

Montgomery County Employees' Retirement System

Actuarial Valuation as of July 1, 2017



Contents

<u>Section</u>	<u>Page</u>	
		<i>Introduction</i>
A		<i>Actuarial Valuation Results</i>
	1-4	Comments on the Actuarial Valuation
	5-13	Summary of Actuarial Valuation Results
	14	Historical Trends of Funded Ratio and Employer Contributions
	15	Funded Ratio History
	16	Solvency Test
	17	Statement of Fiduciary Net Position
	18-19	Statement of Changes in Fiduciary Net Position
	20-22	Development of Actuarial Value of Assets
	23	Historical Comparison of Actuarial Value of Assets to Market Value of Assets
B		<i>Actuarial Valuation Data</i>
	1	Summary of Participant Data
	2	Summary of Active Participant Data by Plan
	3	Summary of Active Participant Data by Outside Agencies
	4-7	Age/Service by Group
	8	Schedule of Active Member Data
	9	Schedule of Members in Pay Status
	10-13	Reconciliation of Participant Data
C		<i>Actuarial Valuation Methods and Assumptions</i>
	1-2	Actuarial Cost Method
	3	Actuarial Assumptions in the Valuation Process
	4-11	Actuarial Valuation Assumptions
D		<i>Benefit Provisions</i>
	1-20	Brief Summary of Plan Provisions
E	1	<i>Glossary of Terms</i>

November 16, 2017

Ms. Linda Herman
Executive Director
Montgomery County Employees' Retirement System
101 Monroe Street, 15th Floor
Rockville, MD 20850

Dear Linda:

We are pleased to provide our formal annual Actuarial Valuation Report as of July 1, 2017, for the Montgomery County Employees' Retirement System ("System"). The actuarial valuation was performed at the request of Montgomery County ("County") and is intended for use by the County and the System and those designated by the County and the System. This report may be provided to parties other than the County and System only in its entirety and only with the permission of the County and System. GRS is not responsible for unauthorized use of this report.

This report provides, among other things, the recommended annual contribution to the System for the Plan Year commencing July 1, 2018, and ending on June 30, 2019. Information required by GASB Statement Nos. 67 and 68 is provided in a separate report. This report should not be relied on for any purpose other than the purpose described herein.

The actuarial valuation was based upon information furnished by the County Staff, concerning benefits provided by the Montgomery County Employees' Retirement System, financial transactions, plan provisions and census data for active members, terminated members, retirees and beneficiaries as of July 1, 2017. We checked for internal and year-to-year consistency, but did not audit the data. We are not responsible for the accuracy or completeness of the information provided by the County Staff.

The actuarial assumptions and methods have remained unchanged since the last actuarial valuation, performed as of July 1, 2016.

Group J was established as of December 21, 2016. Non-correctional officer employees hired prior to December 21, 2016, who participated in Group E were transferred to Group J on May 28, 2017. All other plan provisions have remained unchanged since the last actuarial valuation, performed as of July 1, 2016.

To the best of our knowledge the information contained in this report is accurate and fairly presents the actuarial position of the Montgomery County Employees' Retirement System as of the valuation date. All calculations have been made in conformity with generally accepted actuarial principles and practices, and with the Actuarial Standards of Practice issued by the Actuarial Standards Board.

Lance J. Weiss and Amy Williams are Members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions herein.

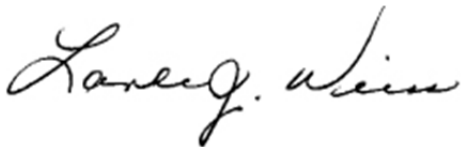
The signing actuaries are independent of the plan sponsor.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law.

We will be pleased to review this report with you at your convenience.

Respectfully submitted,

Gabriel, Roeder, Smith & Company



Lance Weiss, E.A., M.A.A.A., F.C.A.
Senior Consultant and Team Leader



Amy Williams, A.S.A., M.A.A.A., F.C.A.
Consultant

LW/AW:rmn



SECTION A

ACTUARIAL VALUATION RESULTS

Comments on the Actuarial Valuation

At your request, we have performed an actuarial valuation of the Montgomery County Employees' Retirement System as of July 1, 2017.

The purposes of this actuarial valuation are as follows:

- To determine the funding status of the System as of the actuarial valuation date;
- To determine the recommended contribution for the fiscal year beginning July 1, 2018; and
- To provide other data required by the System.

Accounting information required under Governmental Accounting Standards Board ("GASB") Statement Nos. 67 and 68 is presented in a separate report.

We received the data from the Montgomery County Employees' Retirement System Staff. We performed certain checks for reasonableness and found the data to be complete and reliable for actuarial valuation purposes. However, we did not audit the data.

A total of 5,738 active members (excluding DRSP and DROP) were included in the actuarial valuation as of July 1, 2017. Between the 2016 and 2017 actuarial valuations, the number of active employees increased by 225 members, or 4.1 percent. The average annual actuarial valuation pay (excluding DRSP and DROP) decreased by 0.2 percent, from \$77,566 to \$77,427 between the 2016 and 2017 actuarial valuation. The number of benefit recipients (including DRSP and DROP) increased from 6,453 to 6,516, or 1.0 percent, since the last actuarial valuation. The average monthly benefit increased by 0.8 percent, from \$3,110 to \$3,135. Section B summarizes the membership data.

There is a group of retirees that have benefits that are insured by Aetna. The total benefit amount reported for each of these members in the actuarial valuation report includes the insured benefit amount. The actuarial liabilities calculated in the actuarial valuation report exclude the value of the insured benefits. The liabilities for these members that are included in the actuarial valuation are for the cost of living adjustments provided and are paid by the Montgomery County Employees' Retirement System.

