	7.4%	7.1%	4.8%	7.8%	2.4%
Bloomberg Commodity Total Return	-1.6%	27.1%	27.1%	9.9%	3.7%	0.1%	-2.9%	-2.6%
HFRI Fund of Funds Composite*	-0.1%	5.7%	9.6%	7.7%	5.8%	4.1%	4.4%	2.8%
HFRI Fund Weighted Composite*	-0.7%	8.9%	13.9%	9.4%	7.0%	5.4%	5.6%	4.6%
Alerian MLP	0.6%	40.2%	40.2%	2.1%	-2.7%	-5.1%	-0.3%	4.3%

*One month lag.

Source: FactSet & Morningstar as of December 31, 2021. Periods greater than 1 year are annualized. All returns are in U.S. dollar terms.

Asset Allocation

As of December 31, 2021

	Asset Allocation ($)	Asset Allocation (%)	Target Allocation (%)	Differences (%)
Total Plan	**250,538,449**	**100.0**	**100.0**	**0.0**
Short Term Liquidity	**-2,274,427**	**-0.9**	**0.0**	**-0.9**
Key Bank Cash Portfolio	2,923,197	1.2	0.0	1.2
Pooled Cash	-5,197,624	-2.1	0.0	-2.1
Fixed Income	**39,988,851**	**16.0**	**18.0**	**-2.0**
JIC Core Bond Fund I	39,988,851	16.0	18.0	-2.0
Equity	**197,345,812**	**78.8**	**75.0**	**3.8**
Domestic Equity	**114,077,785**	**45.5**	**41.5**	**4.0**
Mellon Large Cap Core	86,555,078	34.5	31.0	3.5
Mellon Smid Cap Core	27,522,706	11.0	10.5	0.5
International Equity	**82,246,773**	**32.8**	**33.0**	**-0.2**
Mellon EAFE Fund	58,445,636	23.3	23.0	0.3
Mellon Emerging Markets	23,801,137	9.5	10.0	-0.5
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	**15,478,213**	**6.2**	**7.0**	**-0.8**
UBS Trumbull Property Fund	13,543,228	5.4	6.0	-0.6
Molpus SWF II	1,934,985	0.8	1.0	-0.2

Investments with a zero balance were held in the portfolio during the reporting period and will be removed once they no longer impact portfolio performance.
Asset Allocation weightings may not add up to 100% due to rounding.

City of Burlington Employees Retirement System

Performance Update As Of December 31, 2021

Portfolio Performance

	Value	Performance(%)									
		1 Month	QTD	Jul-2021 To Dec-2021	1 Year	3 Years	5 Years	7 Years	10 Years	Since Inception	Inception Date
Total Plan	**250,538,449**	**3.2**	**4.5**	**3.5**	**14.4**	**15.4**	**11.2**	**8.8**	**8.6**	**6.3**	**01/01/2008**
Policy Benchmark		*3.1*	*4.3*	*3.8*	*13.8*	*16.3*	*11.7*	*9.6*	*10.7*	*7.5*	

Calendar Year Performance

	2020	2019	2018	2017	2016	2015	2014
Total Plan	**12.7**	**19.1**	**-5.2**	**17.0**	**8.7**	**-2.2**	**4.0**
Policy Benchmark	*14.5*	*20.6*	*-5.2*	*16.9*	*9.0*	*-0.2*	*7.3*

Allocation Mandate	Weight (%)
May-2021	
Blmbg. U.S. Aggregate Index	18.00
S&P 500 Index	31.50
Russell 2500 Index	10.50
MSCI EAFE (Net) Index	23.00
MSCI Emerging Markets (Net) Index	10.00
NCREIF Fund Index - ODCE (net)	6.00
NCREIF Timberland Index	1.00

The allocation mandate represents the current benchmark composition for the portfolio. Please keep in mind that the investment objective may have changed over time.

Manager Performance Overview

As of December 31, 2021

	1 Month	QTD	Jul-2021 To Dec-2021	1 Year	3 Years	5 Years	7 Years	10 Years	Since Inception	Inception Date
Fixed Income	**-0.4**	**-0.1**	**-0.2**	**-2.0**	**N/A**	**N/A**	**N/A**	**N/A**	**-2.0**	**01/01/2021**
Blmbg. U.S. Aggregate Index	*-0.3*	*0.0*	*0.1*	*-1.5*	*N/A*	*N/A*	*N/A*	*N/A*	*-1.5*	
JIC Core Bond Fund I	**-0.4 (96)**	**-0.1 (50)**	**-0.2 (65)**	**-2.0 (84)**	**N/A**	**N/A**	**N/A**	**N/A**	**1.6 (57)**	**03/01/2020**
Blmbg. U.S. Aggregate Index	*-0.3*	*0.0*	*0.1*	*-1.5*	*N/A*	*N/A*	*N/A*	*N/A*	*1.1*	
IM U.S. Broad Market Core Fixed Income (MF) Median	-0.2	-0.1	-0.1	-1.3	N/A	N/A	N/A	N/A	1.7	
Equity	**4.2**	**5.9**	**4.2**	**18.7**	**N/A**	**N/A**	**N/A**	**N/A**	**18.7**	**01/01/2021**
MSCI AC World Index (Net)	*4.0*	*6.7*	*5.6*	*18.5*	*N/A*	*N/A*	*N/A*	*N/A*	*18.5*	
Domestic Equity										
Mellon Large Cap Core	**4.5 (52)**	**11.0 (26)**	**11.7 (22)**	**28.7 (24)**	**26.0 (28)**	**18.4 (25)**	**N/A**	**N/A**	**17.9 (21)**	**04/01/2016**
S&P 500 Index	*4.5*	*11.0*	*11.7*	*28.7*	*26.1*	*18.5*	*N/A*	*N/A*	*17.9*	
IM U.S. Large Cap Core Equity (MF) Median	4.5	10.0	9.9	26.7	24.2	17.0	N/A	N/A	16.4	
Mellon Smid Cap Core	**3.3 (59)**	**3.9 (59)**	**1.1 (67)**	**18.4 (53)**	**22.1 (50)**	**13.9 (53)**	**N/A**	**N/A**	**15.1 (50)**	**04/01/2016**
Russell 2500 Index	*3.3*	*3.8*	*1.0*	*18.2*	*21.9*	*13.8*	*N/A*	*N/A*	*15.0*	
IM U.S. SMID Cap Equity (MF) Median	4.0	5.2	3.3	19.2	22.0	14.5	N/A	N/A	15.0	
International Equity										
Mellon EAFE Fund	**5.1 (38)**	**2.7 (61)**	**2.3 (28)**	**11.5 (36)**	**14.0 (40)**	**10.0 (26)**	**N/A**	**N/A**	**9.5 (23)**	**04/01/2016**
MSCI EAFE (Net) Index	*5.1*	*2.7*	*2.2*	*11.3*	*13.5*	*9.5*	*N/A*	*N/A*	*9.0*	
IM International Large Cap Core Equity (MF) Median	5.0	2.9	0.5	10.3	13.3	8.7	N/A	N/A	8.1	
Mellon Emerging Markets	**1.9 (53)**	**-1.4 (53)**	**-9.3 (57)**	**-2.5 (59)**	**10.9 (62)**	**9.8 (46)**	**N/A**	**N/A**	**9.5 (45)**	**04/01/2016**
MSCI Emerging Markets (Net) Index	*1.9*	*-1.3*	*-9.3*	*-2.5*	*10.9*	*9.9*	*N/A*	*N/A*	*9.5*	
IM Emerging Markets Equity (MF) Median	2.0	-1.3	-8.8	-1.6	11.8	9.6	N/A	N/A	9.2	

Returns for periods less than one year are not annualized. Returns are net of fees unless otherwise noted.

