



Los Angeles County Employees Retirement Association

# Investments Division

## OPEB MASTER TRUST

## PERFORMANCE REPORT

For the quarter ended  
December 31, 2021

An aerial photograph of Los Angeles at sunset. The city skyline is visible in the background, with the sun setting behind the mountains, creating a warm, orange and pink glow. The foreground shows residential areas with palm trees and a river or canal.

review

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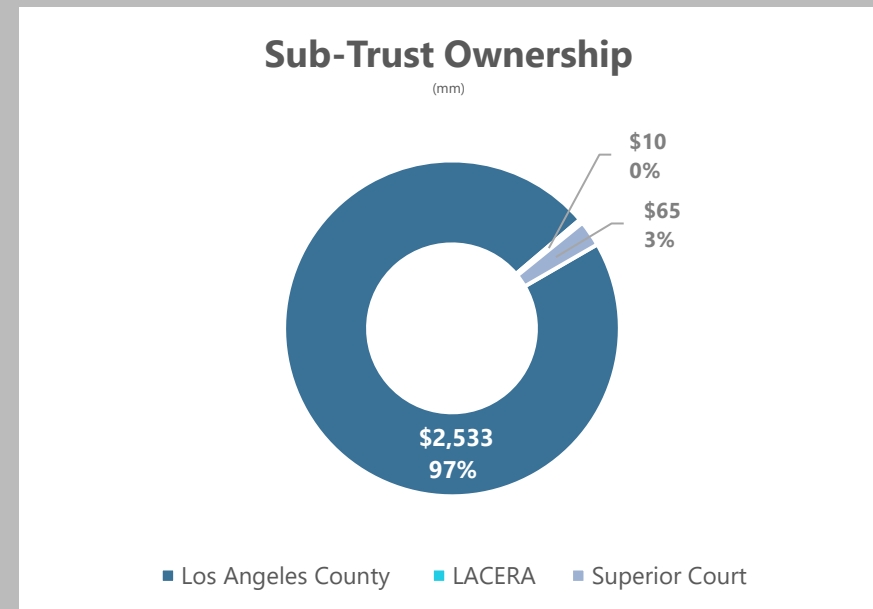
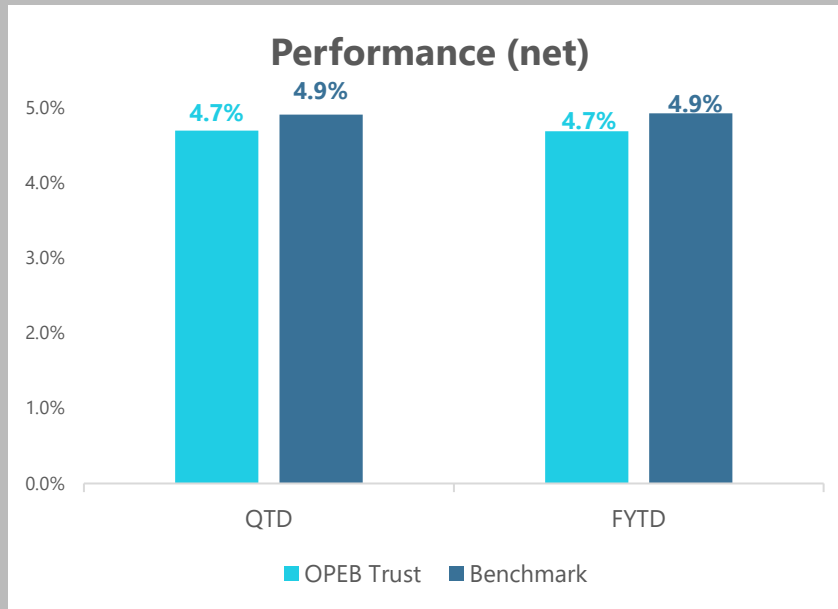
**03** APPENDIX

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# opeb trust

# Quarterly Snapshot

for the quarter ended December 31, 2021



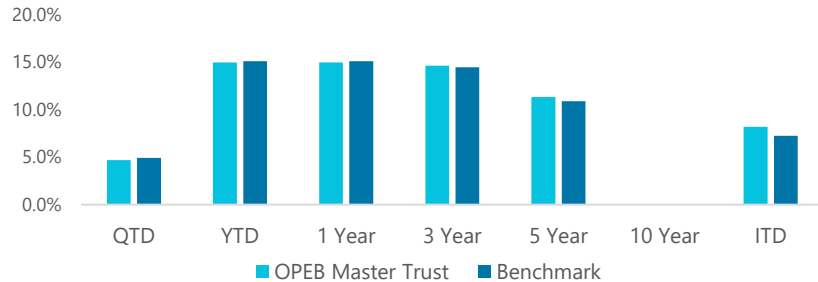
|   |  |   |  |   |
|---|--|---|--|---|
| <h4>Ending Market Value</h4> <p><b>2,608</b></p> <p>↑ 9%<br/>from prior quarter</p> | <h4>Sharpe Ratio<sup>1</sup></h4> <p><b>1.07</b></p> <p>↑ 56%<br/>from prior quarter</p> | <h4>Batting Average<sup>2</sup></h4> <p><b>10%</b></p> <p>↓ -65%<br/>from prior quarter</p> | <h4>Standard Deviation<sup>1</sup></h4> <p><b>12.6</b></p> <p>↓ -5%<br/>from prior quarter</p> | <h4>Tracking Error<sup>1</sup></h4> <p><b>0.3</b></p> <p>↓ -9%<br/>from prior quarter</p> |
|---|--|---|--|---|

1. 3-year annualized.  
2. Percentage of managers that outperformed the benchmark for the quarter.

# Summary

for the quarter ended December 31, 2021

## Performance (net)



|                          | QTD         | YTD          | 1 Year       | 3 Year       | 5 Year       | 10 Year | ITD         |
|--------------------------|-------------|--------------|--------------|--------------|--------------|---------|-------------|
| <b>OPEB Master Trust</b> | <b>4.7%</b> | <b>15.0%</b> | <b>15.0%</b> | <b>14.6%</b> | <b>11.3%</b> | --      | <b>8.2%</b> |
| Benchmark                | 4.9%        | 15.1%        | 15.1%        | 14.5%        | 10.9%        | --      | 7.2%        |
| Excess                   | -0.2%       | -0.1%        | -0.1%        | 0.1%         | 0.4%         | --      | 1.0%        |
| Sub-Trusts               |             |              |              |              |              |         |             |
| Los Angeles County       | 4.7%        | 15.0%        | 15.0%        | 14.6%        | 11.3%        | --      | 7.6%        |
| LACERA                   | 4.7%        | 14.9%        | 14.9%        | 14.6%        | 11.4%        | --      | 7.7%        |
| Superior Court           | 4.8%        | 14.9%        | 14.9%        | 14.5%        | 10.9%        | --      | 10.4%       |