Section C outlines the actuarial assumptions and methods used in the actuarial valuation. The actuarial assumptions used in this actuarial valuation are the same as those used in the actuarial valuation at July 1, 2015. The assumption for administrative expenses is equal to 105 percent of the average of the prior three years' administrative expenses. This amount has increased from \$3,028,300 to \$3,109,500.

Section D outlines the principal benefit provisions of the System. Group J was established as of December 21, 2016. Non-correctional officer employees hired prior to December 21, 2016, who participated in Group E were transferred to Group J on May 28, 2017. There have been no other plan changes since the last actuarial valuation as of July 1, 2016.

During the plan year ending June 30, 2017, the unfunded actuarial accrued liability ("UAAL") decreased from \$342,505,693 as of July 1, 2016, to \$234,135,450 as of July 1, 2017, which is a decrease of \$108,370,243. The key factors contributing to the decrease in the UAAL were (1) contributions under the funding policy that are expected to decrease the UAAL, (2) asset gains on the actuarial value of assets, (3) salary increases that were lower than expected, (4) higher dollar contributions than expected and (5) lower than expected cost of living (COLA) increases for retired members. (The COLA increase was 0.681 percent compared to an assumed COLA increase of 2.75 percent from last year's actuarial valuation for

Comments on the Actuarial Valuation (Continued)

benefits attributable to service prior to July 1, 2011, and an assumed COLA increase of 2.30 percent for benefits attributable to service on or after July 1, 2011. For members who receive an increase based on 60 percent of CPI, the actual increase was 0.408 percent compared to an assumption of 1.65 percent from last year's valuation.)

On a market value basis, the Plan assets had an investment return of approximately 11.65¹ percent (net of investment expenses). Recognition of investment gains during fiscal years ending 2013, 2014 and 2017 were partially offset by recognition of the fiscal year end 2015 and 2016 investment losses, which resulted in an estimated net asset rate of return of 7.80 percent on an actuarial value of assets basis, which compares to the assumed rate of return of 7.50 percent.

The funded ratio (ratio of assets to liabilities) increased from 91.7 percent to 94.4 percent on an actuarial value of assets basis, and increased from 87.9 percent to 93.6 percent on a market value of assets basis between the 2016 and 2017 actuarial valuations.

The funded ratio and unfunded actuarial accrued liability are useful for assessing the need for and the amount of future unfunded liability contributions (excludes normal cost contributions). They are not appropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the System's benefit obligations.

Recommended County Contributions

The total contribution rate is equal to the normal cost rate plus amortization of the unfunded liability as a level percentage of payroll. The amortization policy was updated beginning with the actuarial valuation as of July 1, 2015. The unfunded liability as of July 1, 2015 (and in each future year) for the Non-Public Safety groups (Groups A and H) is amortized over a single closed period of 9 years (7 years remaining at the actuarial valuation as of July 1, 2017 to amortize the total unfunded liability). The unfunded liability as of July 1, 2015, for the Public Safety groups (Groups E, F and G) and GRIP was amortized over a closed period of 20 years (18 years remaining at the actuarial valuation as of July 1, 2017) and the unfunded liability bases established in each subsequent year are amortized over separate 20-year closed periods.

The single equivalent amortization period for the System in total as of July 1, 2017, is 8.3 years. The single equivalent amortization period is 7.0 years for the Non-Public Safety groups, 16.2 years for the Public Safety groups and 17.7 years for GRIP as of July 1, 2017. The current unfunded liability as of July 1, 2017, is expected to be fully paid off after seven years (at the end of fiscal year 2025) for the non-public safety groups and after 20 years (at the end of fiscal year 2038) for the public safety groups and GRIP. (Because the unfunded liability bases established as of July 1, 2016 and July 1, 2017, were negative, which results in amortization credits, the unfunded liability is expected to be fully paid off after 18 years for the Public Safety and Non-Public Safety groups.)

The unfunded liability is amortized as a level percentage of payroll and assumes that total payroll will increase by 3.25 percent each year. Groups A and H are closed plans (no new members are entering), and payroll is expected to decrease as members retire or otherwise exit the active population. Based on the level percentage of payroll amortization method, the portion of the County contribution rate attributable to the unfunded liability is expected to increase significantly as a percentage of payroll, as payroll declines.

¹ As provided by Montgomery County ERS.

Comments on the Actuarial Valuation (Continued)

However, if all assumptions are realized, the unfunded liability contribution will increase as a dollar amount by 3.25 percent each year. The payroll basis used in calculating the percentage of pay contribution for amortizing the unfunded liability for fiscal year 2019 reflects the assumption that fiscal year 2019 payroll will decrease from the payroll as of July 1, 2017, for the closed groups.

The total contribution rate minus the average employee contribution rate equals the County contribution rate. The actuarial valuation as of July 1, 2016, established the County contribution rate for fiscal year beginning July 1, 2017 and ending June 30, 2018. The actuarial valuation as of July 1, 2017, establishes the County contribution rate for fiscal year beginning July 1, 2018, and ending June 30, 2019.

Non-GRIP

The unfunded liability by group as of July 1, 2017, was calculated as the difference between the actuarial accrued liability and the actuarial value of assets as of July 1, 2017. The unfunded liability as of July 1, 2017, is amortized over a single closed seven year period for non-Public Safety (Groups A and H). The unfunded liability for Public Safety (Groups E, F and G) as of July 1, 2015, was amortized over an initial closed period of 20 years (18 years remaining at the actuarial valuation as of July 1, 2017) as a level percentage of payroll. The additional unfunded liability from the subsequent actuarial valuations as of July 1, 2016 and July 1, 2017 is amortized over a 20-year closed period as a level percentage of payroll. Additional details on the unfunded liability and amortization payments by group can be found in Section C.

