



Los Angeles County Employees Retirement Association

# Investments Division

## OPEB TRUST

## PERFORMANCE REPORT

For the quarter ended  
March 31, 2024

review

A large, semi-transparent word 'review' is overlaid on the right side of the page. The background of the right side is a photograph of the Los Angeles skyline at sunset, with the city lights reflecting on the water in the foreground.

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# performance

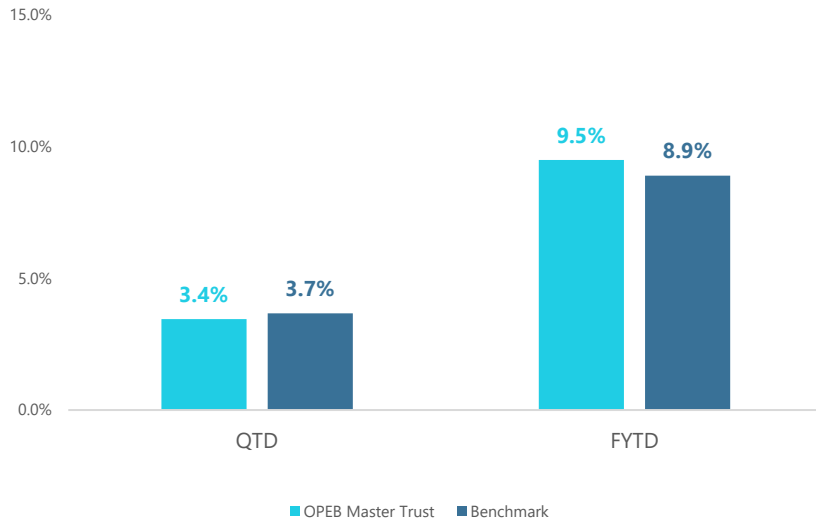
# Quarterly Snapshot

for the quarter ended March 31, 2024

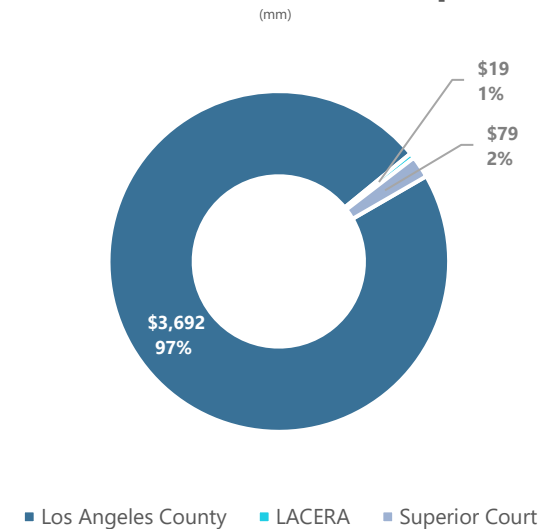


Los Angeles County Employees Retirement Association

## Performance (net)



## Sub-Trust Ownership



### Ending Market Value

3,790

↑ 7%  
from prior quarter

### Sharpe Ratio<sup>1</sup>

0.2

↓ -16%  
from prior quarter

### Manager Batting Average<sup>2</sup>

.438

↑ 23%  
from prior quarter

### Standard Deviation<sup>1</sup>

12.2

—  
from prior quarter

### Tracking Error<sup>1</sup>

1.8

↑ 1%  
from prior quarter

<sup>1</sup> 3-year annualized.

<sup>2</sup> Percentage of managers that outperformed their assigned benchmark for the quarter.

# Summary

for the quarter ended March 31, 2024



Los Angeles County Employees Retirement Association

## Performance (net)



	QTD	FYTD	YTD	1 Year	3 Year	5 Year	10 Year	ITD
<b>OPEB Master Trust</b>	<b>3.4%</b>	<b>9.5%</b>	<b>3.4%</b>	<b>13.1%</b>	<b>4.1%</b>	<b>6.9%</b>	<b>7.0%</b>	<b>6.6%</b>
Benchmark	3.7%	8.9%	3.7%	11.9%	3.6%	6.5%	6.0%	5.7%
Excess	-0.2%	0.6%	-0.2%	1.2%	0.5%	0.4%	1.0%	0.9%
Sub-Trusts								
Los Angeles County	3.4%	9.5%	3.4%	13.1%	4.1%	6.9%	6.5%	6.2%
LACERA	3.4%	9.4%	3.4%	12.9%	4.0%	6.9%	6.5%	6.2%
Superior Court	3.5%	9.3%	3.5%	12.8%	4.0%	6.8%	--	7.5%

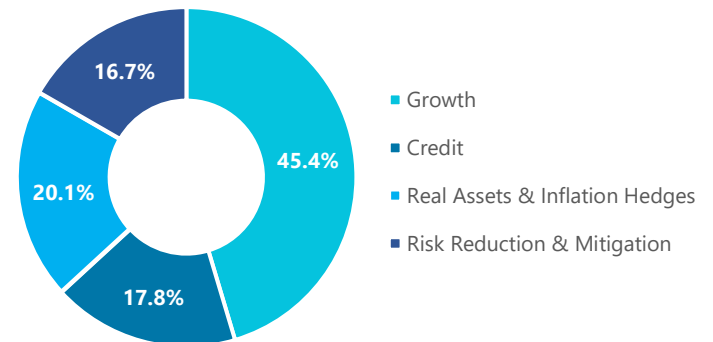
## Cumulative Return



## Functional Category

	QTD	FYTD	YTD	1 Year	3 Year	5 Year
<b>OPEB Growth</b>	<b>7.7%</b>	<b>15.7%</b>	<b>7.7%</b>	<b>22.6%</b>	<b>6.5%</b>	<b>10.8%</b>
OPEB Growth Policy Benchmark	8.2%	15.9%	8.2%	22.8%	6.0%	10.4%
Excess	-0.5%	-0.1%	-0.5%	-0.1%	0.5%	0.4%
<b>OPEB Credit</b>	<b>1.1%</b>	<b>7.3%</b>	<b>1.1%</b>	<b>9.9%</b>	<b>3.1%</b>	<b>3.7%</b>
OPEB Credit Policy Benchmark	2.5%	9.5%	2.5%	12.0%	3.2%	4.0%
Excess	-1.3%	-2.2%	-1.3%	-2.1%	-0.1%	-0.3%
<b>OPEB Real Assets &amp; Inflation Hedges</b>	<b>0.1%</b>	<b>4.2%</b>	<b>0.1%</b>	<b>4.8%</b>	<b>2.9%</b>	<b>3.2%</b>
OPEB RA & IH Policy Benchmark	-1.1%	0.0%	-1.1%	-1.8%	2.3%	3.0%
Excess	1.1%	4.2%	1.1%	6.6%	0.6%	0.1%
<b>OPEB Risk Reduction &amp; Mitigation</b>	<b>-1.2%</b>	<b>1.1%</b>	<b>-1.2%</b>	<b>0.3%</b>	<b>-1.9%</b>	<b>0.5%</b>
OPEB RR & M Policy Benchmark	-1.3%	1.0%	-1.3%	0.1%	-2.5%	0.1%
Excess	0.0%	0.1%	0.0%	0.2%	0.6%	0.4%

## Exposure



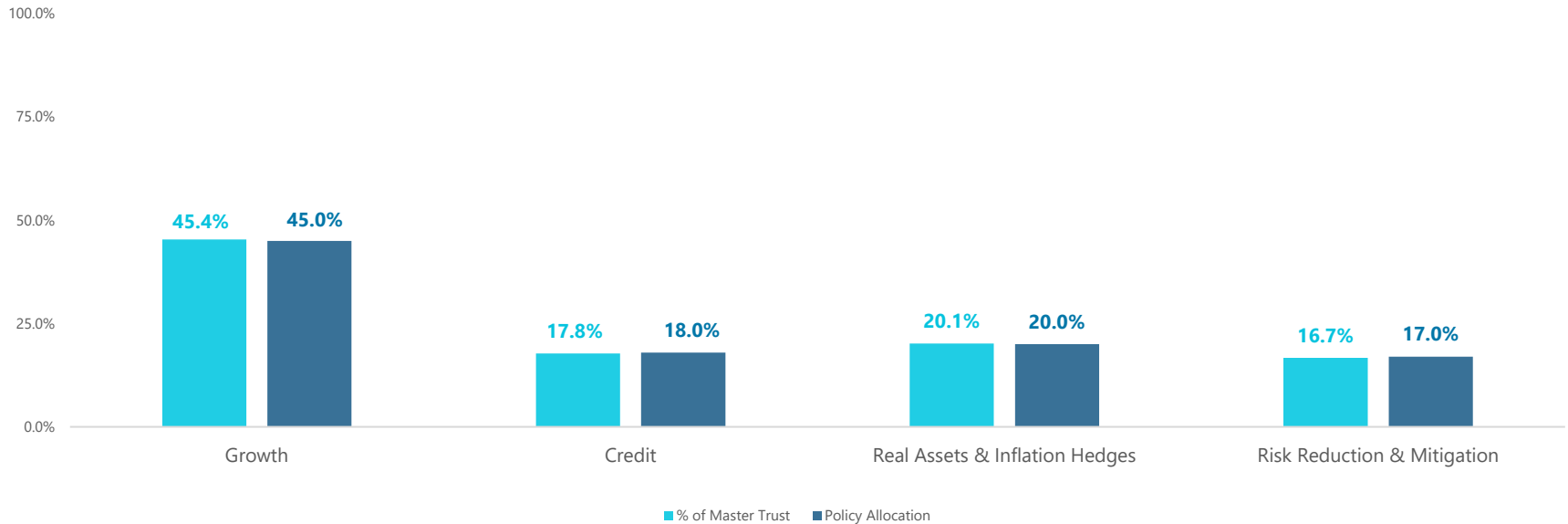
# Asset Allocation

for the quarter ended March 31, 2024



Los Angeles County Employees Retirement Association

## Actual vs. Policy<sup>1</sup>



	Ending Market Value (mm)	% of Master Trust	Policy Allocation	Over / Under (%)	Over / Under (mm)
<b>LACERA Master OPEB Trust Fund</b>	<b>3,788</b>	<b>100.0%</b>	<b>100.0%</b>		
Growth	1,719	45.4%	45.0%	0.4%	14
Credit	674	17.8%	18.0%	-0.2%	-8
Real Assets & Inflation Hedges	763	20.1%	20.0%	0.1%	5
Risk Reduction & Mitigation	632	16.7%	17.0%	-0.3%	-12
OPEB HL PM Cash	0	0.0%			

<sup>1</sup> Total market value excludes cash balances held in ownership funds.

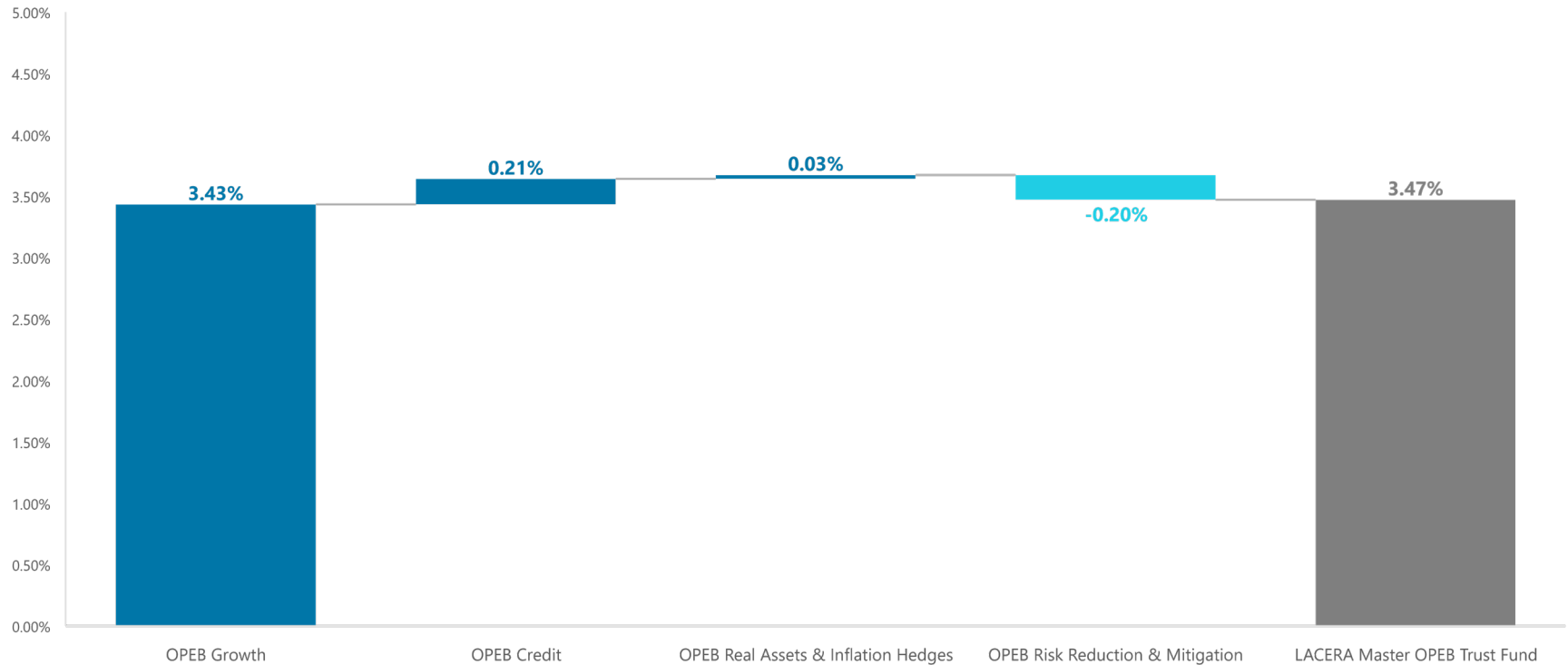
# Contribution to Return

for the quarter ended March 31, 2024



Los Angeles County Employees Retirement Association

## QTD Contribution to Return



Functional Category		Contributors		Detractors	
OPEB Growth	3.43%	OPEB BLK Global Equities	3.44%	OPEB BLK LTG Bonds	-0.16%
OPEB Credit	0.21%	OPEB BLK Bank Loans	0.20%	OPEB BLK EM Debt CTF	-0.08%
OPEB Real Assets & Inflation Hedges	0.03%	OPEB BLK High Yield	0.09%	OPEB BLK IG Bonds	-0.06%
OPEB Risk Reduction & Mitigation	-0.20%	OPEB BLK Commodities CTF	0.07%	OPEB BLK REITS	-0.04%
LACERA Master OPEB Trust Fund	3.47%	OPEB Cash	0.03%		