Manager Performance Overview

As of December 31, 2021

	1 Month	QTD	Jul-2021 To Dec-2021	1 Year	3 Years	5 Years	7 Years	10 Years	Since Inception	Inception Date
Private Equity										
Hamilton Lane II	**0.0**	**0.0**	**0.0**	**-5.3**	**16.2**	**17.5**	**16.2**	**15.5**	**17.9**	**03/01/2009**
Hamilton Lane VII A	**0.0**	**0.0**	**4.0**	**31.0**	**19.6**	**16.6**	**14.3**	**14.7**	**14.0**	**07/01/2011**
Hamilton Lane VII B	**0.0**	**0.0**	**-6.3**	**-2.0**	**7.5**	**8.3**	**8.9**	**10.4**	**10.3**	**07/01/2011**
Real Assets	**0.0**	**-0.2**	**5.0**	**8.3**	**N/A**	**N/A**	**N/A**	**N/A**	**8.3**	**01/01/2021**
UBS Trumbull Property Fund	**0.0**	**-0.2**	**5.7**	**9.6**	**0.3**	**2.4**	**N/A**	**N/A**	**2.9**	**07/01/2016**
NCREIF Fund Index - ODCE (net)	*0.0*	*0.0*	*6.6*	*12.6*	*5.7*	*6.2*	*N/A*	*N/A*	*6.3*	
Molpus SWF II	**0.0**	**0.0**	**0.0**	**-0.6**	**-1.1**	**-1.0**	**0.3**	**1.9**	**1.7**	**03/01/2009**
NCREIF Timberland Index	*0.0*	*0.0*	*1.9*	*4.4*	*2.2*	*2.7*	*2.7*	*4.6*	*3.3*	

The inception date expressed on the Manager Performance Overview page(s) represents the first day of the first full month following the purchase of the investment. Performance figures shown at the fund level begin on this inception date. 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. Composite performance includes all funds held in the composite since inception.

Returns are net of fees unless otherwise stated. Mutual fund performance stated above may differ slightly from the current share class' historical performance due to share class exchanges.

Valuations data as of:
Molpus - 6-30-2021
Hamilton Lane and UBS Trumbull Property Fund - 9-30-2021

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

Returns for periods less than one year are not annualized. Returns are net of fees unless otherwise noted.

Manager Gain/Loss Summary

1 Month Ending December 31, 2021

	Market Value As of 12/01/2021	Net Flows	Return On Investment	Market Value As of 12/31/2021
Short Term Liquidity				
Key Bank Cash Portfolio	2,680,274	242,923	-	2,923,197
Pooled Cash	-4,002,659	-1,194,965	-	-5,197,624
Total Short Term Liquidity	**-1,322,385**	**-952,042**	**-**	**-2,274,427**
Fixed Income				
JIC Core Bond Fund I	40,160,944	-	-172,093	39,988,851
Total Fixed Income	**40,160,944**	**-**	**-172,093**	**39,988,851**
Domestic Equity				
Mellon Large Cap Core	82,842,353	-	3,712,725	86,555,078
Mellon Smid Cap Core	26,643,732	-	878,975	27,522,706
Total Domestic Equity	**109,486,085**	**-**	**4,591,700**	**114,077,785**
International Equity				
Mellon EAFE Fund	55,590,891	-	2,854,745	58,445,636
Mellon Emerging Markets	23,363,496	-	437,641	23,801,137
Total International Equity	**78,954,387**	**-**	**3,292,386**	**82,246,773**
Real Assets				
UBS Trumbull Property Fund	13,543,228	-	-	13,543,228
Molpus SWF II	1,934,985	-	-	1,934,985
Total Real Assets	**15,478,213**	**-**	**-**	**15,478,213**
Private Equity				
Hamilton Lane II	67,811	-11,781	-	56,030
Hamilton Lane VII A	841,831	-167,239	-	674,592
Hamilton Lane VII B	354,535	-63,903	-	290,632
Total Private Equity	**1,264,177**	**-242,923**	**-**	**1,021,254**
Total Plan	**244,021,421**	**-1,194,965**	**7,711,993**	**250,538,449**

2022 Capital Markets Assumption

January 2022 Investment Outlook

Key Observations

- We expect economic recovery to persist in 2022 at a more modest pace as extraordinary pandemic stimulus begins to moderate. Ongoing challenges with a recalibrating global supply chain are expected to continue to lead to persistently higher levels of inflation than we have seen over the last several decades.
- The investing backdrop remains mostly constructive in our view, but investors will likely be served by taking a thoughtful and diversified approach to risk-taking. The global economy is still in transition and pandemic-driven economic uncertainties are ongoing.

Capital Market Factors

- **Economic Growth:** The Conference Board's 2022 global economic growth forecast is 3.9 percent, a level characterized by the Board as "above potential recovery growth." 2023-2026 annualized growth is expected to moderate to 2.5 percent.
- **Monetary Policy:** The Fed's rotation to a tighter policy stance is expected to slow and then end its $120 billion monthly asset purchase program sometime in 2022 and begin to raise interest rates. At its December 2021 meeting, the Fed indicated an accelerated pace toward the elimination of its bond buying efforts by the middle of next year and a majority of FOMC members now expect at least three interest rate hikes by year-end 2022.
- **Fiscal Policy:** Massive pandemic-relief and infrastructure spending will likely continue to drive short-term deficits, stimulate near-term economic growth and fuel inflationary forces.
- **Inflation:** Current year-over-year inflation is running at a level in excess of 6 percent, which is meaningfully above the Fed's stated target, and is likely to remain high in the immediate future. However, the bond market's expectation is for inflation to gradually moderate back towards 2.5 percent over the next decade.
- **Currency:** The dollar strengthened in 2021 and was supported by a more consistent economic recovery in the U.S. compared to global peers. A more aggressive path to interest rate hikes by the Fed when compared to its peer institutions would support U.S. dollar strength, but volatility is expected as investors continue to digest the implications of Fed tightening in conjunction with actions of other global central banks.

Sources: The Conference Board, The Federal Reserve Bank of St. Louis

2022-2041 Twenty-Year Outlook

Asset Class	2022 Outlook E(R) - 20 Year	2021 Outlook E(R) - 20 Year	Year Over Year Change
Inflation	2.5%	1.8%	0.7%
Cash*	0.7%	0.7%	0.0%
TIPS	2.1%	1.7%	0.3%
Muni Bond**	2.1%	1.6%	0.5%
Muni High Yield**	5.6%	7.7%	-2.1%
US Bond	2.5%	2.1%	0.3%
Dynamic Bonds***	2.8%	2.8%	-0.1%
Global Bonds	2.2%	1.8%	0.4%
Corp HY Bond	4.5%	4.4%	0.1%
Global Equity	8.1%	7.7%	0.5%
US Equity (AC)	6.8%	6.4%	0.4%
US Equity (LC)	6.6%	6.3%	0.4%
US Equity (MC)	7.0%	6.6%	0.4%
US Equity (SC)	7.0%	6.7%	0.3%
Int'l Dev. Equity	8.6%	7.9%	0.8%
EM Equity	10.5%	9.4%	1.2%
Real Estate	6.3%	6.2%	0.1%
Broad Real Assets****	5.6%	4.8%	0.9%
Marketable Alternatives	6.8%	6.3%	0.5%
Private Equity	9.8%	9.4%	0.4%

**3-month forecast*

***Tax equivalent yield based on highest marginal tax rate (37%)*

****33% Cash, 33% Corp HY, and 34% Global Bonds*

*****20% REITs, 20% Global Infrastructure, 20% Commodities, 20% US Bonds, 15% Corp High Yield, 5% TIPS*

Investment Themes for 2022-2041

- Nominal return forecasts rose for most asset classes, but rising inflation expectations means most asset classes have declining year-over-year real return expectations.
- Meaningfully negative real returns continues to make cash an expensive opportunity cost for investors.
- Global bond yields generally rose. Despite the increase, most fixed income asset class forward-looking return expectations remain below expected inflation levels.
- Earnings accelerated in 2021 and expanded faster than stock prices. Non-U.S. equities remain more attractive on a valuation basis as U.S. equities have grown to represent 61 percent of the global equity market capitalization compared to 58 percent a year ago.
- With higher inflation expectations, real assets remain an important diversifier. Within real assets, broad real assets return expectations rose meaningfully faster than real estate.
- Alternative asset class return expectations rose modestly.