The amortization base for GRIP is separately tracked. Outside agencies are separately amortizing their portion of the non-GRIP unfunded liability as a level dollar amount over a 20-year closed period as of July 1, 2015. In determining the unfunded actuarial accrued liability base and amortization of unfunded liability contribution rate for Group A, the non-GRIP outside agencies' unfunded liability was deducted along with excluding the non-GRIP outside agencies' contribution basis payroll for amortization of the unfunded actuarial accrued liability.

The County contribution rates for fiscal year 2019 decreased for Public Safety and non-Public Safety from the fiscal year 2018 County contribution rate. Both Public Safety and non-Public Safety groups experienced favorable experience during fiscal year 2017, including lower retiree COLA increases than expected under the actuarial assumptions and higher contributions than expected. This favorable experience was partially offset by recognition of deferred asset losses from fiscal years 2015 and 2016.

The actuarial value of assets is currently 101 percent of the market value of assets. There is \$34,106,569 in net asset losses currently being deferred (\$34,992,281 in total for GRIP and non-GRIP) that will be phased into the actuarial value of assets over the next four years. Assuming all future assumptions are realized, there is projected to be an increase in the recommended County contribution as the remaining deferred asset losses are recognized.

Comments on the Actuarial Valuation (Concluded)

GRIP

Beginning with the July 1, 2015, actuarial valuation, amortization bases established prior to July 1, 2015, were recombined into a single amortization base equal to the unfunded liability as of July 1, 2015. The unfunded liability for GRIP as of July 1, 2015, was amortized over an initial closed period of 20 years (18 years remaining at the actuarial valuation as of July 1, 2017) as a level percentage of payroll. The additional unfunded liability from each subsequent actuarial valuation is amortized over a 20-year closed period as a level percentage of payroll.

The County contribution rate for fiscal year 2019 increased for GRIP members from the fiscal year 2018 rate. The increase in the County contribution rate is mainly attributable to amortizing the negative unfunded liability contribution over a larger payroll base, which results in a lower unfunded liability amortization rate. The County contribution rate is approximately 1.0 percent lower than the County normal cost rate.

The actuarial value of GRIP assets is approximately 101 percent of the market value of assets. There is \$885,712 in net losses currently being deferred that will be phased into the actuarial value of assets over the next four years. Assuming all future assumptions are realized, there is projected to be an increase in the recommended County contribution as the remaining deferred asset losses are recognized.

Summary of Actuarial Valuation Results

		July 1, 2016 Results	July 1, 2017 Results
Membership			
Data			
	Active Members	5,513	5,738
	DRSP/DROP	105	123
	Deferred Vested	395	480
	Retirees and Beneficiaries	6,348	6,393
	TOTAL	12,361	12,734
Plan			
Liabilities			
	Actuarial Accrued Liability:		
	Active Members	\$ 1,393,485,137	\$ 1,413,465,543
	DRSP/DROP	102,641,844	129,653,482
	Deferred Vested	29,099,401	33,332,394
	Retirees and Beneficiaries	2,615,834,586	2,626,181,723
	TOTAL	\$ 4,141,060,968	\$ 4,202,633,142
	Actuarial Value of Assets at Valuation Date	\$ 3,798,555,275	\$ 3,968,497,692
	Unfunded (Overfunded) Actuarial Accrued Liability	\$ 342,505,693	\$ 234,135,450
	Funded Position of Plan's Actuarial Accrued Liability ¹	91.7 %	94.4 %
Recommended			
Annual Contribution			
Requirements ²			
	Annual Normal Cost as of Valuation Date	\$ 71,688,228	\$ 74,269,457
	Normal Cost Expense Load	3,028,300	3,109,500
	Amortization Payment	39,202,730	30,669,473
	Total Annual Required Contribution	113,919,258	108,048,430
	Expected Employee Contributions	24,812,730	25,437,890
	County Contribution Requirement	\$ 89,106,528	\$ 82,610,540
	Contribution Basis Payroll:		
	For Normal Cost	\$ 407,676,995	\$ 422,892,361
	For Amortization of Unfunded Liability	\$ 408,401,466	\$ 424,546,915
	County Contribution % of Payroll		
	Public Safety	22.05%	20.42%
	Non-Public Safety	45.12%	42.08%
	GRIP	5.46%	5.74%

¹ Equals the ratio of the actuarial value of assets to the total actuarial accrued liability.

² Includes the Retirement Incentive cost. Excludes the non-GRIP outside agency unfunded liability contribution of \$1,244,997. Includes the GRIP outside agency estimated normal cost and unfunded liability contribution and the non-GRIP estimated normal cost contribution of \$550, 138. County estimated contribution is \$82,060,402.

