



**PERSPECTIVES
THAT DRIVE
ENTERPRISE
SUCCESS**



PERIOD ENDING: APRIL 30, 2019

Participant Plan Performance Review for

West Virginia Investment Management Board

Participant Plans Allocation & Performance Net of Fees

Period Ending: April 30, 2019

| | 6/30/2018 | | 4/30/2019 | | Performance % | | | | | | | |
|--|-------------------|--------------|-------------------|--------------|---------------|---------|------|--------|--------|--------|---------|---------|
| | Asset (\$000) | % | Asset (\$000) | % | 1 Month | 3 Month | FYTD | 1 Year | 3 Year | 5 Year | 10 Year | 20 Year |
| WVIMB Fund Assets | 19,506,228 | 100.0 | 19,677,992 | 100.0 | | | | | | | | |
| Pension Assets | 15,795,451 | 81.0 | 15,883,061 | 80.7 | | | | | | | | |
| Public Employees' Retirement System | 6,718,698 | 34.5 | 6,811,529 | 34.6 | 2.1 | 4.2 | 4.1 | 4.9 | 10.0 | 7.3 | 10.8 | 6.8 |
| Teachers' Retirement System | 7,691,788 | 39.5 | 7,663,782 | 38.9 | 2.1 | 4.2 | 4.1 | 4.9 | 9.9 | 7.3 | 10.6 | 6.6 |
| EMS Retirement System | 78,921 | 0.4 | 82,868 | 0.4 | 2.1 | 4.2 | 4.1 | 4.8 | 9.9 | 7.3 | 10.7 | |
| Public Safety Retirement System | 682,799 | 3.5 | 670,240 | 3.4 | 2.1 | 4.2 | 4.1 | 4.8 | 9.9 | 7.3 | 10.8 | 6.8 |
| Judges' Retirement System | 204,484 | 1.0 | 209,442 | 1.1 | 2.1 | 4.2 | 4.1 | 4.9 | 10.0 | 7.4 | 10.8 | 6.7 |
| State Police Retirement System | 188,912 | 1.0 | 202,415 | 1.0 | 2.1 | 4.2 | 4.1 | 4.9 | 10.0 | 7.3 | 10.7 | 6.7 |
| Deputy Sheriffs' Retirement System | 219,368 | 1.1 | 228,348 | 1.2 | 2.1 | 4.2 | 4.1 | 4.9 | 9.9 | 7.3 | 10.8 | 6.7 |
| Municipal Police & Firefighter Retirement System | 7,843 | 0.0 | 10,400 | 0.1 | 2.0 | 4.2 | 4.2 | 4.9 | 9.7 | 7.2 | | |
| Municipal Model A | 1,514 | 0.0 | 2,872 | 0.0 | 2.1 | 4.2 | 4.5 | 5.3 | 10.1 | 7.4 | | |
| Municipal Model C | 1,124 | 0.0 | 1,165 | 0.0 | 1.9 | 4.0 | 3.9 | 3.8 | | | | |
| Insurance Assets | 2,785,522 | 14.3 | 2,831,195 | 14.4 | | | | | | | | |
| Workers' Compensation Old Fund | 1,185,505 | 6.0 | 1,114,789 | 5.6 | 1.3 | 3.2 | 3.5 | 3.0 | 5.8 | 4.2 | 6.6 | |
| Workers' Comp. Self-Insured Guaranty Risk Pool | 33,908 | 0.2 | 34,026 | 0.2 | 1.3 | 3.3 | 3.3 | 3.0 | 5.9 | 4.3 | 4.4 | |
| Workers' Comp. Self-Insured Security Risk Pool | 53,204 | 0.3 | 52,225 | 0.3 | 1.3 | 3.3 | 3.3 | 3.0 | 6.0 | 4.3 | | |
| Workers' Comp. Uninsured Employers' Fund | 12,881 | 0.1 | 13,363 | 0.1 | 1.3 | 3.2 | 3.2 | 2.9 | 5.8 | 4.1 | 4.2 | |
| Pneumoconiosis | 245,797 | 1.3 | 239,259 | 1.2 | 1.3 | 3.3 | 3.3 | 3.0 | 5.9 | 4.2 | 6.9 | 5.6 |
| Board of Risk & Insurance Management | 151,588 | 0.8 | 156,688 | 0.8 | 1.3 | 3.2 | 3.4 | 3.0 | 5.9 | 4.2 | 7.0 | |
| Public Employees' Insurance Agency | 198,826 | 1.0 | 237,086 | 1.2 | 1.2 | 3.1 | 3.5 | 3.3 | 5.8 | 4.2 | 6.8 | |
| WV Retiree Health Benefit Trust Fund | 903,813 | 4.6 | 983,759 | 5.0 | 2.1 | 4.2 | 4.2 | 5.0 | 10.0 | 7.4 | 9.6 | |
| Endowment Assets | 925,255 | 4.7 | 963,736 | 4.9 | | | | | | | | |
| Berkeley County Development Authority | 7,742 | 0.0 | 6,067 | 0.0 | 2.1 | 4.2 | 4.1 | 4.8 | 10.0 | | | |
| Wildlife Fund | 63,823 | 0.3 | 63,726 | 0.3 | 2.1 | 4.2 | 4.2 | 4.9 | 10.0 | 7.4 | 10.8 | 7.3 |
| Prepaid Tuition Trust | 42,256 | 0.2 | 33,739 | 0.2 | 0.2 | 1.7 | 4.3 | 4.3 | 7.1 | 5.7 | 9.5 | |
| Revenue Shortfall Reserve Fund | 167,666 | 0.9 | 192,408 | 1.0 | 0.3 | 2.1 | 3.6 | 3.9 | 2.5 | 2.3 | 5.3 | |
| Revenue Shortfall Reserve Fund - Part B | 438,711 | 2.3 | 456,183 | 2.4 | 1.0 | 2.9 | 4.0 | 3.5 | 5.5 | 4.1 | 7.3 | |
| WV DEP Trust | 9,658 | 0.0 | 9,211 | 0.0 | 2.3 | 4.6 | 3.1 | 2.0 | 8.8 | 6.0 | | |
| WV DEP Agency | 195,399 | 1.0 | 202,402 | 1.0 | 1.6 | 3.7 | 3.6 | 2.9 | 6.9 | 4.9 | | |

