

# **City of Fort Lauderdale**



**Investment Performance Review For the Quarter Ended June 30, 2020** 

**Investment Advisors** 

PFM Asset Management LLC

Steven Alexander, CTP, CGFO, CPPT, Managing Director Khalid Yasin, CIMA\*, CHP, Director Richard Pengelly, CFA, CTP, Director Sean Gannon, CTP, Senior Analyst 213 Market Street Harrisburg, PA 17101-2141 717.232.2723 717.233.6073 fax 300 South Orange Avenue Suite 1170 Orlando, FL 32801 407.648.2208 407.648.1323 fax

# **Table of Contents**

**Executive Summary** 

Financial Markets Review

Combined OPEB Executive Summary



## **Executive Summary**

The City of Fort Lauderdale (the "City") OPEB Trust returned 12.35% (net of mutual fund fees) in the 2<sup>nd</sup> quarter of 2020, underperforming its policy benchmark return of 12.89% by 0.54%. In the trailing 12 months, the portfolio returned 4.80%, underperforming its 5.42% benchmark return by 0.62%. In dollar terms, the portfolio gained \$3,880,315 in return on investment over the quarter, and gained \$1,635,123 in the trailing 12 months.

The City's OPEB Post Retirement Pay Steps Plan returned 12.48% (net of mutual fund fees) in the 2<sup>nd</sup> quarter of 2020, underperforming its policy benchmark return of 12.89% by 0.41%. In dollar terms, the portfolio gained \$347,690 in return on investment over the quarter, and gained \$14,928 in the trailing 12 months.

The S&P posted a return of 20.5% for the quarter, a near reversal from the first quarter. It benefited from the \$2.2 trillion stimulus package and states reopening from the COVID-19 pandemic shut down. Markets outside the United States, as measured by the MSCI ACWI ex-U.S. Index, slightly lagged their domestic equity counterparts, returning 16.1% for the second quarter. The U.S. bond market, as represented by the Bloomberg Barclays U.S. Aggregate (Aggregate) Index, returned 2.9%.

Currently, the portfolios are underweight domestic equities, international equities, and alternative investments relative to policy targets; the portfolio continues to maintain a defensive posture by having a slight overweight to fixed income. The ongoing economic recovery experienced a meaningful setback in late June as new cases of COVID-19 surged across many U.S. states. A cloud of uncertainty hangs over the U.S. and global economies entering the second half of 2020. Economic data has rebounded significantly from the April lows, but remains well below pre-pandemic levels. Given the City's goals and objectives are long-term in nature, the portfolio continues to be appropriately diversified and in compliance with its investment policy guidelines.



# **OPEB Executive Summary**

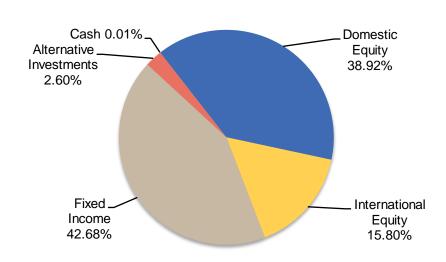
#### **Current Asset Allocation**

Asset Class	Market Value	Pct (%)
Cash	\$2,232	0.0%
Domestic Equity	14,935,231	38.9%
International Equity	6,061,876	15.8%
Fixed Income	16,381,195	42.7%
Alternative Investments	997,697	2.6%
Total	\$38,378,231	100.0%

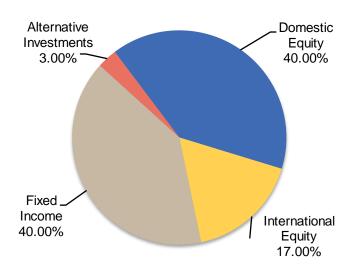
## **Target Asset Allocation**

Asset Class	Market Value	Pct (%)
Cash	-	0.0%
Domestic Equity	15,351,292	40.0%
International Equity	6,524,299	17.0%
Fixed Income	15,351,292	40.0%
Alternative Investments	1,151,347	3.0%
Total	\$38,378,231	100%