Contribution Rate Summary

All Plans

	Valuation as of July 1, 2017										July 1, 2016			
	Non-Public Safety			Public Safety							GRIP	Total	Total Agency	Total
	Group A	Group H	Total Non PS	Group E	Group J	Group F	Group G	Total PS						
County Contribution Requirement (\$)														
Non-GRIP	\$ 15,139,161	\$ 16,203,123	\$ 31,342,284	\$ 4,233,596	\$ 1,531,864	\$ 16,374,247	\$ 23,723,537	\$ 45,863,244	\$ -	\$ 77,205,528	\$ 1,414,517	\$ 83,621,952		
GRIP	-	-	-	-	-	-	-	-	6,650,009	6,650,009	380,618	5,484,576		
Total All Plans	\$ 15,139,161	\$ 16,203,123	\$ 31,342,284	\$ 4,233,596	\$ 1,531,864	\$ 16,374,247	\$ 23,723,537	\$ 45,863,244	\$ 6,650,009	\$ 83,855,537	\$ 1,795,135	\$ 89,106,528		
County Normal Cost Contribution Requirement (% of Payroll)														
Non-GRIP	5.74%	5.55%	5.65%	13.88%	14.25%	18.07%	19.08%	17.69%	-	14.44%	5.74%	14.10%		
GRIP	-	-	-	-	-	-	-	-	6.63%	6.63%	6.63%	6.62%		
Total All Plans	5.74%	5.55%	5.65%	13.88%	14.25%	18.07%	19.08%	17.69%	6.63%	12.28%	6.63%	12.24%		
County UAL Contribution Requirement (% of Payroll)														
Non-GRIP	33.57%	39.18%	36.43%	-0.22%	-0.13%	-0.99%	8.39%	2.73%	-	10.50%	NA	13.38%		
GRIP	-	-	-	-	-	-	-	-	-0.89%	-0.89%	-0.89%	-1.16%		
Total All Plans	33.57%	39.18%	36.43%	-0.22%	-0.13%	-0.99%	8.39%	2.73%	-0.89%	7.22%	NA	9.60%		
Total County Contribution Requirement (% of Payroll)														
Non-GRIP	39.31%	44.73%	42.08%	13.66%	14.12%	17.08%	27.47%	20.42%	-	24.94%	NA	27.48%		
GRIP	-	-	-	-	-	-	-	-	5.74%	5.74%	5.74%	5.46%		
Total All Plans	39.31%	44.73%	42.08%	13.66%	14.12%	17.08%	27.47%	20.42%	5.74%	19.50%	NA	21.84%		

	Valuation as of July 1, 2016										July 1, 2015			
	Non-Public Safety			Public Safety							GRIP	Total	Total Agency	Total
	Group A	Group H	Total Non PS	Group E	Group J	Group F	Group G	Total PS						
County Contribution Requirement (\$)														
Non-GRIP	\$ 15,986,431	\$ 19,476,538	\$ 35,462,969	\$ 6,349,798	-	\$ 17,267,166	\$ 24,542,019	\$ 48,158,983	\$ -	\$ 83,621,952	-	\$ 87,287,525		
GRIP	-	-	-	-	-	-	-	-	5,484,576	5,484,576	-	4,695,186		
Total All Plans	\$ 15,986,431	\$ 19,476,538	\$ 35,462,969	\$ 6,349,798	-	\$ 17,267,166	\$ 24,542,019	\$ 48,158,983	\$ 5,484,576	\$ 89,106,528	-	\$ 91,982,711		
County Normal Cost Contribution Requirement (% of Payroll)														
Non-GRIP	5.64%	5.55%	5.60%	13.95%	-	17.97%	19.02%	17.62%	-	14.10%	-	13.90%		
GRIP	-	-	-	-	-	-	-	-	6.62%	6.62%	-	6.61%		
Total All Plans	5.64%	5.55%	5.60%	13.95%	-	17.97%	19.02%	17.62%	6.62%	12.24%	-	12.28%		
County UAL Contribution Requirement (% of Payroll)														
Non-GRIP	37.59%	41.21%	39.52%	1.60%	-	0.66%	10.03%	4.43%	-	13.38%	-	14.34%		
GRIP	-	-	-	-	-	-	-	-	-1.16%	-1.16%	-	-1.26%		
Total All Plans	37.59%	41.21%	39.52%	1.60%	-	0.66%	10.03%	4.43%	-1.16%	9.60%	-	10.72%		
Total County Contribution Requirement (% of Payroll)														
Non-GRIP	43.23%	46.76%	45.12%	15.55%	-	18.63%	29.05%	22.05%	-	27.48%	-	28.24%		
GRIP	-	-	-	-	-	-	-	-	5.46%	5.46%	-	5.35%		
Total All Plans	43.23%	46.76%	45.12%	15.55%	-	18.63%	29.05%	22.05%	5.46%	21.84%	-	23.00%		

Beginning in fiscal year 2017 for non-GRIP members, outside agencies will make normal cost contributions for their active employees (based on payroll) plus a level dollar amortization payment of \$1,244,997. The level dollar amortization payment will be made for 20 years and is not based on payroll. There are 18 years remaining in the 20-year closed amortization period as of July 1, 2017.

The unfunded liability for the non-Public Safety groups was amortized over a single nine-year closed period and the unfunded liability for the Public Safety groups and GRIP was amortized over separate 20-year closed periods beginning July 1, 2015.