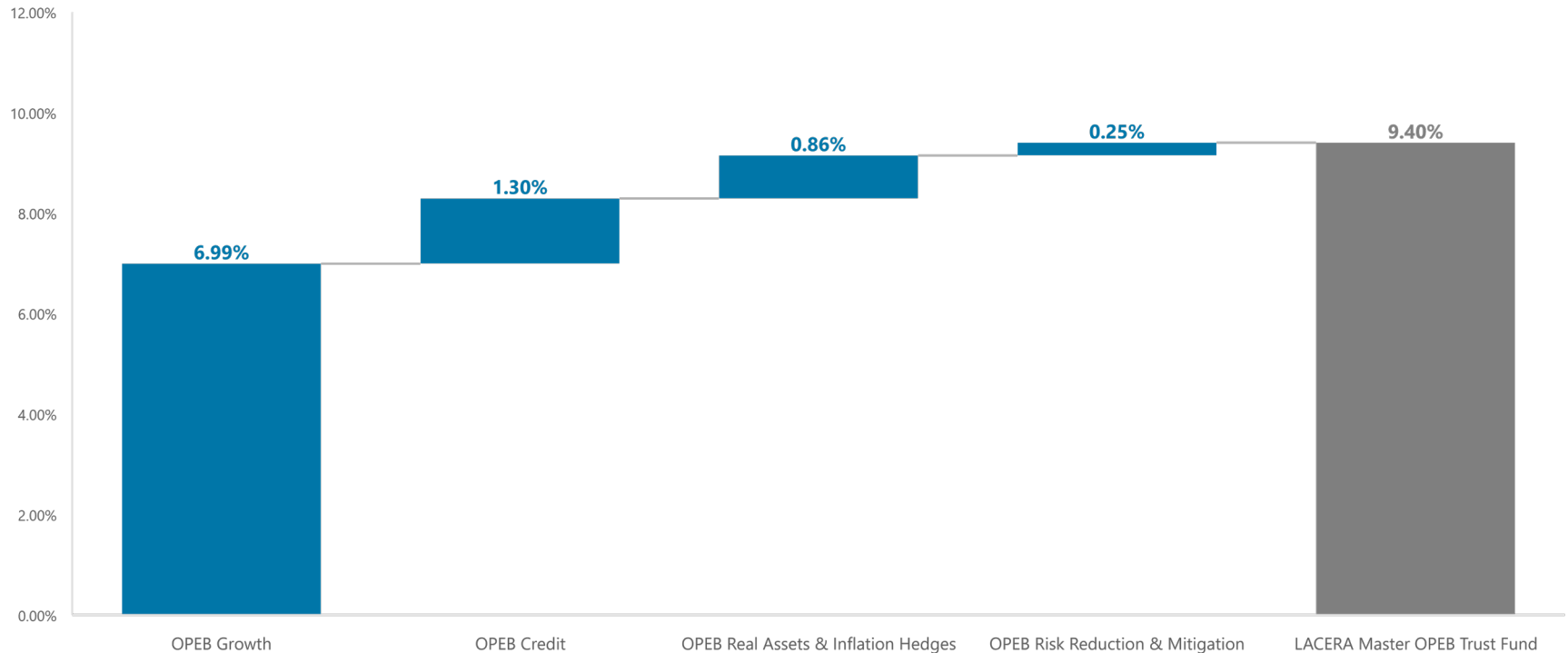
# Contribution to Return

for the quarter ended March 31, 2024



Los Angeles County Employees Retirement Association

## FYTD Contribution to Return



Functional Category		Contributors		Detractors	
OPEB Growth	6.99%	OPEB BLK Global Equities	6.92%	OPEB BLK LTG Bonds	-0.11%
OPEB Credit	1.30%	OPEB BLK Bank Loans	0.73%		
OPEB Real Assets & Inflation Hedges	0.86%	OPEB BLK REITS	0.70%		
OPEB Risk Reduction & Mitigation	0.25%	OPEB BLK High Yield	0.49%		
LACERA Master OPEB Trust Fund	9.40%	OPEB BLK IG Bonds	0.27%		

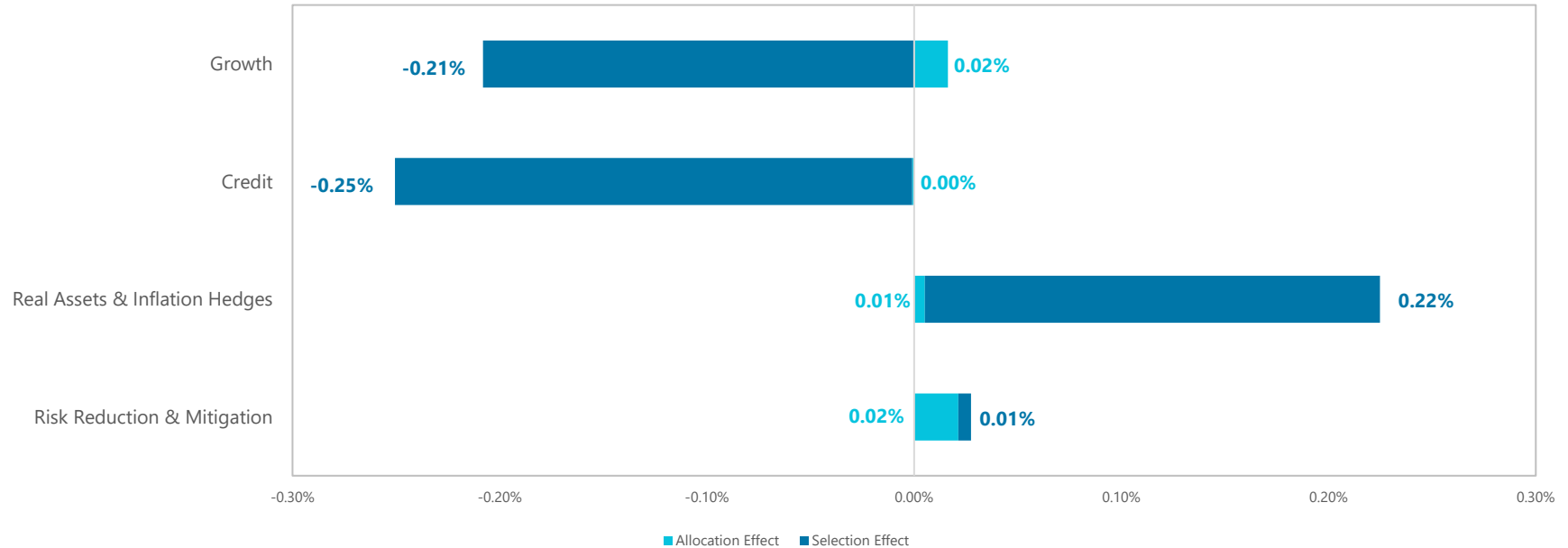
# Return Attribution

for the quarter ended March 31, 2024



Los Angeles County Employees Retirement Association

## QTD Performance Attribution<sup>1,2</sup>



	Ending Market Value (mm)	% of Master Trust	Policy Allocation	Portfolio Return	Benchmark Return	Allocation Effect	Selection Effect	Total Value Add
<b>LACERA Master OPEB Trust Fund</b>	<b>3,788</b>	<b>100.0%</b>	<b>100.0%</b>	<b>3.5%</b>	<b>3.7%</b>	<b>0.04%</b>	<b>-0.23%</b>	<b>-0.19%</b>
Growth	1,719	45.4%	45.0%	7.7%	8.2%	0.02%	-0.21%	-0.19%
Credit	674	17.8%	18.0%	1.1%	2.5%	0.00%	-0.25%	-0.25%
Real Assets & Inflation Hedges	763	20.1%	20.0%	0.1%	-1.1%	0.01%	0.22%	0.22%
Risk Reduction & Mitigation	632	16.7%	17.0%	-1.2%	-1.3%	0.02%	0.01%	0.03%
OPEB HL PM Cash	0	0.0%						

<sup>1</sup> Total market value excludes cash balances held in ownership funds.

<sup>2</sup> Total Value Add column includes Interaction Effect.

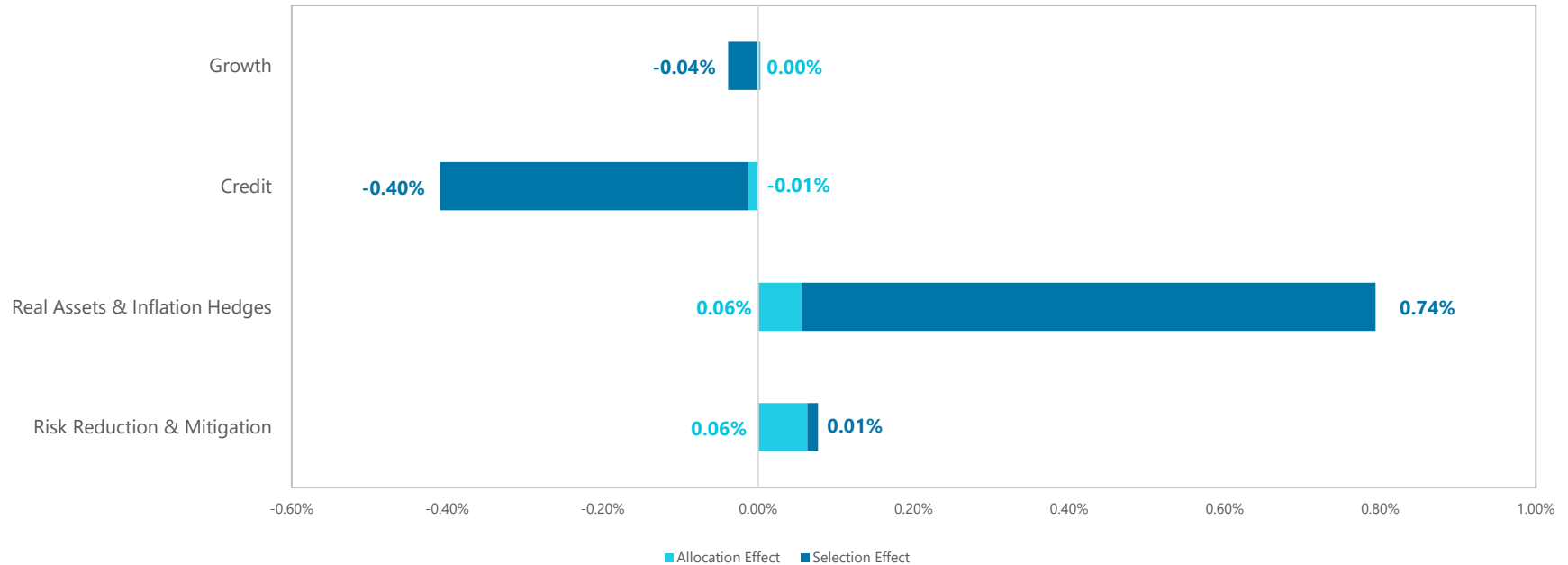
# Return Attribution

for the quarter ended March 31, 2024



Los Angeles County Employees Retirement Association

## FYTD Performance Attribution<sup>1,2</sup>



	Ending Market Value (mm)	% of Master Trust	Policy Allocation	Portfolio Return	Benchmark Return	Allocation Effect	Selection Effect	Total Value Add
<b>LACERA Master OPEB Trust Fund</b>	<b>3,788</b>	<b>100.0%</b>	<b>100.0%</b>	<b>9.4%</b>	<b>8.9%</b>	<b>0.11%</b>	<b>0.32%</b>	<b>0.43%</b>
Growth	1,719	45.4%	45.0%	15.7%	15.9%	0.00%	-0.04%	-0.04%
Credit	674	17.8%	18.0%	7.3%	9.5%	-0.01%	-0.40%	-0.41%
Real Assets & Inflation Hedges	763	20.1%	20.0%	4.2%	0.0%	0.06%	0.74%	0.79%
Risk Reduction & Mitigation	632	16.7%	17.0%	1.1%	1.0%	0.06%	0.01%	0.08%
OPEB HL PM Cash	0	0.0%						

<sup>1</sup> Total market value excludes cash balances held in ownership funds.

<sup>2</sup> Total Value Add column includes Interaction Effect.