For additional information on forecast methodologies, please speak with your advisor. Please see Index Proxy Summary slide at the end of this presentation for summary of indexes used to represent each asset class. Past performance does not indicate future performance and there is a possibility of a loss.

Disclosure

The historical performance information derived from the Frontier Engineer and used or presented in charts, tables, or graphs represent simulated historical performance, which has been derived by retroactively applying an asset allocation modeling process in its most recently developed form with its most recently derived ten-year (forward-looking) capital market assumptions. Such historical return simulations (or back testing) was performed by simulating the combination of actual index returns for the historical period with a buy and hold strategy effective January 1, 1988 through the most recently available month-end date with simulated rebalancing occurring every month-end (with the reinvestment of dividends and capital gains from each index).

Back tested performance is hypothetical and does not reflect actual trades or actual client performance. As with all models, there are inherent limitations which are derived from the retroactive application developed with the benefit of hindsight, including the risk that certain factors such as material economic and market conditions could have contributed to materially different (either higher or lower) performance results than those depicted, or that certain material factors may have been included or excluded from consideration. As such, actual results during the applicable back tested period would have been different than those depicted.

The asset allocation modeling process currently used was initially developed in 2002, and was not offered as a strategy prior to that time. The output of a forward-looking model (or process) is a representation of allocation percentages among specific asset classes. Clients cannot invest directly in a target allocation, but rather, in underlying securities within designated asset classes. Advisor may change its models from time to time, and regularly updates its model as additional capital market assumption information becomes available or to increase or decrease relative weightings or emphasis on certain factors. Consequently, the Advisor may choose to deviate from a stated model over time as the model itself is revised, which could have a materially positive or negative impact on performance.

During the period represented, numerous modelling changes were made, including the regular changes in (ten-year) forward-looking expected returns, expected volatilities, expected non-normal return distribution assumptions, as well as tracking-error assumptions and risk budgets. Furthermore, such assumptions can be modified client-by-client depending on certain preferences, priorities, constraints or unique considerations applicable to each client.

Other economic and market factors may have impacted decision-making when using the model to manage client funds, including the list of approved asset classes by a client or client type as well as any client-directed or Advisor implemented constraints.

All investments bear the risk of loss, including the loss of principal. Past performance, actual or hypothetical, is no guarantee of future results.

The returns displayed on the preceding pages are gross of fees. Actual performance would be reduced by investment advisory fees and other expenses that may be incurred in the management of the client’s portfolio. The collection of fees produces a compounding effect on the total rate of return net of management fees. 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 Fiducient Advisors are described in Part 2 of the Form ADV.

Disclosure

INDEX DEFINITIONS

FTSE Treasury Bill 3 Month measures return equivalents of yield averages and are not marked to market. It is an average of the last three three-month Treasury bill month-end rates.
Bloomberg Barclays Capital US Treasury Inflation Protected Securities Index consists of Inflation-Protection securities issued by the U.S. Treasury.
Bloomberg Barclays Muni 5 Year Index is the 5 year (4-6) component of the Municipal Bond index.
Bloomberg Barclays High Yield Municipal Bond Index covers the universe of fixed rate, non-investment grade debt.
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.
FTSE World Government Bond Index (WGBI) (Unhedged) provides a broad benchmark for the global sovereign fixed income market by measuring the performance of fixed-rate, local currency, investment-grade sovereign debt from over 20 countries,
FTSE World Government Bond Index (WGBI) (Hedged) is designed to represent the FTSE WGBI without the impact of local currency exchange rate fluctuations.
Bloomberg Barclays US Corporate High Yield TR USD 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 Index (GBI-EMI) 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.
JPMorgan EMBI Global Diversified is an unmanaged, market-capitalization weighted, total-return index tracking the traded market for U.S.-dollar-denominated Brady bonds, Eurobonds, traded loans, and local market debt instruments issued by sovereign and quasi-sovereign entities.
MSCI ACWI is designed to represent performance of the full opportunity set of large- and mid-cap stocks across multiple developed and emerging markets, including cross-market tax incentives.
The S&P 500 is a capitalization-weighted index designed to measure performance of the broad domestic economy through changes in the aggregate market value of 500 stocks representing all major industries.
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 Mid Cap measures the performance of the 800 smallest companies in the Russell 1000 Index.
Russell 2000 consists of the 2,000 smallest U.S. companies in the Russell 3000 index.
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. The index covers approximately 85% of the free float-adjusted market capitalization in each country.
MSCI Emerging Markets captures large and mid-cap representation across Emerging Markets countries. The index covers approximately 85% of the free-float adjusted market capitalization in each country
The Wilshire US Real Estate Securities Index (Wilshire US RESI) is comprised of publicly-traded real estate equity securities and designed to offer a market-based index that is more reflective of real estate held by pension funds.
Alerian MLP Index is a 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.
Bloomberg Commodity Index (BCI) 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.
Treasury Inflation-Protected Securities (TIPS) are Treasury bonds that are indexed to inflation to protect investors from the negative effects of rising prices. The principal value of TIPS rises as inflation rises.
HFRI Fund of Funds Composite is an equal-weighted index consisting of over 800 constituent hedge funds, including both domestic and offshore funds.
Cambridge Associates U.S. Private Equity Index (67% Buyout vs. 33% Venture) 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.
HFN Hedge Fund Aggregate Average is an equal weighted average of all hedge funds and CTA/managed futures products reporting to the HFN Database. Constituents are aggregated from each of the HFN Strategy Specific Indices.
Goldman Sachs Commodity Index (GSCI) is a broadly diversified, unleveraged, long-only composite index of commodities that measures the performance of the commodity market.

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.

ASSET CLASS REPRESENTATIONS

All material and information is intended for Fiducient Advisors L.L.C. business only. Any use or public dissemination outside firm business is prohibited. Information is obtained from a variety of sources which are believed though not guaranteed to be accurate. Any forecast represents future expectations and actual returns, volatilities and correlations will differ from forecasts. Past performance does not indicate future performance. This presentation does not represent a specific investment recommendation. Please consult with your advisor, attorney and accountant, as appropriate, regarding specific advice.

When referencing asset class returns or statistics, the following indices are used to represent those asset classes, unless otherwise notes. Each index is unmanaged and investors can not actually invest directly into an index:

TIPS: Bloomberg Barclays Global Inflation-Linked: U.S. TIPS Total Return Index Unhedged
Municipals 5-Year: Bloomberg Barclays Municipal Bond 5 Year (4-6) Total Return Index Unhedged USD
Core Bond: Bloomberg Barclays US Agg Total Return Value Unhedged USD
High Yield Municipals: Bloomberg Barclays Muni High Yield Total Return Index Value Unhedged USD
High Yield: Bloomberg Barclays US Corporate High Yield Total Return Index Value Unhedged USD
Foreign Bond: Bloomberg Barclays Global Aggregate ex-USD Total Return Index Value USD (50/50 blend of hedged and unhedged)
EM Debt (unhedged): J.P. Morgan GBI-EM Global Diversified Composite Unhedged USD
U.S. Large Cap: S&P 500 Total Return Index
U.S. Small Cap: Russell 2000 Total Return Index
International Developed: MSCI EAFE Net Total Return USD Index
Emerging Markets: MSCI Emerging Markets Net Total Return USD Index
World: MSCI ACWI Net Total Return USD Index
U.S. Equity REITs: FTSE Nareit Equity REITs Total Return Index USD
S&P Real Assets: S&P Real Assets Total Return Index
Commodities: Bloomberg Commodity Total Return Index
Hedge Funds: Hedge Fund Research HFRI Fund of Funds Composite Index
Balanced: 3% TIPS, 33% Core Bond, 4% High Yield , 2% Foreign Bond. 2% EM Debt (unhedged), 18% U.S. Large Cap, 6% U.S. Small Cap, 16% International, 8% Emerging Markets, 5% U.S. Equity REITS, 3% Commodities
U.S.: MSCI USA Net Total Return USD Index
China: MSCI CHINA Net Total Return USD Index
Japan: MSCI Japan Net Total Return USD Index
Germany: MSCI Germany Net Total Return USD Index
India: MSCI India Net Total Return USD Index
United Kingdom: MSCI UK Net Total Return USD Index
France: MSCI France Net Total Return USD Index
Italy: MSCI Italy Net Total Return USD Index
Brazil: MSCI Brazil Net Total Return USD Index
Canada: MSCI Canada Net Total Return USD Index

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% Blomberg 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 ACWI ex 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 that 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 the 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 it by 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 Fiducient Advisors 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 Fiducient Advisors' reports and the custodian reports based on whether the report utilizes trade date or settlement 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 correlations 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 Fiducient 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 you custodian. If you do not receive periodic statements from your custodian or notice issues with the activity reported in those statements, please contact Fiducient Advisors or your custodian immediately.