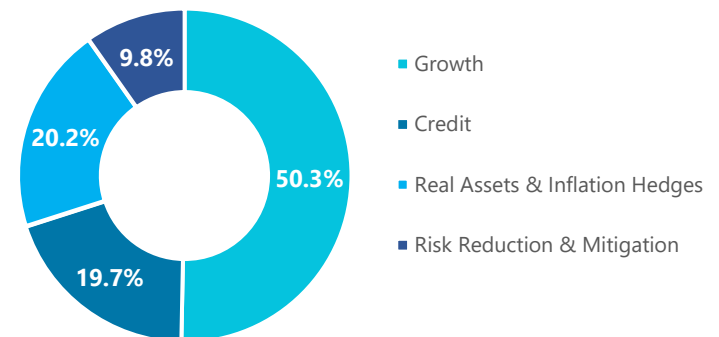
## Cumulative Return



## Functional Category

|  | QTD          | FYTD         | 1 Year       | 3 Year       | 5 Year       |
|--|--------------|--------------|--------------|--------------|--------------|
| <b>OPEB Growth</b>                             | <b>6.2%</b>  | <b>5.0%</b>  | <b>18.4%</b> | <b>20.5%</b> | <b>14.4%</b> |
| OPEB MT Growth Policy BM                       | 6.1%         | 4.9%         | 18.2%        | 20.2%        | 14.1%        |
| Excess   | 0.0%         | 0.1%         | 0.2%         | 0.3%         | 0.3%         |
| <b>OPEB Credit</b>                             | <b>0.0%</b>  | <b>0.0%</b>  | <b>1.7%</b>  | <b>5.4%</b>  | --           |
| OPEB MT Credit Policy BM                       | 0.4%         | 0.6%         | 2.7%         | 6.0%         | --           |
| Excess   | -0.5%        | -0.6%        | -1.0%        | -0.6%        | --           |
| <b>OPEB Real Assets &amp; Inflation Hedges</b> | <b>8.8%</b>  | <b>11.5%</b> | <b>29.3%</b> | <b>13.5%</b> | --           |
| OPEB MT RA & IH Policy BM                      | 8.9%         | 11.6%        | 29.5%        | 13.4%        | --           |
| Excess   | -0.1%        | -0.2%        | -0.2%        | 0.0%         | --           |
| <b>OPEB Risk Reduction &amp; Mitigation</b>    | <b>-0.1%</b> | <b>0.0%</b>  | <b>-1.3%</b> | <b>4.1%</b>  | <b>3.3%</b>  |
| OPEB MT RR & M Policy BM                       | 0.0%         | 0.1%         | -1.2%        | 4.0%         | 3.1%         |
| Excess   | -0.1%        | 0.0%         | -0.1%        | 0.1%         | 0.2%         |

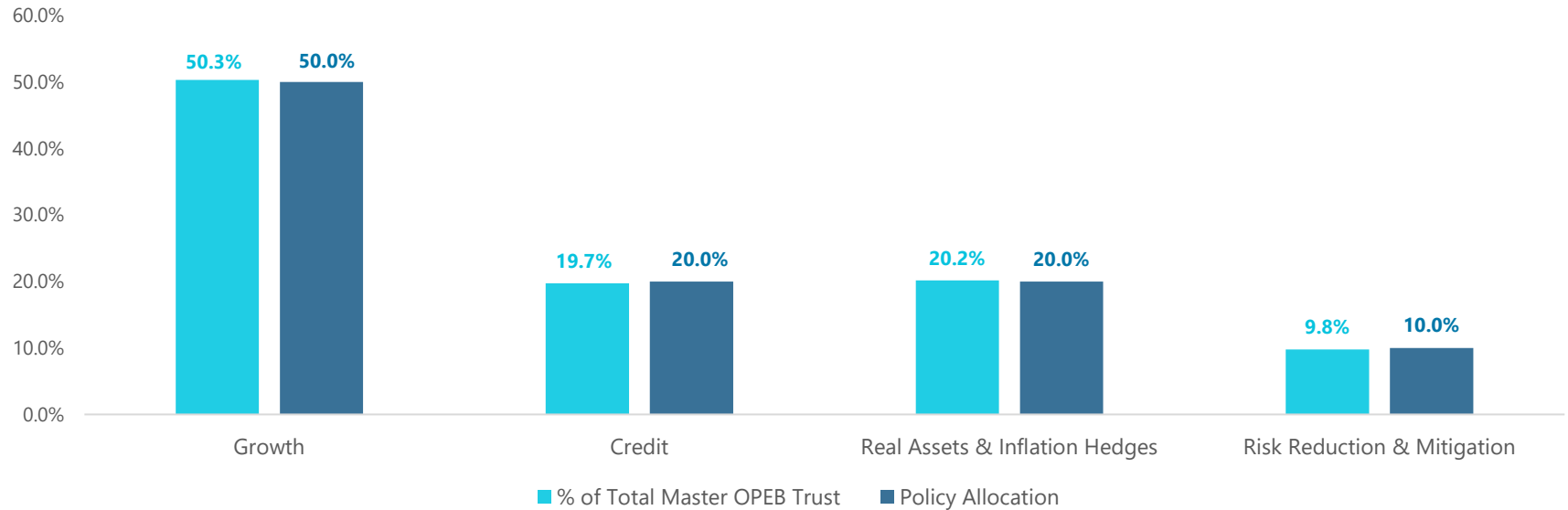
## Exposure



# Asset Allocation

for the quarter ended December 31, 2021

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



|                                | Ending Market Value (mm) | % of Total Master OPEB Trust | Policy Allocation | Over / Under (%) | Over / Under (mm) |
|--------------------------------|--------------------------|------------------------------|-------------------|------------------|-------------------|
| <b>OPEB Master Trust</b>       | <b>2,608</b>             | <b>100.0%</b>                | <b>100.0%</b>     |                  |                   |
| Growth                         | 1,312                    | 50.3%                        | 50.0%             | 0.3%             | 8                 |
| Credit                         | 515                      | 19.7%                        | 20.0%             | -0.3%            | -7                |
| Real Assets & Inflation Hedges | 526                      | 20.2%                        | 20.0%             | 0.2%             | 4                 |
| Risk Reduction & Mitigation    | 255                      | 9.8%                         | 10.0%             | -0.2%            | -6                |
| Operational Cash               | 0                        | 0.0%                         |                   |                  |                   |