Actuarial Valuation Results

All Plans

	Valuation as of July 1, 2017								July 1, 2016			
	Non-Public Safety		Public Safety					GRIP	Total	% of Payroll	Total	% of Payroll
	Group A	Group H	Group E	Group J	Group F	Group G						
Total All Plans												
Active Members												
Number	429	580	461	142	1,222	1,132	1,772	5,738		5,513		
Average Age	58.3	58.3	42.2	46.3	39.2	38.7	47.9	45.6		45.9		
Average Service	27.9	26.2	11.5	13.5	13.4	12.3	7.6	13.6		14.2		
Total Base Payroll	\$ 45,885,715	\$ 43,632,124	\$ 32,512,716	\$ 11,667,832	\$ 99,735,151	\$ 88,495,531	\$ 122,345,446	\$ 444,274,516		\$ 427,622,475		
Contribution Basis Payroll:												
For Normal Cost	\$ 42,296,741	\$ 40,412,532	\$ 31,015,093	\$ 10,857,193	\$ 96,137,066	\$ 85,423,860	\$ 116,749,876	\$ 422,892,361		\$ 407,676,995		
For Amortization of Unfunded Liability*	34,160,769	35,629,470	32,512,716	11,667,832	99,735,151	88,495,531	122,345,446	424,546,915		408,401,466		
DRSP/DROP Members												
Number			30		40	53		123		105		
Total Base Payroll			\$ 3,016,165		\$ 4,333,333	\$ 5,525,429		\$ 12,874,926		\$ 11,055,723		
Total Benefits			1,841,607		2,975,376	3,630,499		8,447,482		6,790,870		
Terminated Vested Members												
Number	54	64	35		35	26	266	480		395		
Total Benefits (non-GRIP)	\$ 553,775	\$ 495,664	\$ 534,908		\$ 350,660	\$ 237,588		\$ 2,172,595		\$ 2,223,504		
Retired Members and Beneficiaries												
Number							3	6,393		6,348		
Total Benefits							\$ 22,477	\$ 236,691,546		\$ 234,072,926		
Total Membership								12,734		12,361		
Actuarial Accrued Liability												
Active Members	\$ 223,323,059	\$ 185,044,399	\$ 111,226,348	\$ 42,547,127	\$ 406,432,692	\$ 333,401,464	\$ 111,490,454	\$ 1,413,465,543		\$ 1,393,485,137		
DRSP/DROP Members			27,404,881		45,371,787	56,876,814		129,653,482		102,641,844		
Terminated Vested Members	4,747,288	4,294,418	4,779,752		3,038,901	1,037,629	15,434,406	33,332,394		29,099,401		
Retired Members and Beneficiaries	726,870,063	538,385,979	249,211,020		610,430,959	501,085,489	198,213	2,626,181,723		2,615,834,586		
Total	954,940,410	727,724,796	392,622,001	42,547,127	1,065,274,339	892,401,396	127,123,073	4,202,633,142		4,141,060,968		
Actuarial Value of Assets												
	\$ 870,593,405	\$ 640,862,674	\$ 394,559,893	\$ 42,757,130	\$ 1,080,781,335	\$ 797,702,793	\$ 141,240,462	\$ 3,968,497,692		\$ 3,798,555,275		
Unfunded Actuarial Accrued Liability												
Outside Agency Non-GRIP Unfunded Liability	\$ 84,347,005	\$ 86,862,122	\$ (1,937,892)	\$ (210,003)	\$ (15,506,996)	\$ 94,698,603	\$ (14,117,389)	\$ 234,135,450		\$ 342,505,693		
Net Unfunded Actuarial Accrued Liability	12,990,249	-	-	-	-	-	-	12,990,249		13,328,949		
	71,356,756	86,862,122	(1,937,892)	(210,003)	(15,506,996)	94,698,603	(14,117,389)	221,145,201		329,176,744		
Funded Ratio (Actuarial Value of Assets)												
	91.2%	88.1%	100.5%	100.5%	101.5%	89.4%	111.1%	94.4%		91.7%		
Annual Gross Normal Cost												
Benefits	\$ 4,520,625	\$ 4,267,355	\$ 6,155,205	\$ 2,188,286	\$ 22,981,591	\$ 21,904,589	\$ 12,251,806	\$ 74,269,457	(17.56%)	\$ 71,688,228	(17.58%)	
Expenses of Administration	491,291	407,081	244,688	93,600	894,117	733,454	245,269	3,109,500	(0.74%)	3,028,300	(0.75%)	
Total	5,011,916	4,674,436	6,399,893	2,281,886	23,875,708	22,638,043	12,497,075	77,378,957	(18.30%)	74,716,528	(18.33%)	
Amortization of Unfunded Liability ¹												
	\$ 11,467,795	\$ 13,959,673	\$ (71,586)	\$ (14,995)	\$ (999,297)	\$ 7,421,066	\$ (1,093,183)	\$ 30,669,473	(7.22%)	\$ 39,202,730	(9.60%)	
Annual Contribution Requirement:												
County Portion	\$ 13,894,164	\$ 16,203,123	\$ 4,233,596	\$ 1,531,864	\$ 16,374,247	\$ 23,723,537	\$ 6,650,009	\$ 82,610,540	(19.50%)	\$ 89,106,528	(21.84%)	
Employee Portion	2,585,547	2,430,986	2,094,711	735,027	6,502,164	6,335,572	4,753,883	25,437,890	(6.02%)	24,812,730	(6.09%)	
Total	16,479,711	18,634,109	6,328,307	2,266,891	22,876,411	30,059,109	11,403,892	108,048,430	(25.52%)	113,919,258	(27.93%)	
Non-Public Safety/Public Safety/GRIP County Portion \$ 30,097,287												
*Excludes Non-GRIP Payroll from Outside Agencies												
Outside Agency UAL Payroll \$ 2,565,981												

¹ Amortization bases established prior to the July 1, 2015, actuarial valuation were recombined into a single amortization base equal to the total unfunded liability as of July 1, 2015. Beginning July 1, 2015, amortization of the current and future unfunded liability will occur over a single closed period of nine years for the non-Public Safety groups and separate closed 20-year amortization periods for the Public Safety groups and GRIP.