BURLINGTON RETIREMENT BOARD
REMOTE MEETING WITH CALL-IN
BURLINGTON, VERMONT
MINUTES OF MEETING
DRAFT
December 20, 2021

MEMBERS PRESENT:

Robert Hooper, Chairperson
Munir Kasti, Vice-Chairperson
Patrick Robins
David Mount
Ben O'Brien
Matthew Dow
Dan Gilligan
Katherine Schad

OTHERS PRESENT:

Rich Goodwin
Chris Rowlins (Fiducient)
Kate Pizzi (Fiducient)
Richard Carey (Fiducient)
Steve Lemanski (H&H)
Robert Lessard (H&H)
Hayley McClenahan

1.0 CALL TO ORDER

Robert Hooper called the Retirement Board meeting to order.

MOTION by Matthew Dow, SECOND by Munir Kasti, to adopt the agenda as written.

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 November 15, 2021

MOTION by David Mount, SECOND by Dan Gilligan, to approve the minutes as presented.

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
Jack Olson, Class A	$8,541.92	12/01/2021
Jake S. Sawtell, Class A	$25,472.10	12/01/2021
Jeffrey A. Hathaway, Class B	$8,732.92	01/01/2022
Margaret A. Manrique, Class B	$13,523.59	12/01/2021
Michael D. Ferguson, Class A	$2,431.98	12/01/2021

Approval included in motion for Item 5.0 below.

5.0 APPROVE RETIREMENT APPLICATIONS

5.01 Approve Retirement Applications

Approve Retirement Applications	Amount	Effective Date of Benefit	Actual First Payment Date
James D. Leip, Class B	$946.00	10/01/2021	12/15/2021
James M. Laflam, Class B	$1,820.58	11/01/2021	12/15/2021
Monica Gragg, Class B	$1,094.43	07/01/2021	12/15/2021
Robert J. Plante, Class A	$5,732.80	12/01/2021	12/15/2021
Sarah R. Jennings, Class B	$1,282.35	04/01/2022	04/15/2022

MOTION by Munir Kasti, SECOND by Ben O'Brien, to approve the return of contributions and the retirement applications as presented.

VOTING: unanimous; motion carries.

6.0 UPDATE FROM HOOKER & HOLCOMBE

6.01 2021 BERS Preliminary Valuation Report

Steve Lemanski provided an update and overview of the preliminary valuation results. He noted that the fund performed extremely well in fiscal year ending June 30, 2021, growing by 31.1% during the fiscal year. He noted key metrics related to liabilities and ADEC. He noted that in FY 2020, the accrued liability was approximately $293 million, and value of assets was approximately $209 million, for a funded ratio of 71.6%. He noted that in FY 2021, the accrued liability was approximately $303 million, and value of assets was approximately $220 million, for a funded ratio of 72.7%. He noted that there were no COLA increases in 2021 and retiree mortality was higher than expected, which contributed to narrowing the gap between accrued liability and value of assets. He walked through the impacts of changing the discount rate, certain IBEW changes that resulted in an increased accrued liability of around $4 million, and an asset smoothing of 10 years versus 5 years. He said that 10 years asset smoothing is relatively less common in the public sector than a 5-year asset smoothing. He also walked through scenarios where the 5-year asset smoothing is applied both prospectively and retrospectively and when it is applied just prospectively.

Robert Lessard went into more detail on the market value gain for FY2021 versus the actuarial value for FY2021. He noted that with asset smoothing, the actuarial value of return is much less than the market value gain. He showed calculations for actuarial value gain/loss with the application of 10-year asset smoothing and 5-year asset smoothing.

Mr. Lemanski recommended that the BERS Board approve a 5-year asset smoothing that is applied both prospectively and retrospectively. Mr. Hooper asked if it is common to apply retrospective smoothing, and Mr. Lemanski replied that yes, it is. Mr. Kasti noted that the change from 10-year smoothing to 5-year smoothing was not a high priority; rather, a 30-year amortization was higher-priority, in terms of impact. He asked whether the smoothing could be decreased from 10 years to 7 years, rather than 5. Mr. Lemanski replied that yes, it would be possible to do that. He also said that a change to the amortization does not necessarily need to occur prior to a change in the asset smoothing calculations. Mr. Robins asked whether the BERS Board should commit to a smoothing methodology for the long-term, and Mr. Lemanski said that it would not be preferable to change the method every 2-3 years. Ms. Pizzi added that it would be more conservative to recognize those gains and losses on a shorter-term than smoothing over the longer term. She noted that a 5-year retrospective/prospective smoothing is common across the industry; Mr. Lemanski confirmed the next most common method is using a smoothing timeframe less than 5 years, however 5 year is the most common by a significant margin. Mr. Lemanski noted that moving to a 5-year smoothing will help mitigate disruptions from the scheduled discount rate decreases in the coming years. He emphasized that this is a long-term strategic change and an industry standard methodology.

MOTION by Patrick Robins, SECOND by Katherine Schad, to retroactively implement a five-year smoothing method, to include amortized and unamortized years.
<u>DISCUSSION:</u>

- **Mr. Dow said that now would be the best time to make such a sweeping change and move everything onto the five-year smoothing schedule.**

VOTING: unanimous; motion carries.

Mr. Kasti asked when the BERS Board can anticipate the final actuarial valuation report, and Mr. Lemanski replied that it will be available prior to the next meeting. Finance Director Goodwin noted that final portfolio performance numbers are not reconciled until late October/early November, hence why the final report is available when it is (there had been prior discussion of potentially having the report available earlier, but it isn't feasible, given the timing above).

7.0 FIDUCIENT'S

7.01 November Investment Update
Mr. Robins asked for Fiducient's perspective on current equity markets. Ms. Pizzi noted that equity markets are currently skittish, driven by 1.) actions from central banks around the world (such as the US Federal Reserve) to try and address inflation and 2.) concerns about the effects of the Omicron variant of Covid-19.

Ms. Pizzi walked through asset class performance for November. She noted that fixed income rates rose during November until Thanksgiving and the discovery of the Omicron variant, which caused volatility to increase and rates to decrease. She noted that US equity markets closed the month lower due to Covid-induced selling, though they had gained over most of the month, and that non-US equity markets lagged behind domestic equities due to a stronger dollar. She said that in terms of the real asset/alternatives sector, there was a pullback in commodities markets due to fear of COVID-induced lockdowns, but the sector has done remarkable well this year due to the inflation expectations broadly.

Ms. Pizzi then walked through the asset allocation as of November 30, 2021. She noted that the fixed income allocation is slightly under target, domestic equities are slightly over target while international equities are slightly under target, and that real assets are slightly underweight. She noted that the rebalancing from US equities to developed market international equities has been completed as of October. Mr. Mount asked if BERS is still in the queue to exit the Trumbull fund, and Ms. Pizzi replied that yes, they are still in the queue.

7.02 Update on Transition to US Bank Complete
Ms. Pizzi said that the account has been opened and is in the process of transferring cash from Key Bank into US Bank. She also noted that the mutual fund currently held at Johnson will be moved into US Bank in kind (there will be no liquidations involved that move). She said that once those two transfers come through, they will purchase the investment in the Blackrock Strategic Income Opportunities fund. She further noted that the CITs that are with BNY Mellon will be "shadow" booked, so US Bank will be representing those values on their books as well. She said that this would essentially get most of the plan's assets under one roof and one statement moving forward.