## **Current Asset Allocation**



## **Target Asset Allocation**





# **Markets & Economy**



## **Market Index Performance**

As of June 30, 2020

	QTD	YTD	1 Year	3 Years	5 Years	7 Years	10 Years
DOMESTIC EQUITY							
S&P 500	20.54%	-3.08%	7.51%	10.73%	10.73%	12.13%	13.99%
Russell 3000 Index	22.03%	-3.48%	6.53%	10.04%	10.03%	11.68%	13.72%
Russell 1000 Value Index	14.29%	-16.26%	-8.84%	1.82%	4.64%	7.11%	10.41%
Russell 1000 Growth Index	27.84%	9.81%	23.28%	18.99%	15.89%	16.62%	17.23%
Russell Midcap Index	24.61%	-9.13%	-2.24%	5.79%	6.76%	9.40%	12.35%
Russell 2500 Index	26.56%	-11.05%	-4.70%	4.08%	5.41%	8.15%	11.46%
Russell 2000 Value Index	18.91%	-23.50%	-17.48%	-4.35%	1.26%	3.98%	7.82%
Russell 2000 Index	25.42%	-12.98%	-6.63%	2.01%	4.29%	7.17%	10.50%
Russell 2000 Growth Index	30.58%	-3.06%	3.48%	7.86%	6.86%	10.03%	12.92%
INTERNATIONAL EQUITY							
MSCI EAFE (Net)	14.88%	-11.34%	-5.13%	0.81%	2.05%	3.93%	5.73%
MSCI AC World Index (Net)	19.22%	-6.25%	2.11%	6.14%	6.46%	7.81%	9.16%
MSCI AC World ex USA (Net)	16.12%	-11.00%	-4.80%	1.13%	2.26%	3.71%	4.97%
MSCI AC World ex USA Small Cap (Net)	22.83%	-12.80%	-4.34%	-0.17%	2.50%	4.74%	6.05%
MSCI EM (Net)	18.08%	-9.78%	-3.39%	1.90%	2.86%	3.22%	3.27%
ALTERNATIVES							
FTSE NAREIT Equity REIT Index	11.82%	-18.71%	-13.04%	0.03%	4.06%	5.36%	9.05%
FTSE EPRA/NAREIT Developed Index	10.33%	-20.93%	-15.46%	-0.67%	2.22%	3.61%	7.17%
Bloomberg Commodity Index Total Return	5.08%	-19.40%	-17.38%	-6.14%	-7.69%	-8.11%	-5.82%
FIXED INCOME							
Blmbg. Barc. U.S. Aggregate	2.90%	6.14%	8.74%	5.32%	4.30%	3.96%	3.82%
Blmbg. Barc. U.S. Government/Credit	3.71%	7.21%	10.02%	5.87%	4.74%	4.24%	4.13%
Blmbg. Barc. Intermed. U.S. Government/Credit	2.81%	5.28%	7.12%	4.43%	3.46%	3.12%	3.13%
Blmbg. Barc. U.S. Treasury: 1-3 Year	0.25%	3.01%	4.14%	2.70%	1.86%	1.56%	1.34%
Blmbg. Barc. U.S. Corp: High Yield	10.18%	-3.80%	0.03%	3.33%	4.79%	4.99%	6.68%
Credit Suisse Leveraged Loan index	9.71%	-4.75%	-2.26%	2.14%	2.94%	3.27%	4.33%
ICE BofAML Global High Yield Constrained (USD)	11.44%	-4.28%	-0.64%	2.93%	4.61%	4.57%	6.47%
Blmbg. Barc. Global Aggregate Ex USD	3.38%	0.61%	0.71%	2.52%	2.89%	1.31%	1.98%
JPM EMBI Global Diversified	12.26%	-2.76%	0.49%	3.60%	5.30%	5.48%	6.03%
CASH EQUIVALENT							
90 Day U.S. Treasury Bill	0.02%	0.60%	1.63%	1.77%	1.17%	0.85%	0.62%

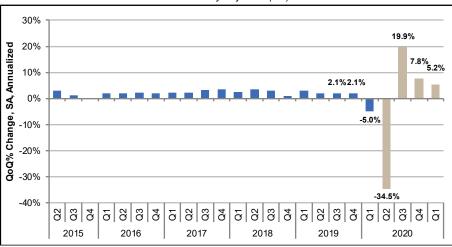
Source: Investment Metrics. Returns are expressed as percentages. Please refer to the last page of this document for important disclosures relating to this material.



