



**PERSPECTIVES
THAT DRIVE
ENTERPRISE
SUCCESS**



PERIOD ENDING: APRIL 30, 2017

Participant Plan Performance Review for

West Virginia Investment Management Board

Participant Plans Allocation & Performance Net of Fees

Period Ending: April 30, 2017

| | 6/30/2016 | | 4/30/2017 | | Performance % | | | | | | |
|--|-------------------|--------------|-------------------|--------------|---------------|---------|------|--------|--------|--------|---------|
| | Asset (\$000) | % | Asset (\$000) | % | 1 Month | 3 Month | FYTD | 1 Year | 3 Year | 5 Year | 10 Year |
| WVIMB Fund Assets | 16,747,244 | 100.0 | 17,876,349 | 100.0 | | | | | | | |
| Pension Assets | 13,230,134 | 79.0 | 14,407,419 | 80.6 | | | | | | | |
| Public Employees' Retirement System | 5,597,558 | 33.4 | 6,173,839 | 34.5 | 1.4 | 4.5 | 12.7 | 13.2 | 6.7 | 8.9 | 5.8 |
| Teachers' Retirement System | 6,513,312 | 38.9 | 7,003,954 | 39.2 | 1.4 | 4.5 | 12.6 | 13.1 | 6.6 | 8.8 | 5.5 |
| EMS Retirement System | 58,844 | 0.4 | 68,359 | 0.4 | 1.4 | 4.5 | 12.7 | 13.2 | 6.7 | 8.9 | |
| Public Safety Retirement System | 578,762 | 3.5 | 614,628 | 3.4 | 1.4 | 4.5 | 12.6 | 13.1 | 6.6 | 8.9 | 5.8 |
| Judges' Retirement System | 167,178 | 1.0 | 185,305 | 1.0 | 1.4 | 4.5 | 12.7 | 13.2 | 6.7 | 8.9 | 5.8 |
| State Police Retirement System | 138,127 | 0.8 | 160,892 | 0.9 | 1.4 | 4.5 | 12.7 | 13.2 | 6.7 | 8.9 | 5.8 |
| Deputy Sheriffs' Retirement System | 171,949 | 1.0 | 194,173 | 1.1 | 1.4 | 4.5 | 12.7 | 13.2 | 6.7 | 8.9 | 5.8 |
| Municipal Police & Firefighter Retirement System | 3,080 | 0.0 | 4,834 | 0.1 | 1.4 | 4.4 | 12.4 | 12.9 | 6.5 | 8.4 | |
| Municipal Model A | 1,324 | 0.0 | 1,435 | 0.0 | 1.4 | 4.6 | 12.7 | 13.2 | 6.6 | | |
| Insurance Assets | 2,545,860 | 15.2 | 2,631,742 | 14.7 | | | | | | | |
| Workers' Compensation Old Fund | 1,284,843 | 7.7 | 1,269,110 | 7.0 | 1.0 | 3.0 | 7.2 | 7.8 | 3.9 | 4.6 | 3.8 |
| Workers' Comp. Self-Insured Guaranty Risk Pool | 33,418 | 0.2 | 33,950 | 0.2 | 1.0 | 2.9 | 7.8 | 8.2 | 4.0 | 5.0 | 4.1 |
| Workers' Comp. Self-Insured Security Risk Pool | 53,881 | 0.3 | 54,505 | 0.3 | 1.0 | 2.9 | 7.9 | 8.4 | 4.0 | | |
| Workers' Comp. Uninsured Employers' Fund | 10,841 | 0.1 | 11,663 | 0.1 | 0.9 | 2.7 | 7.6 | 7.8 | 3.7 | 4.8 | 3.9 |
| Pneumoconiosis | 246,635 | 1.5 | 251,702 | 1.4 | 0.9 | 2.8 | 7.8 | 8.2 | 3.9 | 5.0 | 4.4 |
| Board of Risk & Insurance Management | 132,322 | 0.8 | 142,624 | 0.8 | 0.9 | 2.8 | 7.8 | 8.1 | 3.8 | 5.0 | 4.9 |
| Public Employees' Insurance Agency | 176,829 | 1.0 | 152,268 | 0.9 | 0.9 | 2.8 | 7.7 | 8.1 | 3.9 | 5.1 | 4.6 |
| WV Retiree Health Benefit Trust Fund | 607,091 | 3.6 | 715,920 | 4.0 | 1.4 | 4.5 | 12.7 | 13.3 | 6.7 | 8.8 | |
| Endowment Assets | 971,250 | 5.8 | 837,188 | 4.7 | | | | | | | |
| Berkeley County Development Authority | 6,089 | 0.0 | 6,866 | 0.0 | 1.4 | 4.5 | 12.8 | 13.3 | | | |
| Wildlife Fund | 54,571 | 0.3 | 62,060 | 0.4 | 1.4 | 4.5 | 12.7 | 13.3 | 6.7 | 8.8 | 5.8 |
| Prepaid Tuition Trust | 54,948 | 0.3 | 49,104 | 0.3 | 1.3 | 4.0 | 10.0 | 10.4 | 5.9 | 7.2 | 5.4 |
| Revenue Shortfall Reserve Fund | 336,013 | 2.0 | 144,864 | 0.8 | 0.5 | 1.3 | 1.6 | 2.6 | 2.2 | 1.9 | 1.5 |
| Revenue Shortfall Reserve Fund - Part B | 390,670 | 2.4 | 419,024 | 2.3 | 1.1 | 3.1 | 7.3 | 7.9 | 3.9 | 4.7 | 3.0 |
| WV DEP Trust | 7,808 | 0.1 | 8,868 | 0.1 | 1.4 | 4.5 | 13.6 | 13.1 | 5.6 | 8.1 | |
| WV DEP Agency | 121,151 | 0.7 | 146,402 | 0.8 | 1.1 | 3.5 | 9.7 | 10.0 | 4.5 | | |