Actuarial Valuation Results Outside Agencies

Valuation as of July 1, 2017

Non-GRIP	Valuation as of July 1, 2017										Total Agency (Excluding GRIP)	Total Non-Agency (Excluding GRIP)	Total ERS (Excluding GRIP)	
	Assessment and Taxation	Circuit Court	CRU 92 Credit Union	District Court	Housing Opportunities Commission	Revenue Authority	Strathmore Hall	Town of Chevy Chase	Washington Suburban Transit Commission					
Actuarial Accrued Liability														
Active Members (Non-GRIP)	\$ -	\$ 609,864	\$ 609,554	\$ -	\$ 11,173,243	\$ 461,584	\$ 1,002,195	\$ -	\$ -	\$ -	\$ 13,856,440	\$ 1,288,118,649	\$ 1,301,975,089	
DRSP/DROP Members	-	-	-	-	-	-	-	-	-	-	-	129,653,482	129,653,482	
Terminated Vested Members	-	333,991	-	-	907,907	-	-	26,668	-	-	1,268,567	16,629,421	17,897,988	
Retired Members and Beneficiaries	12,746,604	708,519	2,594,127	1,443,596	37,126,872	3,963,517	2,427,283	1,070,701	252,316	-	62,333,535	2,563,649,975	2,625,983,510	
Total	\$ 12,746,604	\$ 1,652,374	\$ 3,203,681	\$ 1,443,596	\$ 49,208,023	\$ 4,425,101	\$ 3,429,478	\$ 1,097,369	\$ 252,316	\$ -	\$ 77,458,542	\$ 3,998,051,527	\$ 4,075,510,069	
Actuarial Accrued Liability by Group														
Group A	\$ 12,746,604	\$ 1,652,374	\$ 3,203,681	\$ 1,443,596	\$ 49,208,023	\$ 4,425,101	\$ 3,429,478	\$ 1,097,369	\$ 252,316	\$ -	\$ 77,458,542			
Remaining Unfunded Actuarial Accrued Liability Non-GRIP	\$2,200,386	\$ 80,498	\$ 729,042	\$ 386,223	\$ 7,869,741	\$ 958,891	\$ 520,822	\$ 135,746	\$ 108,899	\$ -	\$ 12,990,249	\$ 235,262,590	\$ 248,252,839	
20-Year Level Dollar Amortization of Unfunded Actuarial Accrued Liability ¹ Non-GRIP	\$ 210,887	\$ 7,715	\$ 69,872	\$ 37,016	\$ 754,243	\$ 91,901	\$ 49,916	\$ 13,010	\$ 10,437	\$ -	\$ 1,244,997			
Contribution Basis Payroll:														
For Normal Cost (Non-GRIP)	\$ -	\$ 65,988	\$ 118,305	\$ -	\$ 2,267,902	\$ 89,523	\$ 411,588	\$ -	\$ -	\$ -	\$ 2,953,306	\$ 303,189,179	\$ 306,142,485	
Normal Cost Contribution Requirement (% of Payroll)	5.74%	5.74%	5.74%	5.74%	5.74%	5.74%	5.74%	5.74%	5.74%	5.74%	5.74%			
Estimated Normal Cost \$ Contribution Requirement	\$ -	\$ 3,788	\$ 6,791	\$ -	\$ 130,178	\$ 5,139	\$ 23,625	\$ -	\$ -	\$ -	\$ 169,520	\$ 44,028,355	\$ 44,197,875	
Actual \$ UAL Contribution Requirement	210,887	7,715	69,872	37,016	754,243	91,901	49,916	13,010	10,437	-	1,244,997	31,762,656	33,007,653	
Estimated Total \$ Contribution Requirement	\$ 210,887	\$ 11,503	\$ 76,663	\$ 37,016	\$ 884,421	\$ 97,040	\$ 73,541	\$ 13,010	\$ 10,437	\$ -	\$ 1,414,517	\$ 75,791,011	\$ 77,205,528	
GRIP														
Actuarial Accrued Liability											Total Agency (GRIP)	Total Non-Agency (GRIP)	Total ERS (GRIP)	
Active Members (GRIP)	\$ -	\$ 65,467	\$ -	\$ -	\$ 4,707,079	\$ 119,451	\$ 113,475	\$ 170,129	\$ -	\$ -	\$ 5,175,601	\$ 106,314,853	\$ 111,490,454	
Terminated Vested Members	-	37,346	94,431	-	833,283	-	224,857	-	-	-	1,189,918	14,244,488	15,434,406	
Retired Members and Beneficiaries	-	-	-	-	-	-	-	-	-	-	-	198,213	198,213	
Total	\$ -	\$ 102,813	\$ 94,431	\$ -	\$ 5,540,362	\$ 119,451	\$ 338,332	\$ 170,129	\$ -	\$ -	\$ 6,365,519	\$ 120,757,554	\$ 127,123,073	
Unfunded Actuarial Accrued Liability (GRIP)	\$ -	\$ (11,418)	\$ (10,487)	\$ -	\$ (615,273)	\$ (13,265)	\$ (37,573)	\$ (18,893)	\$ -	\$ -	\$ (706,909)	\$ (13,410,480)	\$ (14,117,389)	
Contribution Basis Payroll:														
For Normal Cost (GRIP)	\$ -	\$ 43,622	\$ -	\$ -	\$ 6,090,107	\$ 102,892	\$ 404,822	\$ 35,943	\$ -	\$ -	\$ 6,677,387	\$ 110,072,489	\$ 116,749,876	
For Amortization of Unfunded Liability (GRIP)	\$ -	\$ 48,630	\$ -	\$ -	\$ 6,361,875	\$ 108,971	\$ 420,526	\$ 36,674	\$ -	\$ -	\$ 6,976,676	\$ 115,368,770	\$ 122,345,446	
Normal Cost Contribution Requirement (% of Payroll)	6.63%	6.63%	6.63%	6.63%	6.63%	6.63%	6.63%	6.63%	6.63%	6.63%				
UAL Contribution Requirement (% of Payroll)	-0.89%	-0.89%	-0.89%	-0.89%	-0.89%	-0.89%	-0.89%	-0.89%	-0.89%	-0.89%				
Estimated Normal Cost \$ Contribution Requirement	\$ -	\$ 2,892	\$ -	\$ -	\$ 403,774	\$ 6,822	\$ 26,840	\$ 2,383	\$ -	\$ -	\$ 442,711	\$ 7,300,481	\$ 7,743,192	
Estimated \$ UAL Contribution Requirement	-	(433)	-	-	(56,621)	(970)	(3,743)	(326)	-	-	(62,092)	(1,031,091)	(1,093,183)	
Estimated Total \$ Contribution Requirement	\$ -	\$ 2,459	\$ -	\$ -	\$ 347,153	\$ 5,852	\$ 23,097	\$ 2,057	\$ -	\$ -	\$ 380,618	\$ 6,269,391	\$ 6,650,009	
Total Non-GRIP and GRIP											Total Agency	Total Non-Agency	Total ERS	
Fixed 20-Year Level Dollar Amortization Payment	\$ 210,887	\$ 7,715	\$ 69,872	\$ 37,016	\$ 754,243	\$ 91,901	\$ 49,916	\$ 13,010	\$ 10,437	\$ -	\$ 1,244,997			
Estimated \$ Contribution for Payroll Based Contribution	-	6,247	6,791	-	477,331	10,991	46,722	2,057	-	-	550,138			
Total Estimated Contribution	\$ 210,887	\$ 13,962	\$ 76,663	\$ 37,016	\$ 1,231,574	\$ 102,892	\$ 96,638	\$ 15,067	\$ 10,437	\$ -	\$ 1,795,135	\$ 82,060,402	\$ 83,855,537	
Unfunded Actuarial Accrued Liability (Based on Actuarial Value of Assets)														
Non-GRIP	\$ 2,200,386	\$ 80,498	\$ 729,042	\$ 386,223	\$ 7,869,741	\$ 958,891	\$ 520,822	\$ 135,746	\$ 108,899	\$ -	\$ 12,990,249	\$ 235,262,590	\$ 248,252,839	
GRIP	-	(11,418)	(10,487)	-	(615,273)	(13,265)	(37,573)	(18,893)	-	-	(706,909)	(13,410,480)	(14,117,389)	
Total	\$ 2,200,386	\$ 69,080	\$ 718,555	\$ 386,223	\$ 7,254,468	\$ 945,626	\$ 483,249	\$ 116,853	\$ 108,899	\$ -	\$ 12,283,340	\$ 221,852,110	\$ 234,135,450	