#### THE ECONOMY

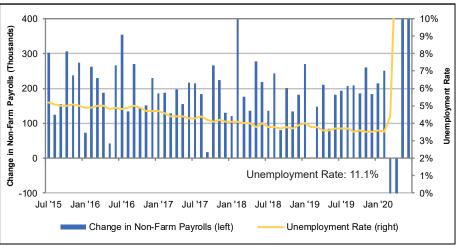
- The coronavirus (COVID-19) pandemic continues to shape the global markets and economy. Until late June, the second quarter saw a flattening of the curve as the pace of new COVID-19 cases and fatalities fell. In the last two months of the quarter, many states began to ease lockdowns, but relaxed social distancing and a reduction of other precautionary measures led to a surge in new cases to start the third quarter. The recent developments confirm that business as usual is not likely to return until a vaccine is widely distributed, which is currently expected by spring 2021. A similar trend is emerging globally, with daily new cases rising in Asia, developing countries and, to a lesser extent, Africa and the Middle East.
- U.S. gross domestic product (GDP) is expected to fall approximately 35% year-over-year in the second quarter, following a 5% decline in the first quarter. Many states rolled back or paused reopening plans in response to the recent surge in new COVID-19 cases, putting early pressure on third-quarter GDP, which is expected to rise by about 20%.
- Record job losses were followed by record job gains in the second quarter.
   Non-farm payrolls fell by 22.2 million in March and April, and the unemployment rate quickly spiked from 3.5% to 14.7%. In May and June, however, 7.5 million jobs were added back to the economy, driven by gains in hospitality, retail, education and healthcare, and the unemployment rate fell to 11.1%. Despite the declines in unemployment, initial and continuous jobless claims rose in the last week of the quarter.
- Equity markets experienced a historic rebound in the second quarter, driven by
  fiscal and monetary policy support, promising data related to COVID-19 cases,
  and expectations of a relatively quick economic recovery. In early June, the S&P
  500 Index (S&P) turned positive for the year before falling slightly to end the
  quarter. Though the index has not returned to its all-time peak in February, the
  market's decoupling from economic fundamentals has surprised investors in the
  first half of the year.
- As would be expected with a meaningful contraction in economic growth, corporate earnings are anticipated to decline. According to FactSet's earnings insight, estimated earnings are -44.6% for the second quarter, which would mark the largest drawdown since a -69.1% decline in the fourth quarter of 2008. Just 49 companies are offering earnings guidance for the second quarter compared to the five -year average of 106.

U.S. Real GDP Growth
Seasonally Adjusted (SA)



Source: Bloomberg. Blue bars indicate actual numbers; taupe bars indicate forecasted estimates.

#### Change in Non-Farm Payrolls



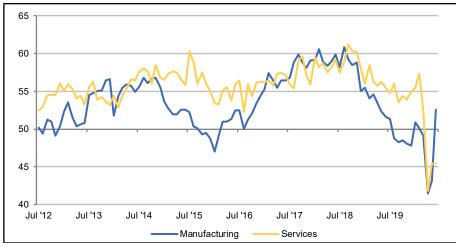
Source: Bloomberg.