1. Total OPEB Fund ending market value excludes residual cash in sub-trusts.

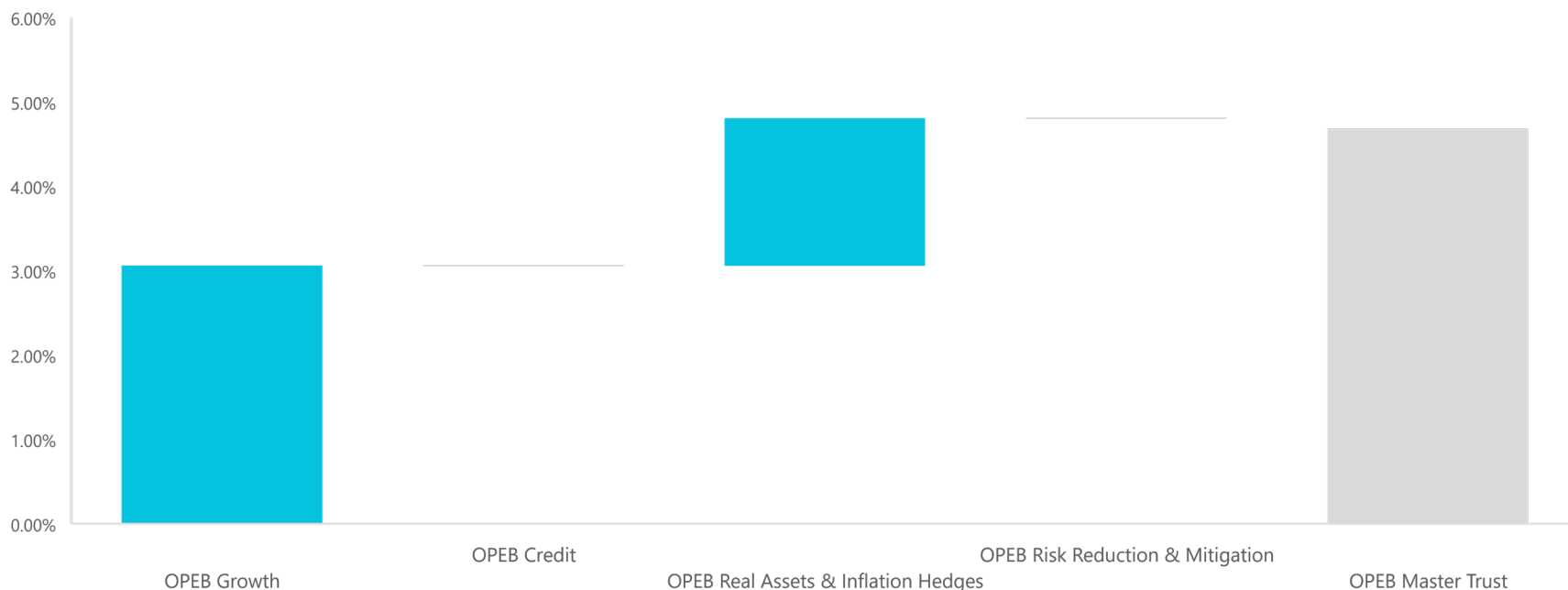
# Contribution to Return

for the quarter ended December 31, 2021



Los Angeles County Employees Retirement Association

## QTD Contribution to Return



| Functional Category                 | Contributors                     | Detractors                  |
|-------------------------------------|----------------------------------|-----------------------------|
| OPEB Growth                         | 3.06% OPEB GLOBAL EQUITIES       | 3.06% OPEB BTC EM Debt LC   |
| OPEB Credit                         | -0.01% OPEB BTC REITs            | -0.11% OPEB BTC Commodities |
| OPEB Real Assets & Inflation Hedges | 1.75% OPEB BTC TIPS              | -0.07%                      |
| OPEB Risk Reduction & Mitigation    | -0.01% OPEB BlackRock Bank Loans | 0.06%                       |
| OPEB Master Trust                   | 4.68% OPEB BTC High Yield Bonds  | 0.04%                       |

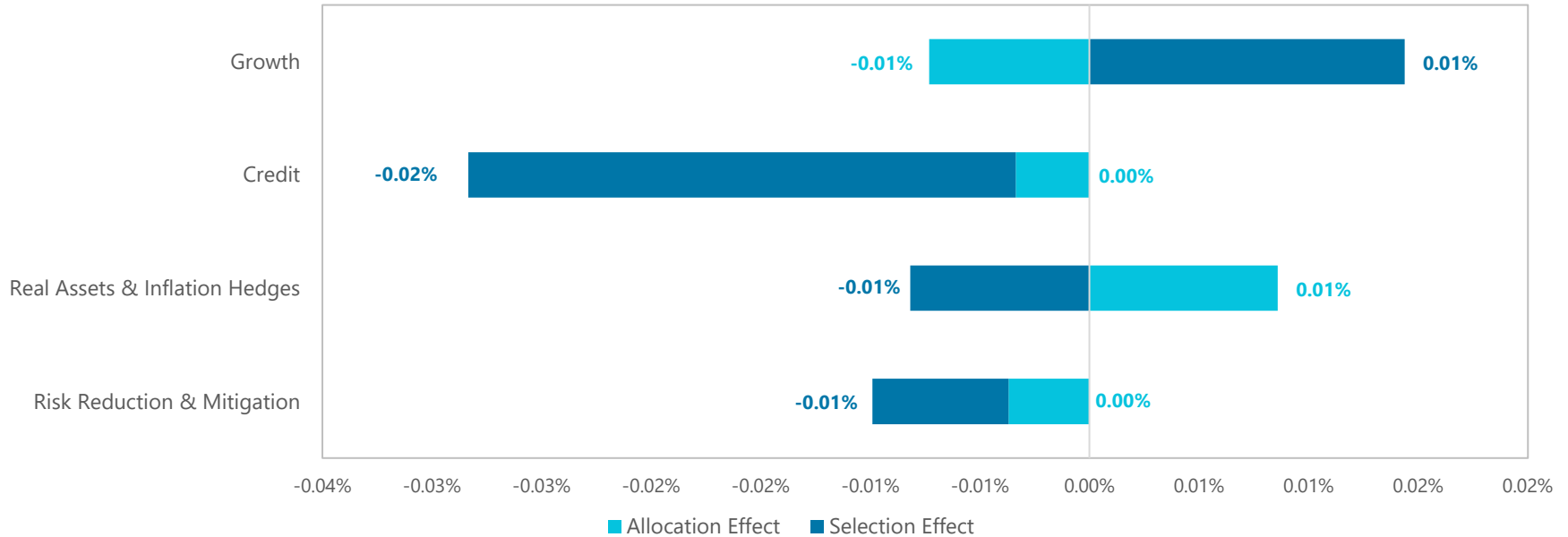
# Return Attribution

for the quarter ended December 31, 2021



Los Angeles County Employees Retirement Association

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



|                                | Ending Market Value (mm) | % of Total Fund | Policy Allocation | Portfolio Return | Benchmark Return | Allocation Effect | Selection Effect | Total Value Add |
|--------------------------------|--------------------------|-----------------|-------------------|------------------|------------------|-------------------|------------------|-----------------|
| <b>OPEB Master Trust</b>       | <b>2,608</b>             | <b>100.0%</b>   | <b>100.0%</b>     | <b>4.7%</b>      | <b>4.9%</b>      | <b>-0.01%</b>     | <b>-0.02%</b>    | <b>-0.11%</b>   |
| Growth                         | 1,312                    | 50.3%           | 50.0%             | 6.1%             | 6.1%             | -0.01%            | 0.01%            | 0.01%           |
| Credit                         | 515                      | 19.7%           | 20.0%             | 0.0%             | 0.4%             | 0.00%             | -0.02%           | -0.10%          |
| Real Assets & Inflation Hedges | 526                      | 20.2%           | 20.0%             | 8.8%             | 8.9%             | 0.01%             | -0.01%           | -0.01%          |
| Risk Reduction & Mitigation    | 255                      | 9.8%            | 10.0%             | 0.0%             | 0.0%             | 0.00%             | -0.01%           | -0.01%          |
| Operational Cash               | 0                        | 0.0%            |                   |                  |                  |                   |                  |                 |

