

Investment Program

08.28.2018 PF IC - Item# 2.b (replacement)

ASSET ALLOCATION IMPLEMENTATION

Police & Fire Department Retirement Plan

Introduction

On August 2, 2018, the Board approved a new asset allocation policy and requested staff do more work on ranges. This presentation is the implementation plan.

Pending approval at the August 28, 2018 Investment Committee and subsequent September 6, 2018 Board meeting, implementation would begin with a concurrent "go live" date October 1, 2018. While the majority of transitions would be fully complete by January 1, 2019, there would be a quarter of potentially high unintended tracking error. For performance evaluation purposes, staff would expect to be accountable for deviations from policy starting in 2019.

The core of this presentation summarizes the changes that need to occur at the asset class and sub-asset class level, as well as benchmark changes to more accurately reflect the intentions of the asset allocation. These are further broken down into public markets and private markets strategies.

The final slide combines all of the specific approvals from each asset class, and at the plan level, in order to present a recommendation that can be easily referenced in a motion.

Summary implementation plan

Growth 2,391,280,033 64.4% 5% 5% 7% 614,7013 2,079,133,023 56.0% 0.0% Weighted roll-up of underlying components Public Equity 1,301,360,814 35.1% 235.2 13% 149,000,000 11,512,360,814 31.0% 0.0% Weighted roll-up of underlying components US Equity 454,388,197 12.2% 13% 12.2% 12,2% 13% 12.2% 294,000,000 288,490,044.35 8.0% 0.0% MSCI World ex US IMI Emerging Markets Equit 254,482,573 6.9% 12% 12% 18,000,000 322,482,572.5 10.0% 0.0% MSCI World ex US IMI Private Radixets 751,194,698 20.2% 20% 26% 64,551,455 815,746,153 22.0% 0.0% MSCI World ex US IMI Private Requity 193,904,651 5.2% 7.7% 0.6 4,555 815,746,153 2.2% 0.0% MSCI World ex US IMI Private Real Estate 84,245,577 7.7% 0.0 5.0 69,895,485 2.2% 2.3% 1.3% 1.4 9.2 2.4		Current (7	7/31/18)		Target			1/1/19 Pro Form	na	
Public Equity 1,301,360,814 35.1% 20% 31% 40% (149,000,000) 1,152,360,814 31.0% 0.0% Weighted roll-up of underlying components US Equity 454,388,197 12.2% 13% 27,000,000 481,388,19744 13.0% 0.0% MSCI US IMI International Equity 592,490,044 16.0% 8% (294,000,000) 392,482,572.55 10.0% 0.0% MSCI US IMI Private Equity 193,904,651 5.2% 50 20% 22% 30% 64,551,455 815,746,153 22.0% 0.0% MSCI US IMI Private Equity 193,904,651 5.2% 50 12% 15% 15% 5.2% 6.8% Private Real Estate 84,245,577 7.7% 0% 4% 5% (90,550,60) 195,345,512 5.3% 1.3% Private Real Estate 84,245,577 7.3% 0% 3% 5% (59,895,485) 20,997,950 0.6% 2.4% NT Russell 3000 106,252,463 2.9% 5% (58,000,000) 110,967,619		MV	% of Plan	Min	Policy	Max	+/-	MV	% of Plan	Diff Policy Benchmark