#### WHAT WE'RE WATCHING

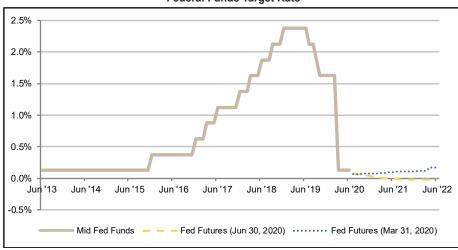
- The ongoing economic recovery experienced a meaningful setback in late June as new cases of COVID-19 surged across many U.S. states. As of the end of the second quarter, more than a dozen states have paused or rolled back reopening plans, threatening to erase recent payroll gains and suspend economic activity into the fall. The U.S. is recording its highest daily infection rate since the pandemic began, and investors are now watching the developments of the virus and the response of economies worldwide.
- A return to normalcy will require the introduction of an effective vaccine, and the
  development of one is being viewed with continued optimism. Though some drugs
  have been discovered to speed up recovery times or decrease the chances of
  death, researchers have not found a cure for the disease. Vaccine researchers
  have been working with the FDA at a blistering pace, and most timelines put the
  widespread availability of a vaccine in the first half of 2021. The 12- to 18-month
  timeframe is just a fraction of the usual timeframe for vaccine development.
- The second wave of infections has shifted more attention toward additional fiscal stimulus programs expected in late July or August. To date, four relief packages have been passed at a total cost of \$2.4 trillion, and the Federal Reserve (Fed) continues to provide strong monetary support. Congress is now debating a \$1-3 trillion spending bill for economic relief. The bill could include additional stimulus checks, extended jobless benefits and back-to-work bonuses. The Senate has indicated the bill would be its top priority when it reconvenes in late July.
- The U.S. is just five months away from its presidential election, and both major party candidates will be expected to demonstrate their ability to lead the country out of the current economic climate. Much of the next presidential term will be focused on rebuilding the economy and taking on immense federal debt and budget deficits. Incumbent presidents have typically won reelection unless there was a recession during their term. Market volatility generally increases in election years, but the current circumstances will skew that data.
- Given the extraordinary amount of monetary and fiscal stimulus that has been injected into the economy, a long-term development worth watching is the potential for higher inflation, interest rates and taxes when the economy fully recovers.
   Inflation has fallen during the current recession and could continue to fall in the near-term. Still, unprecedented policy support will generate a high cost to be paid when the economy stabilizes.

#### ISM Manufacturing & Services PMI



Source: Bloomberg.

#### **Federal Funds Target Rate**



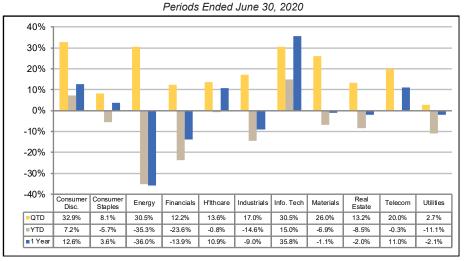
Source: Bloomberg.



#### DOMESTIC EQUITY

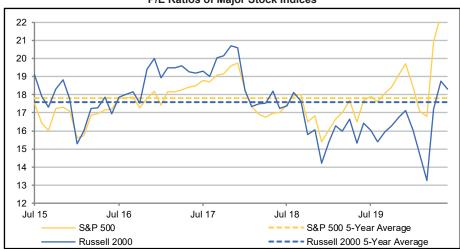
- The S&P posted a return of 20.5% for the quarter, a near reversal from the first quarter. It benefited from the \$2.2 trillion stimulus package and states reopening from the COVID-19 pandemic shut down.
- Nine of the eleven S&P sectors produced positive returns with Consumer Discretionary (+32.9%) and Energy (+30.5%) leading the way. After a difficult first quarter from lockdown and the price war between Saudi Arabia and Russia, there was a strong bounce back in both sectors as people began to adapt to the new normal.
- Value stocks, as represented by the Russell 1000 Value Index, returned 14.3%, and lagging growth stocks, as represented by the Russell 1000 Growth Index, which returned 27.8%. The divergence between value and growth performance continued for the first half of 2020. Russell 1000 Growth is now positive for the year with the strongest performance across domestic equities.
- Small-caps, as represented by the Russell 2000 Index, returned 25.4% during the quarter and outperformed mid- and large-caps. This quarter, there was a shift in that small-cap stocks were rewarded greater than large-caps. This relative outperformance is similar to previous recovery periods.

## S&P 500 Index Performance by Sector



Source: Bloomberg.