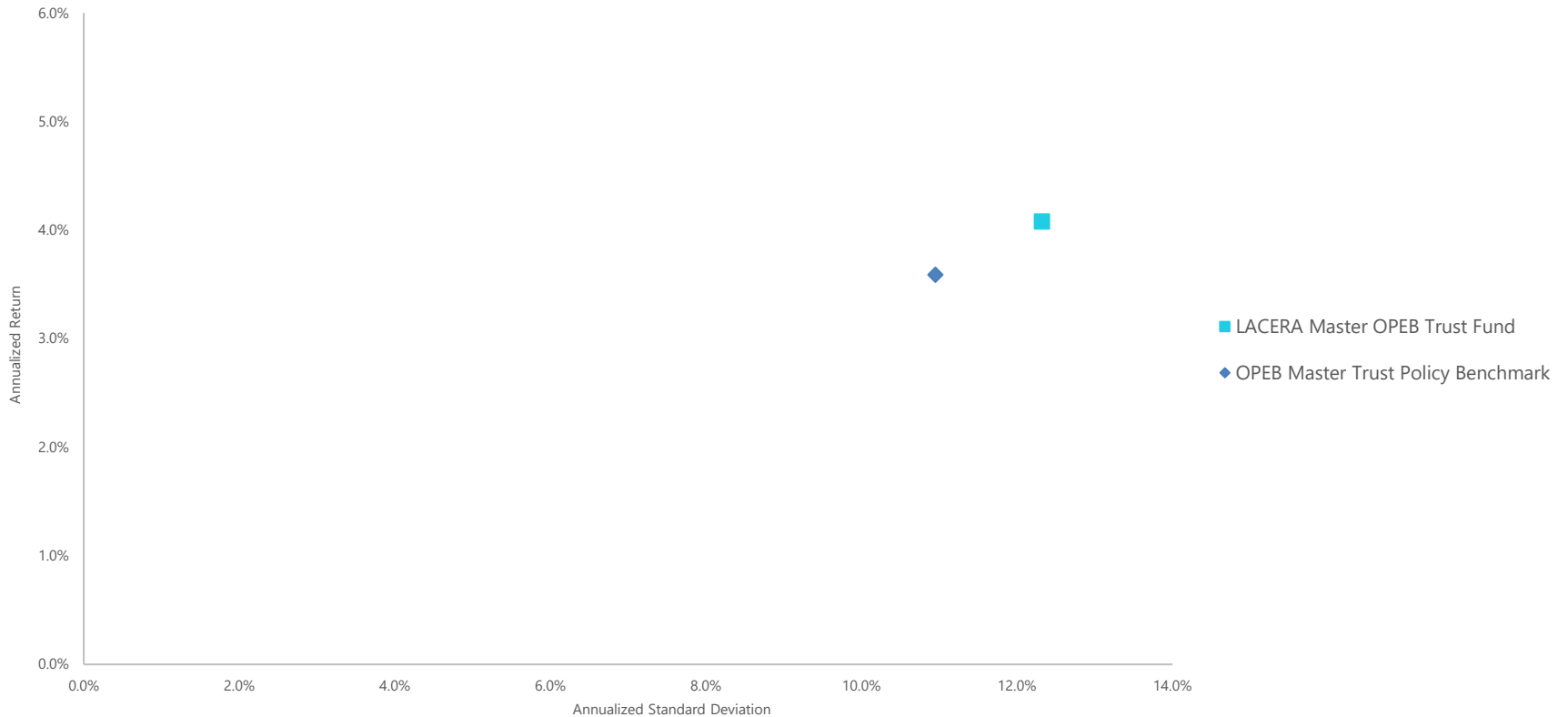
# Risk vs. Return

for the quarter ended March 31, 2024



Los Angeles County Employees Retirement Association

## 3 Year (Annualized)



	Annualized Return	Standard Deviation	Sharpe Ratio	Information Ratio	Beta	Tracking Error
LACERA Master OPEB Trust Fund	4.1%	12.3%	0.18	0.27	1.12	1.8%
OPEB Master Trust Policy Benchmark	3.6%	10.9%				

# Performance Detail

for the quarter ended March 31, 2024



Los Angeles County Employees Retirement Association

## Annualized Net Returns<sup>1</sup>

	% of Total	Ending Market Value (mm)	Prior Quarter Ending MV (mm)	QTD	FYTD	YTD	1 Year	3 Year	5 Year	10 Year	ITD	Inception Date
<b>OPEB Master Trust</b>	<b>100.0%</b>	<b>3,790</b>	<b>3,534</b>	<b>3.4%</b>	<b>9.5%</b>	<b>3.4%</b>	<b>13.1%</b>	<b>4.1%</b>	<b>6.9%</b>	<b>7.0%</b>	<b>6.6%</b>	<b>Feb-2013</b>
OPEB Master Trust Policy Benchmark				3.7%	8.9%	3.7%	11.9%	3.6%	6.5%	6.0%	5.7%	
Sub-Trusts												
LACERA	0.5%	19	18	3.4%	9.4%	3.4%	12.9%	4.0%	6.9%	6.5%	6.2%	Feb-2013
Los Angeles County	97.4%	3,692	3,446	3.4%	9.5%	3.4%	13.1%	4.1%	6.9%	6.5%	6.2%	Feb-2013
Superior Court	2.1%	79	71	3.5%	9.3%	3.5%	12.8%	4.0%	6.8%	--	7.5%	Jul-2016
<b>LACERA Master OPEB Trust Fund</b>	<b>100.0%</b>	<b>3,788</b>	<b>3,533</b>	<b>3.5%</b>	<b>9.4%</b>	<b>3.5%</b>	<b>13.0%</b>	<b>4.1%</b>	<b>7.0%</b>	<b>6.5%</b>	<b>6.2%</b>	<b>Feb-2013</b>
OPEB Master Trust Policy Benchmark				3.7%	8.9%	3.7%	11.9%	3.6%	6.5%	6.0%	5.7%	
<b>OPEB Growth</b>	<b>45.4%</b>	<b>1,719</b>	<b>1,598</b>	<b>7.7%</b>	<b>15.7%</b>	<b>7.7%</b>	<b>22.6%</b>	<b>6.5%</b>	<b>10.8%</b>	--	<b>11.0%</b>	<b>Jul-2016</b>
OPEB Growth Policy Benchmark				8.2%	15.9%	8.2%	22.8%	6.0%	10.4%	--	10.7%	
OPEB BLK Global Equities	45.0%	1,703	1,590	7.7%	15.6%	7.7%	22.5%	6.5%	10.8%	8.7%	8.7%	Mar-2014
MSCI ACWI IMI Net				7.7%	15.6%	7.7%	22.5%	6.3%	10.6%	8.4%	8.4%	
OPEB HL Private Equity	0.4%	16	8	-0.3%	--	-0.3%	--	--	--	--	NM	Sep-2023
OPEB Private Equity Policy Benchmark				11.7%	--	11.7%	--	--	--	--	NM	
<b>OPEB Credit</b>	<b>17.8%</b>	<b>674</b>	<b>639</b>	<b>1.1%</b>	<b>7.3%</b>	<b>1.1%</b>	<b>9.9%</b>	<b>3.1%</b>	<b>3.7%</b>	--	<b>3.7%</b>	<b>Jul-2018</b>
OPEB Credit Policy Benchmark				2.5%	9.5%	2.5%	12.0%	3.2%	4.0%	--	4.0%	
OPEB Liquid Credit	17.6%	666	635	1.2%	7.3%	1.2%	9.9%	--	--	--	2.8%	Oct-2021
OPEB Liquid Credit Policy Benchmark				1.9%	8.8%	1.9%	11.4%	--	--	--	2.9%	
OPEB BLK Bank Loans	8.1%	308	311	2.3%	8.4%	2.3%	11.6%	5.8%	5.2%	--	4.9%	Jul-2018
OPEB Bank Loans Custom Benchmark				2.5%	9.0%	2.5%	12.4%	5.8%	5.4%	--	5.1%	
OPEB BLK EM Debt CTF	2.7%	104	130	-2.2%	2.2%	-2.2%	4.6%	-1.9%	-0.3%	--	0.2%	Jul-2018
JPM GBI-EM Global Diversified				-2.1%	2.3%	-2.1%	4.9%	-1.6%	0.1%	--	0.7%	
OPEB BLK High Yield Bonds	6.7%	254	195	1.3%	8.8%	1.3%	10.6%	1.9%	3.7%	--	4.1%	Jul-2018
BBG BC US Corporate HY Index				1.5%	9.2%	1.5%	11.2%	2.2%	4.2%	--	4.5%	
OPEB HL Illiquid Credit	0.2%	8	4	0.6%	--	0.6%	--	--	--	--	0.6%	Sep-2023
OPEB Illiquid Credit Policy Benchmark				4.0%	--	4.0%	--	--	--	--	7.1%	
<b>OPEB Real Assets &amp; Inflation Hedges</b>	<b>20.1%</b>	<b>763</b>	<b>702</b>	<b>0.1%</b>	<b>4.2%</b>	<b>0.1%</b>	<b>4.8%</b>	<b>2.9%</b>	<b>3.2%</b>	--	<b>3.7%</b>	<b>Jul-2018</b>
OPEB RA & IH Policy Benchmark				-1.1%	0.0%	-1.1%	-1.8%	2.3%	3.0%	--	3.3%	
OPEB BLK Commodities CTF	3.8%	143	147	2.3%	2.1%	2.3%	-0.5%	9.2%	6.4%	--	4.5%	Jul-2018
Bloomberg Commodity Index Total Return				2.2%	2.1%	2.2%	-0.6%	9.1%	6.4%	--	4.5%	
OPEB BLK TIPS	6.7%	252	214	0.0%	1.7%	0.0%	0.3%	-0.6%	2.5%	--	2.5%	Jul-2018
Bloomberg U.S. Treasury: U.S. TIPS				-0.1%	1.9%	-0.1%	0.5%	-0.5%	2.5%	--	2.5%	
OPEB HL Infrastructure	0.2%	9	0	0.7%	--	0.7%	--	--	--	--	0.7%	Sep-2023
OPEB Infrastructure Policy Benchmark				11.2%	--	11.2%	--	--	--	--	6.8%	
OPEB HL Natural Resources	0.1%	5	3	-2.2%	--	-2.2%	--	--	--	--	-6.4%	Sep-2023
OPEB Natural Resources Policy Benchmark				3.4%	--	3.4%	--	--	--	--	14.0%	
OPEB Real Estate	9.3%	354	338	-0.5%	7.2%	-0.5%	10.3%	3.7%	2.9%	--	4.0%	Jul-2018
OPEB Real Estate Policy Benchmark				-3.8%	-5.4%	-3.8%	-7.1%	-1.2%	0.0%	--	1.5%	
OPEB BLK REITS	9.3%	351	338	-0.4%	7.2%	-0.4%	10.4%	3.7%	2.9%	--	4.0%	Jul-2018
DJ US Select Real Estate Securities				-0.4%	7.4%	-0.4%	10.6%	3.7%	3.0%	--	4.1%	
OPEB HL Private Real Estate	0.1%	2	0	--	--	--	--	--	--	--	NM	Feb-2024
NCREIF Fund Index - ODCE Net				--	--	--	--	--	--	--	NM	
<b>OPEB Risk Reduction &amp; Mitigation</b>	<b>16.7%</b>	<b>632</b>	<b>593</b>	<b>-1.2%</b>	<b>1.1%</b>	<b>-1.2%</b>	<b>0.3%</b>	<b>-1.9%</b>	<b>0.5%</b>	--	<b>1.2%</b>	<b>Jul-2016</b>
OPEB RR & M Policy Benchmark				-1.3%	1.0%	-1.3%	0.1%	-2.5%	0.1%	--	0.8%	
OPEB BLK IG Bonds	10.3%	389	349	-0.7%	2.5%	-0.7%	1.7%	-2.4%	0.4%	--	1.1%	Jul-2018
BBG BC Aggregate Bond Index				-0.8%	2.6%	-0.8%	1.7%	-2.5%	0.4%	--	1.1%	
OPEB Cash	1.8%	66	59	2.0%	5.1%	2.0%	6.5%	3.2%	2.6%	1.9%	1.7%	Feb-2013
OPEB Cash Policy Benchmark				1.4%	4.2%	1.4%	5.5%	2.7%	2.1%	1.5%	1.3%	
OPEB BLK LTG Bonds	4.7%	177	185	-3.0%	-3.9%	-3.0%	-6.2%	--	--	--	-0.3%	Dec-2022
Bloomberg U.S. Treasury: Long				-3.3%	-3.9%	-3.3%	-6.1%	--	--	--	-0.6%	
OPEB HL PM Cash	0.0%	0	0									

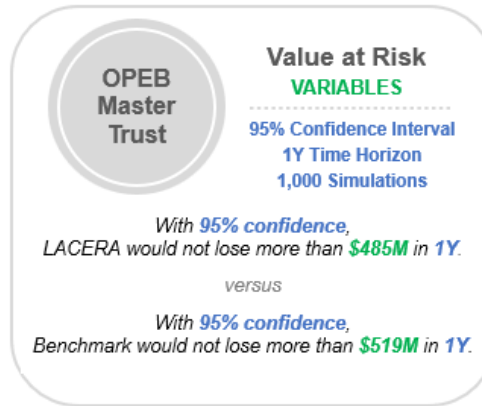
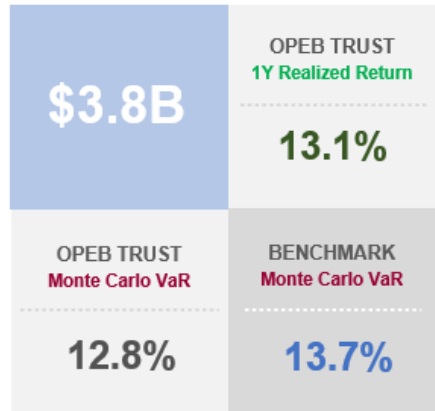
<sup>1</sup> NM = not meaningful

risk

# Risk Summary

for the quarter ended March 31, 2024

## Realized (Ex-Post) Risks



**97%**  
Passive  
Market Value  
Exposure



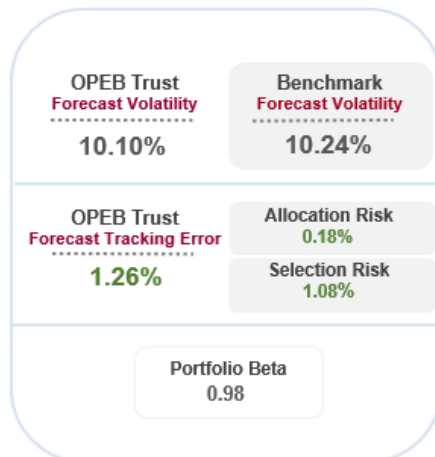
**1%**  
Private  
Market Value  
Exposure