8.0 ADMINISTRATIVE UPDATES

8.01 Retirement Administrative Position – Interview in January
Finance Director Goodwin said that the City will post the Retirement Administrative Position next month. He said that they are currently revising the job description. He said that if a member of the BERS Board wishes to participate in the interview process, that would be welcome. Chief Administration Officer Schad said that once the position is posted (after the January 10th Board of Finance meeting), interviews will likely occur in February. She noted that there is a strong internal candidate.

9.0 ADJOURN

9.01 Motion to Adjourn

MOTION by David Mount, SECOND by Munir Kasti, to adjourn the meeting.

VOTING: unanimous; motion carries.

RScty: AACoonradt

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:	**Bruce Hathaway, Jr.**	Class:	B
Date of Birth:		Department:	AFSCME Local 1343
Date of Hire:	07/31/2020	Post-Tax Employee Contributions:	$0.00
Date of Termination:	10/22/2021	Normal Retirement Date (NRD):	02/15/2053
Beneficiary Date of Birth:	N/A	Payment Start Date:	02/01/2022
		Vesting Percentage:	0.0000%

Determination of Employee Contribution Balance with Interest

Period Ending	Description	Transaction	Balance at End of Period
06/30/2021	Contributions	$1,778.49	$1,778.49
06/30/2021	Interest at 2%	$0.00	$1,778.49
10/22/2021	Contributions	$824.96	$2,603.45
01/31/2022	Interest at 2%	$20.66	$2,624.11

(1) Pre-Tax Employee Contributions (Taxable): $2,603.45

(2) Interest Accrued on Employee Contributions (5.5% through 12/31/2017, 2% thereafter): $20.66

(3) Total Return of Employee Contributions with Interest: $2,624.11

Determination of Taxable Portion of Benefit

Form of Payment	Total Benefit	Taxable Portion	Non-Taxable Portion
Return of Contributions	$2,624.11	$2,624.11	0.00

Calculation of Return of Employee Contributions — Form A

Burlington Employees' Retirement System — Michael Z. Rebeor

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Information Used in Determination

Participant Name:	**Michael Z. Rebeor**	Class:	A
Date of Birth:		Department:	Police Union
Date of Hire:	01/19/2016	Post-Tax Employee Contributions:	$0.00
Date of Termination:	01/14/2021	Normal Retirement Date (NRD):	11/30/2038
Beneficiary Date of Birth:	N/A	Payment Start Date:	11/01/2021
		Vesting Percentage:	0.0000%

Determination of Employee Contribution Balance with Interest

Period Ending	Description	Transaction	Balance at End of Period
06/30/2016	Contributions	$2,231.23	$2,231.23
06/30/2016	Interest at 5.5%	$0.00	$2,231.23
06/30/2017	Contributions	$5,516.38	$7,747.61
06/30/2017	Interest at 5.5%	$122.72	$7,870.33
10/31/2017	Contributions	$2,030.08	$9,900.41
12/31/2017	Interest at 5.5%	$231.73	$10,132.14
06/30/2018	Interest at 2%	$100.82	$10,232.96
06/30/2019	Interest at 2%	$204.66	$10,437.62
06/30/2020	Interest at 2%	$208.75	$10,646.37
06/30/2021	Interest at 2%	$212.93	$10,859.30
10/31/2021	Interest at 2%	$71.92	$10,931.22

(1)	Pre-Tax Employee Contributions (Taxable):	$9,777.69
(2)	Interest Accrued on Employee Contributions (5.5% through 12/31/2017, 2% thereafter):	$1,153.53
(3)	Total Return of Employee Contributions with Interest:	$\boxed{\$10,931.22}$

Determination of Taxable Portion of Benefit

Form of Payment	Total Benefit	Taxable Portion	Non-Taxable Portion
Return of Contributions	$10,931.22	$10,931.22	0.00

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:	**Ryan O. Furmanchin**	Class:	B
Date of Birth:		Department:	AFSCME Local 1343
Date of Hire:	04/29/2019	Post-Tax Employee Contributions:	$0.00
Date of Termination:	11/12/2021	Normal Retirement Date (NRD):	12/26/2054
Beneficiary Date of Birth:	N/A	Payment Start Date:	02/01/2022
		Vesting Percentage:	0.0000%

Determination of Employee Contribution Balance with Interest

Period Ending	Description	Transaction	Balance at End of Period
06/30/2019	Contributions	$293.76	$293.76
06/30/2019	Interest at 2%	$0.00	$293.76
06/30/2020	Contributions	$2,181.63	$2,475.39
06/30/2020	Interest at 2%	$5.88	$2,481.27
06/30/2021	Contributions	$2,403.12	$4,884.39
06/30/2021	Interest at 2%	$49.63	$4,934.02
11/12/2021	Contributions	$1,133.68	$6,067.70
01/31/2022	Interest at 2%	$57.33	$6,125.03

(1)	Pre-Tax Employee Contributions (Taxable):	$6,012.19
(2)	Interest Accrued on Employee Contributions (5.5% through 12/31/2017, 2% thereafter):	$112.84
(3)	Total Return of Employee Contributions with Interest:	$6,125.03

Determination of Taxable Portion of Benefit

Form of Payment	Total Benefit	Taxable Portion	Non-Taxable Portion
Return of Contributions	$6,125.03	$6,125.03	0.00

Calculation of Return of Employee Contributions — Form A

Burlington Employees' Retirement System — Ryan P. Alger

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Information Used in Determination

Participant Name:	**Ryan P. Alger**	Class:	B
Date of Birth:		Department:	AFSCME Local 1343
Date of Hire:	09/30/2019	Post-Tax Employee Contributions:	$0.00
Date of Termination:	11/29/2021	Normal Retirement Date (NRD):	07/19/2051
Beneficiary Date of Birth:		Payment Start Date:	02/01/2022
		Vesting Percentage:	0.0000%

Determination of Employee Contribution Balance with Interest

Period Ending	Description	Transaction	Balance at End of Period
06/30/2020	Contributions	$1,696.70	$1,696.70
06/30/2020	Interest at 2%	$0.00	$1,696.70
06/30/2021	Contributions	$2,493.54	$4,190.24
06/30/2021	Interest at 2%	$33.93	$4,224.17
11/29/2021	Contributions	$1,326.58	$5,550.75
01/31/2022	Interest at 2%	$49.08	$5,599.83

(1)	Pre-Tax Employee Contributions (Taxable):	$5,516.82
(2)	Interest Accrued on Employee Contributions (5.5% through 12/31/2017, 2% thereafter):	$83.01
(3)	Total Return of Employee Contributions with Interest:	$\boxed{\$5,599.83}$

Determination of Taxable Portion of Benefit

Form of Payment	Total Benefit	Taxable Portion	Non-Taxable Portion
Return of Contributions	$5,599.83	$5,599.83	0.00

Calculation of Return of Employee Contributions — Form A

Burlington Employees' Retirement System — Sara DeGaetano

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:	**Sara DeGaetano**	Class:	B
Date of Birth:		Department:	Non-Union
Date of Hire:	12/09/2019	Post-Tax Employee Contributions:	$0.00
Date of Participation:	04/27/2021	Normal Retirement Date (NRD):	01/22/2045
Date of Termination:	10/22/2021	Payment Start Date:	02/01/2022
Beneficiary Date of Birth:		Vesting Percentage:	0.0000%

Determination of Employee Contribution Balance with Interest

Period Ending	Description	Transaction	Balance at End of Period
06/30/2021	Contributions	$328.77	$328.77
06/30/2021	Interest at 2%	$0.00	$328.77
10/22/2021	Contributions	$1,054.71	$1,383.48
01/31/2022	Interest at 2%	$3.82	$1,387.30

(1)	Pre-Tax Employee Contributions (Taxable):	$1,383.48
(2)	Interest Accrued on Employee Contributions (5.5% through 12/31/2017, 2% thereafter):	$3.82
(3)	Total Return of Employee Contributions with Interest:	$\boxed{\$1,387.30}$