#### P/E Ratios of Major Stock Indices\*



Source: Bloomberg.

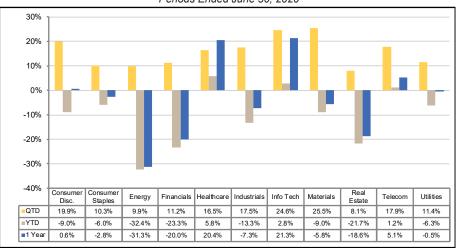
\*P/E ratios are calculated based on one-year forward estimates and adjusted to include only positive earnings results for consistency.



#### NON-U.S. EQUITY

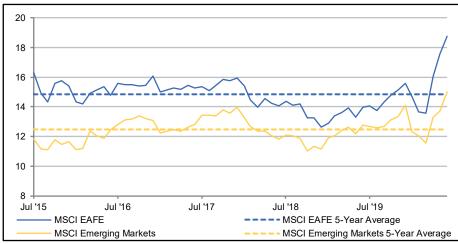
- Markets outside the United States, as measured by the MSCI ACWI ex-U.S. Index, slightly lagged their domestic equity counterparts, returning 16.1% for the second quarter. All 11 sectors had positive returns for the quarter with Consumer Discretionary (+32.9%) performing best, as economies around the world reopened. The worst performer in the index was Utilities, which returned 2.7%.
- Emerging Markets (EM), as represented by MSCI Emerging Market Index, outperformed Developed ex-U.S. Markets, represented by the MSCI EAFE Index, returning 18.1% versus 14.9% for the quarter, respectively. EM Latin America returned 19.1%, while EM Asia returned 17.8%.
- Value continued to underperform growth for the quarter across the international markets (MSCI AC World ex-USA Growth 19.1% versus MSCI AC World ex-USA Value 13.0%).
- International small-caps, as represented by MSCI ACWI ex U.S. Small Cap Index, performed well, returning 22.8% for the quarter.

#### MSCI ACWI ex-U.S. Sectors Periods Ended June 30, 2020



Source: Bloomberg.

#### P/E Ratios of MSCI Equity Indices\*



Source: Bloomberg.

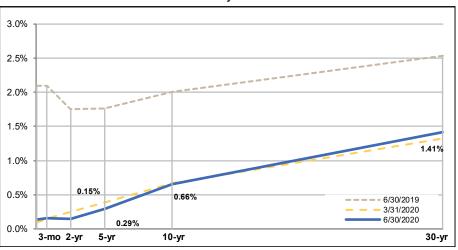
\*P/E ratios are calculated based on one-year forward estimates and adjusted to include only positive earnings results for consistency.



#### FIXED INCOME

- The U.S. bond market, as represented by the Bloomberg Barclays U.S. Aggregate (Aggregate) Index, returned 2.9%.
- Rates remained relatively stable during the quarter, but experienced minor changes in direction across various tenors. The 2-year and 10-year treasury rates fell while the 30-year rate slightly increased. Much of the Aggregate return came from spread compression in credit.
- Investment-grade (IG) corporate spreads declined during the quarter. The Bloomberg Barclays U.S. Corporate Index gained 9.0% as credit rallied given unprecedented support from the Fed, which provided liquidity to the market and began a corporate bond-buying program. High yield bonds, as represented by the Bloomberg Barclays U.S. Corporate High Yield (HY) Index had an even sharper rally, gaining 10.2%. The strongest part of the corporate market was in the BBB-rated IG and BB-rated HY space, each gaining 11.5% in the quarter.
- The fixed-rate mortgage market, as measured by the Bloomberg Barclays U.S. Mortgage-Backed Securities (MBS) Index, gained 0.7%. Meanwhile, the Bloomberg Barclays U.S. Agency CMBS Index (measuring commercial MBS) gained 3.5%, while non-index mezzanine tranches of CMBS remained stressed as a result of continued office and retail shutdowns.
- EM USD sovereign bonds, as represented by the JP Morgan EMBI Global Diversified index, gained 12.3% as oil prices began to rise and investors added to this high yielding asset class.