¹The remaining amortization period is 18 years as of July 1, 2017.

Beginning in fiscal year 2017 for non-GRIP members, outside agencies will make normal cost contributions for their active employees (based on payroll) plus the level dollar amortization payment shown above. The level dollar amortization payment will be made for 20 years and is not based on payroll. Contributions for GRIP members will continue to be made based on the contribution rates determined in the actuarial valuations and actual payroll. Contribution basis payroll for normal cost that is shown is the fiscal year 2018 amount. Actual projected payroll for non-GRIP for fiscal year 2019 may be lower than the amount shown (or \$0 if there are no remaining active members).

Actuarial Valuation Results

Guaranteed Retirement Income Plan (GRIP)

	Valuation as of July 1, 2017						July 1, 2016		
	Agency					Total GRIP	Total		
	CC	CM	CN	CP	CZ				
Total All Plans									
Active Members									
Number	1	1,227	532	4	8	1,772		1,526	
Average Age	59.3	46.8	50.3	58.8	58.6	47.9		48.7	
Average Service	1.5	7.2	8.5	14.1	8.8	7.6		8.0	
Total Base Payroll	\$ 36,050	\$ 71,212,452	\$ 49,440,561	\$ 615,379	\$ 1,041,004	\$ 122,345,446		\$ 106,001,280	
Contribution Basis Payroll:									
For Normal Cost	\$ 34,908	\$ 68,060,647	\$ 47,094,907	\$ 591,286	\$ 968,128	\$ 116,749,876		\$ 101,386,764	
For Amortization of Unfunded Liability	36,050	71,212,453	49,440,561	615,379	1,041,004	122,345,447		106,001,280	
Terminated Members									
Number	1	142	123			266		177	
Retired Members and Beneficiaries									
Number		2	1			3		3	
Total Benefits		8,811	13,666			22,477		22,477	
Total Membership	2	1,371	656	4	8	2,041		1,706	
Actuarial Accrued Liability									
Active Members	\$ 1,626	\$ 58,439,392	\$ 50,727,621	\$ 1,283,299	\$ 1,038,516	\$ 111,490,454		\$ 98,040,913	
Terminated Vested Members	94,431	6,608,331	8,590,934	140,710	-	15,434,406		10,635,788	
Retired Members and Beneficiaries	-	87,696	110,517	-	-	198,213		202,680	
Total	96,057	65,135,419	59,429,072	1,424,009	1,038,516	127,123,073		108,879,381	
Actuarial Value of Assets	\$ 106,725	\$ 72,368,896	\$ 66,028,845	\$ 1,582,149	\$ 1,153,846	\$ 141,240,462		\$ 125,495,390	
Unfunded Actuarial Accrued Liability	\$ (10,668)	\$ (7,233,477)	\$ (6,599,773)	\$ (158,140)	\$ (115,330)	\$ (14,117,389)		\$ (16,616,009)	
Funded Ratio (Actuarial Value of Assets)	111.1%	111.1%	111.1%	111.1%	111.1%	111.1%		115.3%	
Annual Gross Normal Cost									
Benefits	\$ 3,751	\$ 7,120,069	\$ 4,957,189	\$ 70,242	\$ 100,555	\$ 12,251,806	(10.49%)	\$ 10,654,851	(10.51%)
Expenses of Administration	185	125,671	114,662	2,747	2,004	245,269	(0.21%)	213,061	(0.21%)
Total	3,936	7,245,740	5,071,851	72,989	102,559	12,497,075	(10.70%)	10,867,912	(10.72%)
Amortization of Unfunded Liability	\$ (826)	\$ (560,126)	\$ (511,054)	\$ (12,246)	\$ (8,931)	\$ (1,093,183)	-(0.89%)	\$ (1,226,560)	-(1.16%)
Annual Contribution Requirement:									
County Portion	\$ 1,714	\$ 3,963,188	\$ 2,593,359	\$ 37,613	\$ 54,134	\$ 6,650,009	(5.74%)	\$ 5,484,576	(5.46%)
Employee Portion	1,396	2,722,426	1,967,438	23,130	39,494	4,753,883	(4.07%)	4,156,776	(4.10%)
Total	3,110	6,685,614	4,560,797	60,743	93,628	11,403,892	(9.81%)	9,641,352	(9.56%)
Non-Public Safety County Portion						\$ 6,612,396	(5.74%)	\$ 5,441,145	(5.46%)
Public Safety County Portion (Agency CP)						\$ 37,613	(6.44%)	\$ 43,431	(6.47%)