Composite Asset Allocation & Performance Net of Fees

Period Ending: April 30, 2017

| | Asset (\$000) | % | Performance % | | | | | | | |
|--|---------------|--------|---------------|---------|--------|--------|--------|--------|---------|--|
| | | | 1 Month | 3 Month | FYTD | 1 Year | 3 Year | 5 Year | 10 Year | |
| Investment Pools Composite | 17,887,312 | 100.00 | | | | | | | | |
| Total Equity Composite | 8,987,035 | 50.24 | 1.87 | 6.37 | 18.75 | 17.61 | 6.66 | 10.82 | 5.49 | |
| +/- Total Equity Policy Index (b) | | | 0.18 | 0.53 | 2.17 | 1.70 | 0.79 | 1.08 | 1.24 | |
| US Equity Composite | 4,158,986 | 23.25 | 1.37 | 5.44 | 15.83 | 18.14 | 9.81 | 13.48 | 7.25 | |
| +/- Russell 3000 Index | | | 0.31 | 0.55 | (0.43) | (0.44) | (0.29) | (0.09) | 0.02 | |
| Large Cap Composite | 3,428,325 | 19.16 | 1.31 | 5.51 | 14.39 | 17.36 | 10.61 | 13.65 | 7.20 | |
| +/- S&P 500 Index | | | 0.28 | 0.35 | (1.15) | (0.56) | 0.14 | (0.03) | 0.05 | |
| Non-Large Cap Composite | 730,661 | 4.09 | 1.63 | 5.08 | 22.21 | 21.67 | 6.76 | 12.44 | 7.62 | |
| +/- Russell 2500 Index | | | 0.86 | 1.95 | 3.97 | 0.98 | (1.79) | (0.50) | 0.10 | |
| International Equity Composite | 4,828,049 | 26.99 | 2.31 | 7.20 | 21.43 | 16.98 | 3.32 | 8.00 | 3.64 | |
| +/- MSCI AC World ex US IMI Index (c) | | | (0.01) | 0.43 | 4.72 | 3.89 | 1.68 | 2.14 | 1.94 | |
| Fixed Income Composite | 3,210,900 | 17.95 | 0.82 | 1.86 | 3.15 | 4.44 | 3.19 | 3.47 | 4.43 | |
| +/- Bloomberg Barclays Capital Universal (d) | | | (0.01) | 0.29 | 2.92 | 2.37 | 0.20 | 0.69 | (0.22) | |
| Core Fixed Income Composite | 983,850 | 5.50 | 0.84 | 1.54 | (0.59) | 1.24 | 3.14 | 2.81 | | |
| +/- Bloomberg Barclays Capital Aggregate | | | 0.07 | 0.14 | 0.39 | 0.41 | 0.48 | 0.54 | | |
| Total Return Fixed Income Composite (k) | 2,227,050 | 12.45 | 0.81 | 2.00 | 4.83 | 5.87 | 3.19 | 3.79 | 4.69 | |
| +/- Bloomberg Barclays Capital Universal | | | (0.02) | 0.43 | 4.60 | 3.80 | 0.20 | 1.01 | 0.15 | |
| TIPS Composite | 331,480 | 1.85 | 0.57 | 1.01 | 0.36 | 1.71 | 1.74 | 0.68 | | |
| +/- Bloomberg Barclays Capital U.S.TIPS | | | (0.02) | 0.00 | (0.01) | (0.02) | (0.03) | (0.01) | | |
| Cash Composite | 102,474 | 0.57 | 0.06 | 0.15 | 0.37 | 0.42 | 0.24 | 0.21 | 0.75 | |
| +/- Citigroup 90 Day T-Bill (e) | | | (0.01) | (0.02) | (0.01) | 0.00 | 0.05 | 0.02 | 0.01 | |
| Private Equity Composite | 1,542,932 | 8.63 | 1.97 | 4.91 | 11.70 | 16.79 | 13.11 | 12.51 | | |
| +/- Russell 3000 + 3% (f, g) | | | | | | | | (4.49) | | |
| Real Estate Composite | 1,590,458 | 8.89 | 0.77 | 2.23 | 4.68 | 8.22 | 9.76 | 9.87 | | |
| +/- NCREIF + 1% (f) | | | | | | | | (1.97) | | |
| Hedge Fund Composite | 1,845,995 | 10.33 | 0.20 | 0.80 | 5.93 | 6.24 | 2.97 | 4.90 | | |
| +/- HFRI FOF + 1% (h) | | | (0.58) | (1.50) | (1.27) | (1.16) | (0.28) | 1.47 | | |
| Opportunistic Income Composite | 276,038 | 1.54 | 0.41 | 1.28 | 2.53 | 3.22 | | | | |
| +/- CS Leveraged Loan + 2.5% | | | (0.23) | (0.44) | (6.70) | (7.44) | | | | |