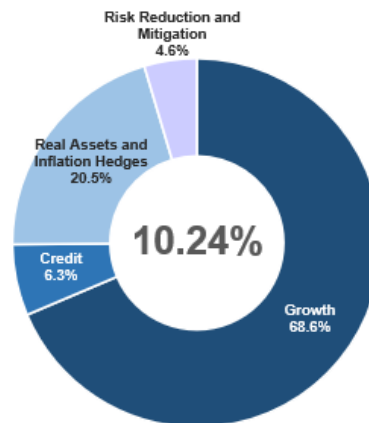
**78%**  
US  
Market Value  
Exposure



## Projected (Ex-Ante) Risks

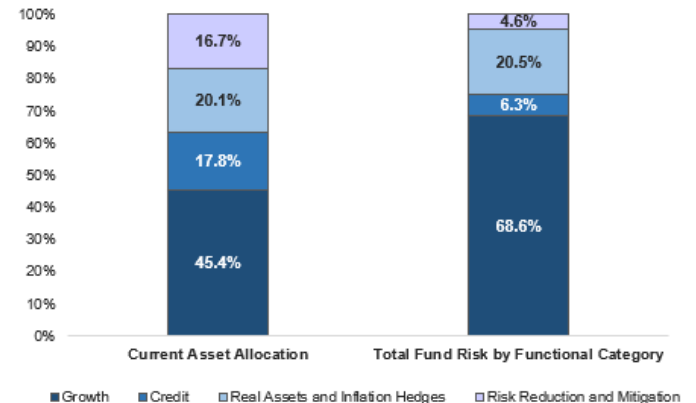


## Functional Category Contributions to OPEB Trust Risk



## OPEB Master Trust Asset Allocation

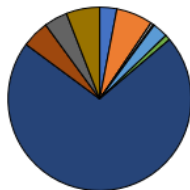
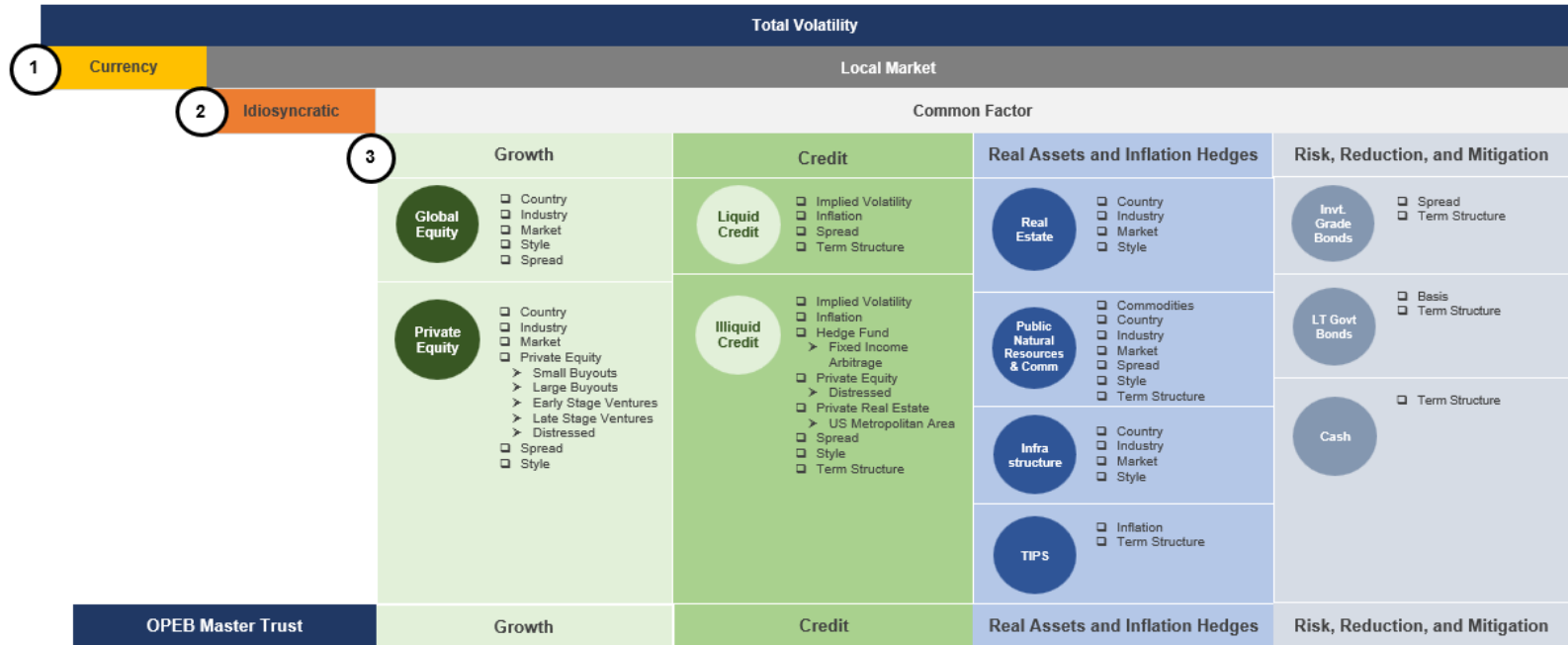
Capital-based versus Risk-based



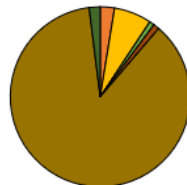
# Risk Summary

for the quarter ended March 31, 2024

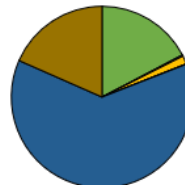
## Decomposition of MSCI Risk Factors



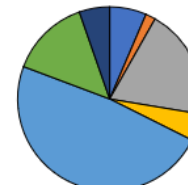
Country 3.0%  
 Currency 6.4%  
 Idiosyncratic 0.5%  
 Implied Volatility 0.2%  
 Industry 2.7%  
 Inflation 0.9%  
 Market 71.3%  
 Spread 4.8%  
 Style 4.1%  
 Term Structure 5.9%



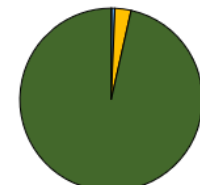
Country 2.6%  
 Currency 6.8%  
 Idiosyncratic 0.9%  
 Industry 1.1%  
 Market 86.7%  
 Style 2.0%



Currency 17.3%  
 Idiosyncratic 0.2%  
 Implied Volatility 1.5%  
 Inflation 0.1%  
 Spread 62.5%  
 Term Structure 18.4%



Country 6.5%  
 Idiosyncratic 1.8%  
 Industry 19.4%  
 Inflation 4.8%  
 Market 48.3%  
 Style 13.9%  
 Term Structure 5.4%

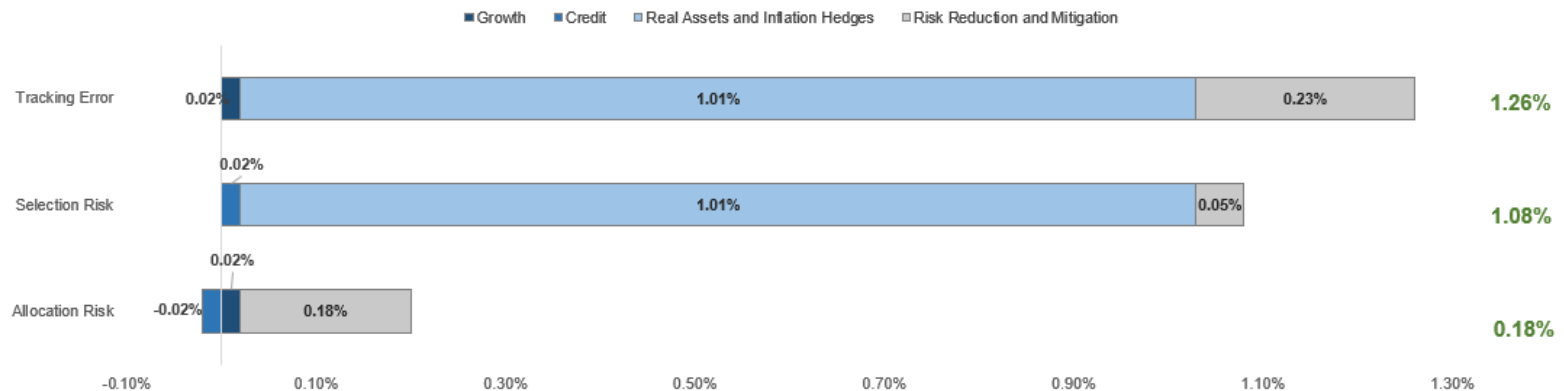


Basis -0.1%  
 Implied Volatility 0.6%  
 Spread 2.9%  
 Term Structure 96.6%

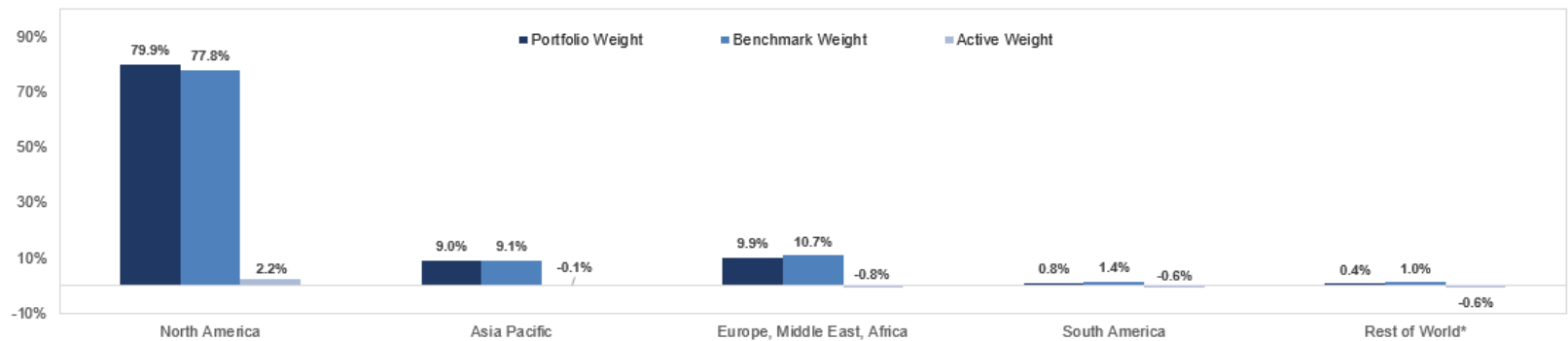
# Risk Summary

for the quarter ended March 31, 2024

## Functional Category Contributions to Tracking Error



## Portfolio Allocation by Region<sup>1</sup>

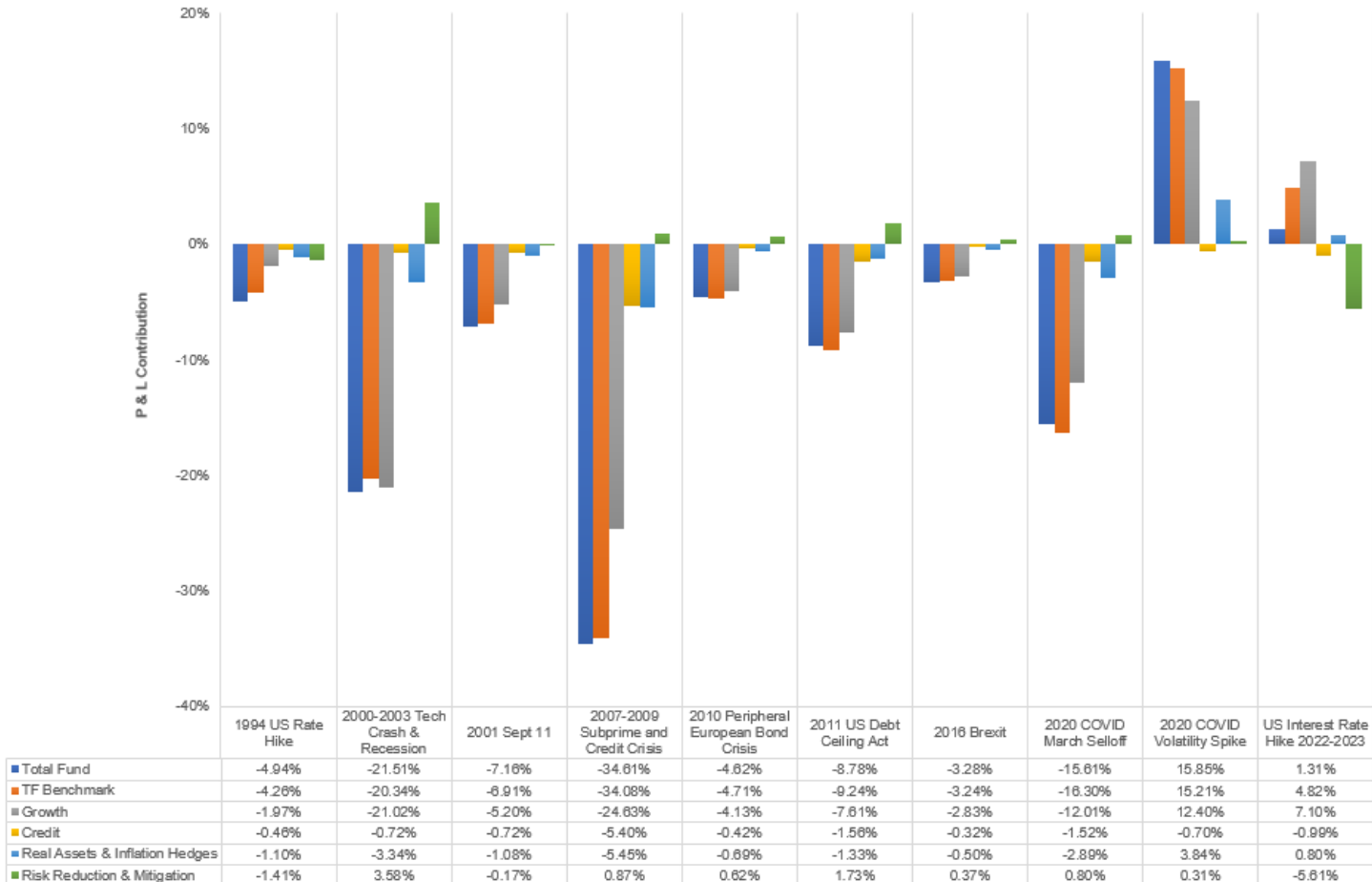


\* Rest of World is sum of countries with weights below 0.5%.