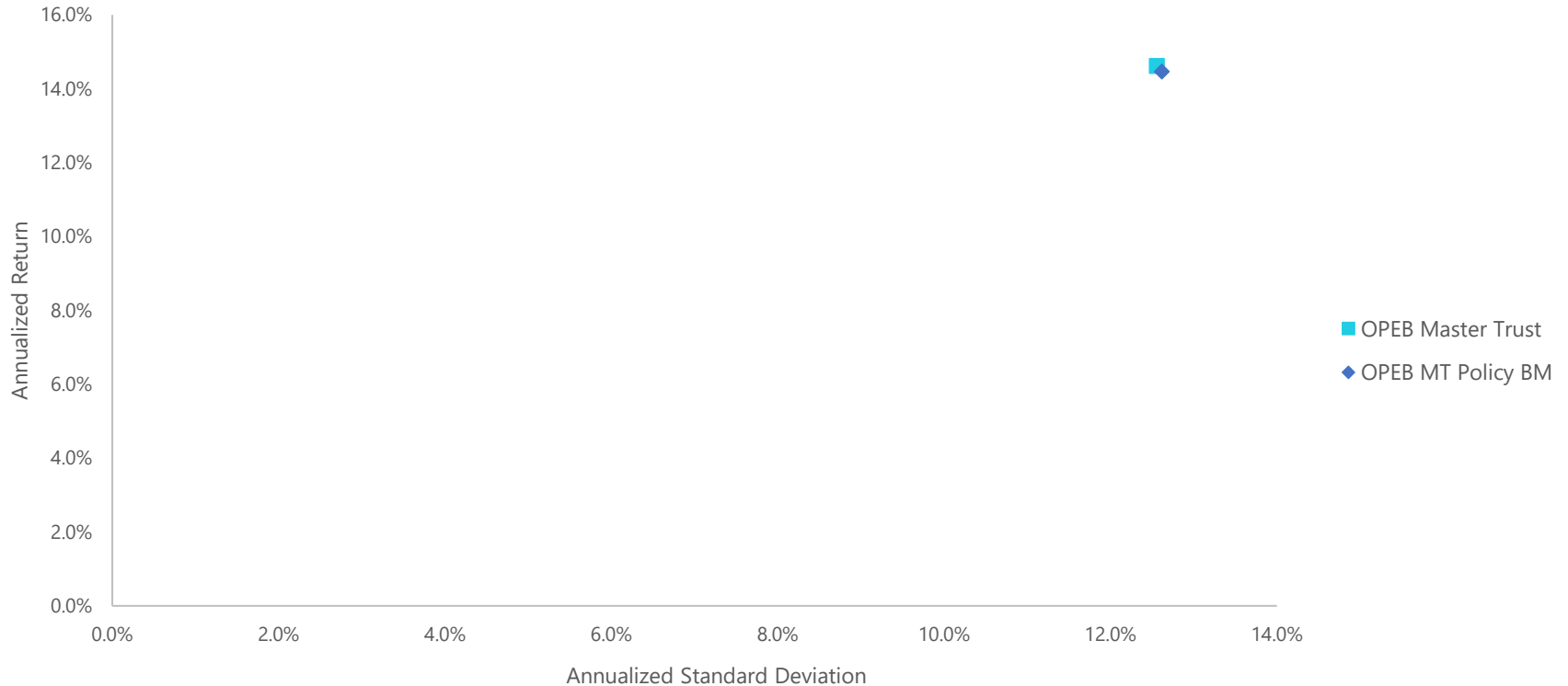
1. Total OPEB Fund ending market value excludes residual cash in sub-trusts.  
 2. Total Value Add includes Interaction Effect.



# Risk vs. Return

for the quarter ended December 31, 2021

## 3 Year (Annualized)<sup>1</sup>



|                          | Annualized Return | Standard Deviation | Sharpe Ratio | Information Ratio | Beta | Tracking Error |
|--------------------------|-------------------|--------------------|--------------|-------------------|------|----------------|
| <b>OPEB Master Trust</b> | <b>14.6%</b>      | <b>12.6%</b>       |              |                   |      |                |
| OPEB MT Policy BM        | 14.5%             | 12.6%              | 1.07         | 0.43              | 1.00 | 0.3%           |

1. Composite risk statistics are relative to the policy benchmark.

# Performance Detail

for the quarter ended December 31, 2021



Los Angeles County Employees Retirement Association

## Annualized Net Returns

|  | % of Total Fund | Ending Market Value (mm) | Prior Quarter Ending MV (mm) | QTD          | YTD          | 1 Year       | 3 Year       | 5 Year       | 10 Year | ITD          |
|--|-----------------|--------------------------|------------------------------|--------------|--------------|--------------|--------------|--------------|---------|--------------|
| <b>OPEB MASTER TRUST</b>                       | <b>100.0%</b>   | <b>2,608</b>             | <b>2,399</b>                 | <b>4.7%</b>  | <b>15.0%</b> | <b>15.0%</b> | <b>14.6%</b> | <b>11.3%</b> | --      | <b>8.2%</b>  |
| OPEB MT Policy BM                              |                 |                          |                              | 4.9%         | 15.1%        | 15.1%        | 14.5%        | 10.9%        | --      | 7.2%         |
| Sub-Trusts                                     |                 |                          |                              |              |              |              |              |              |         |              |
| Los Angeles County                             | 97.1%           | 2,533                    | 2,328                        | 4.7%         | 15.0%        | 15.0%        | 14.6%        | 11.3%        | --      | 7.6%         |
| LACERA   | 0.4%            | 10                       | 9                            | 4.7%         | 14.9%        | 14.9%        | 14.6%        | 11.4%        | --      | 7.7%         |
| Superior Court                                 | 2.5%            | 65                       | 62                           | 4.8%         | 14.9%        | 14.9%        | 14.5%        | 10.9%        | --      | 10.4%        |
| <b>OPEB Growth</b>                             | <b>50.3%</b>    | <b>1,312</b>             | <b>1,195</b>                 | <b>6.2%</b>  | <b>18.4%</b> | <b>18.4%</b> | <b>20.5%</b> | <b>14.4%</b> | --      | <b>14.4%</b> |
| OPEB MT Growth Policy BM                       |                 |                          |                              | 6.1%         | 18.2%        | 18.2%        | 20.2%        | 14.1%        | --      | 14.1%        |
| OPEB Global Equities                           | 50.3%           | 1,312                    | 1,195                        | 6.2%         | 18.4%        | 18.4%        | 20.5%        | 14.4%        | --      | 10.3%        |
| MSCI ACWI IMI Net                              |                 |                          |                              | 6.1%         | 18.2%        | 18.2%        | 20.2%        | 14.1%        | --      | 10.0%        |
| <b>OPEB Credit</b>                             | <b>19.7%</b>    | <b>515</b>               | <b>475</b>                   | <b>0.0%</b>  | <b>1.7%</b>  | <b>1.7%</b>  | <b>5.4%</b>  | --           | --      | <b>4.1%</b>  |
| OPEB MT Credit Policy BM                       |                 |                          |                              | 0.4%         | 2.7%         | 2.7%         | 6.0%         | --           | --      | 4.7%         |
| Liquid Credit                                  |                 |                          |                              |              |              |              |              |              |         |              |
| OPEB BlackRock Bank Loans                      | 9.9%            | 257                      | 240                          | 0.6%         | 4.2%         | 4.2%         | 5.2%         | --           | --      | 3.8%         |
| S&P/LSTA Leverage Loan                         |                 |                          |                              | 0.7%         | 5.2%         | 5.2%         | 5.6%         | --           | --      | 4.3%         |
| OPEB BTC EM Debt LC                            | 3.9%            | 102                      | 90                           | -2.7%        | -9.2%        | -9.2%        | 1.5%         | --           | --      | 1.3%         |
| JPM GBI-EM Global Diversified                  |                 |                          |                              | -2.5%        | -8.7%        | -8.7%        | 2.1%         | --           | --      | 1.8%         |
| OPEB BTC High Yield Bonds                      | 5.9%            | 155                      | 145                          | 0.7%         | 5.1%         | 5.1%         | 8.4%         | --           | --      | 6.4%         |
| BBG BARC US Corp HY                            |                 |                          |                              | 0.7%         | 5.3%         | 5.3%         | 8.8%         | --           | --      | 6.8%         |
| <b>OPEB Real Assets &amp; Inflation Hedges</b> | <b>20.2%</b>    | <b>526</b>               | <b>476</b>                   | <b>8.8%</b>  | <b>29.3%</b> | <b>29.3%</b> | <b>13.5%</b> | --           | --      | <b>9.7%</b>  |
| OPEB MT RA & IH Policy BM                      |                 |                          |                              | 8.9%         | 29.5%        | 29.5%        | 13.4%        | --           | --      | 9.6%         |
| OPEB BTC Commodities                           | 4.0%            | 104                      | 96                           | -1.6%        | 27.0%        | 27.0%        | 9.8%         | --           | --      | 4.7%         |
| Bloomberg Commodity Index Total Return         |                 |                          |                              | -1.6%        | 27.1%        | 27.1%        | 9.9%         | --           | --      | 4.8%         |
| OPEB BTC REITS                                 | 10.2%           | 267                      | 236                          | 17.2%        | 45.8%        | 45.8%        | 16.6%        | --           | --      | 12.1%        |
| DJ US SELECT REAL ESTATE SECURITIES            |                 |                          |                              | 17.2%        | 45.9%        | 45.9%        | 16.8%        | --           | --      | 12.3%        |
| OPEB BTC TIPS                                  | 6.0%            | 155                      | 144                          | 2.3%         | 5.9%         | 5.9%         | 8.5%         | --           | --      | 6.9%         |
| Bloomberg U.S. Treasury: U.S. TIPS             |                 |                          |                              | 2.4%         | 6.0%         | 6.0%         | 8.4%         | --           | --      | 6.8%         |
| <b>OPEB Risk Reduction &amp; Mitigation</b>    | <b>9.8%</b>     | <b>255</b>               | <b>239</b>                   | <b>-0.1%</b> | <b>-1.3%</b> | <b>-1.3%</b> | <b>4.1%</b>  | <b>3.3%</b>  | --      | <b>3.0%</b>  |
| OPEB MT RR & M Policy BM                       |                 |                          |                              | 0.0%         | -1.2%        | -1.2%        | 4.0%         | 3.1%         | --      | 2.8%         |
| OPEB BTC Inv. Grade Bonds                      | 7.8%            | 204                      | 192                          | -0.1%        | -1.6%        | -1.6%        | 4.8%         | --           | --      | 4.6%         |
| BBG BARC Agg                                   |                 |                          |                              | 0.0%         | -1.5%        | -1.5%        | 4.8%         | --           | --      | 4.6%         |
| OPEB SSGA Cash                                 | 1.9%            | 51                       | 47                           | 0.0%         | 0.0%         | 0.0%         | 1.3%         | 1.5%         | --      | 1.1%         |
| OPEB Cash Policy BM                            |                 |                          |                              | 0.0%         | 0.1%         | 0.1%         | 1.1%         | 1.2%         | --      | 0.7%         |