US Equity	Growth	2,391,280,033	64.4%	50%	56%	70%	(312,147,013)	2,079,133,020	56.0%	0.0% Weighted roll-up of underlying components
International Equity 592,490,044 16.0% 8% (294,000,000) 298,490,044.35 8.0% 0.0% MSCI World ex US IMI Emerging Markets Equit 254,482,573 6.9% 10% 118,000,000 372,482,572.55 10.0% 0.0% MSCI EM IMI Private Markets 751,194,698 20.2% 20% 20% 20% 64,551,455 815,746,153 22.0% 0.0% Actual return Private Equity 193,904,651 5.2% 5% 12% 13% 64,551,455 193,904,651 5.2% 6.8% Private Debt 285,898,572 7.7% 0% 4% 5% (90,553,060) 195,345,512 5.3% 1.3% Private Real Estate 84,245,577 2.3% 0% 3% 5% (59,895,485) 20,997,950 0.0% 2.4% Private Real Assets 80,893,435 2.2% 0% 3% 5% (59,895,485) 20,997,950 0.0% 2.4% Private Real Assets 80,893,435 2.2% 0% 3% 5% (59,895,485) 20,997,950 0.0% 2.4% Private Real Assets 168,967,619 4.6% 0% 3% 5% (58,000,000) 110,967,619 3.0% 0.0% 50% JP Morgan EMBI GD, 50% JP Morgan GBI-EM GD High Yield Debt 169,756,901 4.6% 0% 3% 35% 962,575,133 1,188,887,983 32.0% 0.0% Weighted roll-up of underlying components Short-term IG Bonds -	Public Equity	1,301,360,814	35.1%	20%	31%	40%	(149,000,000)	1,152,360,814	31.0%	0.0% Weighted roll-up of underlying components
Emerging Markets Equit 254,482,573 6.9% 10% 118,000,000 372,482,572.55 10.0% MSCI EM IMI Private Markets 751,194,698 20.2% 20% 22% 30% 64,551,455 815,746,153 22.0% 0.0% Actual return Private Equity 193,904,651 5.2% 5.2% 12% 15% - 193,904,651 5.2% -6.8% Private Debt 285,898,572 7.7% 0% 4% 5% (90,553,060) 195,345,512 5.3% 1.3% Private Real Estate 84,245,577 2.3% 0.7% 0.7% 197 2.2% 0% 3% 5% (59,895,485) 20,997,950 0.6% -2.4% NT Russell 3000 106,252,463 2.9% - 125,000,000 321,252,463 8.7% 8.7% Emerging Markets Debt 168,967,619 4.6% 0% 3% 5% (58,000,000) 110,967,619 3.0% 0.0% Tyle Morgan EMBI GD, 50% JP Morgan EMBI GD,	US Equity	454,388,197	12.2%		13%		27,000,000	481,388,197.44	13.0%	0.0% MSCI US IMI
Private Markets 751,194,698 20.2% 20% 22% 30% 64,551,455 815,746,153 22.0% 0.0% Actual return Private Equity 193,904,651 5.2% 5% 12% 15% - 193,904,651 5.2% -6.8% Private Debt 285,898,572 7.7% 0% 4% 5% (90,553,060) 195,345,512 5.3% 1.3% Private Real Estate 84,245,577 2.3% 0% 3% 5% (59,895,485) 2.9% 7% Private Real Assets 80,893,435 2.2% 0% 3% 5% (59,895,485) 20,997,950 0.6% -24% NT Russell 3000 106,252,463 2.9% - 215,000,000 321,252,463 8.7% 8.7% Emerging Markets Debt 168,967,619 4.6% 0% 3% 5% (58,000,000) 110,967,619 3.0% 0.0% I/9 0.0% 1/9 19/96,948 5,8433 0.0% 0.0% I/a 0.0% 1/9 25% 742,000,000	International Equity	592,490,044	16.0%		8%		(294,000,000)	298,490,044.35	8.0%	0.0% MSCI World ex US IMI