Determination of Taxable Portion of Benefit

Form of Payment	Total Benefit	Taxable Portion	Non-Taxable Portion
Return of Contributions	$1,387.30	$1,387.30	0.00

Calculation of Return of Employee Contributions — Form A

Burlington Employees' Retirement System — Wayne Place

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:	**Wayne Place**	Class:	B
Date of Birth:		Department:	AFSCME Local 1343
Date of Hire:	05/21/2018	Post-Tax Employee Contributions:	$0.00
Date of Termination:	12/07/2021	Normal Retirement Date (NRD):	05/21/2023
Beneficiary Date of Birth:		Payment Start Date:	02/01/2022
		Vesting Percentage:	0.0000%

Determination of Employee Contribution Balance with Interest

Period Ending	Description	Transaction	Balance at End of Period
06/30/2018	Contributions	$107.70	$107.70
06/30/2018	Interest at 2%	$0.00	$107.70
06/30/2019	Contributions	$1,049.85	$1,157.55
06/30/2019	Interest at 2%	$2.15	$1,159.70
06/30/2020	Contributions	$1,035.07	$2,194.77
06/30/2020	Interest at 2%	$23.19	$2,217.96
06/30/2021	Contributions	$1,112.59	$3,330.55
06/30/2021	Interest at 2%	$44.36	$3,374.91
12/07/2021	Contributions	$604.44	$3,979.35
01/31/2022	Interest at 2%	$39.21	$4,018.56

(1)	Pre-Tax Employee Contributions (Taxable):	$3,909.65
(2)	Interest Accrued on Employee Contributions (5.5% through 12/31/2017, 2% thereafter):	$108.91
(3)	Total Return of Employee Contributions with Interest:	$4,018.56

Determination of Taxable Portion of Benefit

Form of Payment	Total Benefit	Taxable Portion	Non-Taxable Portion
Return of Contributions	$4,018.56	$4,018.56	0.00

Calculation of Benefit Options — Form A

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

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:	**Jeffrey Herwood**	Class:	B
Date of Birth:		Department:	AFSCME Local 1343
Date of Hire:	08/30/2001	Vesting Percentage:	100.0000%
Date of Termination:	11/18/2021	Normal Retirement Date (NRD):	03/23/2022
Beneficiary Date of Birth:		Payment Start Date:	12/01/2021
		Employee Contribution Balance w/ Interest as of 12/01/2021:	$32,350.70

Earnings

Average Final Compensation*: $61,655.46

Determination of Benefit Amount

(1)	Years of Creditable Service (CS)			20.25000
(2)	Years of CS on or prior to 06/30/2006 [(2) + (3) is not to exceed 25 years]			4.83333
(3)	Years of CS after 06/30/2006 [(2) + (3) is not to exceed 25 years]			15.41667

	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)]	32.4000%	36.9333%	41.4667%
(7)	Monthly Vested Benefit Payable at NRD *= (6) x Average Final Compensation/12 x Vesting Percentage*	$1,664.70	$1,897.62	$2,130.54
(8)	Early Retirement Reduction Factor	0.9950	0.9950	0.9950
(9)	Monthly Vested Benefit Payable at Payment Start Date (7) x (8)	$1,656.37	$1,888.13	$2,119.89

Benefit Options Available

		Full COLA		Half COLA		No COLA	
Form of Payment	Option Factor	Initial Benefit	Survivor's Benefit (1)	Initial Benefit	Survivor's Benefit (1)	Initial Benefit	Survivor's Benefit (1)
Straight Life Annuity	1.0941	$1,812.23	**	$2,065.80	**	$2,319.37	**
10 Year Certain & Life Annuity	1.0000	$1,656.37	$1,656.37	$1,888.13	$1,888.13	$2,119.89	$2,119.89
100% Joint & Survivor Annuity	0.7921	$1,312.01	$1,312.01	$1,495.59	$1,495.59	$1,679.17	$1,679.17
50% Joint & Survivor Annuity	0.9189	$1,522.04	$761.02	$1,735.00	$867.50	$1,947.97	$973.99
100% Joint & Survivor Pop-Up Annuity	0.7854	$1,300.91	$1,300.91	$1,482.94	$1,482.94	$1,664.96	$1,664.96
50% Joint & Survivor Pop-Up Annuity	0.9154	$1,516.24	$758.12	$1,728.39	$864.20	$1,940.55	$970.28
Return of Employee Contributions	N/A	$32,350.70	N/A	$32,350.70	N/A	$32,350.70	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*

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The elements of success

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Burlington Employees’ Retirement System

Review of the June 30, 2021 WORK PAPER Actuarial Valuation

Steve Lemanski, FSA, FCA, MAAA, Enrolled Actuary
Vice President, Practice Leader, Consulting Actuary

Robert P. Lessard, ASA, FCA, MAAA, Enrolled Actuary
Reviewing Actuary

January 18, 2022

Agenda

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- Purpose of the Valuation
- Summary of Results – Overview
- Valuation Results – Executive Summary
- Funded Status
- Employer Contribution (ADEC)
- Asset Information
- Direct Rate Smoothing
- Looking Ahead

Purpose of the Valuation

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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,

City's Ultimate cost = Benefits Paid + Expenses Incurred – Investment Return – Employee Contributions

- Actuarial Valuation utilizes an actuarial cost method to assign a portion of this "ultimate cost" to the budget year. The valuation does not determine the cost of the plan but is a tool used to determine the appropriate level of City contributions.
- Actuarially Determined Employer Contribution (ADEC) developed from the valuation is comprised of two components: amortization of unfunded liability (*30-year "layered" amortization)* & normal cost (assignment of benefits "earned" for the budget year).

Summary of Results - Overview

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- Funded Ratio (Assets divided by Actuarial Liability) is 70.6%, vs. 71.6% for 2020
- Actuarially Determined Employer Contribution (ADEC) is $12.479 M (FY 2022-23), vs. $11.686 M (FY 2021-22)
- Asset gains (favorable experience) – 7.8% actuarial (10-year smoothed) return, vs. the 7.3% assumption (31.1% on a market value basis) : *ADEC impact : - $34K*
- Liability losses (unfavorable experience) – $0.6 M liability loss was driven by losses from actual turnover and retirement patterns, partially offset by gains from retiree mortality and COLA increases that were less than expected : *ADEC impact : + $57K*
- Assumption changes – reflected scheduled reduction in investment return assumption to 7.2%, as well as annual update to mortality projection assumption (from Scale MP-2020 to MP-2021) : *ADEC impact : + $354K*
- Outcome of IBEW arbitration – affects both actives and retirees, first reflected in this valuation: *ADEC impact : + $348K*
- Plan's funded ratio is slightly lower than average ratio of 72.2% as of June 30, 2020 in H&H public sector study, and 72.8% in NASRA survey for FYE 2020

Assumption Changes

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- **Investment return** – BERS board previously approved scheduled reduction in this assumption from 7.5% to 7.0%. This change will be reflected via a 0.1%/year reduction in the 2019 through 2023 actuarial valuations. Median for CT public sector pension plans (H&H survey based on FYE 2020 CAFRs) is 6.875% (average is 6.66% for all plans; 6.98% for plans with $50+ million in assets). *29% of plans in the H&H survey lowered the investment return assumption from June 30, 2019 to June 30, 2020.* NASRA Issue Brief (February 2021) survey shows average assumption of 7.18% (median 7.23%) for large public sector pension funds.
- **Mortality projection scale** - Reflected most recent annual mortality projection scale (MP-2021) update published by the Society of Actuaries. Mortality projection scale is used to estimate how life expectancies are expected to change in the future. This is used in conjunction with the underlying mortality table, which reflects estimated life expectancies today.
- *Impact of assumption changes : increased the actuarial accrued liability by about $ 3,181,000 and increased the ADEC by approximately $ 354,000.*

