



Cavanaugh Macdonald
CONSULTING, LLC

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Review of 2012-2017 Experience Study for the Kansas City Police Employees Retirement Systems

April 12, 2018





Actuarial Methods

	Current	Recommended
Actuarial cost method	Entry Age	No change
Asset valuation method	5 year smoothing of actual vs expected return	No change
UAAL Amortization Policy		
• Amortization bases	Multiple bases – layered amortization	No change
• Amortization period	Closed 30 years on legacy. Closed 20 years other bases.	No change
• Payments	Level percent of pay	No change



Economic Assumptions

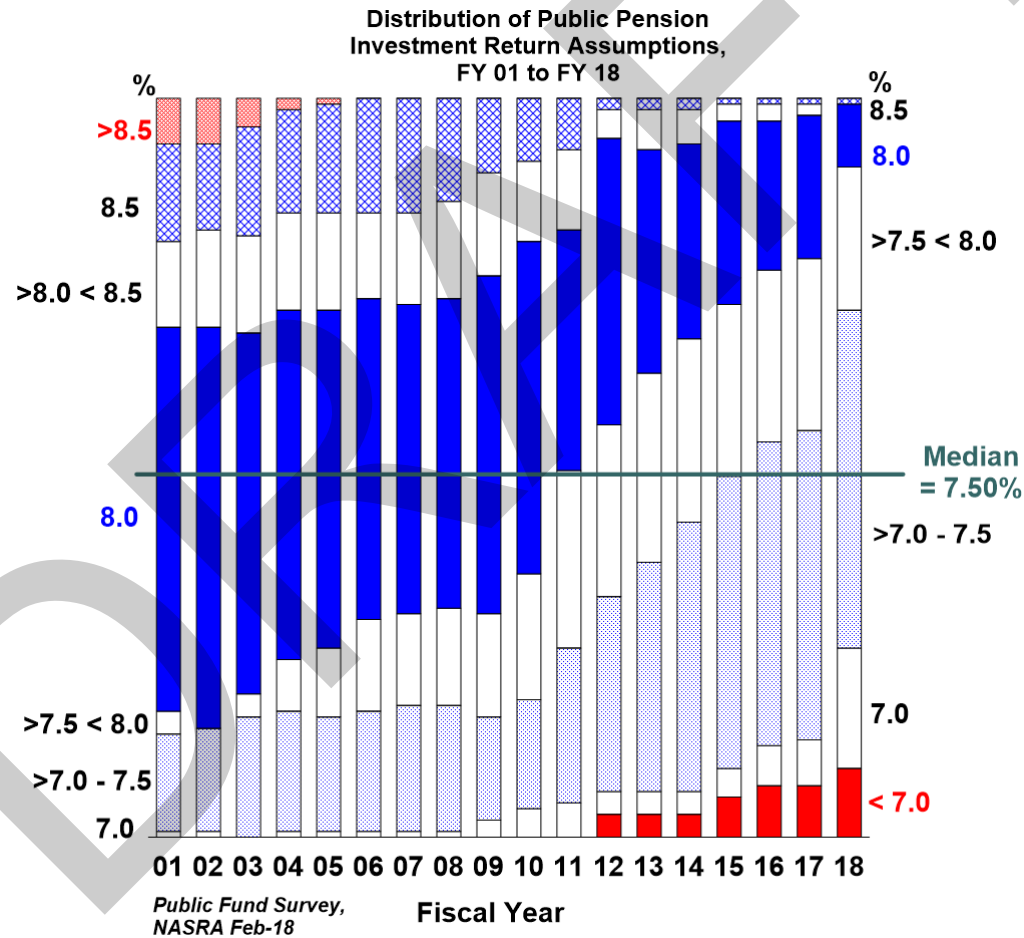
	Current	Recommended
Price Inflation	3.00%	2.50%
General Wage Growth	3.75%	3.00%
Investment Return	7.50%	5.50%
Payroll Growth	3.75%	3.00%
Cost of Living Adjustment	2.50%	To Be Determined*

*Need to address once COLA Policy has been reviewed and revised, if necessary.