# Stress Tests









































for the quarter ended March 31, 2024

## Scenarios by Asset Category








# Stress Tests

for the quarter ended March 31, 2024

Historical Scenario	Description	Stock Market	Interest Rates	Bond Market	Commodity Market
<b>1994 US Rate Hike</b>	In combating inflation, the US Federal Reserve raised rates from 3.25% in February to 5.5% in November 1994.				
<b>2000-2003 Tech Crash &amp; Recession</b>	Period of crisis and slowdown for technological firms due to a rapid jump in stock prices when tech bubble began to burst.				
<b>2001 September 11th</b>	The US stock market was closed for a week upon a series of coordinated suicide attacks upon the US on September 11, 2001.				
<b>2008-2009 Global Financial Crisis</b>	Major financial crisis starting with the failure of several US-based financial firms. Extended into 2009, when stock markets reached their lowest.				
<b>2010 European Bond Crisis</b>	During crisis, the liquidity access for peripheral countries was affected by budget deficits, high borrowing costs, and failing banking systems.				
<b>2011 US Debt Ceiling Act</b>	Political deadlock on appropriate level of US government spending and its impacts. Debt and equity markets experienced significant volatility.				
<b>2016 Brexit</b>	The referendum by British voters to exit the European Union roiled global markets causing the pound to fall to its lowest level in decades.				
<b>2020 COVID March Selloff</b>	Peak and Valley of the MSCI ACWI index when Covid became a Global Pandemic.				
<b>2020 COVID Volatility Spike</b>	Period it took for the Cboe Volatility Index (VIX) to revert to pre-pandemic levels.				
<b>2022-2023 US Rate Hike</b>	Period between March 2022 and August 2023 when the US Federal Reserve raised interest rates by 525 bps.				

## Market Trend Signals

 Up
  Slightly Up
  Neutral
  Down
  Slightly Down

# manager pages

# Growth – Global Equity BlackRock MSCI ACWI IMI

for the quarter ended March 31, 2024



Los Angeles County Employees Retirement Association

## Strategy

Seeks to provide global equity market exposure and passive index returns. This strategy may be suited to investors looking to gain passive, global equity exposures with low tracking error.

Inception Date: March 2014

### Manager Scorecard Profile

Performance	Organization & Operations	ESG	Partnership	Fees & Terms
1 to 5 (with 5 the best)	S+, S, or S- (with S+ the best)	1 to 5 (with 5 the best)	A, B, or C (with A the best)	1 to 5 (with 5 the best)
3	S	—	A	5

## Performance

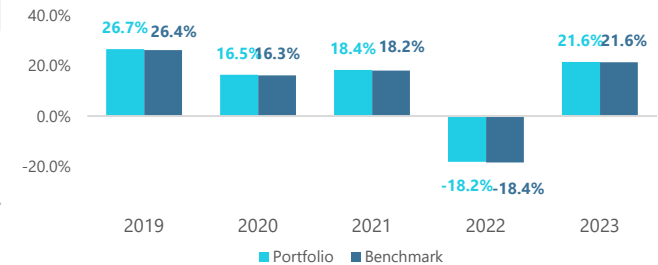
	Market Value	QTD	Rank	1 Year	Rank	3 Year	Rank	5 Year	Rank
<b>OPEB BLK Global Equities (Gross)</b>	<b>1,703.2</b>	<b>7.7%</b>	<b>31</b>	<b>22.5%</b>	<b>27</b>	<b>6.5%</b>	<b>46</b>	<b>10.8%</b>	<b>37</b>
Peer Universe Median		5.5%		16.4%		6.0%		8.7%	
<b>OPEB BLK Global Equities (Net)</b>		<b>7.7%</b>		<b>22.5%</b>		<b>6.5%</b>		<b>10.8%</b>	
MSCI ACWI IMI Net		7.7%		22.5%		6.3%		10.6%	
OPEB Growth Policy Benchmark		8.2%		22.8%		6.0%		10.4%	

Wilshire TUCS Peer Universe

Global Equity Funds

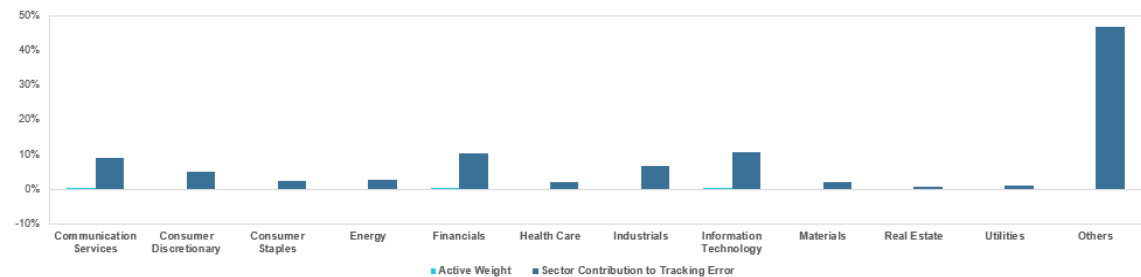
Number of observations

98



## Risk

### Sector Contribution to Tracking Error by GICS Sector



Risk Summary	Portfolio	Benchmark
Forecast Volatility	15.9%	15.8%
Forecast Tracking Error	0.1%	
Beta	1.00	

Top Countries by Weight	Portfolio Weight	Benchmark Weight	Active Weight
United States	62.6%	62.8%	-0.2%
Japan	6.0%	6.0%	-0.1%
United Kingdom	3.5%	3.5%	0.0%
Canada	2.8%	2.8%	0.0%
France	2.6%	2.7%	0.0%

# Credit – Liquid Credit

## Bank Loans

## BlackRock

for the quarter ended March 31, 2024



Los Angeles County Employees Retirement Association

### Strategy

Seeks to preserve capital and provide income by outperforming the bank loan benchmark that tracks the investable market of the US dollar denominated leveraged loan market.

Inception Date: July 2018

#### Manager Scorecard Profile

Performance	Organization & Operations	ESG	Partnership	Fees & Terms
1 to 5 (with 5 the best)	S+, S, or S- (with S+ the best)	1 to 5 (with 5 the best)	A, B, or C (with A the best)	1 to 5 (with 5 the best)
4	S	—	A	3

### Performance

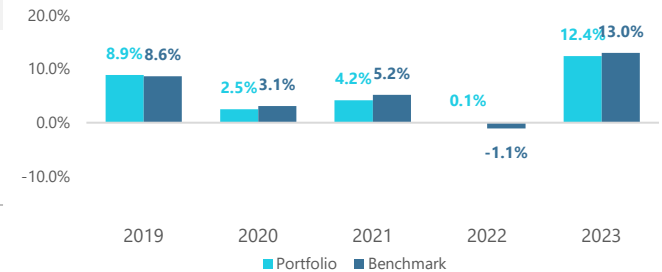
	Market Value	QTD	Rank	1 Year	Rank	3 Year	Rank	5 Year	Rank
<b>OPEB BLK Bank Loans (Gross)</b>	<b>308.4</b>	<b>2.4%</b>	<b>75</b>	<b>11.7%</b>	<b>70</b>	<b>5.7%</b>	<b>80</b>	<b>5.1%</b>	<b>80</b>
Peer Universe Median		0.0%		3.5%		0.0%		1.5%	
<b>OPEB BLK Bank Loans (Net)</b>		<b>2.3%</b>		<b>11.6%</b>		<b>5.7%</b>		<b>5.1%</b>	
OPEB Bank Loans Custom Benchmark		2.5%		12.4%		5.8%		5.4%	
OPEB Credit Policy Benchmark		2.5%		12.0%		3.2%		4.0%	

Wilshire TUCS Peer Universe

US Fixed Income Funds

Number of observations

706



### Risk

#### Sector Contribution to Tracking Error by Bond Sector



Risk Summary	Portfolio	Benchmark
Forecast Volatility	3.4%	4.1%
Forecast Tracking Error	0.9%	
Beta	0.81	

Top Countries by Weight	Portfolio Weight	Benchmark Weight	Active Weight
United States	89.8%	88.9%	0.9%
Canada	3.2%	2.5%	0.7%
Ireland	2.0%	1.5%	0.5%
Luxembourg	1.4%	2.4%	-1.1%
United Kingdom	1.1%	1.5%	-0.4%

# Credit – Liquid Credit

## High Yield

## BlackRock

for the quarter ended March 31, 2024

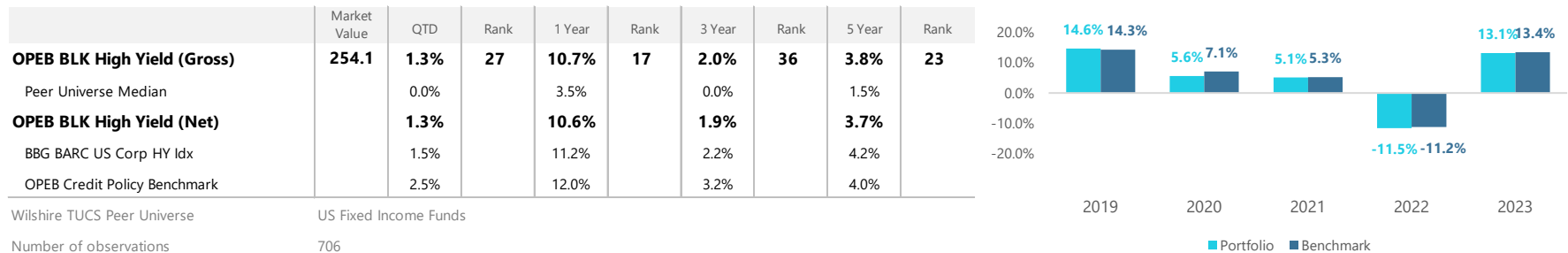
### Strategy

Tracks the Bloomberg US Corporate High Yield index, a broadly diversified portfolio, primarily composed of US dollar denominated high yield securities.

Inception Date: July 2018

Manager Scorecard Profile				
Performance	Organization & Operations	ESG	Partnership	Fees & Terms
1 to 5 (with 5 the best)	S+, S, or S- (with S+ the best)	1 to 5 (with 5 the best)	A, B, or C (with A the best)	1 to 5 (with 5 the best)
3	S	—	A	5

### Performance



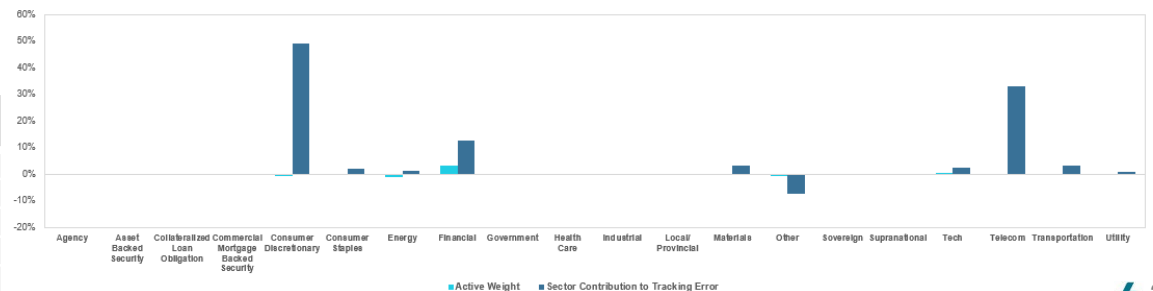
### Risk

#### Sector Contribution to Tracking Error by Bond Sector

Risk Summary	Portfolio	Benchmark
Forecast Volatility	5.3%	5.4%
Forecast Tracking Error	0.2%	
Beta	0.98	

Top Countries by Weight	Portfolio Weight	Benchmark Weight	Active Weight
United States	82.9%	82.9%	-0.1%
Canada	4.5%	4.6%	-0.2%
United Kingdom	2.3%	2.4%	-0.2%
Ireland	1.7%	1.5%	0.2%
Luxembourg	1.5%	1.4%	0.0%



# Credit – Liquid Credit

## Emerging Market Debt

### BlackRock

for the quarter ended March 31, 2024

## Strategy

Seeks to approximate the total return of an index composed of local currency denominated, emerging market sovereign bonds.