Method Change

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- **Asset valuation method** – BERS board approved a change in the "smoothing" of asset gains/losses from 10 years to 5 years. All gains/losses from over 5 years ago have been fully recognized. Future asset gains/losses relative to the investment return assumption will be smoothed over a 5-year period at 20% per year. The *Public Plans Database* (www.publicplansdata.org) shows that the most common asset smoothing period is 5 years as of FYE 2020 (72% of plans : 122 out of 170 plans).
- *Impact of method change : Increased the actuarial accrued liability by about $ 1,325,000 and increased the ADEC by approximately $ 117,000. Since the actuarial value of assets is lower after the change in asset valuation method, the final return on actuarial value of assets for FYE 2021 is 7.2% after reflecting the method change.*

Valuation Results – Executive Summary

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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

Funded Status - Trends

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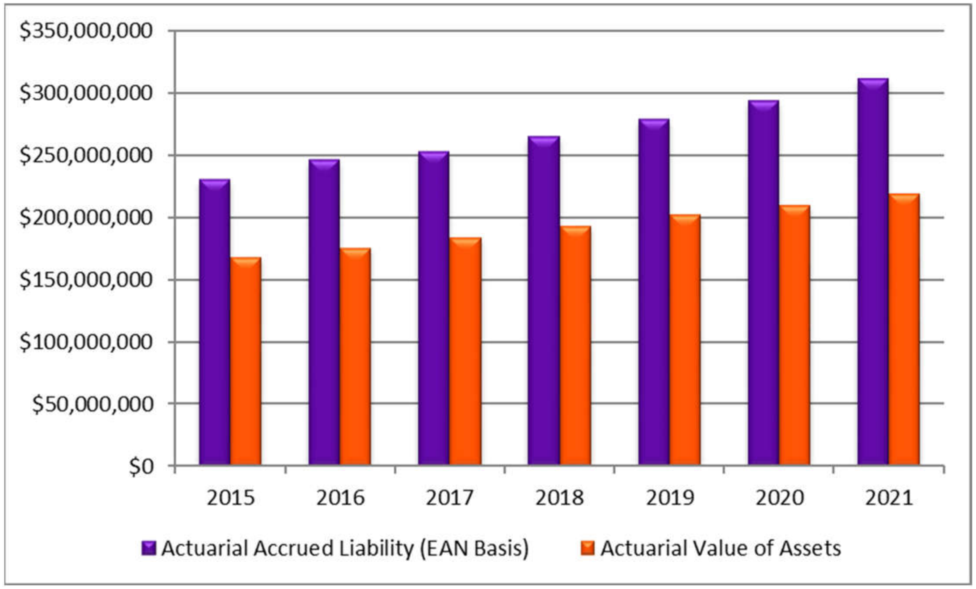
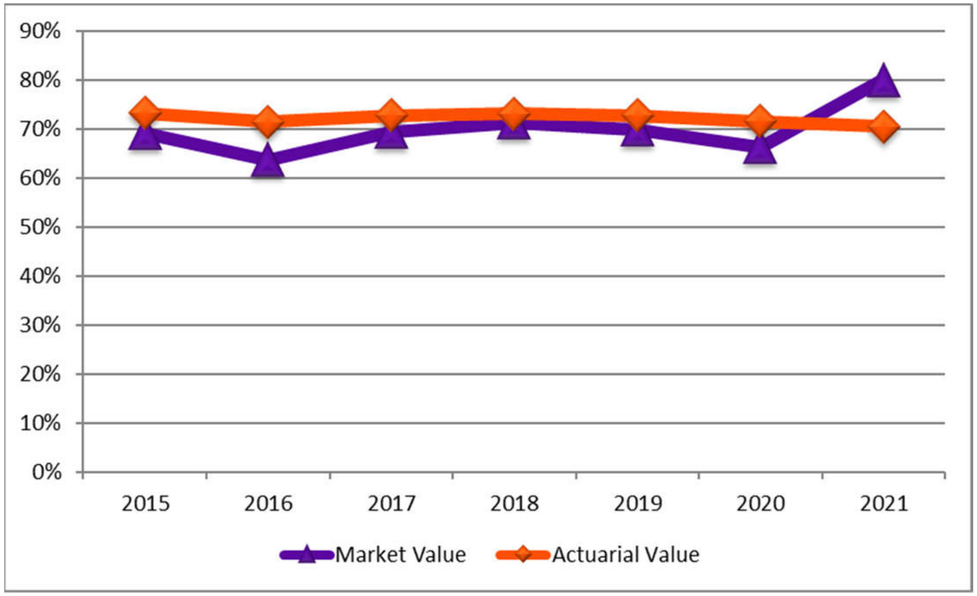
Actuarial Accrued Liability vs. Actuarial Value of Assets



Funded Ratio



Funded Status – Breakdown by Class A & B

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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%

Employer Contribution (ADEC)

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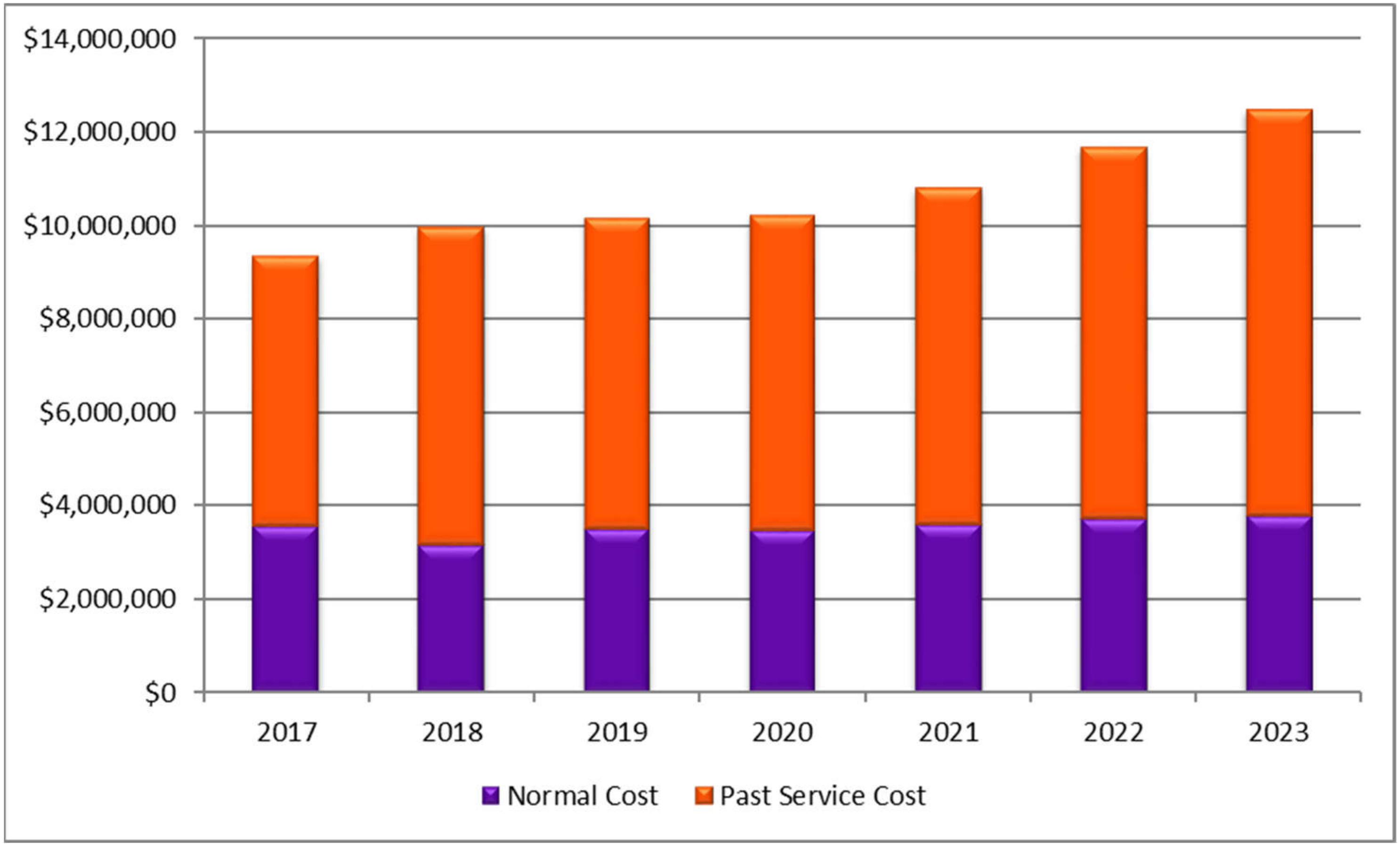
Determination of Normal Cost and Actuarially Determined Employer Contribution