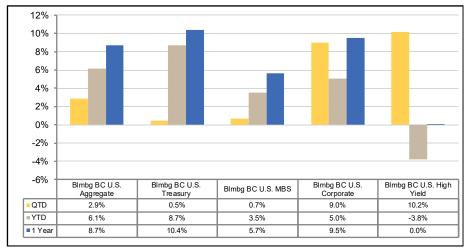
#### **U.S. Treasury Yield Curve**



Source: Bloomberg.

## Returns for Fixed-Income Segments

Periods Ended June 30, 2020



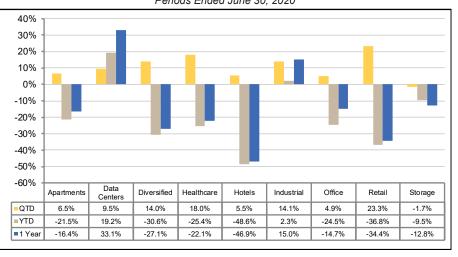
Source: Bloomberg. "Blmbg BC" is Bloomberg Barclays.



#### **ALTERNATIVES**

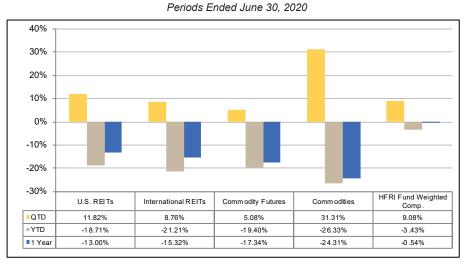
- REITs, as measured by the FTSE NAREIT Equity REITs Index, returned 11.8% in the second quarter, making up for a portion of the 27.3% loss in the first quarter. Most REIT sectors posted moderate to large gains in the second quarter. The Self-Storage sector was the exception, which posted a return of -1.7% over the quarter. The largest gains were seen in the Retail, Health Care and Industrial sectors, which posted returns of 23.3%, 18.0% and 14.1%, respectively.
- Private real estate, as measured by the NCREIF Property Index, generated a total return of 0.7% in the first quarter, resulting in a 5.3% return over the last 12-month period. In the first quarter, industrial properties were the top-performing sector, with a total return of 2.6%. Hotel properties were the worst-performing sector in the first quarter with a total return of -3.7%, comprised of 1.1% in income return and -4.8% in appreciation return.
- Hedge funds generated positive returns in the second quarter through May 2020 with the HFRI Fund Weighted Composite Index returning 7.1%. During the same period, the HFRI Macro (Total) Index returned 1.2%. The HFRI Equity Hedge (Total) Index and the HFRI Fund of Funds Index returned 10.4% and 5.8%, respectively.
- In the first quarter of 2020, private capital fundraising was once again led by private equity funds, which closed on \$133 billion, followed by \$38 billion raised by infrastructure funds, \$18 billion raised by private real estate funds and \$14 billion raised by private debt funds. Private equity dry powder, which accounts for the bulk of private capital dry powder, reached \$1.43 trillion as of yearend 2019. According to Cambridge Associates, U.S. private equity generated a return of 12.0% for the five years ending Q4 2019. According to Cliffwater Direct Lending Index, U.S. middle-market loans, a proxy for private debt, generated a return of 6.92% for the five years ending Q1 2020.
- Commodity futures, represented by the Bloomberg Commodity Total Return Index, returned 5.1% in the second quarter. The U.S. Dollar Index (DXY) fell 1.7% over the same period. Gold spot price ended the quarter at \$1,780.96 per ounce, representing a 12.9% gain over the period. The West Texas Intermediate (WTI) Crude Oil spot price increased by 91.7% from \$20.48 to \$39.27 during the second quarter.

# FTSE NAREIT Sectors Periods Ended June 30, 2020



Source: Bloomberg.

## Returns for Alternative Assets



Sources: Bloomberg and Hedge Fund Research, Inc.