# risk reports

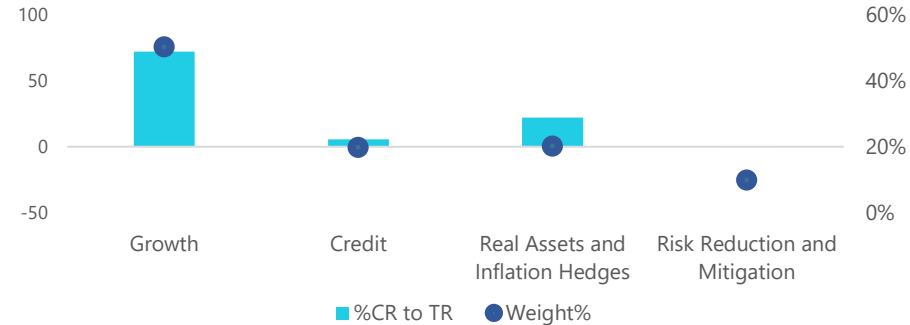
# Summary

for the quarter ended December 31, 2021

## Risk Summary

|                    | Value        |
|--------------------|--------------|
| <b>Total Risk</b>  | <b>12.06</b> |
| Benchmark Risk     | 11.13        |
| Active Risk        | 1.63         |
| Portfolio Beta     | 1.08         |
| Effective Duration | 1.56         |

## Contribution to Risk

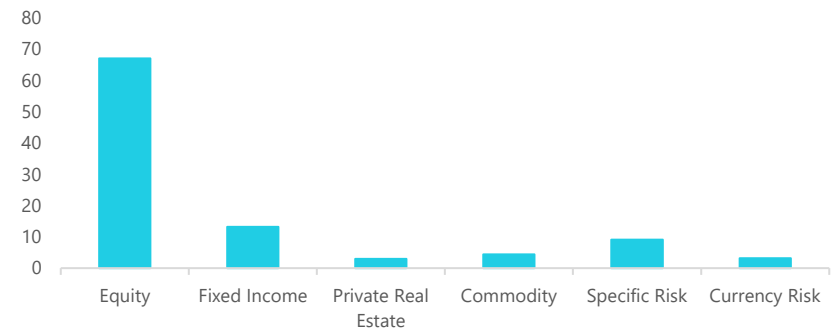


|                                  | Mkt Value (mm) | Weight%       | Total Risk   | Risk Contribution | %CR to TR     |
|----------------------------------|----------------|---------------|--------------|-------------------|---------------|
| <b>Total Fund</b>                | <b>2,608</b>   | <b>100.0%</b> | <b>12.06</b> | <b>12.06</b>      | <b>100.00</b> |
| Growth                           | 1,312          | 50.3%         | 17.53        | 8.72              | 72.27         |
| Credit                           | 515            | 19.7%         | 4.33         | 0.68              | 5.65          |
| Real Assets and Inflation Hedges | 526            | 20.2%         | 14.46        | 2.68              | 22.20         |
| Risk Reduction and Mitigation    | 255            | 9.8%          | 2.68         | -0.01             | -0.12         |

## Risk Decomposition

| Risk Source         | Portfolio         |               |             | Active            |               |             |
|---------------------|-------------------|---------------|-------------|-------------------|---------------|-------------|
|                     | Risk Contribution | %Risk         | Correlation | Risk Contribution | %Risk         | Correlation |
| <b>Total Risk</b>   | <b>12.06</b>      | <b>100.00</b> | <b>1.00</b> | <b>1.43</b>       | <b>100.00</b> | <b>1.00</b> |
| Local Market Risk   | 11.45             | 94.94         | 1.00        | 1.34              | 93.65         | 0.99        |
| Common Factor Risk  | 11.40             | 94.50         | 0.99        | 1.19              | 83.27         | 0.94        |
| Equity              | 10.46             | 86.71         | 0.99        | 1.19              | 83.54         | 0.62        |
| Fixed Income        | 0.58              | 4.79          | 0.63        | -0.04             | -2.62         | -0.08       |
| Private Real Estate | 0.00              | 0.00          | 0.00        | 0.05              | 3.32          | 0.04        |
| Commodity           | 0.36              | 3.01          | 0.58        | -0.01             | -0.97         | -0.11       |
| Specific Risk       | 0.05              | 0.44          | 0.07        | 0.15              | 10.38         | 0.32        |
| Currency Risk       | 0.61              | 5.06          | 0.56        | 0.09              | 6.35          | 0.43        |