Private Equity 193,904,651 5.2% 5% 12% 15% - 193,904,651 5.2% -6.8% Private Debt 285,898,572 7.7% 0% 4% 5% (90,553,060) 195,345,512 5.3% 1.3% Private Real Estate 84,245,577 2.3% 0.7% 84,245,577 2.3% -0.7% Private Real Assets 80,893,435 2.2% 0% 3% 5% (59,895,485) 20,997,950 0.6% -2.4% NT Russell 3000 106,252,463 2.9% - 215,000,000 321,252,463 8.7% 8.7% Emerging Markets Debt 168,967,619 4.6% 0% 3% 5% (58,000,000) 110,967,619 3.0% 0.0% 50/JP Morgan EMBI GD, 50% JP Morgan EMBI GD,	Emerging Markets Equi	254,482,573	6.9%		10%		118,000,000	372,482,572.55	10.0%	0.0% MSCI EM IMI
Private Debt 285,898,572 7.7% 0% 4% 5% (90,553,060) 195,345,512 5.3% 1.3% Private Real Estate 84,245,577 2.3% 0% 3% 5% - 84,245,577 2.3% -0.7% Private Real Assets 80,893,435 2.2% 0% 3% 5% (59,895,485) 20,997,950 0.6% 2.4% NT Russell 3000 106,252,463 2.9% - - 215,000,000 321,252,463 8.7% 8.7% Emerging Markets Debt High Yield Debt 168,967,619 4.6% 0% 3% 5% (58,000,000) 110,967,619 3.0% 0.0% 50% JP Morgan EMBI GD, 50%	Private Markets	751,194,698	20.2%	20%	22%	30%	64,551,455	815,746,153	22.0%	0.0% Actual return
Private Real Estate 84,245,577 2.3% 0% 3% 5% - 84,245,577 2.3% -0.7% Private Real Assets 80,893,435 2.2% 0% 3% 5% (59,895,485) 20,997,950 0.6% -2.4% NT Russell 3000 106,252,463 2.9% - - 215,000,000 321,252,463 8.7% 8.7% Emerging Markets Debt 168,967,619 4.6% 0% 3% 5% (58,000,000) 110,967,619 3.0% 0.0% 50% JP Morgan EMBI GD, 60% J	Private Equity	193,904,651	5.2%	5%	12%	15%	-	193,904,651	5.2%	-6.8%
Private Real Assets 80,893,435 2.2% 0% 3% 5% (59,895,485) 20,997,950 0.6% -2.4% NT Russell 3000 106,252,463 2.9% - - 215,000,000 321,252,463 8.7% 8.7% Emerging Markets Debt 168,967,619 4.6% 0% 3% 5% (58,000,000) 110,967,619 3.0% 0.0% 50% JP Morgan EMBI GD, 50% JP Morgan GBI-EM GD High Yield Debt 169,756,901 4.6% 0% 3% 5% (58,000,000) 110,967,619 3.0% 0.0% 50% JP Morgan EMBI GD, 50% JP Morgan GBI-EM GD High Yield Debt 169,756,901 4.6% 0% 3% 5% (58,000,000) 110,967,619 3.0% 0.0% n/a Zero Beta 226,312,850 6.1% 10% 32% 35% 962,575,133 1,188,887,983 32.0% 0.0% Weighted roll-up of underlying components Short-term IG Bonds - 0.0% 5% 5% 186,000,000 186,000,000 5.0% 0.0% Actual return Absolute Return 216,507,709	Private Debt	285,898,572	7.7%	0%	4%	5%	(90,553,060)	195,345,512	5.3%	1.3%
NT Russell 3000	Private Real Estate	84,245,577	2.3%	0%	3%	5%	-	84,245,577	2.3%	-0.7%