Composite Asset Allocation & Performance Net of Fees

Period Ending: April 30, 2019

| | Asset (\$000) | % | Performance % | | | | | | | | |
|---|---------------|--------|----------------|----------------|------------------|------------------|-----------------|-----------------|-----------------|----------------|--|
| | | | 1 Month | 3 Month | FYTD | 1 Year | 3 Year | 5 Year | 10 Year | 20 Year | |
| Investment Pools Composite | 19,688,125 | 100.00 | | | | | | | | | |
| Total Equity Composite +/- Total Equity Base Index (b) | 9,529,345 | 48.40 | 3.24 (0.19) | 5.86 (1.79) | 3.12 (1.74) | 1.08 (3.51) | 11.35 (0.34) | 7.33 (0.03) | 12.74 0.88 | 6.87 0.95 | |
| Domestic Equity Composite +/- Russell 3000 Index | 4,752,019 | 24.14 | 3.97 (0.02) | 9.07 (0.15) | 7.23 (1.65) | 10.08 (2.60) | 14.08 (0.66) | 10.72 (0.48) | 15.31 0.02 | 7.45 0.99 | |
| International Equity Composite +/- MSCI AC World ex US IMI Index (c) | 4,777,326 | 24.26 | 2.52 (0.14) | 2.84 (2.50) | (0.79) (1.23) | (6.97) (3.45) | 8.64 0.22 | 3.87 0.45 | 9.96 1.65 | 7.01 2.05 | |
| Fixed Income Composite +/- Bloomberg Barclays Capital Universal (d) | 3,275,614 | 16.64 | 0.38 0.24 | 1.95 (0.11) | 4.99 0.03 | 4.64 (0.74) | 3.79 1.33 | 3.30 0.44 | 5.68 1.42 | 5.36 0.45 | |
| Core Fixed Income Composite +/- Bloomberg Barclays Capital Aggregate | 990,367 | 5.03 | 0.03 0.00 | 2.09 0.20 | 4.96 0.29 | 5.57 0.28 | 2.23 0.33 | 2.98 0.41 | 4.39 0.67 | | |
| Total Return Fixed Income Composite (k) +/- Bloomberg Barclays Capital Universal | 2,285,247 | 11.61 | 0.53 0.39 | 1.89 (0.17) | 5.00 0.04 | 4.23 (1.15) | 4.48 2.02 | 3.43 0.57 | 6.09 1.83 | 5.82 0.85 | |
| TIPS Composite +/- Bloomberg Barclays Capital U.S. TIPS | 396,152 | 2.01 | 0.34 0.01 | 2.18 0.02 | 2.32 0.06 | 3.20 0.09 | 1.73 0.04 | 1.74 0.01 | | | |
| Cash Composite +/- Citigroup 90 Day T-Bill (e) | 118,580 | 0.60 | 0.20 0.00 | 0.59 0.00 | 1.83 (0.05) | 2.13 (0.05) | 1.24 0.01 | 0.80 0.04 | 0.47 (0.03) | 1.95 (0.02) | |
| Private Equity Composite +/- Russell 3000 + 3% (f, g) | 1,735,593 | 8.82 | 2.01 | 4.31 | 9.71 | 22.69 | 18.52 | 15.58 1.38 | 15.03 (3.94) | | |
| Real Estate Composite +/- NCREIF + 1% (f) | 1,889,704 | 9.60 | 0.56 | 1.93 | 4.91 | 8.50 | 8.74 | 9.46 (0.80) | 9.19 0.36 | | |
| Hedge Fund Composite +/- HFRI FOF + 1% (h) | 2,166,333 | 11.00 | 0.93 (0.15) | 2.78 (0.48) | 1.78 0.27 | 3.05 1.11 | 4.73 (0.37) | 3.37 (0.16) | 5.60 1.79 | | |
| Opportunistic Income Composite +/- CS Leveraged Loan + 2.5% | 576,804 | 2.93 | 0.51 (1.28) | 0.76 (2.91) | 3.37 (2.86) | 6.46 (0.50) | 4.64 (3.62) | | | | |