Participant Plans Allocation vs. Strategy

Period Ending: April 30, 2017

| | Domestic Equity | | Int'l Equity | | Fixed Income | | Private Equity | | Real Estate | | Hedge Funds | | Opporunistic Income | | Cash | |
|--|-----------------|------------|--------------|------------|--------------|------------|----------------|------------|-------------|------------|-------------|------------|---------------------|------------|----------|------------|
| | Actual % | Strategy % | Actual % | Strategy % | Actual % | Strategy % | Actual % | Strategy % | Actual % | Strategy % | Actual % | Strategy % | Actual % | Strategy % | Actual % | Strategy % |

Pension Assets

| | | | | | | | | | | | | | | | | |
|--|------|------|------|------|------|------|------|------|------|------|-----|------|-----|-----|-----|-----|
| Public Employees' Retirement System | 24.9 | 27.5 | 29.0 | 27.5 | 13.8 | 15.0 | 10.1 | 10.0 | 10.3 | 10.0 | 9.8 | 10.0 | 1.8 | 0.0 | 0.3 | 0.0 |
| Teachers' Retirement System | 24.6 | 27.5 | 29.0 | 27.5 | 13.6 | 15.0 | 10.2 | 10.0 | 10.7 | 10.0 | 9.9 | 10.0 | 1.8 | 0.0 | 0.2 | 0.0 |
| EMS Retirement System | 25.5 | 27.5 | 28.7 | 27.5 | 13.9 | 15.0 | 10.1 | 10.0 | 9.9 | 10.0 | 9.8 | 10.0 | 1.8 | 0.0 | 0.3 | 0.0 |
| Public Safety Retirement System | 25.7 | 27.5 | 28.2 | 27.5 | 13.5 | 15.0 | 10.2 | 10.0 | 10.7 | 10.0 | 9.8 | 10.0 | 1.8 | 0.0 | 0.1 | 0.0 |
| Judges' Retirement System | 25.6 | 27.5 | 28.7 | 27.5 | 13.9 | 15.0 | 10.1 | 10.0 | 9.9 | 10.0 | 9.8 | 10.0 | 1.8 | 0.0 | 0.2 | 0.0 |
| State Police Retirement System | 25.4 | 27.5 | 28.6 | 27.5 | 13.9 | 15.0 | 10.1 | 10.0 | 9.8 | 10.0 | 9.7 | 10.0 | 1.8 | 0.0 | 0.7 | 0.0 |
| Deputy Sheriffs' Retirement System | 25.6 | 27.5 | 28.7 | 27.5 | 14.0 | 15.0 | 10.1 | 10.0 | 9.9 | 10.0 | 9.8 | 10.0 | 1.8 | 0.0 | 0.1 | 0.0 |
| Municipal Police & Firefighter Retirement System | 25.6 | 27.5 | 28.3 | 27.5 | 14.0 | 15.0 | 10.0 | 10.0 | 9.8 | 10.0 | 9.7 | 10.0 | 1.8 | 0.0 | 0.8 | 0.0 |
| Municipal Model A | 26.6 | 27.5 | 29.8 | 27.5 | 13.3 | 15.0 | 10.2 | 10.0 | 10.0 | 10.0 | 9.9 | 10.0 | 0.0 | 0.0 | 0.2 | 0.0 |