Emerging Markets Debt 168,967,619 4.6% 0% 3% 5% (58,000,000) 110,967,619 3.0% 0.0% 50% JP Morgan EMBI GD, 50% JP Morgan GBI-EM GD High Yield Debt 169,756,901 4.6% 0% 0% (169,698,468) 58,433 0.0% 0.0% n/a Zero Beta 226,312,850 6.1% 10% 32% 35% 962,575,133 1,188,887,983 32.0% 0.0% Weighted roll-up of underlying components Short-term IG Bonds - 0.0% 5% 20% 25% 742,000,000 742,000,000 5.0% 0.0% ICE BofAML 3-Month T-Bill Index Immunized Cash Flows - 0.0% 5% 5% 5% 186,000,000 186,000,000 5.0% 0.0% Actual return Absolute Return 216,507,709 5.8% 0% 7% 10% 45,000,000 261,507,709 7.0% 0.0% 3-Month LIBOR Cash 9,805,140 0.3% 0% 0% 5% (10,424,867) (619,726) 0.0% 0.0% NCREIF ODCE Index (Equal-weighted) Core Real Estate 213,014,159 5.7% 0% 5% 8% (28,000,000) 185,014,159 5.0% 0.0% NCREIF ODCE Index (Equal-weighted) Commodities 149,105,250 4.0% 0% 2% 8% (75,000,000) 74,105,250 2.0% 0.0% Bloomberg Commodities Index Sovereign Bonds ex-U.S 0.0% 0% 2% 8% 75,000,000 75,000,000 2.0% 0.0% Bloomberg Barclays 0-5 Year TIPS	Private Real Assets	80,893,435	2.2%	0%	3%	5%	(59,895,485)	20,997,950	0.6%	-2.4%
High Yield Debt 169,756,901 4.6% 0% (169,698,468) 58,433 0.0% 0.0% n/a Zero Beta 226,312,850 6.1% 10% 32% 35% 962,575,133 1,188,887,983 32.0% 0.0% Weighted roll-up of underlying components Short-term IG Bonds - 0.0% 5% 20% 25% 742,000,000 742,000,000 20.0% 0.0% ICE BofAML 3-Month T-Bill Index Immunized Cash Flows - 0.0% 5% 5% 186,000,000 186,000,000 5.0% 0.0% Actual return Absolute Return 216,507,709 5.8% 0% 7% 10% 45,000,000 261,507,709 7.0% 0.0% 3-Month LIBOR Cash 9,805,140 0.3% 0% 0% 5% (10,424,867) (619,726) 0.0% 0.0% n/a Other 1,094,547,530 29.5% 5% 12% 15% (650,428,121) 444,119,409 12.0% 0.0% Weighted roll-up of underlying components Core Real Estate 213,014,159 5.7% 0% 5% 8% (28,000,000) 185,014,159 5.0% 0.0% NCREIF ODCE Index (Equal-weighted) Commodities 149,105,250 4.0% 0% 2% 8% (75,000,000) 74,105,250 2.0% 0.0% Bloomberg Commodities Index Sovereign Bonds ex-U.S 0.0% 0% 2% 8% 75,000,000 75,000,000 2.0% 0.0% Bloomberg Barclays 0-5 Year TIPS	NT Russell 3000	106,252,463	2.9%				215,000,000	321,252,463	8.7%	8.7%
Zero Beta 226,312,850 6.1% 10% 32% 35% 962,575,133 1,188,887,983 32.0% 0.0% Weighted roll-up of underlying components Short-term IG Bonds - 0.0% 5% 20% 25% 742,000,000 742,000,000 20.0% 0.0% ICE BofAML 3-Month T-Bill Index Immunized Cash Flows - 0.0% 5% 5% 186,000,000 186,000,000 5.0% 0.0% Actual return Absolute Return 216,507,709 5.8% 0% 7% 10% 45,000,000 261,507,709 7.0% 0.0% 3-Month LIBOR Cash 9,805,140 0.3% 0% 0% 5% (10,424,867) (619,726) 0.0% 0.0% n/a Other 1,094,547,530 29.5% 5% 12% 15% (650,428,121) 444,119,409 12.0% 0.0% Weighted roll-up of underlying components Core Real Estate 213,014,159 5.7% 0% 5% 8% (28,000,000) 185,014,159 5.0% 0.0% NCREIF ODCE Index (Equal-weighted) Commodities <td>Emerging Markets Debt</td> <td>168,967,619</td> <td>4.6%</td> <td>0%</td> <td>3%</td> <td>5%</td> <td>(58,000,000)</td> <td>110,967,619</td> <td>3.0%</td> <td>0.0% 50% JP Morgan EMBI GD, 50% JP Morgan GBI-EM GD</td>	Emerging Markets Debt	168,967,619	4.6%	0%	3%	5%	(58,000,000)	110,967,619	3.0%	0.0% 50% JP Morgan EMBI GD, 50% JP Morgan GBI-EM GD