Inception Date: July 2018

Manager Scorecard Profile				
Performance	Organization & Operations	ESG	Partnership	Fees & Terms
1 to 5 (with 5 the best)	S+, S, or S- (with S+ the best)	1 to 5 (with 5 the best)	A, B, or C (with A the best)	1 to 5 (with 5 the best)
2	S	—	A	5

## Performance

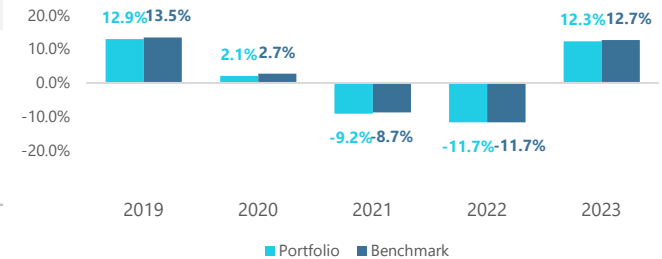
	Market Value	QTD	Rank	1 Year	Rank	3 Year	Rank	5 Year	Rank
<b>OPEB BLK EM Debt CTF (Gross)</b>	<b>103.5</b>	<b>-2.1%</b>	<b>93</b>	<b>4.7%</b>	<b>38</b>	<b>-1.8%</b>	<b>74</b>	<b>-0.1%</b>	<b>93</b>
Peer Universe Median		0.0%		3.5%		0.0%		1.5%	
<b>OPEB BLK EM Debt CTF (Net)</b>		<b>-2.2%</b>		<b>4.6%</b>		<b>-1.9%</b>		<b>-0.3%</b>	
JPM GBI-EM Global Diversified Index		-2.1%		4.9%		-1.6%		0.1%	
OPEB Credit Policy Benchmark		2.5%		12.0%		3.2%		4.0%	

Wilshire TUCS Peer Universe

US Fixed Income Funds

Number of observations

706



## Risk

Risk Summary	Portfolio	Benchmark
Forecast Volatility	8.9%	8.6%
Forecast Tracking Error	6.2%	
Beta	0.77	

Top Countries by Weight	Portfolio Weight	Benchmark Weight	Active Weight
South Africa	15.1%	2.7%	12.4%
Malaysia	13.7%	2.5%	11.2%
Indonesia	11.3%	4.6%	6.7%
Poland	11.0%	1.9%	9.2%
Thailand	10.1%	0.0%	10.1%

### Sector Contribution to Tracking Error by Bond Sector



# Real Assets & Inflation Hedges

## REITs

### BlackRock

for the quarter ended March 31, 2024

## Strategy

Invests primarily in a portfolio of US securities with the objective of approximating the total rate of return of the REIT benchmark. The index is designed to track the performance of REITs and other companies that invest directly or indirectly in real estate through development, management, or ownership, including property agencies.

Inception Date: July 2018

Manager Scorecard Profile				
Performance	Organization & Operations	ESG	Partnership	Fees & Terms
1 to 5 (with 5 the best)	S+, S, or S- (with S+ the best)	1 to 5 (with 5 the best)	A, B, or C (with A the best)	1 to 5 (with 5 the best)
3	S	—	A	5

## Performance

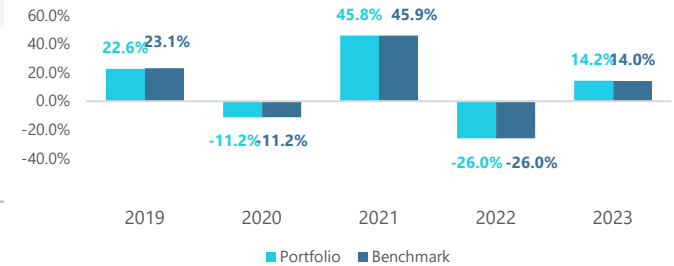
	Market Value	QTD	Rank	1 Year	Rank	3 Year	Rank	5 Year	Rank
<b>OPEB BLK REITS (Gross)</b>	<b>351.4</b>	<b>-0.4%</b>	<b>55</b>	<b>10.4%</b>	<b>18</b>	<b>3.8%</b>	<b>61</b>	<b>3.0%</b>	<b>59</b>
Peer Universe Median		0.0%		-1.6%		6.0%		4.4%	
<b>OPEB BLK REITS (Net)</b>		<b>-0.4%</b>		<b>10.4%</b>		<b>3.7%</b>		<b>2.9%</b>	
DJ US SELECT REAL ESTATE SECURITIES		-0.4%		10.6%		3.7%		3.0%	
OPEB RA & IH Policy Benchmark		-1.1%		-1.8%		2.3%		3.0%	

Wilshire TUCS Peer Universe

Real Estate Funds

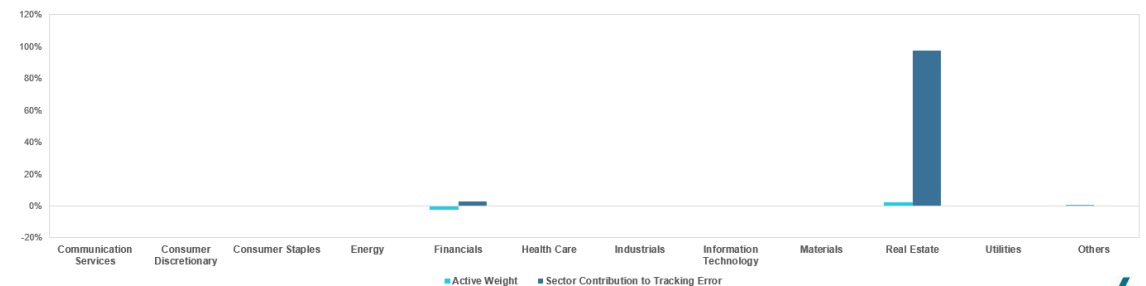
Number of observations

317



## Risk

### Sector Contribution to Tracking Error by GICS Sector



Risk Summary	Portfolio	Benchmark
Forecast Volatility	22.2%	21.9%
Forecast Tracking Error	2.4%	
Beta	1.01	

Top Countries by Weight	Portfolio Weight	Benchmark Weight	Active Weight
United States	100%	100%	0%

# Real Assets & Inflation Hedges

Commodities

BlackRock

for the quarter ended March 31, 2024



Los Angeles County Employees Retirement Association

## Strategy

Invests in two strategies, approximately equally. One strategy focuses on commodity-linked derivatives, while the other focuses on equity investments in commodity-related companies, including mining, energy, and agricultural companies.

Inception Date: July 2018

### Manager Scorecard Profile

Performance	Organization & Operations	ESG	Partnership	Fees & Terms
1 to 5 (with 5 the best)	S+, S, or S- (with S+ the best)	1 to 5 (with 5 the best)	A, B, or C (with A the best)	1 to 5 (with 5 the best)
4	S	—	A	5

## Performance

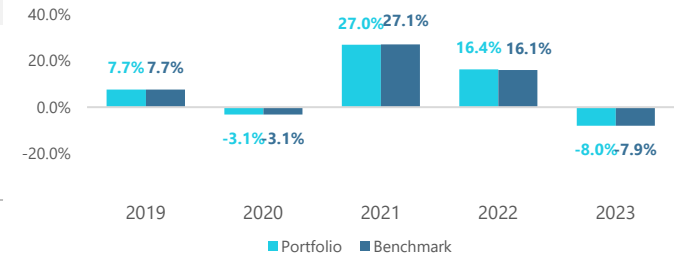
	Market Value	QTD	Rank	1 Year	Rank	3 Year	Rank	5 Year	Rank
<b>OPEB BLK Commodities CTF (Gross)</b>	<b>143.2</b>	<b>2.3%</b>	<b>36</b>	<b>-0.4%</b>	<b>67</b>	<b>9.3%</b>	<b>50</b>	<b>6.6%</b>	<b>72</b>
Peer Universe Median		0.2%		1.3%		9.0%		8.6%	
<b>OPEB BLK Commodities CTF (Net)</b>		<b>2.3%</b>		<b>-0.5%</b>		<b>9.2%</b>		<b>6.4%</b>	
Bloomberg Commodity Index Total Return		2.2%		-0.6%		9.1%		6.4%	
OPEB RA & IH Policy Benchmark		-1.1%		-1.8%		2.3%		3.0%	

Wilshire TUCS Peer Universe

Commodity Funds

Number of observations

11



## Risk

### Sector Contribution to Tracking Error by GICS Sector

Risk Summary	Portfolio	Benchmark
Forecast Volatility	0.0%	12.6%
Forecast Tracking Error	12.6%	
Beta	0.00	

Top Countries by Weight	Portfolio Weight	Benchmark Weight	Active Weight
Commingled Fund <sup>1</sup>	100%	0%	100%

<sup>1</sup> Commingled fund account with no position-level transparency.



# Real Assets & Inflation Hedges

## TIPS

### BlackRock

for the quarter ended March 31, 2024



Los Angeles County Employees Retirement Association

## Strategy

Invests in inflation-protected public obligations of the US Treasury that have a remaining maturity greater than or equal to 1 year and less than 10 years.

Inception Date: July 2018

### Manager Scorecard Profile

Performance	Organization & Operations	ESG	Partnership	Fees & Terms
1 to 5 (with 5 the best)	S+, S, or S- (with S+ the best)	1 to 5 (with 5 the best)	A, B, or C (with A the best)	1 to 5 (with 5 the best)
3	S	—	A	5

## Performance

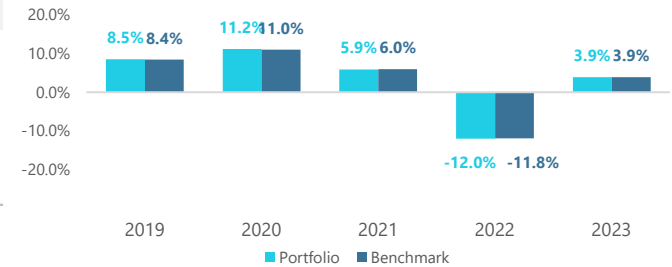
	Market Value	QTD	Rank	1 Year	Rank	3 Year	Rank	5 Year	Rank
<b>OPEB BLK TIPS (Gross)</b>	<b>252.4</b>	<b>0.0%</b>	<b>60</b>	<b>0.3%</b>	<b>81</b>	<b>-0.6%</b>	<b>57</b>	<b>2.5%</b>	<b>29</b>
Peer Universe Median		0.0%		3.5%		0.0%		1.5%	
<b>OPEB BLK TIPS (Net)</b>		<b>0.0%</b>		<b>0.3%</b>		<b>-0.6%</b>		<b>2.5%</b>	
Bloomberg U.S. Treasury: U.S. TIPS		-0.1%		0.5%		-0.5%		2.5%	
OPEB RA & IH Policy Benchmark		-1.1%		-1.8%		2.3%		3.0%	

Wilshire TUCS Peer Universe

US Fixed Income Funds

Number of observations

706

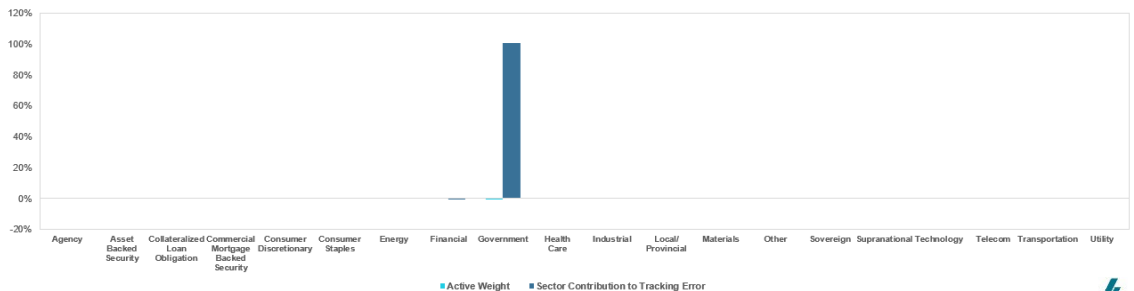


## Risk

### Sector Contribution to Tracking Error by Bond Sector

Risk Summary	Portfolio	Benchmark
Forecast Volatility	6.3%	6.3%
Forecast Tracking Error	0.1%	
Beta	0.99	

Top Countries by Weight	Portfolio Weight	Benchmark Weight	Active Weight
United States	100%	100%	0%



# Risk Reduction & Mitigation

## Investment Grade Bonds

### BlackRock

for the quarter ended March 31, 2024



Los Angeles County Employees Retirement Association

## Strategy

Tracks the Bloomberg US Aggregate Bond index, a broad, market capitalization-weighted bond market index representing investment grade bonds traded in the US.

