

System: Municipal Employees' Retirement System

Effective Date: July 1, 2019

Category	Male Mortality Table	Female Mortality Table	Interest Rate	Annuity Type	Unisex / Sex Distinct	% Male
Transfers / Purchases	Male Mortality Contained within the 2018 Actuarial Valuation Report	Female Mortality Contained within the 2018 Actuarial Valuation Report	7.275%	Due	S/D	N/A
Disability Award Lifetime Equivalences	2000 RP Disabled Lives Mortality Table for Males	2000 RP Disabled Lives Mortality Table for Females	7.00%	Due	U	80%
Single Life Option Factors Joint & Survivor Option Factors	2000 RP Combined Healthy Male Table set forward 2 years	2000 RP Combined Healthy Female Table set forward 1 year	7.00%	Due	U	65%
	2000 RP Combined Healthy Male Table set forward 2 years	2000 RP Combined Healthy Female Table set forward 1 year	7.00%	Due	U	85%
Early Retirement Reduction Factors	2000 RP Combined Healthy Male Table set forward 2 years	2000 RP Combined Healthy Female Table set forward 1 year	7.00%	Due	U	65%
Sick and Annual Leave Conversion	2000 RP Healthy Annuitant Male Table set forward 2 years and projected to 2028 (Using Scale AA)	2000 RP Healthy Annuitant Female Table set forward 1 year and projected to 2028 (Using Scale AA)	7.00%	Due	S/D	N/A
Immediate Survivor Benefit Reduction Factors	2000 RP Combined Healthy Male Table set forward 2 years	2000 RP Combined Healthy Female Table set forward 1 year	7.00%	Due	U	25%
Drop Balance Life Annuity Conversions	2000 RP Healthy Annuitant Male Table set forward 2 years and projected to 2028 (Using Scale AA)	2000 RP Healthy Annuitant Female Table set forward 1 year and projected to 2028 (Using Scale AA)	7.00%	Due	U	65%

MERS A

Basis of 2019 Return:

June 2019 Flash Report

PVFSal 06/30/2018

\$1,322,839,091

Year	MVA Assets BOY	Non Inv CF	Market Yield	Val Int	Inv Inc	MVA Assets EOY	Expected Income	DELTA	AVA No Corridor	Inv Income No Corridor	AVA with Corridor	AVA Inv Income	AVA Yield	Year	Est Cont Inc
2024	\$980,591,713	-\$5,159,384	7.000%	7.000%	\$68,463,896	\$1,043,896,225	\$68,463,896	\$0	\$1,043,896,225	\$68,463,896	\$1,043,896,225	\$68,463,896	7.00%	2021	0.00%
2023	\$921,428,618	-\$5,159,384	7.000%	7.000%	\$64,322,479	\$980,591,713	\$64,322,479	\$0	\$980,591,713	\$60,846,802	\$980,591,713	\$60,846,802	6.60%	2022	0.28%
2022	\$866,136,006	-\$5,159,384	7.000%	7.000%	\$60,451,996	\$921,428,618	\$60,451,996	\$0	\$924,904,296	\$55,162,887	\$924,904,296	\$55,162,887	6.32%	2022	0.45%
2021	\$814,460,668	-\$5,159,384	7.000%	7.000%	\$56,834,722	\$866,136,006	\$56,834,722	\$0	\$874,900,793	\$47,762,433	\$874,900,793	\$47,762,433	5.76%	2021	0.78%
2020	\$764,919,000	-\$5,159,384	7.175%	7.000%	\$54,701,051	\$814,460,668	\$54,701,051	\$0	\$832,297,743	\$31,108,282	\$832,297,743	\$31,108,282	3.87%	2020	2.01%
2019	\$734,226,194	-\$5,159,384	4.900%	7.175%	\$35,852,190	\$764,919,000	\$53,230,578	-\$17,378,387	\$806,348,845	\$13,828,760	\$806,348,845	\$13,828,760	1.74%	2019	3.33%
2018	\$697,057,939	-\$5,159,384	6.09%	7.275%	\$42,327,639	\$734,226,194	\$51,394,797	-\$9,067,158	\$797,679,469	\$21,421,420	\$797,679,469	\$21,421,420	2.75%	2018	2.74%
2017	\$671,876,210	-\$6,069,591	4.67%	7.40%	\$31,251,320	\$697,057,939	\$50,167,221	-\$18,915,901	\$781,417,433	\$17,637,281	\$781,417,433	\$17,637,281	2.30%	2017	3.01%
2016	\$698,984,365	-\$6,683,482	-2.94%	7.50%	-\$20,424,678	\$671,876,210	\$52,177,728	-\$72,602,401	\$769,849,743	\$6,130,377	\$769,849,743	\$6,130,377	0.80%	2016	3.89%
2015	\$730,072,543	-\$8,307,647	-3.14%	7.50%	-\$22,780,531	\$698,984,365	\$56,264,707	-\$79,045,238	\$770,402,848	\$27,829,660	\$770,402,848				
2014	\$657,723,192	-\$8,080,722	12.30%	7.75%	\$80,430,079	\$730,072,543	\$50,666,262	\$29,763,811	\$750,880,836						
2013	\$639,209,518	-\$8,838,974	4.31%	7.75%	\$27,352,648	\$657,723,192	\$49,202,618	-\$21,849,970							
2012	\$679,285,361	-\$7,616,902	-4.81%	7.75%	-\$32,458,941	\$639,209,518	\$54,044,014	-\$86,502,955							
2011	\$624,427,505	-\$10,156,994	10.50%	8.00%	\$65,014,850	\$679,285,361	\$49,555,737	\$15,459,113							