Short-term IG Bonds - 0.0% 5% 20% 25% 742,000,000 742,000,000 20.0% 0.0% ICE BofAML 3-Month T-Bill Index Immunized Cash Flows - 0.0% 5% 5% 5% 186,000,000 186,000,000 5.0% 0.0% Actual return Absolute Return 216,507,709 5.8% 0% 7% 10% 45,000,000 261,507,709 7.0% 0.0% 3-Month LIBOR Cash 9,805,140 0.3% 0% 0% 5% (10,424,867) (619,726) 0.0% 0.0% n/a Other 1,094,547,530 29.5% 5% 12% 15% (650,428,121) 444,119,409 12.0% 0.0% Weighted roll-up of underlying components Core Real Estate 213,014,159 5.7% 0% 5% 8% (28,000,000) 185,014,159 5.0% 0.0% NCREIF ODCE Index (Equal-weighted) Commodities 149,105,250 4.0% 0% 2% 8% (75,000,000) 74,105,250 2.0% 0.0% Bloomberg Commodities Index Sovereign Bonds ex-U.S 0.0% 0% 3% 5% 110,000,000 110,000,000 3.0% 0.0% FTSE WGBI ex US TIPS - 0.0% 0% 2% 8% 75,000,000 75,000,000 2.0% 0.0% Bloomberg Barclays 0-5 Year TIPS	High Yield Debt	169,756,901	4.6%		0%		(169,698,468)	58,433	0.0%	0.0% n/a
Immunized Cash Flows - 0.0% 5% 5% 5% 186,000,000 186,000,000 5.0% 0.0% Actual return Absolute Return 216,507,709 5.8% 0% 7% 10% 45,000,000 261,507,709 7.0% 0.0% 3-Month LIBOR Cash 9,805,140 0.3% 0% 0% 5% (10,424,867) (619,726) 0.0% 0.0% n/a Other 1,094,547,530 29.5% 5% 12% 15% (650,428,121) 444,119,409 12.0% 0.0% Weighted roll-up of underlying components Core Real Estate 213,014,159 5.7% 0% 5% 8% (28,000,000) 185,014,159 5.0% 0.0% NCREIF ODCE Index (Equal-weighted) Commodities 149,105,250 4.0% 0% 2% 8% (75,000,000) 74,105,250 2.0% 0.0% Bloomberg Commodities Index Sovereign Bonds ex-U.S. - 0.0% 0% 3% 5% 110,000,000 110,000,000 3.0% 0.0% Bloomberg Barclays 0-5 Year TIPS	Zero Beta	226,312,850	6.1%	10%	32%	35%	962,575,133	1,188,887,983	32.0%	0.0% Weighted roll-up of underlying components
Absolute Return 216,507,709 5.8% 0% 7% 10% 45,000,000 261,507,709 7.0% 0.0% 3-Month LIBOR Cash 9,805,140 0.3% 0% 0% 5% (10,424,867) (619,726) 0.0% 0.0% n/a Other 1,094,547,530 29.5% 5% 12% 15% (650,428,121) 444,119,409 12.0% 0.0% Weighted roll-up of underlying components Core Real Estate 213,014,159 5.7% 0% 5% 8% (28,000,000) 185,014,159 5.0% 0.0% NCREIF ODCE Index (Equal-weighted) Commodities 149,105,250 4.0% 0% 2% 8% (75,000,000) 74,105,250 2.0% 0.0% Bloomberg Commodities Index Sovereign Bonds ex-U.S 0.0% 0% 3% 5% 110,000,000 110,000,000 3.0% 0.0% FTSE WGBI ex US TIPS - 0.0% 0% 2% 8% 75,000,000 75,000,000 2.0% 0.0% Bloomberg Barclays 0-5 Year TIPS	Short-term IG Bonds	-	0.0%	5%	20%	25%	742,000,000	742,000,000	20.0%	0.0% ICE BofAML 3-Month T-Bill Index