Inception Date: July 2018

### Manager Scorecard Profile

Performance	Organization & Operations	ESG	Partnership	Fees & Terms
1 to 5 (with 5 the best)	S+, S, or S- (with S+ the best)	1 to 5 (with 5 the best)	A, B, or C (with A the best)	1 to 5 (with 5 the best)
2	S	—	A	5

## Performance

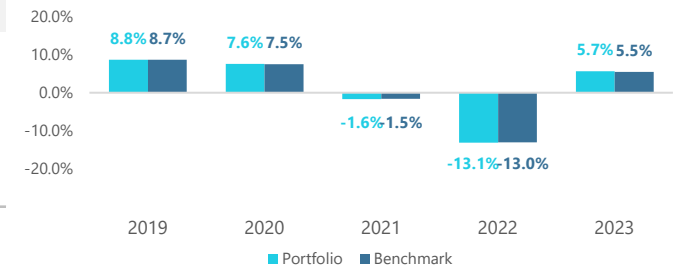
	Market Value	QTD	Rank	1 Year	Rank	3 Year	Rank	5 Year	Rank
<b>OPEB BLK IG Bonds (Gross)</b>	<b>388.7</b>	<b>-0.7%</b>	<b>81</b>	<b>1.7%</b>	<b>74</b>	<b>-2.4%</b>	<b>83</b>	<b>0.4%</b>	<b>85</b>
Peer Universe Median		0.0%		3.5%		0.0%		1.5%	
<b>OPEB BLK IG Bonds (Net)</b>		<b>-0.7%</b>		<b>1.7%</b>		<b>-2.4%</b>		<b>0.4%</b>	
BBG BARC Agg		-0.8%		1.7%		-2.5%		0.4%	
OPEB RR & M Policy Benchmark		-1.3%		0.1%		-2.5%		0.1%	

Wilshire TUCS Peer Universe

US Fixed Income Funds

Number of observations

706



## Risk

Risk Summary	Portfolio	Benchmark
Forecast Volatility	6.4%	5.4%
Forecast Tracking Error	5.5%	
Beta	0.69	

Top Countries by Weight	Portfolio Weight	Benchmark Weight	Active Weight
United States	92.8%	82.9%	9.9%
Canada	1.3%	4.6%	-3.4%
United Kingdom	1.2%	2.4%	-1.2%
Japan	0.6%	0.3%	0.4%
Germany	0.3%	0.4%	-0.1%

### Sector Contribution to Tracking Error by Bond Sector



# Risk Reduction & Mitigation Long-Term Government Bonds BlackRock

for the quarter ended March 31, 2024



Los Angeles County Employees Retirement Association

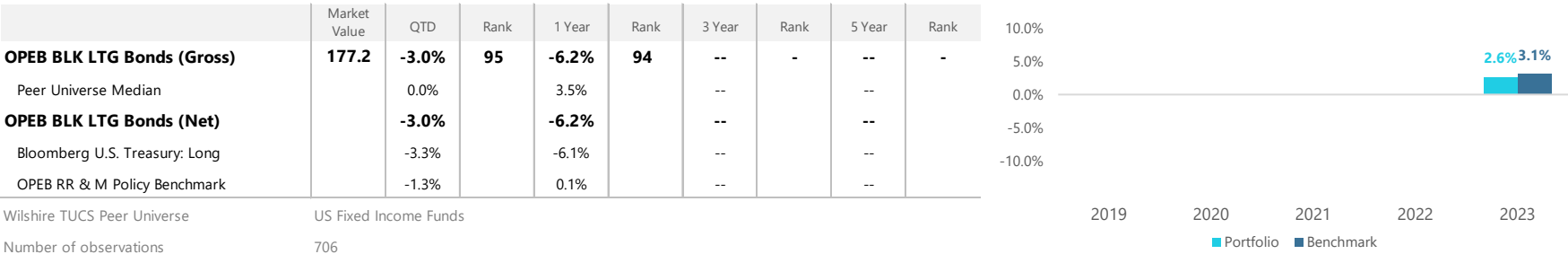
## Strategy

Seeks to approximate the return of US dollar-denominated, fixed rate, nominal debt issued by the US Treasury with a maturity greater than 10 years.

Inception Date: December 2022

Manager Scorecard Profile				
Performance	Organization & Operations	ESG	Partnership	Fees & Terms
1 to 5 (with 5 the best)	S+, S, or S- (with S+ the best)	1 to 5 (with 5 the best)	A, B, or C (with A the best)	1 to 5 (with 5 the best)
3	S	—	A	5

## Performance



## Risk

Risk Summary	Portfolio	Benchmark
Forecast Volatility	14.3%	14.3%
Forecast Tracking Error	0.0%	
Beta	1.00	

Top Countries by Weight	Portfolio Weight	Benchmark Weight	Active Weight
United States	100%	100%	0%

### Sector Contribution to Tracking Error by Bond Sector



# compliance monitor

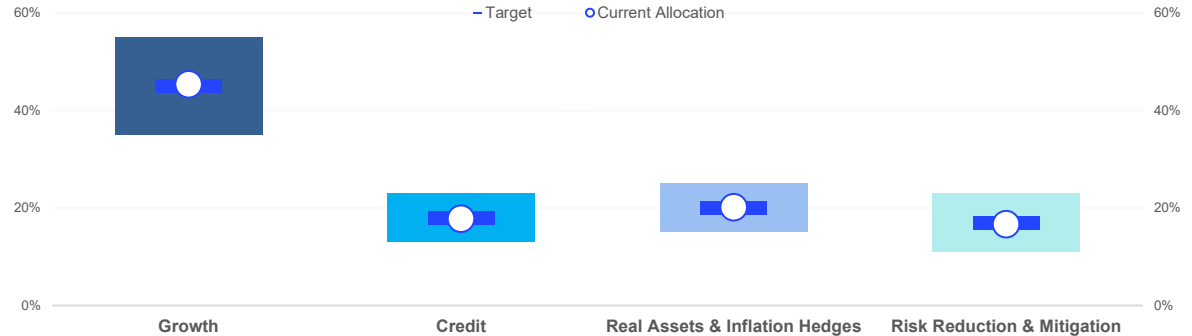
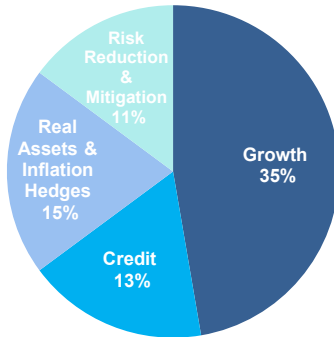
# Compliance Monitor

for the quarter ended March 31, 2024



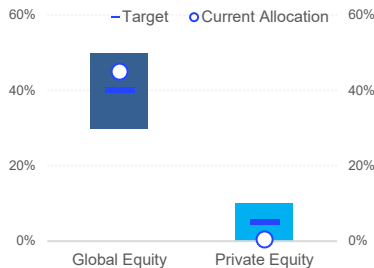
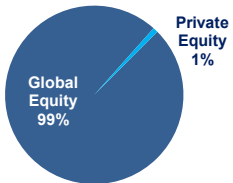
Los Angeles County Employees Retirement Association

## OPEB Master Trust Asset Allocation, Policy Ranges, and Targets

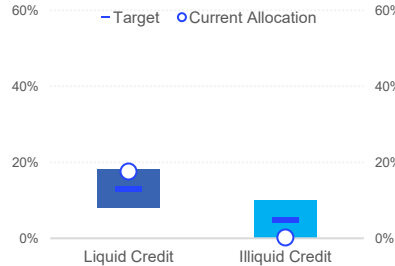
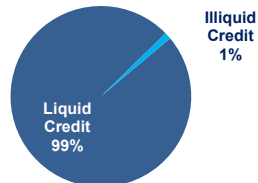


## Q1 2024 Compliance Overview by Functional and Sub-asset Category

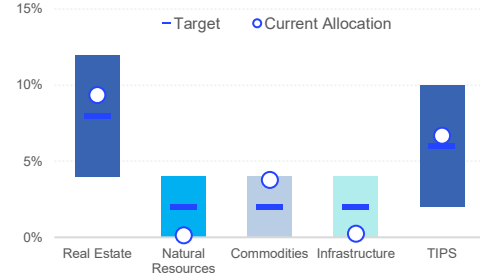
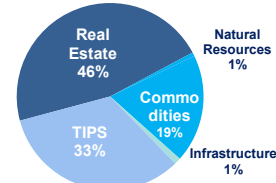
**Growth**  
3 Advisories  
0 Exceptions



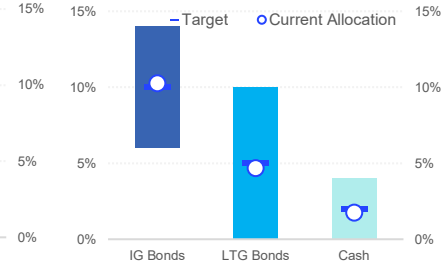
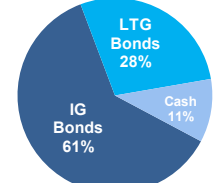
**Credit**  
1 Advisory  
0 Exceptions



**Real Assets & Inflation Hedges**  
0 Advisories  
2 Exceptions



**Risk Reduction & Mitigation**  
1 Advisory  
0 Exceptions



# Compliance Monitor

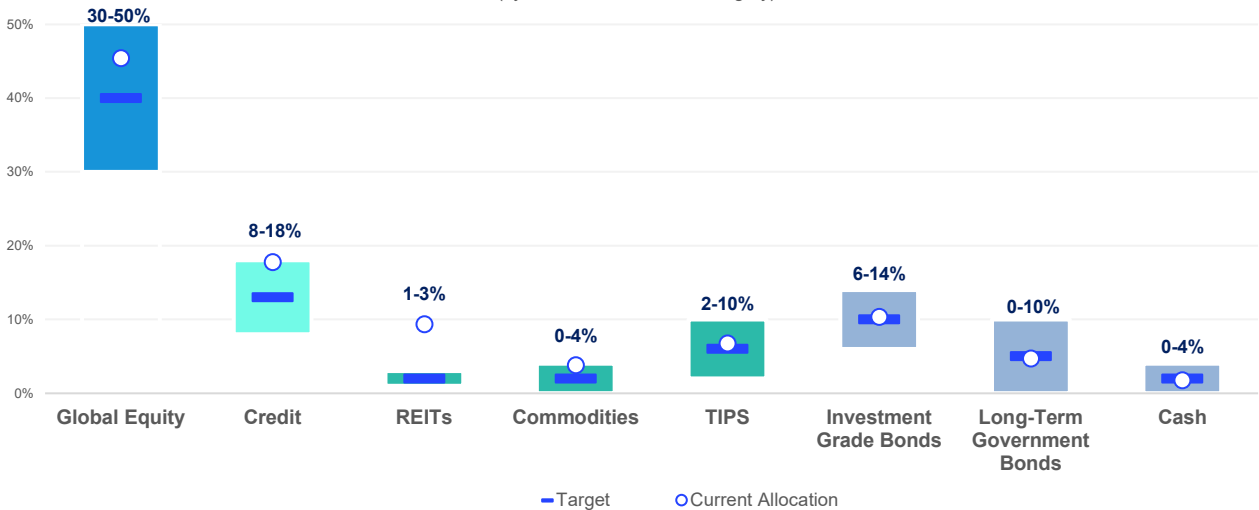
for the quarter ended March 31, 2024



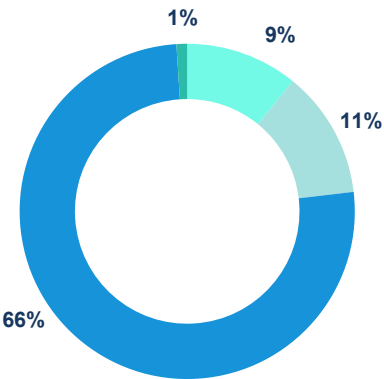
Los Angeles County Employees Retirement Association

## OPEB Master Trust – Public Markets

OPEB Master Trust Public Market Allocation  
(by functional sub-asset category)



Region Exposure



Asia Pacific EMEA North America South America

## Q1 2024 Compliance Review Status

Advisories Reviewed?	Count	Exceptions Y/N?	Count
✓	—	Y	1
✓	—	N	—
✓	3	N	—
✓	—	N	—

### Asset Allocation Compliance

### Investment Manager Compliance

Economic Substitution  
(Iran, Sudan, Tobacco)

Restricted Investments  
(Los Angeles County, District and Agency)

### Notes

Exception 1: REITs were above the policy range by 6%. Allocations may fall outside of defined ranges as capital is deployed from public to private markets, reflecting the Board-approved strategic transition.

Advisory 1: 11 Iran issuers totaling 5.4 million in market value (8 issuers in Global Equity, 3 issuers in Investment-Grade Bonds).

Advisory 2: 2 Sudan issuers totaling 233.5 thousand in market value in Global Equity.

Advisory 3: 16 Tobacco issuers totalling 8.6 million in market value (10 issuers in Global Equity, 3 issuers in High Yield Bonds, 3 in Investment Grade Bonds).

# Compliance Monitor

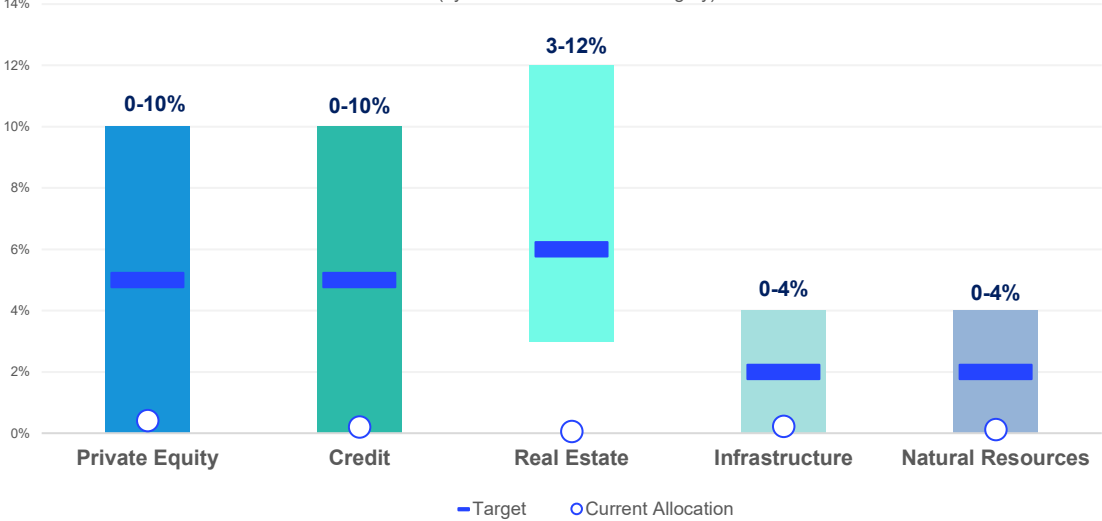
for the quarter ended March 31, 2024



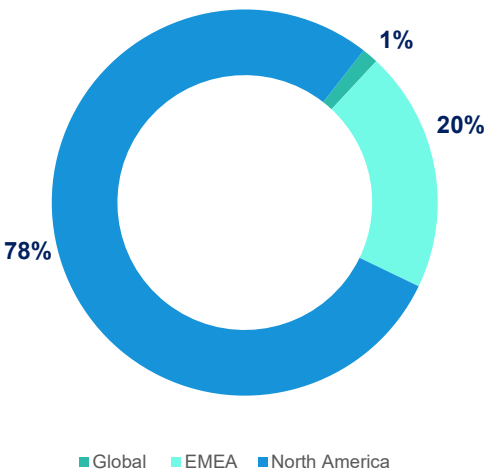
Los Angeles County Employees Retirement Association

## OPEB Master Trust – Private Markets

OPEB Master Trust Private Market Allocation  
(by functional sub-asset category)



Region Exposure



## Q1 2024 Compliance Review Status

Advisories Reviewed?	Count	Exceptions Y/N?	Count
✓	—	Y	1
✓	—	N	—
✓	—	N	—
✓	—	N	—
✓	—	N	—

Asset Allocation Compliance
Investment Manager Compliance
Manager Concentration
Restricted Investments (Privatization)
Strategy

Notes
Exception 1: Private Real Estate was below the policy range by 3%. Allocations may fall outside of defined ranges as capital is deployed from public to private markets, reflecting the Board-approved strategic transition.