Participant Plans Allocation vs. Strategy

Period Ending: April 30, 2019

| | Equity | | Fixed Income | | Private Equity | | Real Estate | | Hedge Funds | | Opportunistic Income | | Cash | |
|--|----------|------------|--------------|------------|----------------|------------|-------------|------------|-------------|------------|----------------------|------------|----------|------------|
| | Actual % | Strategy % | Actual % | Strategy % | Actual % | Strategy % | Actual % | Strategy % | Actual % | Strategy % | Actual % | Strategy % | Actual % | Strategy % |

Pension Assets

| | | | | | | | | | | | | | | |
|--|------|------|------|------|------|------|------|------|------|------|-----|-----|-----|-----|
| Public Employees' Retirement System | 51.8 | 55.0 | 12.6 | 15.0 | 10.2 | 10.0 | 11.1 | 10.0 | 10.5 | 10.0 | 3.4 | 0.0 | 0.4 | 0.0 |
| Teachers' Retirement System | 51.8 | 55.0 | 12.4 | 15.0 | 10.3 | 10.0 | 11.2 | 10.0 | 10.6 | 10.0 | 3.4 | 0.0 | 0.3 | 0.0 |
| EMS Retirement System | 51.8 | 55.0 | 13.2 | 15.0 | 10.1 | 10.0 | 11.0 | 10.0 | 10.2 | 10.0 | 3.4 | 0.0 | 0.3 | 0.0 |
| Public Safety Retirement System | 52.0 | 55.0 | 12.3 | 15.0 | 10.4 | 10.0 | 11.3 | 10.0 | 10.5 | 10.0 | 3.4 | 0.0 | 0.1 | 0.0 |
| Judges' Retirement System | 52.0 | 55.0 | 12.8 | 15.0 | 10.2 | 10.0 | 11.1 | 10.0 | 10.4 | 10.0 | 3.4 | 0.0 | 0.1 | 0.0 |
| State Police Retirement System | 51.6 | 55.0 | 13.4 | 15.0 | 10.0 | 10.0 | 10.9 | 10.0 | 10.1 | 10.0 | 3.3 | 0.0 | 0.7 | 0.0 |
| Deputy Sheriffs' Retirement System | 51.8 | 55.0 | 13.1 | 15.0 | 10.1 | 10.0 | 11.0 | 10.0 | 10.3 | 10.0 | 3.4 | 0.0 | 0.3 | 0.0 |
| Municipal Police & Firefighter Retirement System | 50.1 | 55.0 | 14.1 | 15.0 | 9.6 | 10.0 | 10.4 | 10.0 | 9.6 | 10.0 | 3.2 | 0.0 | 3.0 | 0.0 |
| Municipal Model A | 51.8 | 55.0 | 12.8 | 15.0 | 10.1 | 10.0 | 11.0 | 10.0 | 10.1 | 10.0 | 3.4 | 0.0 | 0.8 | 0.0 |
| Municipal Model C | 48.7 | 50.0 | 27.5 | 30.0 | 5.0 | 5.0 | 5.5 | 5.0 | 9.9 | 10.0 | 1.7 | 0.0 | 1.7 | 0.0 |