Peer Group Comparison

- Trend has been to lower investment return assumption



Investment Return Assumption



- Recommend decreasing investment return assumption from 7.50% to 5.50%

	Current	Proposed
Real Rate of Return	4.50%	3.00%
Assumed Inflation	<u>3.00%</u>	<u>2.50%</u>
Investment return	7.50%	5.50%

- A material change in the asset allocation would require revisiting the investment return assumption

Summary of Changes to Demographic Assumptions



Assumption	Recommendation - Police
Mortality	No change to base table, but strengthen by changing the mortality improvement scale prospectively to MP-2017 ultimate rates
Retirement	Modify retirement rates to better reflect actual experience
Disability	Increase disability rates
Termination	Adopt service-based assumption
Probability of Refund	No change
Individual Salary Scale	Decrease general wage increase component by 0.75%. No change to merit scale

Summary of Changes to Demographic Assumptions



Assumption	Recommendation - Civilians
Mortality	No change to base table, but strengthen by changing the mortality improvement scale prospectively to MP-2017 ultimate rates
Retirement	Modify retirement rates to better reflect actual experience
Disability	No change
Termination	Modify to better match actual experience
Probability of Refund	No change
Individual Salary Scale	Decrease general wage increase component by 0.75% and also modify merit scale

Impact on Valuation Results Police



Police Retirement System of Kansas City, Missouri				
Impact of Changes in Actuarial Assumptions				
(Based on the April 30, 2017 Valuation)				
	Baseline	Demographic Assumption Changes	All Assumption Changes with a COLA of	
			2.50%	1.50%
Actuarial Accrued Liability				
Active	\$452,522,998	\$458,196,305	\$629,953,835	\$573,137,485
Inactive	<u>666,425,067</u>	<u>672,094,031</u>	<u>820,002,821</u>	<u>770,198,039</u>
Total	\$1,118,948,065	\$1,130,290,336	\$1,449,956,656	\$1,343,335,524
Actuarial Value of Assets	\$853,286,442	\$853,286,442	\$853,286,442	\$853,286,442
Unfunded Actuarial Accrued Liability (UAAL)	\$265,661,623	\$277,003,894	\$596,670,214	\$490,049,082
Funded Ratio	76.3%	75.5%	58.8%	63.5%
Actuarial Contribution Rate for Fiscal Year End 2019				
Normal Cost Rate	25.70%	26.73%	40.41%	36.79%
Administrative Expenses	0.40%	0.40%	0.60%	0.60%
Member Financed	<u>(11.55%)</u>	<u>(11.55%)</u>	<u>(11.55%)</u>	<u>(11.55%)</u>
Employer Normal Cost	14.55%	15.58%	29.46%	25.84%
UAAL Contribution Rate	<u>15.46%</u>	<u>16.21%</u>	<u>31.28%</u>	<u>25.53%</u>
Employer Contribution Rate	30.01%	31.79%	60.74%	51.37%
Employer Contribution for Fiscal Year End 2019	\$29,083,743	\$30,808,803	\$58,023,613	\$49,072,654

Impact on Valuation Results Civilians



Civilian Employees' Retirement System of Kansas City, Missouri				
Impact of Changes in Actuarial Assumptions				
(Based on the April 30, 2017 Valuation)				
	Baseline	Demographic Assumption Changes	All Assumption Changes with a COLA of	
			2.50%	1.50%
Actuarial Accrued Liability				
Active	\$87,808,448	\$86,519,626	\$125,240,676	\$115,482,289
Inactive	<u>83,379,743</u>	<u>84,226,272</u>	<u>101,993,556</u>	<u>95,819,588</u>
Total	\$171,188,191	\$170,745,898	\$227,234,232	\$211,301,877
Actuarial Value of Assets	\$137,233,636	\$137,233,636	\$137,233,636	\$137,233,636
Unfunded Actuarial Accrued Liability (UAAL)	\$33,954,555	\$33,512,262	\$90,000,596	\$74,068,241
Funded Ratio	80.2%	80.4%	60.4%	64.9%
Actuarial Contribution Rate for Fiscal Year End 2019				
Normal Cost Rate	15.38%	14.56%	23.87%	22.03%
Administrative Expenses	0.40%	0.40%	0.50%	0.50%
Member Financed	<u>(5.00%)</u>	<u>(5.00%)</u>	<u>(5.00%)</u>	<u>(5.00%)</u>
Employer Normal Cost	10.78%	9.96%	19.37%	17.53%
UAAL Contribution Rate	<u>7.20%</u>	<u>7.05%</u>	<u>17.20%</u>	<u>14.09%</u>
Employer Contribution Rate	17.98%	17.01%	36.57%	31.62%
Employer Contribution for Fiscal Year End 2019	\$4,778,854	\$4,521,040	\$9,620,043	\$8,317,904