



**PERSPECTIVES
THAT DRIVE
ENTERPRISE
SUCCESS**



PERIOD ENDING: DECEMBER 31, 2017

Participant Plan Performance Review for

West Virginia Investment Management Board

Participant Plans Allocation & Performance Net of Fees

Period Ending: December 31, 2017

	6/30/2017		12/31/2017		Performance %						
	Asset (\$000)	%	Asset (\$000)	%	1 Month	3 Month	FYTD	1 Year	3 Year	5 Year	10 Year
WVIMB Fund Assets	18,283,189	100.0	19,333,479	100.0							
Pension Assets	14,791,142	80.9	15,621,602	80.8							
Public Employees' Retirement System	6,288,320	34.4	6,687,914	34.6	1.0	3.8	7.7	18.1	9.1	9.9	6.8
Teachers' Retirement System	7,232,585	39.6	7,580,771	39.3	1.0	3.8	7.7	18.0	9.0	9.9	6.5
EMS Retirement System	70,196	0.4	76,558	0.4	1.0	3.8	7.7	18.1	9.1	9.9	
Public Safety Retirement System	639,380	3.5	667,727	3.5	1.0	3.8	7.7	18.1	9.1	9.9	6.8
Judges' Retirement System	189,254	1.0	202,550	1.0	1.0	3.8	7.7	18.2	9.2	9.9	6.8
State Police Retirement System	165,873	0.9	182,411	0.9	1.0	3.8	7.7	18.1	9.1	9.9	6.8
Deputy Sheriffs' Retirement System	198,732	1.1	214,565	1.1	1.0	3.8	7.7	18.1	9.1	9.9	6.8
Municipal Police & Firefighter Retirement System	5,356	0.0	6,484	0.0	0.9	3.7	7.5	17.7	8.9	9.5	
Municipal Model A	1,446	0.0	1,504	0.0	0.9	3.8	7.7	18.1	9.0		
Municipal Model C			1,118	0.0							
Insurance Assets	2,641,811	14.4	2,806,924	14.5							
Workers' Compensation Old Fund	1,260,911	6.8	1,260,775	6.5	0.8	2.5	5.4	11.4	5.6	5.1	4.3
Workers' Comp. Self-Insured Guaranty Risk Pool	33,211	0.2	34,798	0.2	0.8	2.5	5.4	11.2	5.4	5.5	4.4
Workers' Comp. Self-Insured Security Risk Pool	53,908	0.3	55,400	0.3	0.8	2.5	5.4	11.3	5.5		
Workers' Comp. Uninsured Employers' Fund	11,797	0.1	12,421	0.1	0.8	2.5	5.3	10.9	5.2	5.3	4.1
Pneumoconiosis	250,631	1.4	257,084	1.3	0.8	2.5	5.4	11.2	5.4	5.4	4.9
Board of Risk & Insurance Management	144,341	0.8	152,132	0.8	0.8	2.5	5.4	11.2	5.3	5.4	5.4
Public Employees' Insurance Agency	153,908	0.8	161,610	0.8	0.8	2.3	5.0	10.7	5.2	5.4	5.0
WV Retiree Health Benefit Trust Fund	733,104	4.0	872,704	4.5	0.9	3.7	7.7	18.1	9.1	9.9	
Endowment Assets	850,236	4.7	904,953	4.7							
Berkeley County Development Authority	7,031	0.0	7,602	0.0	1.0	3.8	7.7	18.2			
Wildlife Fund	63,648	0.4	65,629	0.3	0.9	3.8	7.7	18.1	9.1	9.9	6.8
Prepaid Tuition Trust	49,025	0.3	44,746	0.2	0.8	2.7	6.0	14.3	7.3	8.0	6.1
Revenue Shortfall Reserve Fund	145,150	0.8	169,484	0.9	0.7	1.1	2.3	4.5	2.7	1.6	1.7
Revenue Shortfall Reserve Fund - Part B	425,111	2.4	444,358	2.4	0.8	2.1	4.5	10.9	5.5	4.9	3.5
WV DEP Trust	9,044	0.0	9,704	0.1	1.1	4.1	8.9	18.8	8.2	9.3	
WV DEP Agency	151,227	0.8	163,430	0.8	0.9	3.0	6.5	13.9	6.4		