## Active Risk from Risk Factors



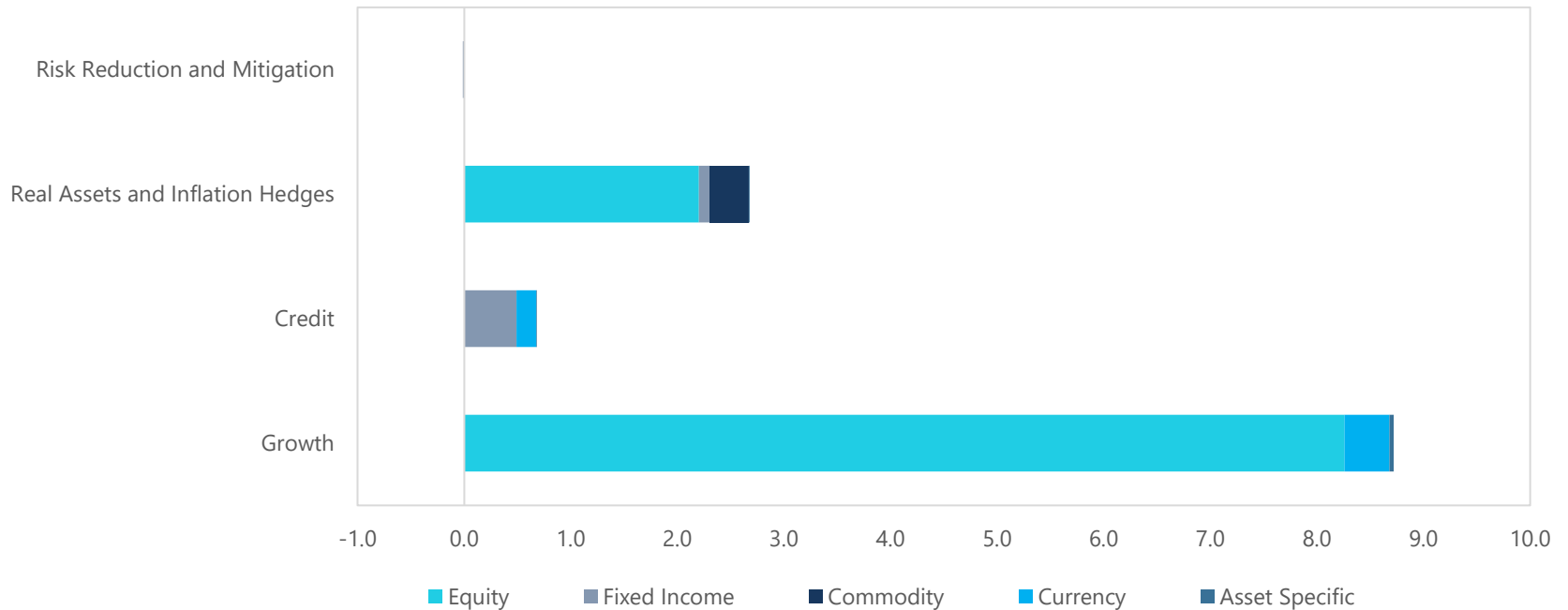
# Risk Contribution Breakdown

for the quarter ended December 31, 2021



Los Angeles County Employees Retirement Association

## By Risk Type

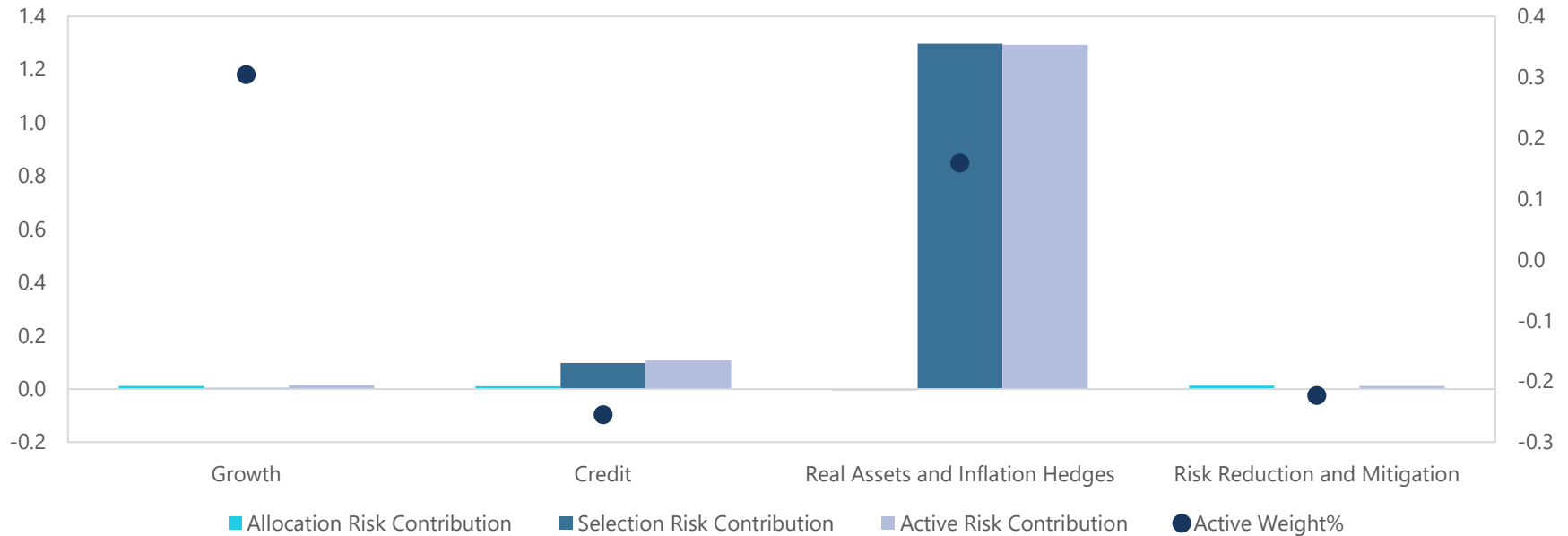


| Functional Category              | Mkt Value    | Weight%       | Total Risk   | %CR to Total Risk | Port Risk Contribution | Equity       | Fixed Income | Commodity   | Currency    | Asset Specific | Eff Weight%   |
|----------------------------------|--------------|---------------|--------------|-------------------|------------------------|--------------|--------------|-------------|-------------|----------------|---------------|
| <b>Total Fund</b>                | <b>2,608</b> | <b>100.0%</b> | <b>12.06</b> | <b>100.00</b>     | <b>12.06</b>           | <b>10.46</b> | <b>0.58</b>  | <b>0.36</b> | <b>0.61</b> | <b>0.05</b>    | <b>100.0%</b> |
| Growth                           | 1,312        | 50.3%         | 17.53        | 72.27             | 8.72                   | 8.26         | 0.00         | 0.00        | 0.42        | 0.04           | 50.3%         |
| Credit                           | 515          | 19.7%         | 4.33         | 5.65              | 0.68                   | 0.00         | 0.49         | 0.00        | 0.19        | 0.00           | 19.7%         |
| Real Assets and Inflation Hedge: | 526          | 20.2%         | 14.46        | 22.20             | 2.68                   | 2.20         | 0.10         | 0.36        | 0.00        | 0.01           | 20.2%         |
| Risk Reduction and Mitigation    | 255          | 9.8%          | 2.68         | -0.12             | -0.01                  | 0.00         | -0.01        | 0.00        | 0.00        | 0.00           | 9.8%          |