Insurance Assets

| | | | | | | | | | | | | | | |
|--|------|------|------|------|------|------|------|------|------|------|-----|-----|-----|------|
| Workers' Compensation Old Fund | 30.6 | 30.0 | 48.7 | 50.0 | 0.0 | 0.0 | 0.0 | 0.0 | 16.6 | 15.0 | 0.0 | 0.0 | 4.1 | 5.0 |
| Workers' Comp. Self-Insured Guaranty Risk Pool | 30.6 | 30.0 | 43.6 | 45.0 | 0.0 | 0.0 | 0.0 | 0.0 | 21.6 | 20.0 | 0.0 | 0.0 | 4.2 | 5.0 |
| Workers' Comp. Self-Insured Security Risk Pool | 30.5 | 30.0 | 43.1 | 45.0 | 0.0 | 0.0 | 0.0 | 0.0 | 21.9 | 20.0 | 0.0 | 0.0 | 4.5 | 5.0 |
| Workers' Comp. Uninsured Employers Fund | 30.4 | 30.0 | 38.9 | 40.0 | 0.0 | 0.0 | 0.0 | 0.0 | 20.9 | 20.0 | 0.0 | 0.0 | 9.8 | 10.0 |
| Pneumoconiosis | 30.6 | 30.0 | 43.1 | 45.0 | 0.0 | 0.0 | 0.0 | 0.0 | 22.0 | 20.0 | 0.0 | 0.0 | 4.3 | 5.0 |
| Board of Risk & Insurance Mgmt. | 30.4 | 30.0 | 43.7 | 45.0 | 0.0 | 0.0 | 0.0 | 0.0 | 21.0 | 20.0 | 0.0 | 0.0 | 4.9 | 5.0 |
| Public Employees' Insurance Agency | 25.4 | 25.0 | 54.7 | 55.0 | 0.0 | 0.0 | 0.0 | 0.0 | 19.9 | 20.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| WV Retiree Health Benefit Trust Fund | 52.0 | 55.0 | 13.8 | 15.0 | 10.0 | 10.0 | 10.9 | 10.0 | 10.0 | 10.0 | 3.3 | 0.0 | 0.0 | 0.0 |

Endowment Assets

| | | | | | | | | | | | | | | |
|---|------|------|-------|-------|------|------|------|------|------|------|-----|-----|------|------|
| Berkeley County Development Authority | 51.8 | 55.0 | 14.1 | 15.0 | 10.0 | 10.0 | 10.9 | 10.0 | 9.9 | 10.0 | 3.3 | 0.0 | 0.0 | 0.0 |
| Wildlife Fund | 51.7 | 55.0 | 13.1 | 15.0 | 10.1 | 10.0 | 11.0 | 10.0 | 10.4 | 10.0 | 3.4 | 0.0 | 0.3 | 0.0 |
| Prepaid Tuition Trust | 0.0 | 0.0 | 80.2 | 80.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 19.8 | 20.0 |
| Revenue Shortfall Reserve Fund | 0.0 | 0.0 | 100.0 | 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Revenue Shortfall Reserve Fund - Part B | 22.8 | 22.5 | 77.2 | 77.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| WV DEP Trust | 65.4 | 65.0 | 13.6 | 15.0 | 0.0 | 0.0 | 0.0 | 0.0 | 21.0 | 20.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| WV DEP Agency | 40.4 | 40.0 | 38.7 | 40.0 | 0.0 | 0.0 | 0.0 | 0.0 | 20.9 | 20.0 | 0.0 | 0.0 | 0.0 | 0.0 |

- (a) As of January 2019, the PERS Base is 60% MSCI ACWI Gross and 40% Bloomberg Barclays Capital Universal. From January 2014 to December 2018, the PERS Base was 30% Russell 3000, 30% MSCI ACWI ex USA (IMI), and 40% Bloomberg Barclays Capital Universal. From April 2008 to December 2013, the PERS Base was 30% Russell 3000, 30% MSCI ACWI ex USA (Standard), and 40% Bloomberg Barclays Capital Universal. Prior periods were 42% Russell 3000, 18% MSCI ACWI ex USA, and 40% Bloomberg Barclays Capital Aggregate.
- (b) As of January 2019, the Total Equity Base Index is 100% MSCI ACWI Gross. From January 2014 to December 2018, the Total Equity Base Index was 50% Russell 3000 and 50% MSCI ACWI ex USA (IMI). From April 2008 to December 2013, the Total Equity Base Index was 50% Russell 3000 and 50% MSCI ACWI ex USA (Standard). Prior periods were 40% S&P 500, 30% Russell 2500, and 30% MSCI ACWI ex USA.
- (c) Prior to January 2014, the index was the MSCI ACW ex USA (Standard).
- (d) Prior to April 2008, the index was Bloomberg Barclays Capital Aggregate.
- (e) Prior to January 2014, the index was Citigroup 90 Day T-Bill plus 15 basis points.
- (f) The Private Equity Composite and Real Estate Composite are long-term programs whose benchmarks are only reported for 5 years and beyond.
- (g) Prior to January 2014, the index was S&P 500 plus 500 basis points.
- (h) Prior to January 2014, the index was Libor plus 400 basis points.
- (i) Franklin Benchmark is 50% JPM EMBI Global Diversified and 50% JPM GBI EM Diversified.
- (j) Prior to April 2008, the index was a custom index.
- (k) From October 2015 to March 2017, performance returns from the Opportunistic Income Pool were included in the Total Return Fixed Income Composite.

Note: Participant returns are net of fees. Portfolio returns are net of management fees. Returns shorter than one year are unannualized.

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