Composite Asset Allocation & Performance Net of Fees

Period Ending: December 31, 2017

	Asset (\$000)	%	Performance %							
			1 Month	3 Month	FYTD	1 Year	3 Year	5 Year	10 Year	
Investment Pools Composite	19,342,524	100.00								
Total Equity Composite +/- Total Equity Base Index (b)	9,613,034	49.69	1.41 (0.28)	5.55 (0.27)	12.16 0.56	26.66 1.91	11.06 1.00	12.69 1.09	7.08 1.50	
Domestic Equity Composite +/- Russell 3000 Index	4,591,107	23.74	0.40 (0.60)	6.04 (0.30)	11.26 0.06	22.14 1.01	10.76 (0.36)	15.49 (0.09)	8.75 0.15	
International Equity Composite +/- MSCI AC World ex US IMI Index (c)	5,021,927	25.95	2.35 (0.04)	5.09 (0.19)	12.93 0.95	30.78 2.40	11.17 2.31	9.75 2.15	5.23 2.77	
Fixed Income Composite +/- Bloomberg Barclays Capital Universal (d)	3,533,553	18.26	0.62 0.18	0.96 0.55	2.47 1.05	6.40 2.31	3.91 1.11	3.36 0.86	4.58 0.20	
Core Fixed Income Composite +/- Bloomberg Barclays Capital Aggregate	1,061,417	5.49	0.46 0.00	0.47 0.08	1.26 0.02	3.78 0.24	2.74 0.50	2.54 0.44		
Total Return Fixed Income Composite (k) +/- Bloomberg Barclays Capital Universal	2,472,136	12.77	0.69 0.25	1.17 0.76	2.99 1.57	7.56 3.47	4.41 1.61	3.73 1.23	4.98 0.65	
TIPS Composite +/- Bloomberg Barclays Capital U.S. TIPS	375,187	1.94	0.92 0.00	1.25 (0.01)	2.15 0.01	3.03 0.02	2.05 0.00	0.12 (0.01)		
Cash Composite +/- Citigroup 90 Day T-Bill (e)	184,930	0.96	0.11 0.01	0.27 (0.01)	0.54 0.00	0.87 0.03	0.44 0.06	0.32 0.05	0.47 0.00	
Private Equity Composite +/- Russell 3000 + 3% (f, g)	1,653,503	8.55	0.57	2.93	3.78	17.33	13.93	13.46 (5.31)		
Real Estate Composite +/- NCREIF + 1% (f)	1,647,305	8.52	0.20	2.28	2.37	9.39	9.46	9.97 (1.38)		
Hedge Fund Composite +/- HFRI FOF + 1% (h)	1,898,667	9.82	0.60 (0.38)	1.71 (0.56)	3.28 (1.60)	4.60 (4.13)	2.41 (1.19)	4.74 0.87		
Opportunistic Income Composite +/- CS Leveraged Loan + 2.5%	436,345	2.26	0.01 (0.58)	0.90 (0.89)	0.93 (2.55)	4.54 (2.21)				

Participant Plans Allocation vs. Strategy

Period Ending: December 31, 2017

	Domestic Equity		Int'l 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 %	Actual %	Strategy %