	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	

ADEC - Trends

hooker & holcombe

Actuarially Determined Employer Contribution



ADEC – Breakdown by Class A & B

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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	(1,264,980)	(274,392)	(173,632)	(411,108)	(978,829)	(1,837,961)	(3,102,941)
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	95,312,732	21,563,502	16,481,360	17,629,943	68,390,250	124,065,055	219,377,787
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	61,870	3,955	5,420	15,795	23,161	48,331	110,201
Actuarially determined employer contribution	6,877,748	821,001	709,803	1,102,512	2,968,385	5,601,701	12,479,449

Asset Information – FYE 2021 Reconciliation

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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%

Actuarial vs. Market Value of Assets

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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	29,557,135
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%	14,013,747
7. Expected value 6/30/2021: (1) + (2) + (3) - (4) - (5) + (6)	203,155,424
8. Market value 6/30/2021	248,934,922
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	9,155,900	9,155,900	36,623,598
Total			967,265		29,557,135

Asset Returns - Trends

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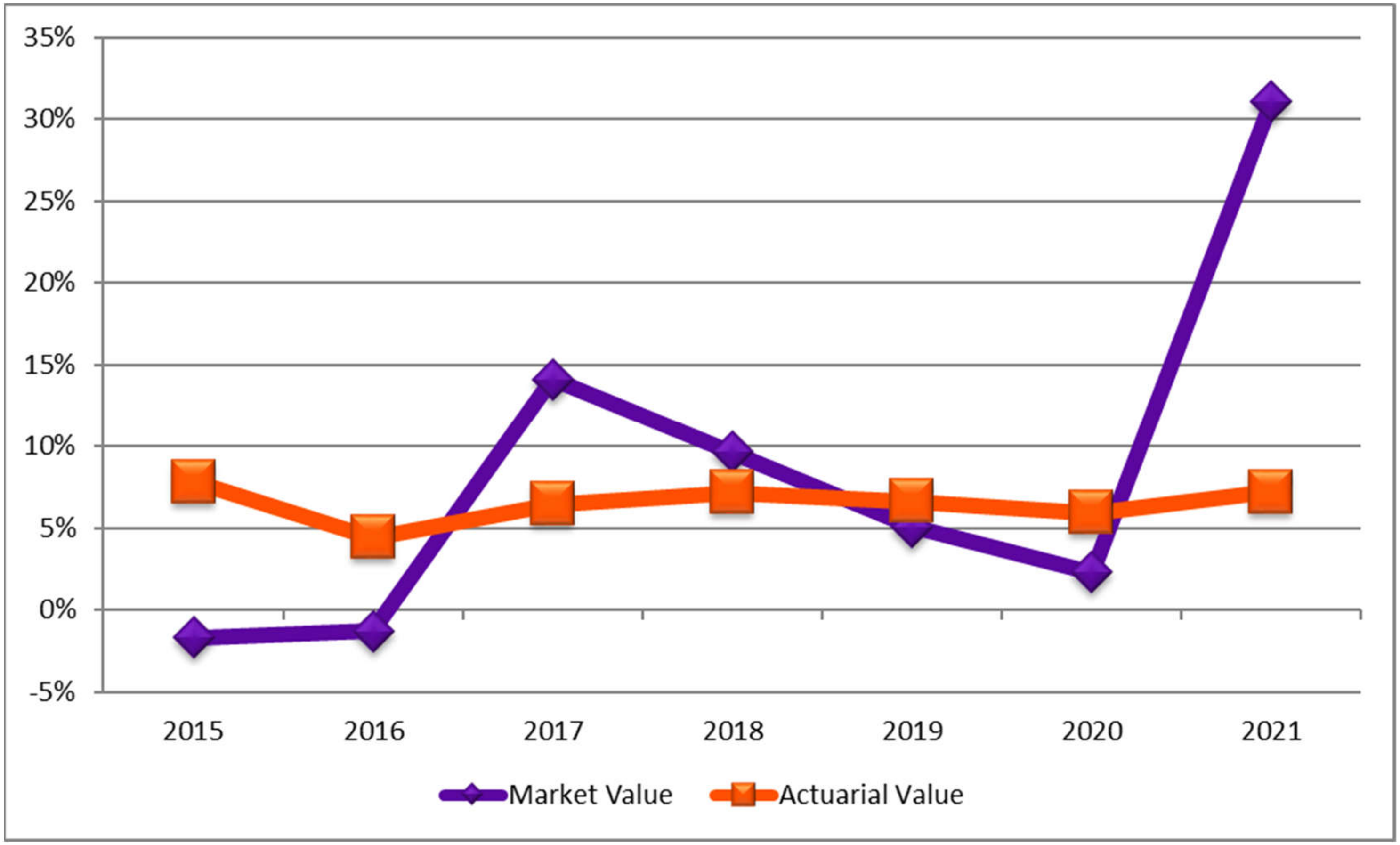
Rate of Return on Market Value of Assets				
Period Ending June 30	Average Annual Effective Rate of Return			
	1 Year	3 Years	5 Years	10 Years
2012	1.4%	13.4%	1.7%	N/A
2013	6.5%	9.4%	4.5%	N/A
2014	15.0%	7.5%	12.3%	6.3%
2015	-1.7%	6.4%	8.2%	5.4%
2016	-1.3%	3.7%	3.8%	4.2%
2017	14.1%	3.4%	6.3%	3.9%
2018	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 June 30	Average Annual Effective Rate of Return			
	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%

Asset Returns - Trends

hooker & holcombe



Direct Rate Smoothing (DRS)

- 5-Year Path – starting with 2018 Actuarial Valuation
- Target is 2023 Actuarial Valuation – to be based on ultimate 7.0% investment return assumption for that valuation
- 2023 Actuarial Valuation – to be based on 20-year amortization of unfunded actuarial liability
- DRS takes into account the projected new hires during the 5-year period, who generally have lower benefit accrual rates than existing retiring members
- BERS has adopted a $500,000/year contribution "collar" – this is the maximum change in the DRS funding policy contribution
- Contribution collar is indexed 3% per year

Direct Rate Smoothing (DRS)

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Based on June 30, 2021 Actuarial Valuation

Phase Down of Discount Rate from 7.50% to 7.00% Over 5 Years (from 2018 Valuation), $500K Collar (Indexed at 3.00%) on Annual Contribution Increase

Fiscal Year Ending	Projected City Funding Policy Contribution		Increase in Contribution from Prior Year	Valuation Year	Valuation Discount Rate	Projected Actuarial Value of Assets*	Projected Funded Ratio*
2020	9,934,000	actual		2018	7.50%	193,642,000	73.2%
2021	10,373,000	actual	439,000	2019	7.40%	202,510,000	72.8%
2022	10,873,000	actual	500,000	2020	7.30%	209,862,000	71.6%
2023	**11,116,000**	**actual**	**243,000**	**2021**	**7.20%**	**219,378,000**	**70.6%**
2024	11,359,000	*estimated*	243,000	2022	7.10%	238,603,000	74.1%
2025	11,601,000	*estimated*	242,000	2023	7.00%	258,632,000	77.2%

As of June 30 of the valuation year. Projection starts with June 30, 2021 actuarial valuation (work paper results).

Note: Projected funding policy contributions have not been adjusted for any applicable City/employee allocations of the ADEC.

Looking Ahead

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Scheduled Changes for June 30, 2022 Valuation

- Investment return assumption to be reduced from 7.2% to 7.1%, as part of phase-in to ultimate assumption of 7.0% by the June 30, 2023 valuation

- Reflect annual update to mortality projection scale (MP-2022) as published by Society of Actuaries – expected to be issued in late October 2022