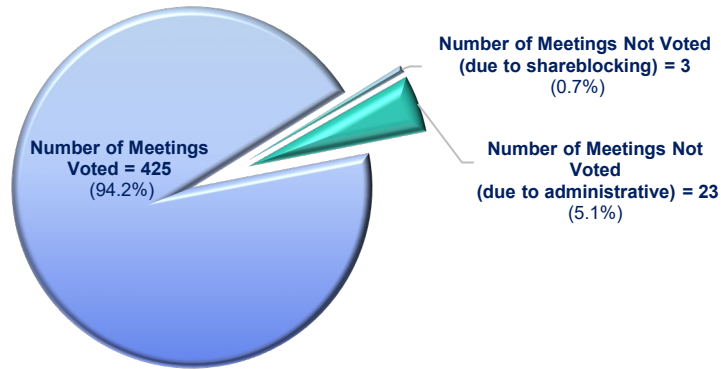
# Compliance Monitor

for the quarter ended March 31, 2024

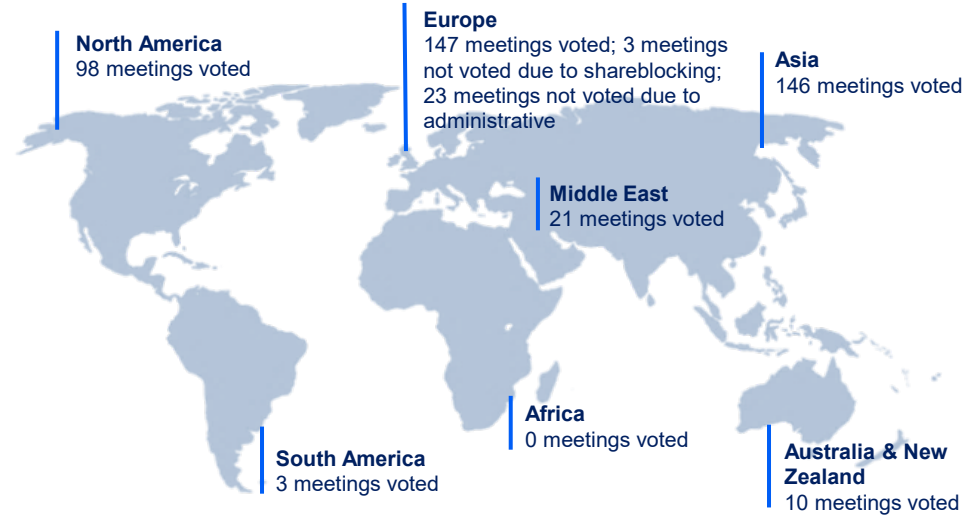
## Special Programs and Investment Operations

### Proxy Voting

#### Meetings Voted vs. Not-Voted



#### Meetings Voted vs. Not-Voted



#### OPEB Private Market Program

##### Calendar YTD Commitments by Asset Class (as of March 31, 2024)



#### Paid Tax Reclaims

**\$0\***  
Calendar YTD Total

#### Pending Tax Reclaims

**\$177,595**  
Calendar YTD Total

#### Special Projects

Strategic Asset Allocation Implementation	In Progress
Fee Reconciliation Project	Q4 2024
Investment Manager Meeting Requests	No Advisory Noted
Annual Assessment of IC Meetings	Q1 2025

\*No taxes reclaimed as of 3/31/2024 due to several commingled funds converting to separately-managed accounts at the end of 2023.

# Compliance Monitor

for the quarter ended March 31, 2024



Los Angeles County Employees Retirement Association

## Reference Guide

### General Information

**Overview and Purpose:** This report is delivered to the Board of Investments every quarter as a means of oversight; ensuring that asset category and investment manager activity align with established guidelines. It is a tool to monitor adherence, ensure transparency, and facilitate communication of investment and operational activities.

### Methodology

- Data collected from multiple sources including: LACERA's custodian, MSCI BarraOne Risk platform, Investment Consultant and Manager reports.
- Analysis period for private market allocations may exhibit a lag and is reported based on best available data.
- Region Exposure graphs based on country of domicile.

### Terms

- "Advisory" is a monitoring measure and does not equate to a compliance exception.
- "Exception" refers to instances where investment activity falls outside of predefined guidelines, prompting a need for further review.
- "Asset Allocation Compliance" measures actual asset allocation versus investment policy target weights and ranges.
- "Program Guideline Compliance" assesses asset category level guidelines.
- "Investment Guideline Compliance" measures investment manager guideline compliance as established in investment manager agreements.
- "Economic Substitution Policy" LACERA policy on Iran, Sudan, Tobacco: Manager should refrain from purchasing securities when the same investment goals concerning risk, return, and diversification can be achieved through the purchase of another security.
- For Investment Manager Meeting Requests, an "Advisory" is noted if the CEO or a Board member recommends staff to meet with a specific manager three or more times in a year.  
The purpose of notifying the activity is to promote transparency and governance best practices designed to preserve the integrity of the decision-making process.

# manager scorecard



Los Angeles County Employees Retirement Association

## OPEB TRUST MANAGER SCORECARD

1st Quarter 2024

<div>L.A. CERA</div> <div>Los Angeles County Employees Retirement Association</div> <div>OPEB TRUST MANAGER SCORECARD</div> <div>1st Quarter 2024</div>			Performance	Organization & Operations	ESG	Partnership	Fees & Terms	
			1 to 5 (with 5 the best)	S+, S, or S- (with S+ the best)	1 to 5 (with 5 the best)	A, B, or C (with A the best)	1 to 5 (with 5 the best)	
			SCORE	SCORE	SCORE	SCORE	SCORE	
Manager	Market Value (in \$ millions)	% of Trust						
PUBLIC MARKETS	BLACKROCK							
	Bank Loans SMA	308.4	8.1%	4	S	—	A	3
	Commodities CTF	143.2	3.8%	4	S	—	A	5
	EM Debt CTF	103.5	2.7%	2	S	—	A	5
	Global Equities SMA	1,703.2	45.0%	3	S	—	A	5
	High Yield SMA	254.1	6.7%	3	S	—	A	5
	Investment Grade Bonds SMA	388.7	10.3%	2	S	—	A	5
	Long-Term Government Bonds SMA	177.2	4.7%	* 3	S	—	A	5
	REITs SMA	351.4	9.3%	3	S	—	A	5
	TIPS SMA	252.4	6.7%	3	S	—	A	5
STATE STREET GLOBAL ADVISORS								
	Enhanced Cash SMA	103.6	2.7%	4	S	—	B	5
PRIVATE MARKETS	HAMILTON LANE							
	HL PM Program	39.7	1.0%	* 3	S+	+	B	3

- Exceeds 3-Year Net Excess Return
- Meets 3-Year Net Excess Return
- Below 3-Year Net Excess Return

- For Organization, ESG, and Partnership**
- Downgrade from the prior quarter
  - Upgrade from the prior quarter

### Footnotes

Pillar methodologies in refinement and may evolve over time

### Category Descriptions

#### Performance

Quarterly score based on a manager's performance relative to its benchmark

\*' denotes a manager with an inception date of less than 3 years, resulting in a neutral score of 3

Circle icons reflect trailing 3-year net excess returns against the manager's benchmark above or below a specified range

#### Organization & Operations

Includes factors such as organization, professional staff, diversity & inclusion, investment philosophy & process, risk management, legal & compliance framework

'S' stands for Satisfactory

#### ESG

Evaluates the extent to which material ESG factors are identified, assessed, and incorporated into risk/return analysis and portfolio construction

'—' denotes passive index funds and cash where ESG scores are not relevant and/or reflect strategies that do not incorporate active decisions, including ESG considerations, in portfolio construction

+' denotes mandates where ESG scores are currently under review

#### Partnership

Blended score based on:

- Value added services – e.g., providing education, distributing research, and performing analytics on portfolio
- Client service – e.g., responsiveness, timeliness, competency, and approach
- Size of LACERA's investment relative to the firm's assets under management

#### Fees & Terms

Compared to a benchmark of median fees by asset category and/or investment structure

# appendix

# Benchmark Definitions

## Current Composition

	Weight	Component
<b>Master Trust</b>		
OPEB Master Trust Policy Benchmark		
	45%	OPEB Growth Policy Benchmark
	18%	OPEB Credit Policy Benchmark
	20%	OPEB RA & IH Policy Benchmark
	17%	OPEB RR & M Policy Benchmark
<b>Growth</b>		
OPEB Growth Policy Benchmark		
	89%	MSCI ACWI IMI Net
	11%	OPEB Private Equity Policy Benchmark
<b>Credit</b>		
OPEB Credit Policy Benchmark		
	72%	OPEB Liquid Credit Policy Benchmark
	28%	OPEB Illiquid Credit Policy Benchmark
OPEB Liquid Credit Policy Benchmark		
	38%	Bloomberg U.S. Corporate High Yield
	46%	CS Leveraged Loan Index
	8%	JPMorgan EMBI Global Diversified Index
	4%	JPM GBI-EM Global Diversified Index
	4%	JPM CEMBI Broad Diversified
<b>Real Assets &amp; Inflation Hedges</b>		
OPEB RA & IH Policy Benchmark		
	40%	OPEB Real Estate Policy Benchmark
	10%	S&P Global Natural Resources Index
	10%	Bloomberg Commodity Index Total Return
	10%	DJ Brookfield Global Infra Comp
	30%	Bloomberg U.S. Treasury: U.S. TIPS
<b>Risk Reduction &amp; Mitigation</b>		
OPEB RR & M Policy Benchmark		
	59%	Bloomberg U.S. Aggregate
	29%	Bloomberg U.S. Treasury: Long
	12%	OPEB Cash Policy Benchmark
OPEB Cash Policy Benchmark		
	100%	FTSE 3-Month US Treasury Bill

## A

### ANNUAL RETURN

The total return of a security over a specified period, expressed as an annual rate of interest.

### ACTIVE RISK

The expected standard deviation of the differential return between the portfolio and the benchmark. Active total risk arises from active management, and it is the result of active weights (deviations from the benchmark at the asset level) and therefore active exposures; for passively managed portfolios, it is referred to as “total tracking error.”

### ACTIVE RISK CONTRIBUTION

Percent contribution to active total risk (or tracking error). The percent of active total risk that an individual asset or risk source contributes. For example, a % CR to Active Total Risk of 10% indicates that 10% of the portfolio's active total risk is arising from the active position in that particular asset.

## B

### BASIS POINTS (BPS)

One one-hundredth of one percent. One hundred basis points equal one percent.

### BETA

A measure of the volatility of a stock relative to the overall market. A beta of less than one indicates lower risk than the market; a beta of more than one indicates higher risk than the market.

## D

### DURATION

A measure of the price sensitivity of a bond portfolio to changes in interest rates.

## F

### FUTURES CONTRACT

Agreement to buy or sell a specific amount of a commodity or financial instrument at a particular price and a stipulated future date.

## H

### HIGH YIELD BOND

A bond with a low investment quality and credit worthiness, usually with a rating of BB or less.

## I

### INFORMATION RATIO

The excess return (alpha) per unit of active risk (tracking error).

### INTERNAL RATE OF RETURN (IRR)

A total rate of return that gives full weight to the size and timing of cash flows over the period measured and fully reflects unrealized gains and losses in addition to realized gains and losses, interest and dividend income.

## M

### MC TO TOTAL TRACKING ERROR

This value represents the change in the active risk of an asset's portfolio or group that would result from a one percent increase in the asset's effective position plus an equal short position in the benchmark.

## S

### SHARPE RATIO

Average return earned in excess of the risk-free rate per unit of total risk.

### STANDARD DEVIATION

Statistical measure of the degree to which an individual value in a probability distribution tends to vary from the mean of the distribution. The greater the degree of dispersion, the greater the risk.

## T

### TIME-WEIGHTED RETURN (TWR)

A measure of the compound rate of growth in a portfolio. Often used to compare the returns of investment managers because it eliminates the distorting effects on growth rates created by inflows and outflows of money.

### TOTAL RISK

The total (gross) risk to an asset (or portfolio), which is the standard deviation of the asset's total return distribution, expressed in percent. Total risk is forecasted using MSCI Barra's multiple factor models. The total risk for an asset depends on the asset's exposures to the risk factors, the factor variance/covariance matrix, and the forecast selection risk of the asset.

### TOTAL RISK CONTRIBUTION

The percent of total risk that an individual asset or risk source contributes. For example, a % CR to Total Risk of 10% indicates that 10% of the portfolio's total risk is arising from the portfolio's position in that particular asset.

## Y

### YIELD TO MATURITY

The return a bond earns on the price at which it was purchased if it were held to maturity. It assumes that coupon payments can be reinvested at the yield to maturity.