***MERS had an expense account that adjusted the AVA; therefore non inv CF and Inv Inc numbers do not match funding reports in years prior to 2015

Rate of return input value
Other inputs required for estimation
To be checked against valuation report

MERS B

Basis of 2019 Return:

June 2019 Flash Report

PVFSal 06/30/2018

\$546,351,499

Year	MVA Assets BOY	Non Inv CF	Market Yield	Val Int	Inv Inc	MVA Assets EOY	Expected Income	DELTA	AVA No Corridor	Inv Income No Corridor	AVA with Corridor	AVA Inv Income	AVA Yield	Year	Est Cont Inc	
2024	\$232,531,234	\$1,750,937	7.000%	7.000%	\$16,337,433	\$250,619,604	\$16,337,433	\$0	\$250,619,604	\$16,337,433	\$250,619,604	\$16,337,433	7.00%	2020	0.00%	
2023	\$215,626,216	\$1,750,937	7.000%	7.000%	\$15,154,081	\$232,531,234	\$15,154,081	\$0	\$232,531,234	\$14,383,941	\$232,531,234	\$14,383,941	6.62%	2021	0.15%	3.61%
2022	\$199,827,133	\$1,750,937	7.000%	7.000%	\$14,048,146	\$215,626,216	\$14,048,146	\$0	\$216,396,356	\$12,851,535	\$216,396,356	\$12,851,535	6.34%	2022	0.24%	
2021	\$185,061,636	\$1,750,937	7.000%	7.000%	\$13,014,561	\$199,827,133	\$13,014,561	\$0	\$201,793,884	\$10,997,874	\$201,793,884	\$10,997,874	5.79%	2021	0.42%	
2020	\$170,981,079	\$1,750,937	7.175%	7.000%	\$12,329,619	\$185,061,636	\$12,329,619	\$0	\$189,045,073	\$7,220,243	\$189,045,073	\$7,220,243	3.99%	2020	1.05%	
2019	\$161,284,802	\$1,750,937	4.900%	7.175%	\$7,945,340	\$170,981,079	\$11,796,042	-\$3,850,701	\$180,073,892	\$3,290,541	\$180,073,892	\$3,290,541	1.87%	2019	1.74%	*
2018	\$150,467,958	\$1,750,937	5.99%	7.275%	\$9,065,907	\$161,284,802	\$11,198,257	-\$2,132,350	\$175,032,415	\$4,583,466	\$175,032,415	\$4,583,466	2.70%	2018	1.46%	
2017	\$143,201,586	\$604,378	4.64%	7.40%	\$6,661,993	\$150,467,958	\$10,762,373	-\$4,100,380	\$168,698,012	\$3,577,158	\$168,698,012	\$3,577,158	2.17%	2017	1.61%	
2016	\$149,268,995	-\$1,735,240	-2.92%	7.50%	-\$4,332,169	\$143,201,586	\$11,131,280	-\$15,463,449	\$164,516,474	\$1,097,105	\$164,516,474	\$1,097,105	0.67%	2016	2.05%	
2015	\$156,659,396	-\$2,457,432	-3.17%	7.50%	-\$4,932,969	\$149,268,995	\$12,047,654	-\$16,980,623	\$165,154,609	\$5,763,307	\$165,154,609					
2014	\$140,744,063	-\$573,374	11.74%	7.75%	\$16,488,707	\$156,659,396	\$10,885,861	\$5,602,846	\$161,848,735							
2013	\$137,164,489	-\$1,990,512	4.09%	7.75%	\$5,570,086	\$140,744,063	\$10,554,555	-\$4,984,469								
2012	\$144,028,034	-\$39,077	-4.74%	7.75%	-\$6,824,468	\$137,164,489	\$11,520,710	-\$18,345,178								
2011	\$130,596,777	-\$290,764	10.52%	8.00%	\$13,722,021	\$144,028,034	\$10,436,335	\$3,285,686								

***MERS has an expense account that adjust the AVA; therefore non inv CF and Inv Inc numbers will not match funding reports in years prior to 2015

Rate of return input value
Other inputs required for estimation
To be checked against valuation report
Output
Derived from data
Checked against valuation report