

MPSERS
TIME-WEIGHTED RATES OF RETURN
PERIODS ENDING DECEMBER 31, 2016

	Assets % of portfolio 12/31/16	Ten Years* Rate	Seven Years* Rate	Five Years* Rate	Three Years* Rate	One Year Rate	Current Quarter Rate
TOTAL PLAN	100.0%	5.9	9.4	10.0	7.1	7.4	1.9
Median**		5.3	8.4	8.9	5.3	7.9	1.0
EQUITIES							
Domestic	25.8%	7.0	12.5	14.7	8.2	11.5	4.8
International	15.6%	1.0	4.2	6.5	0.0	4.3	-1.1
Private Equity	15.4%	11.4	14.7	13.7	12.5	9.1	4.0
BONDS	12.8%	5.4	4.7	3.6	4.3	5.7	-1.7
REAL ESTATE & INFRASTRUCTURE	10.6%	5.2	10.8	11.9	13.2	10.3	1.8
CASH EQUIVALENTS	4.6%	0.8	0.4	0.5	0.5	0.7	0.2
ABSOLUTE RETURN	6.6%		4.4	5.2	2.2	-0.2	0.5
REAL RETURN & OPPORTUNISTIC	8.6%			9.8	12.2	6.1	2.5

* Annualized Returns

**Comparison universe is the State Street Universe comprised of Public Funds greater than \$10 Billion on the total plan level and greater than \$1 Billion for asset classes.

Source: State Street Analytics.

MPSERS		
Risk		
<i>STANDARD DEVIATIONS</i>		
	Value	Rank
<i>Five Years</i>		
MPSERS	4.2 %	7
Median	5.4 %	
<i>Ten Years</i>		
MPSERS	9.1 %	19
Median	10.4 %	