Memorandum

TO:	Police & Fire Department Retirement Plan	**FROM:**	Investment Staff
SUBJECT:	Asset allocation implementation	**DATE:**	August 28, 2018

Approved ----------------------   **Date**   --/--/----

Recommendation

Please see the final slide of the accompanying presentation for a summary of all recommendations.

Background

At the August 2, 2018 meeting, the Board approved a new asset allocation policy and requested staff do more work on ranges. Exhibit A shows the slides that were approved.

Much of the implementation plan is operational in nature – reallocating funds among existing managers to get at close as possible to the new targets. Due to the magnitude of these changes, some require explicit approval, which is highlighted on the summary slide of the presentation. There are also a series of decisions that are necessary, but not obvious, embedded in the implementation plan. This memo attempts to highlight those decisions and their rationale.

Analysis

Benchmarks

In previous years, benchmarks reflected a philosophy that any decision, be it asset class structuring or manager selection, should be reflected as deviations from a passive approach to the entire asset class. It also reflected fully mature private markets portfolios. The approach made it harder to conduct accurate performance attribution, and caused particular consternation about performance versus benchmark while the private market allocations were far below target. Within the new asset allocation, explicit asset class decomposition requires new, specific benchmarks. These include decomposition of equity geographic exposure, fixed income duration and credit risks, and private assets (commodities, core real estate both split from related private markets asset classes).

Exhibit A: Police & Fire Approved Asset Allocation

Asset Allocation Policy Options Analyzed[1]

	P&F Interim (%)	Staff (%)	Proposed Staff Change (%)	Proposed Staff Target Range (%)	Meketa[2] (%)
Growth	**64**	**56**	**-8**	**50 - 70**	**57**
U.S. Equity	16	13	-3		14
Developed Market Equity (non-U.S.)	12	8	-4		4
Emerging Market Equity	6	10	+4		10
High Yield Bonds	2	--	-2		0
Bank Loans	2	--	-2		1
Emerging Market Bonds	4	3	-1		3
Total Private Assets[3]	22	22	--		25
Zero Beta	**8**	**32**	**+24**	**10 - 35**	**23**
Hedge Funds	6	7	+1		8
Short-term Investment Grade Bonds	2	25	+23		15
Cash	--	--	--		1
Other	**28**	**12**	**-16**	**5 - 15**	**20**
Core Real Estate	4	5	+1		5
Commodities	6	2	-4		3
Investment Grade Bonds	13	3	-10		5
Long-term Government Bonds	3	--	-3		5
TIPS	2	2	--		3
Expected Return	*7.08*	*7.06*	*-0.02*		*7.19*
Standard Deviation	*12.05*	*11.76*	*-0.29*		*11.14*
Sharpe Ratio	*0.35*	*0.35*	*--*		*0.38*
Probability of Achieving 6.875% over 20 Years	*52.61*	*52.31*	*-0.30*		*54.54*

[1] Expected return and standard deviation are based upon Meketa Investment Group's 2018 Annual Asset Study. Throughout this document, returns for periods longer than one year are annualized.
[2] Column may not sum to 100% due to rounding.
[3] Total Private Assets includes Private Equity, Private Debt, Value Added Real Estate, Opportunistic Real Estate, and Infrastructure.

Staff Asset Allocation Policy Suggested Target Ranges

	Min (%)	Staff Target (%)	Max (%)
Growth	**50**	**56**	**70**
Public Equity	20	31	40
Total Private Assets	20	22	30
Private Equity	5	8	15
Venture/Growth Capital	0	4	10
Private Debt	0	4	5
Growth Real Estate	0	3	5
Private Real Assets	0	3	5
Emerging Market Bonds	0	3	5
Zero Beta	**10**	**32**	**35**
Cash	0	0	5
Short-term IG Bonds	5	20	25
Market Neutral Strategies	0	7	10
Bonds (Immunized Cash Flows)	5	5	5
Other	**5**	**12**	**15**
TIPS	0	2	8
Core Real Estate	0	5	8
Commodities	0	2	8
Core Bonds	0	3	5

Source: August 2, 2018 Police & Fire Board of Administration Agenda Item 2b(3), pages 7, 10

Benchmarks (continued)

Within Public Equity, each of US Equity, International Equity, and Emerging Markets Equity are benchmarked against their respective MSCI index, with the weighted allocation to each rolling up for the asset class return. The new benchmark acknowledges the overweight to EM embedded in the asset allocation. For Private Markets, time-weighted returns and a heavy proxy allocation would obscure shorter term portfolio-level analysis unless the effects of an immature portfolio were neutralized. As a work-around, the benchmark is set to the actual return of the portfolio. Success or failure of the Private Markets program can be evaluated separately, using metrics more relevant to private funds. Immunized cash flows similarly use the actual return, as the asset class objective is to meet cash flow obligations rather than be a source of return. Within the Zero Beta functional grouping, most of the asset classes are envisioned as "alternatives to holding cash" and have been benchmarked accordingly. Emerging Markets Debt has an unchanged benchmark, and the TIPS benchmark reflects its implementation. The benchmark for core real estate is moving to the index comprised of US core real estate funds. The commodities benchmark is unchanged.

Public Equity

In addition to the benchmark changes mentioned above, if the implementation plan is approved, the Public Equity portfolio geographic exposure would be managed on a look-through basis to the holdings of the managers. Using an exposure-based methodology allows maintaining the global equity and marketable alternative equity managers while the new Public Equity investment officer evaluates the portfolio.

Private Markets

Consistent commitments anticipated by annual pacing plans will still take the plan many years to reach the target allocation in Private Markets. For the portion of the allocation that is not invested, the Russell 3000 index will be used to keep the Private Markets net asset value at the target level. Initially, there will be a large purchase of this US public equity exposure (+5.8% of plan, to ~8.7% of plan), which will substantially decrease over the next five years. As a result of the proxy, the plan will have exposure to Northern Trust passive commingled funds in excess of 20% of plan assets (~22%, excluding Russell 3000 proxy).

Conclusion

Staff recommends approval of the asset allocation implementation so as to have a new asset allocation effective date of October 1, 2018 and to be able to evaluate investment performance versus benchmark starting January 1, 2019.