# **Total Fund - OPEB Trust**



## **Asset Allocation & Performance**

	Allocat	ion		Performance(%)		
	Market Value (\$)	%	Current Quarter	Year To Date	Trailing 12-months	Fiscal Year To Date
Total Fund	35,247,880	100.00	12.35	-1.31	4.80	3.99
Blended Benchmark			12.89	-1.06	5.42	4.04
Domestic Equity	13,695,682	38.86	22.08	-3.53	6.37	4.93
Vanguard Total Stock Mkt Index Fund	13,695,682	38.86	22.08	-3.40	N/A	5.30
Russell 3000 Index			22.03	-3.48	6.53	5.31
International Equity	5,569,453	15.80	18.11	-10.56	-4.44	-1.90
Vanguard Total Intl Stock Index Fund	5,569,453	15.80	18.11	-10.59	N/A	-2.54
MSCI AC World ex USA (Net)			16.12	-11.00	-4.80	-3.06
Real Estate	918,157	2.60	13.46	-13.88	-6.93	-13.34
Vanguard Real Estate Index Fund	918,157	2.60	13.46	-13.88	-6.93	-13.34
FTSE NAREIT Equity REIT Index			11.82	-18.71	-13.04	-19.32
Fixed Income	15,062,421	42.73	2.98	5.99	8.02	6.32
Vanguard Total Bond Mkt Index Fund	15,062,421	42.73	2.98	6.35	N/A	6.38
Blmbg. Barc. U.S. Aggregate			2.90	6.14	8.74	6.33
Cash Equivalent	2,167	0.01	0.03	0.30	1.17	0.71
Wells Fargo 100% Treasury Money Market	2,167	0.01	0.03	0.30	1.18	0.71



## **Financial Reconciliation**

Current Quarter				
	Market Value As of 04/01/2020	Net Flows	Return On Investment	Market Value As of 06/30/2020
Total Fund	31,372,308	(4,743)	3,880,315	35,247,880

YTD	Market Value As of 01/01/2020	Net Flows	Return On Investment	Market Value As of 06/30/2020
Total Fund	35,716,481	(10,000)	(458,600)	35,247,880

Fiscal Year To Date						
	Market Value As of 10/01/2019	Net Flows	Return On Investment	Market Value As of 06/30/2020		
Total Fund	33,896,318	(15,044)	1,366,606	35,247,880		

1 Year				
	Market Value As of 07/01/2019	Net Flows	Return On Investment	Market Value As of 06/30/2020
Total Fund	27,342,180	6,270,577	1,635,123	35,247,880



## **Historical Hybrid Composition**

Benchmark Allocation	Weight (%)
Oct-2017	
Russell 3000 Index	55.0
Blmbg. Barc. U.S. Aggregate	45.0
Jul-2019	
Russell 3000 Index	40.0
MSCI AC World ex USA (Net)	17.0
FTSE NAREIT Equity REIT Index	3.0
Blmbg. Barc. U.S. Aggregate	40.0



# **Total Fund - OPEB Post Retirement Pay Steps Plan**



## **Asset Allocation & Performance**

	Alloca	tion		Perf	ormance(%)	
	Market Value (\$)	%	Current Quarter	Year To Date	Trailing 12-months	Fiscal Year To Date
Total Fund	3,130,351	100.00	12.48	-1.17	N/A	3.94
Blended Benchmark			12.89	-1.06	N/A	4.04
Domestic Equity	1,239,549	39.60	22.08	-3.40	N/A	5.30
Vanguard Total Stock Market Index	1,239,549	39.60	22.08	-3.40	N/A	5.30
Russell 3000 Index			22.03	-3.48	6.53	5.31
International Equity	492,423	15.73	18.11	-10.59	N/A	-2.54
Vanguard Total International Stock Index Fund	492,423	15.73	18.11	-10.59	N/A	-2.54
MSCI AC World ex USA (Net)			16.12	-11.00	-4.80	-3.06
Real Estate	79,540	2.54	13.46	-13.88	N/A	-13.34
Vanguard Real Estate Index Fund	79,540	2.54	13.46	-13.88	N/A	-13.34
FTSE NAREIT Equity REIT Index			11.82	-18.71	-13.04	-19.32
Fixed Income	1,318,774	42.13	2.98	6.35	N/A	6.38
Vanguard Total Bond Market Index	1,318,774	42.13	2.98	6.35	N/A	6.38
Blmbg. Barc. U.S. Aggregate			2.90	6.14	8.74	6.33
Cash Equivalent	65	0.00	0.03	0.23	N/A	0.63
Wells Fargo 100% Treasury Money Market	65	0.00	0.03	0.23	N/A	0.63
ICE BofAML 3 Month U.S. T-Bill			0.02	0.60	1.63	1.06