Pension Assets

Public Employees' Retirement System	25.5	27.5	27.9	27.5	14.5	15.0	10.0	10.0	10.0	10.0	9.3	10.0	2.6	0.0	0.2	0.0
Teachers' Retirement System	25.5	27.5	28.0	27.5	14.3	15.0	10.0	10.0	10.0	10.0	9.4	10.0	2.7	0.0	0.1	0.0
EMS Retirement System	25.7	27.5	27.8	27.5	14.5	15.0	9.9	10.0	9.9	10.0	9.3	10.0	2.6	0.0	0.3	0.0
Public Safety Retirement System	25.6	27.5	28.0	27.5	14.2	15.0	10.1	10.0	10.0	10.0	9.4	10.0	2.7	0.0	0.0	0.0
Judges' Retirement System	25.5	27.5	28.0	27.5	14.4	15.0	10.0	10.0	10.0	10.0	9.4	10.0	2.6	0.0	0.1	0.0
State Police Retirement System	25.7	27.5	27.7	27.5	14.6	15.0	9.9	10.0	9.9	10.0	9.3	10.0	2.6	0.0	0.3	0.0
Deputy Sheriffs' Retirement System	25.5	27.5	27.9	27.5	14.7	15.0	10.0	10.0	9.9	10.0	9.3	10.0	2.6	0.0	0.1	0.0
Municipal Police & Firefighter Retirement System	25.2	27.5	27.4	27.5	14.6	15.0	9.8	10.0	9.8	10.0	9.1	10.0	2.6	0.0	1.5	0.0
Municipal Model A	25.6	27.5	27.9	27.5	13.7	15.0	10.0	10.0	10.0	10.0	9.7	10.0	2.6	0.0	0.5	0.0
Municipal Model C	0.0	25.0	0.0	25.0	0.0	30.0	0.0	5.0	0.0	5.0	0.0	10.0	0.0	0.0	100.0	0.0

Insurance Assets

Workers' Compensation Old Fund	14.8	15.0	16.2	15.0	50.1	50.0	0.0	0.0	0.0	0.0	15.0	15.0	0.0	0.0	3.9	5.0
Workers' Comp. Self-Insured Guaranty Risk Pool	14.8	15.0	16.1	15.0	44.9	45.0	0.0	0.0	0.0	0.0	19.7	20.0	0.0	0.0	4.5	5.0
Workers' Comp. Self-Insured Security Risk Pool	14.7	15.0	16.1	15.0	45.0	45.0	0.0	0.0	0.0	0.0	19.8	20.0	0.0	0.0	4.4	5.0
Workers' Comp. Uninsured Employers Fund	14.9	15.0	16.2	15.0	39.8	40.0	0.0	0.0	0.0	0.0	19.2	20.0	0.0	0.0	9.9	10.0
Pneumoconiosis	14.8	15.0	16.1	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.	14.9	15.0	16.1	15.0	44.8	45.0	0.0	0.0	0.0	0.0	19.2	20.0	0.0	0.0	5.0	5.0
Public Employees' Insurance Agency	12.5	12.5	13.6	12.5	54.6	55.0	0.0	0.0	0.0	0.0	19.3	20.0	0.0	0.0	0.0	0.0
WV Retiree Health Benefit Trust Fund	23.5	27.5	25.3	27.5	13.6	15.0	9.1	10.0	9.0	10.0	8.5	10.0	2.4	0.0	8.6	0.0

Endowment Assets

Berkeley County Development Authority	25.6	27.5	27.8	27.5	14.8	15.0	10.0	10.0	9.9	10.0	9.3	10.0	2.6	0.0	0.0	0.0
Wildlife Fund	25.5	27.5	27.8	27.5	14.7	15.0	10.0	10.0	9.9	10.0	9.3	10.0	2.6	0.0	0.2	0.0
Prepaid Tuition Trust	22.4	22.0	18.3	18.0	57.0	60.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.3	0.0
Revenue Shortfall Reserve Fund	0.0	0.0	0.0	0.0	87.6	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.4	0.0
Revenue Shortfall Reserve Fund - Part B	11.1	11.3	12.0	11.3	76.9	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	31.8	32.5	34.4	32.5	14.6	15.0	0.0	0.0	0.0	0.0	19.2	20.0	0.0	0.0	0.0	0.0
WV DEP Agency	19.8	20.0	21.4	20.0	39.5	40.0	0.0	0.0	0.0	0.0	19.3	20.0	0.0	0.0	0.0	0.0

- (a) As of January 2014, the PERS Base is 30% Russell 3000, 30% MSCI ACW ex USA (IMI), and 40% Bloomberg Barclays Capital Universal. From April 2008 to December 2013, the PERS Base 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 Base Index is 50% Russell 3000 and 50% MSCI ACW ex USA (IMI). From April 2008 to December 2013, the Total Equity Base 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 GBIEM 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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