# Allocation Selection

for the quarter ended December 31, 2021

## Active Total Risk

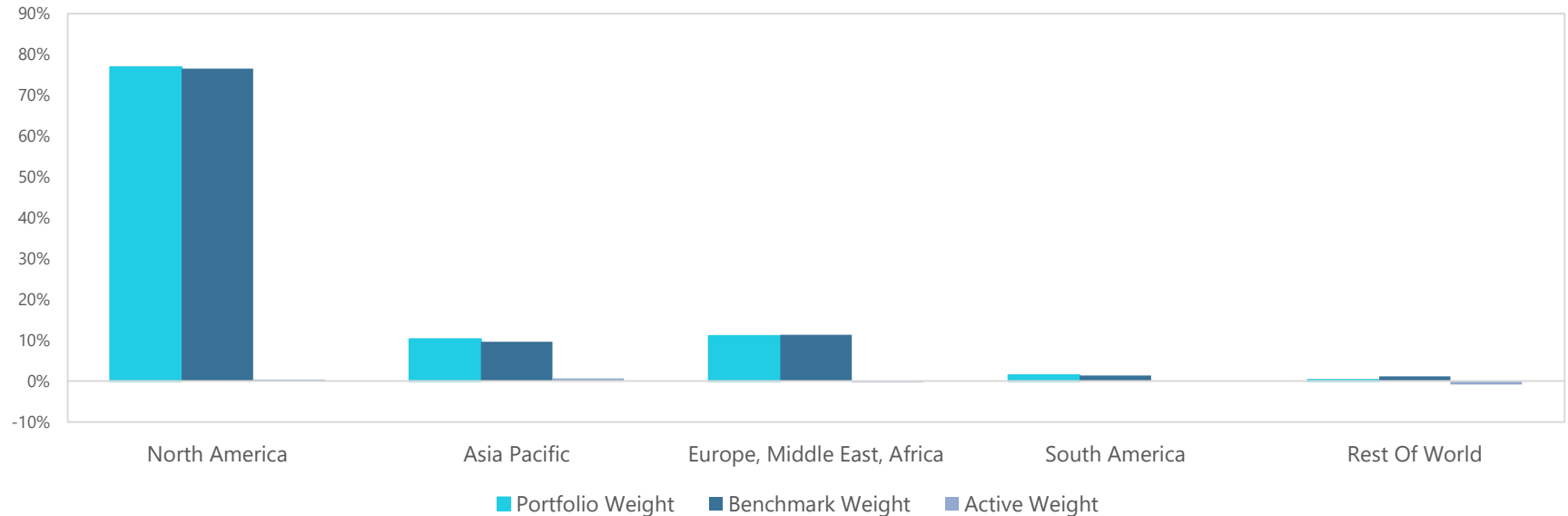


| Functional Category              | Active Weight% | Allocation |             |                   | Selection  |             |                   | Active Risk Contribution |
|----------------------------------|----------------|------------|-------------|-------------------|------------|-------------|-------------------|--------------------------|
|                                  |                | Volatility | Correlation | Risk Contribution | Volatility | Correlation | Risk Contribution |                          |
| <b>Active Total Risk</b>         |                |            |             | <b>0.03</b>       |            |             | <b>1.40</b>       | <b>1.43</b>              |
| Growth                           | 0.30           | 6.58       | 0.58        | 0.01              | 0.02       | 0.33        | 0.00              | 0.02                     |
| Credit                           | -0.25          | 7.96       | -0.50       | 0.01              | 2.41       | 0.21        | 0.10              | 0.11                     |
| Real Assets and Inflation Hedge: | 0.16           | 6.24       | -0.46       | 0.00              | 6.82       | 0.94        | 1.30              | 1.29                     |
| Risk Reduction and Mitigation    | -0.22          | 11.79      | -0.46       | 0.01              | 0.11       | -0.02       | 0.00              | 0.01                     |

# Portfolio Allocation

for the quarter ended December 31, 2021

## By Region

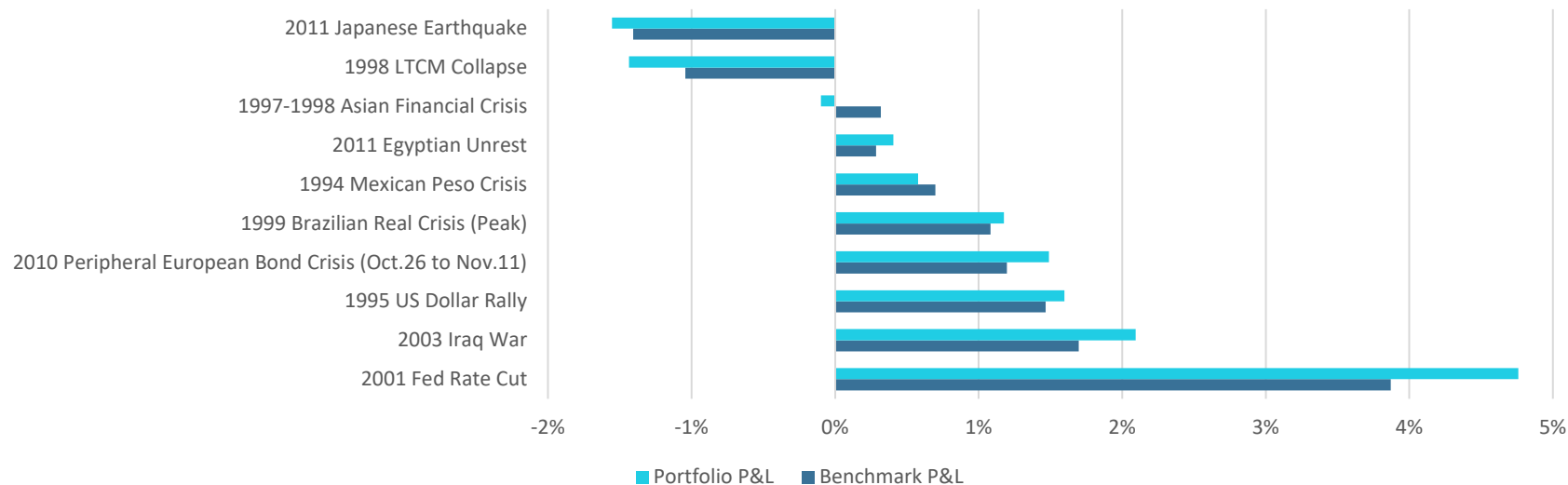


| Region                      | Weight%   |           |        | Total Risk | Active Risk CR | % of Active TR | MC to Total Tracking Error |
|-----------------------------|-----------|-----------|--------|------------|----------------|----------------|----------------------------|
|                             | Portfolio | Benchmark | Active |            |                |                |                            |
| <b>OPEB Master Trust</b>    | 100.00%   | 100.00%   | 0.00%  | 12.06      | 1.43           | 100.00         | 0.01                       |
| North America               | 76.87%    | 76.51%    | 0.36%  | 11.43      | 1.33           | 93.34          | -0.02                      |
| Asia Pacific                | 10.28%    | 9.63%     | 0.64%  | 13.88      | -0.01          | -0.81          | -0.02                      |
| Europe, Middle East, Africa | 11.09%    | 11.34%    | -0.25% | 18.41      | 0.07           | 4.84           | 0.01                       |
| South America               | 1.46%     | 1.36%     | 0.10%  | 17.85      | 0.01           | 1.00           | -0.01                      |
| Rest Of World               | 0.31%     | 1.16%     | -0.85% | 7.49       | 0.02           | 1.62           | -0.03                      |