Insurance Assets

| | | | | | | | | | | | | | | | | |
|--|------|------|------|------|------|------|------|------|-----|------|------|------|-----|-----|-----|------|
| Workers' Compensation Old Fund | 14.5 | 15.0 | 16.2 | 15.0 | 50.1 | 50.0 | 0.0 | 0.0 | 0.0 | 0.0 | 14.9 | 15.0 | 0.0 | 0.0 | 4.3 | 5.0 |
| Workers' Comp. Self-Insured Guaranty Risk Pool | 14.5 | 15.0 | 16.8 | 15.0 | 44.3 | 45.0 | 0.0 | 0.0 | 0.0 | 0.0 | 19.8 | 20.0 | 0.0 | 0.0 | 4.6 | 5.0 |
| Workers' Comp. Self-Insured Security Risk Pool | 14.6 | 15.0 | 16.8 | 15.0 | 44.4 | 45.0 | 0.0 | 0.0 | 0.0 | 0.0 | 19.9 | 20.0 | 0.0 | 0.0 | 4.3 | 5.0 |
| Workers' Comp. Uninsured Employers Fund | 14.5 | 15.0 | 16.2 | 15.0 | 39.6 | 40.0 | 0.0 | 0.0 | 0.0 | 0.0 | 19.8 | 20.0 | 0.0 | 0.0 | 9.9 | 10.0 |
| Pneumoconiosis | 14.6 | 15.0 | 16.3 | 15.0 | 44.9 | 45.0 | 0.0 | 0.0 | 0.0 | 0.0 | 19.9 | 20.0 | 0.0 | 0.0 | 4.3 | 5.0 |
| Board of Risk & Insurance Mgmt. | 14.5 | 15.0 | 16.2 | 15.0 | 44.6 | 45.0 | 0.0 | 0.0 | 0.0 | 0.0 | 19.8 | 20.0 | 0.0 | 0.0 | 4.9 | 5.0 |
| Public Employees' Insurance Agency | 12.4 | 12.5 | 13.9 | 12.5 | 53.9 | 55.0 | 0.0 | 0.0 | 0.0 | 0.0 | 19.8 | 20.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| WV Retiree Health Benefit Trust Fund | 25.6 | 27.5 | 28.7 | 27.5 | 14.1 | 15.0 | 10.1 | 10.0 | 9.9 | 10.0 | 9.8 | 10.0 | 1.8 | 0.0 | 0.0 | 0.0 |

Endowment Assets

| | | | | | | | | | | | | | | | | |
|---|------|------|------|------|-------|-------|------|------|------|------|------|------|-----|-----|-----|-----|
| Berkeley County Development Authority | 25.4 | 27.5 | 28.7 | 27.5 | 14.2 | 15.0 | 10.1 | 10.0 | 10.0 | 10.0 | 9.8 | 10.0 | 1.8 | 0.0 | 0.0 | 0.0 |
| Wildlife Fund | 25.4 | 27.5 | 28.8 | 27.5 | 14.1 | 15.0 | 10.1 | 10.0 | 9.9 | 10.0 | 9.8 | 10.0 | 1.8 | 0.0 | 0.1 | 0.0 |
| Prepaid Tuition Trust | 27.5 | 27.5 | 23.3 | 22.5 | 47.2 | 50.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.0 | 0.0 |
| Revenue Shortfall Reserve Fund | 0.0 | 0.0 | 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 | 14.5 | 15.0 | 16.2 | 15.0 | 69.3 | 70.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| WV DEP Trust | 31.0 | 32.5 | 34.6 | 32.5 | 14.8 | 15.0 | 0.0 | 0.0 | 0.0 | 0.0 | 19.6 | 20.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| WV DEP Agency | 19.0 | 20.0 | 21.8 | 20.0 | 38.9 | 40.0 | 0.0 | 0.0 | 0.0 | 0.0 | 19.5 | 20.0 | 0.0 | 0.0 | 0.8 | 0.0 |

- (a) As of January 2014, the PERS Policy is 30% Russell 3000, 30% MSCI ACW ex USA (IMI), and 40% Bloomberg Barclays Capital Universal. From April 2008 to December 2013, the PERS Policy was 30% Russell 3000, 30% MSCI ACW ex USA (Standard), and 40% Bloomberg Barclays Capital Universal. Prior periods were 42% Russell 3000, 18% MSCI ACW ex USA, and 40% Bloomberg Barclays Capital Aggregate.
- (b) As of January 2014, the Total Equity Policy Index is 50% Russell 3000 and 50% MSCI ACW ex USA (IMI). From April 2008 to December 2013, the Total Equity Policy Index was 50% Russell 3000 and 50% MSCI ACW ex USA (Standard). Prior periods were 40% S&P 500, 30% Russell 2500, and 30% MSCI ACW 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 are 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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