Cash 9,805,140 0.3% 0% 0% 5% (10,424,867) (619,726) 0.0% 0.0% n/a Other 1,094,547,530 29.5% 5% 12% 15% (650,428,121) 444,119,409 12.0% 0.0% Weighted roll-up of underlying components Core Real Estate 213,014,159 5.7% 0% 5% 8% (28,000,000) 185,014,159 5.0% 0.0% NCREIF ODCE Index (Equal-weighted) Commodities 149,105,250 4.0% 0% 2% 8% (75,000,000) 74,105,250 2.0% 0.0% Bloomberg Commodities Index Sovereign Bonds ex-U.S. - 0.0% 0% 3% 5% 110,000,000 110,000,000 3.0% 0.0% FTSE WGBI ex US TIPS - 0.0% 0% 2% 8% 75,000,000 75,000,000 2.0% 0.0% Bloomberg Barclays 0-5 Year TIPS	Immunized Cash Flows	-	0.0%	5%	5%	5%	186,000,000	186,000,000	5.0%	0.0% Actual return
Other 1,094,547,530 29.5% 5% 12% 15% (650,428,121) 444,119,409 12.0% 0.0% Weighted roll-up of underlying components Core Real Estate 213,014,159 5.7% 0% 5% 8% (28,000,000) 185,014,159 5.0% 0.0% NCREIF ODCE Index (Equal-weighted) Commodities 149,105,250 4.0% 0% 2% 8% (75,000,000) 74,105,250 2.0% 0.0% Bloomberg Commodities Index Sovereign Bonds ex-U.S. - 0.0% 0% 3% 5% 110,000,000 110,000,000 3.0% 0.0% FTSE WGBI ex US TIPS - 0.0% 0% 2% 8% 75,000,000 75,000,000 2.0% 0.0% Bloomberg Barclays 0-5 Year TIPS	Absolute Return	216,507,709	5.8%	0%	7%	10%	45,000,000	261,507,709	7.0%	0.0% 3-Month LIBOR
Core Real Estate 213,014,159 5.7% 0% 5% 8% (28,000,000) 185,014,159 5.0% 0.0% NCREIF ODCE Index (Equal-weighted) Commodities 149,105,250 4.0% 0% 2% 8% (75,000,000) 74,105,250 2.0% 0.0% Bloomberg Commodities Index Sovereign Bonds ex-U.S. - 0.0% 0% 3% 5% 110,000,000 110,000,000 3.0% 0.0% FTSE WGBI ex US TIPS - 0.0% 0% 2% 8% 75,000,000 75,000,000 2.0% 0.0% Bloomberg Barclays 0-5 Year TIPS	Cash	9,805,140	0.3%	0%	0%	5%	(10,424,867)	(619,726)	0.0%	0.0% n/a
Commodities 149,105,250 4.0% 0% 2% 8% (75,000,000) 74,105,250 2.0% 0.0% Bloomberg Commodities Index Sovereign Bonds ex-U.S. - 0.0% 0% 3% 5% 110,000,000 110,000,000 3.0% 0.0% FTSE WGBI ex US TIPS - 0.0% 0% 2% 8% 75,000,000 75,000,000 2.0% 0.0% Bloomberg Barclays 0-5 Year TIPS	Other	1,094,547,530	29.5%	5%	12%	15%	(650,428,121)	444,119,409	12.0%	0.0% Weighted roll-up of underlying components
Sovereign Bonds ex-U.S 0.0% 0% 3% 5% 110,000,000 110,000,000 3.0% 0.0% FTSE WGBI ex US TIPS - 0.0% 0% 2% 8% 75,000,000 75,000,000 2.0% 0.0% Bloomberg Barclays 0-5 Year TIPS	Core Real Estate	213,014,159	5.7%	0%	5%	8%	(28,000,000)	185,014,159	5.0%	0.0% NCREIF ODCE Index (Equal-weighted)
TIPS - 0.0% 0% 2% 8% 75,000,000 75,000,000 2.0% 0.0% Bloomberg Barclays 0-5 Year TIPS	Commodities	149,105,250	4.0%	0%	2%	8%	(75,000,000)	74,105,250	2.0%	0.0% Bloomberg Commodities Index
	Sovereign Bonds ex-U.S.	-	0.0%	0%	3%	5%	110,000,000	110,000,000	3.0%	0.0% FTSE WGBI ex US
Core Bonds 732 428 121 19.7% 0% (732 428 121) - 0.0% 0.0% p/a	TIPS	-	0.0%	0%	2%	8%	75,000,000	75,000,000	2.0%	0.0% Bloomberg Barclays 0-5 Year TIPS
(102,120,121)	Core Bonds	732,428,121	19.7%		0%		(732,428,121)	-	0.0%	0.0% n/a