# Stress Tests

for the quarter ended December 31, 2021

## Top 10 Best Stress Scenarios



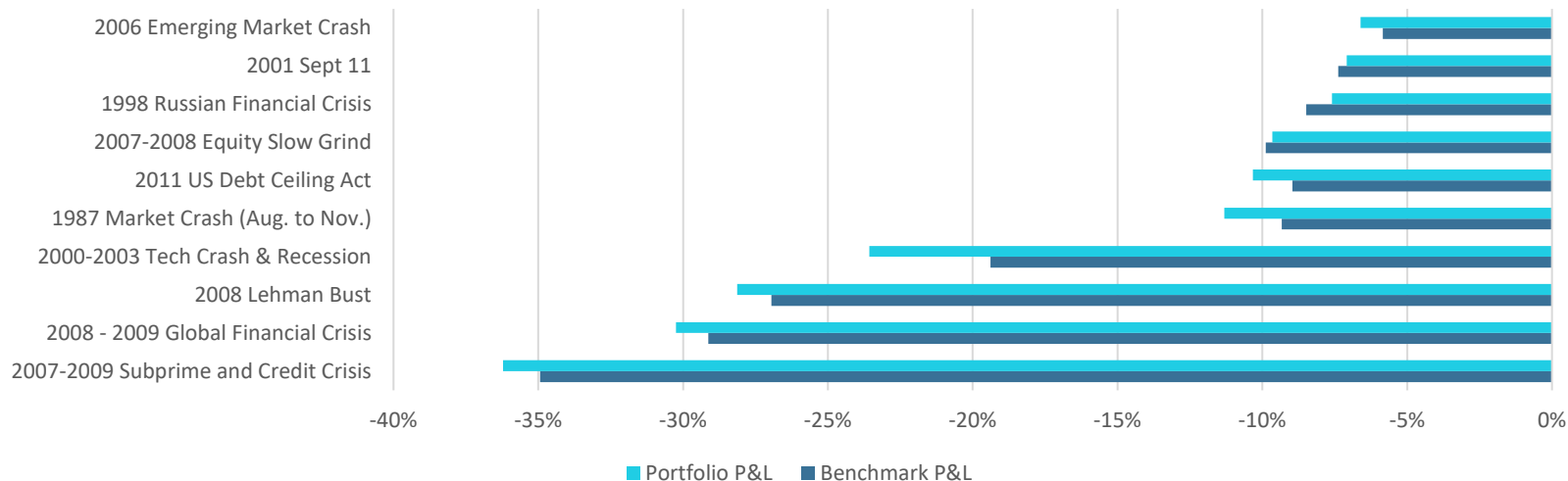
| Scenario                                | Portfolio P&L | Benchmark P&L | Market Change (\$) |
|---|---------------|---------------|--------------------|
| 2001 Fed Rate Cut                       | 4.76%         | 3.87%         | 124,124,576        |
| 2003 Iraq War                           | 2.09%         | 1.70%         | 54,628,592         |
| 1995 US Dollar Rally                    | 1.60%         | 1.47%         | 41,681,673         |
| 2010 Peripheral European Bond Crisis (C | 1.49%         | 1.20%         | 38,865,462         |
| 1999 Brazilian Real Crisis (Peak)       | 1.18%         | 1.08%         | 30,670,404         |
| 1994 Mexican Peso Crisis                | 0.58%         | 0.70%         | 15,092,700         |
| 2011 Egyptian Unrest                    | 0.41%         | 0.28%         | 10,591,924         |
| 1997-1998 Asian Financial Crisis        | -0.10%        | 0.32%         | (2,566,038)        |
| 1998 LTCM Collapse                      | -1.44%        | -1.04%        | (37,453,153)       |
| 2011 Japanese Earthquake                | -1.55%        | -1.41%        | (40,548,845)       |



# Stress Tests

for the quarter ended December 31, 2021

## Top 10 Worst Stress Scenarios



| Scenario                             | Portfolio P&L | Benchmark P&L | Market Change (\$) |
|--------------------------------------|---------------|---------------|--------------------|
| 2007-2009 Subprime and Credit Crisis | -36.22%       | -34.94%       | (944,529,833)      |
| 2008 - 2009 Global Financial Crisis  | -30.24%       | -29.13%       | (788,706,073)      |
| 2008 Lehman Bust                     | -28.13%       | -26.95%       | (733,723,008)      |
| 2000-2003 Tech Crash & Recession     | -23.57%       | -19.38%       | (614,660,564)      |
| 1987 Market Crash (Aug. to Nov.)     | -11.31%       | -9.33%        | (295,039,101)      |
| 2011 US Debt Ceiling Act             | -10.32%       | -8.96%        | (269,277,974)      |
| 2007-2008 Equity Slow Grind          | -9.66%        | -9.89%        | (251,914,283)      |
| 1998 Russian Financial Crisis        | -7.60%        | -8.49%        | (198,130,869)      |
| 2001 Sept 11                         | -7.09%        | -7.38%        | (184,858,693)      |
| 2006 Emerging Market Crash           | -6.61%        | -5.84%        | (172,362,084)      |

# appendix

## 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.

## O

### **OPEB CASH POLICY BM**

*Inception – 9/30/21*  
FTSE 6 M Treasury Bill Index  
*10/1/21 – Present*  
FTSE 3 M Treasury Bill Index

### **OPEB MT CREDIT POLICY BM**

*Inception – 9/30/21*  
50% S&P/LSTA Leverage Loan Index /  
30% BBG BARC US Corp HY Index / 20%  
JPM GBI-EM Global Diversified Index  
*10/1/21 – Present*  
100% OPEB MT Liquid Credit Policy BM

### **OPEB MT LIQUID CREDIT POLICY BM**

46% Credit Suisse Leverage Loan Index /  
38% BBG BARC US Corp HY Index / 8%  
JPM EMBI Global Diversified Index / 4%  
JPM GBI-EM Global Diversified Index /  
4% JPM CEMBI Broad Diversified Index

### **OPEB MT GROWTH POLICY BM**

MSCI ACWI IMI Net

### **OPEB MT POLICY BM**

*Inception – 6/30/18*  
80% MSCI ACWI IMI Net / 20% FTSE 6 M  
Treasury Bill Index  
*7/1/18 – Present*  
50% OPEB MT Growth Policy BM / 20%  
OPEB MT Credit Policy BM / 20% OPEB  
MT RA & IH Policy BM / 10% OPEB BM  
RR & M Policy BM

### **OPEB MT RA & IH POLICY BM**

50% DJ US SELECT REAL ESTATE  
SECURITIES INDEX / 30% BBG BARC US  
Treasury TIPS Index / 20% Bloomberg  
Commodity Index Total Return

### **OPEB MT RR & M POLICY BM**

*Inception – 6/30/18*  
FTSE 6 M Treasury Bill Index  
*7/1/18 – 9/30/21*  
80% BBG BARC Agg / 20% FTSE 6 M  
Treasury Bill Index  
*10/1/21 – Present*  
80% BBG BARC Agg / 20% FTSE 3 M  
Treasury Bill Index

## 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.