## **Financial Reconciliation**

Current Quarter				
	Market Value As of 04/01/2020	Net Flows	Return On Investment	Market Value As of 06/30/2020
Total Fund	2,783,081	(420)	347,690	3,130,351

YTD				
	Market Value As of 01/01/2020	Net Flows	Return On Investment	Market Value As of 06/30/2020
Total Fund	1,537,572	1,658,250	(65,472)	3,130,351

Fiscal Year To Date					
	Market Value As of 10/01/2019	Net Flows	Return On Investment	Market Value As of 06/30/2020	
Total Fund	1,462,005	1,658,034	10,312	3,130,351	

1 Year	Market Value As of 07/01/2019	Net Flows	Return On Investment	Market Value As of 06/30/2020
Total Fund	-	3,115,423	14,928	3,130,351



## **Historical Hybrid Composition**

Benchmark Allocation	Weight (%)	
Oct-2019		
Russell 3000 Index	40.0	
MSCI AC World ex USA (Net)	17.0	
FTSE NAREIT Equity REIT Index	3.0	
Blmbg. Barc. U.S. Aggregate	40.0	



#### **IMPORTANT DISCLOSURES**

PFM is the marketing name for a group of affiliated companies providing a range of services. All services are provided through separate agreements with each company. This material is for general information purposes only and is not intended to provide specific advice or a specific recommendation, as it was prepared without regard to any specific objectives or financial circumstances.

Investment advisory services are provided by PFM Asset Management LLC which is registered with the Securities and Exchange Commission under the Investment Advisers Act of 1940. The information contained is not an offer to purchase or sell any securities. Additional applicable regulatory information is available upon request.

PFM asset management professionals have exercised reasonable professional care in the preparation of this performance report. Information in this report is obtained from sources external to PFM's asset management business and is generally believed to be reliable and available to the public; however, we cannot guarantee its accuracy, completeness or suitability. We rely on the client's custodian for security holdings and market values. Transaction dates reported by the custodian may differ from money manager statements. While efforts are made to ensure the data contained herein is accurate and complete, we disclaim all responsibility for any errors that may occur. References to particular issuers are for illustrative purposes only, and are not intended to be recommendations or advice regarding such issuers. Fixed income manager and index characteristics are gathered from external sources. When average credit quality is not available, it is estimated by taking the market value weights of individual credit tiers on the portion of the strategy rated by a NRSRO.

It is not possible to invest directly in an index. The index returns shown throughout this material do not represent the results of actual trading of investor assets. Third-party providers maintain the indices shown and calculate the index levels and performance shown or discussed. Index returns do not reflect payment of any sales charges or fees an investor would pay to purchase the securities they represent. The imposition of these fees and charges would cause investment performance to be lower than the performance shown.

The views expressed within this material constitute the perspective and judgment of PFM's asset management business at the time of distribution and are subject to change. Any forecast, projection, or prediction of the market, the economy, economic trends, and equity or fixed-income markets are based upon certain assumptions and current opinion as of the date of issue, and are also subject to change. Some, but not all assumptions are noted in the report. Assumptions may or may not be proven correct as actual events occur, and results may depend on events outside of your or our control. Changes in assumptions may have a material effect on results. Opinions and data presented are not necessarily indicative of future events or expected performance.

For more information regarding PFM's services or entities, please visit www.pfm.com.

© 2020 PFM Asset Management LLC. Further distribution is not permitted without prior written consent.