Source: State Street, ORS

Public Markets

Public Equity (US Equity, International Equity, Emerging Markets Equity)

- Strategies with multi-regional exposures will be decomposed by region when calculating the weights of the sub-asset classes.
- · Passive vehicles will be used to obtain policy beta exposures.
 - The passive vehicles will serve as the funding source for active searches going forward, especially in Emerging Markets.
- · Other changes may include reduced usage of long/short strategies.

Fixed Income (Cash, Short-term IG Bonds, Immunized Cash Flows, TIPS, Core Bonds, High Yield, EMD)

- Existing High Yield and Core Bond managers will be terminated.
- Passive vehicles will be used to obtain beta exposures in the Short Duration, TIPS, and Immunized Cash Flow allocations.
 - The passive vehicles will serve as the funding source for active searches going forward.
 - The bulk of the legacy strategies have daily liquidity, with the exception of High Yield.

Absolute Return

All current strategies will be retained, and incrementally increased to bring the AR allocation to the new policy weight.

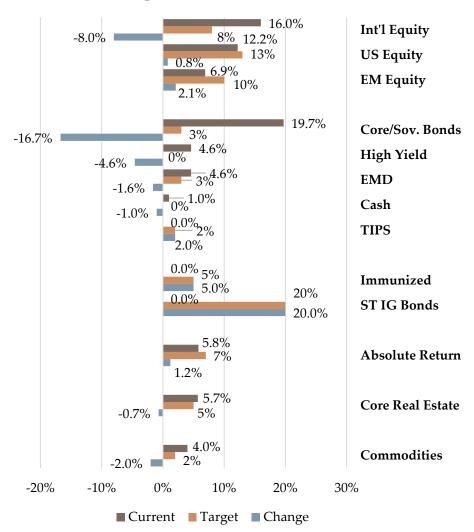
Core Real Estate

Redeem from American Core Realty Fund to reach new target.

Commodities

- Pinnacle Natural Resources redemption approved on May 17, 2018 for December 31, 2018 dealing date.
- Redeem from Credit Suisse Risk Parity fund to reach target.
- Invest proceeds from Pinnacle Natural Resources redemption into Credit Suisse Risk Parity fund beginning mid-January 2019.

Implementation Effects

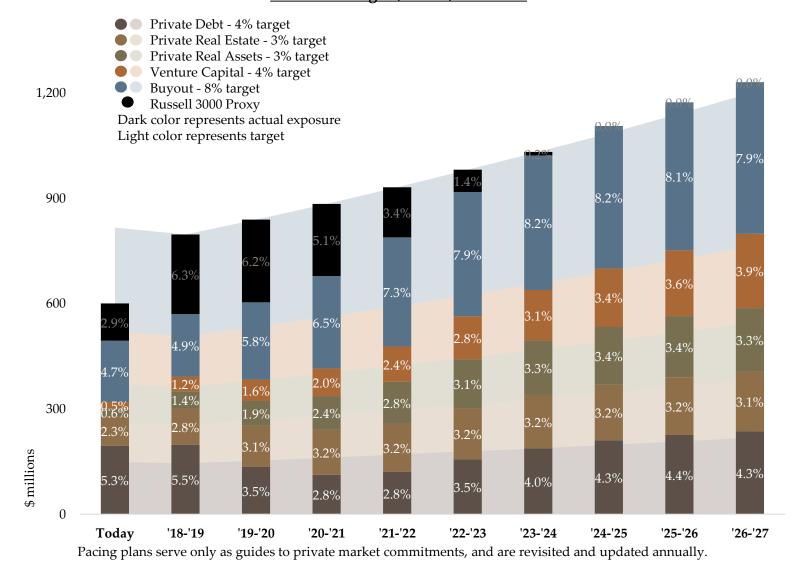


-30%

Private Markets

D 1 (0)	(40.40	(40.100	(20.124						
Pacing plan (\$ mm):	<u>'18-'19</u>	<u>'19-'20</u>	<u>'20-'21</u>						
Private Markets	24	25(24:						
Buyout	99	95	89						
Venture Capital	23	30	29						
Private Debt	60	60	60						
Private Real Estate	35	35	35						
Private Real Assets	30	30	34						
Breakdown:									
Traditional Style Investm	ents								
Private Debt	60	60	60						
Private Real Estate	35	35	35						
Private Real Assets	30	30	34						
NB PE Strat. Partnership									
Primary Funds	85	82	77						
Secondaries &									
Co-investments	37	35	33						
Strategic Investments									
Venture Capital	-	8	8						
Proxy use:									
NT Russell 3000 index fund									
Implemented at the Private Markets level									
Benchmark:									
For time-weighted, plan-level: actual return									
For long-term: money-wtd PME and vintage quartiles									

Forecasts: Targets, NAVs, % of Plan



Summary

Staff recommends approval of:

- 1. The implementation plan; (slide 2)
- 2. The effective date of the new asset allocation as October 1, 2018; (slide 2)
- 3. The policy benchmark, and the underlying asset class benchmarks; (slide 3)
- 4. Managing Public Equity asset class weights according to underlying exposure of the managers; (slide 4)
- 5. Hiring new funds; (slide 4)
 - a. Northern Trust MSCI EM index fund
 - b. BlackRock 3M T-bills separately managed account
 - c. Northern Trust Short Term Government Bond index fund
 - d. Northern Trust 0-5Y TIPS separately managed account
 - e. Northern Trust World Government Bond ex-US index fund
- 6. Reducing exposure by more than 50% to...; (slide 4)
 - a. Northern Trust MSCI World ex-US index fund
 - b. Oberweis International Opportunities fund
 - c. Credit Suisse Risk Parity fund
 - d. BlueBay EM Select Bond fund
- 7. Termination of...; (slide 4)
 - a. BlackRock Global Aggregate ex-US collective trust fund
 - b. BlackRock US Debt collective trust fund
 - c. BlackRock Long Government collective trust fund
 - d. Colchester Global Bond Fund
 - e. Franklin Templeton Global MultiSector fund
 - f. Voya Securitized Credit separately managed account
 - g. Rhumbline Brookfield Global Infrastructure index fund (slide 5)
- 8. Exemption for Northern Trust and BlackRock from Investment Policy Statement item 22, the limit of managing no more than 20% of plan assets;
- 9. The pacing plan for each private market asset class; (slide 5)
- 10. The concept of an increase to the commitment size, investment period, and term of the Neuberger Berman Private Equity fund-of-one; (slide 5)
- 11. Using the Northern Trust Russell 3000 index fund as the singular proxy for all gaps in private markets exposure, implemented at the Private Markets level; (slide 5)

Certain approvals for alternative investments to be discussed in Closed Session.