Actuarial Valuation Results

Amortization of Unfunded Actuarial Accrued Liability and Amortization Payments By Group

Non-Public Safety

Base Year	Description	Unfunded Liability Base*			Remaining Financing Period	Amortization Factor	Amortization Payment		
		Group A	Group H	Total			Group A	Group H	Total
2015	Pre FY 2015 Retirement Incentive	\$ 8,382,669	\$ 11,491,647	\$ 19,874,316	7 yrs.	6.222361	\$ 1,347,185	\$ 1,846,830	\$ 3,194,015
2015	Pre FY 2015 Plan Experience	67,985,311	74,467,239	142,452,550	7	6.222361	10,925,968	11,967,683	22,893,651
2015	Pre FY 2015 Plan Changes	26,429,748	36,283,542	62,713,290	7	6.222361	4,247,544	5,831,154	10,078,698
2015	Pre FY 2015 Cost Method Changes	6,338,205	4,921,653	11,259,858	7	6.222361	1,018,618	790,962	1,809,580
2015	FY 2015 Plan Experience	(46,266,329)	(27,136,541)	(73,402,870)	7	6.222361	(7,435,495)	(4,361,133)	(11,796,628)
2015	FY 2015 Assumption and Method Changes	24,731,835	15,876,929	40,608,764	7	6.222361	3,974,670	2,551,593	6,526,263
2015	FY 2015 Plan Changes	-	-	-	7	6.222361	-	-	-
2016	FY 2016 Plan Experience	(686,511)	(7,202,409)	(7,888,920)	7	6.222361	(110,330)	(1,157,504)	(1,267,834)
2017	FY 2017 Plan Experience	(15,558,172)	(21,839,938)	(37,398,110)	7	6.222361	(2,500,365)	(3,509,912)	(6,010,277)
Unfunded Liability		\$ 71,356,756	\$ 86,862,122	\$ 158,218,878	7.0 yrs.	6.222361	\$ 11,467,795	\$ 13,959,673	\$ 25,427,468

*Unfunded liability for Non-Public Safety group excludes Outside Agency Non-GRIP unfunded liability of \$12,990,249.

Public Safety

Base Year	Description	Unfunded Liability Base					Remaining Financing Period	Amortization Factor	Amortization Payment				
		Group E	Group J	Group F	Group G	Total			Group E	Group J	Group F	Group G	Total
2015	Pre FY 2015 Retirement Incentive	\$ 1,049,713	\$ -	\$ -	\$ -	\$ 1,049,713	18 yrs.	13.056743	\$ 80,396	\$ -	\$ -	\$ -	\$ 80,396
2015	Pre FY 2015 Plan Experience	38,198,409	-	112,223,637	113,815,285	264,237,331	18	13.056743	2,925,570	-	8,595,071	8,716,974	20,237,615
2015	Pre FY 2015 Plan Changes	3,412,251	-	(1,648,158)	70,637,406	72,401,499	18	13.056743	261,340	-	(126,230)	5,410,032	5,545,142
2015	Pre FY 2015 Cost Method Changes	209,707	-	354,006	1,338,633	1,902,346	18	13.056743	16,061	-	27,113	102,524	145,698
2015	FY 2015 Plan Experience	(22,957,544)	-	(59,832,877)	(40,602,921)	(123,393,342)	18	13.056743	(1,758,290)	-	(4,582,528)	(3,109,728)	(9,450,546)
2015	FY 2015 Assumption and Method Changes	(8,076,441)	-	(18,466,360)	(8,185,514)	(34,728,315)	18	13.056743	(618,565)	-	(1,414,315)	(626,919)	(2,659,799)
2015	FY 2015 Plan Changes	4,565,358	-	-	-	4,565,358	18	13.056743	349,655	-	-	-	349,655
2016	FY 2016 Plan Experience	(7,463,639)	-	(25,023,394)	(20,898,823)	(53,385,856)	19	13.540546	(551,207)	-	(1,848,034)	(1,543,425)	(3,942,666)
2017	FY 2017 Plan Experience	(10,875,706)	(210,003)	(23,113,850)	(21,405,463)	(55,605,022)	20	14.005222	(776,546)	(14,995)	(1,650,374)	(1,528,392)	(3,970,307)
Unfunded Liability		\$ (1,937,892)	\$ (210,003)	\$ (15,506,996)	\$ 94,698,603	\$ 77,043,712	16.2 yrs.	12.161235	\$ (71,586)	\$ (14,995)	\$ (999,297)	\$ 7,421,066	\$ 6,335,188

Actuarial Valuation Results

Amortization of Unfunded Actuarial Accrued Liability and Amortization Payments By Group (Continued)

GRIP

Base Year	Description	Unfunded Liability Base GRIP	Remaining Financing Period	Amortization Factor	Amortization Payment
2015	Pre FY 2015 Retirement Incentive	\$ -	18 yrs.	13.056743	\$ -
2015	Pre FY 2015 Plan Experience	(7,269,790)	18	13.056743	(556,784)
2015	Pre FY 2015 Plan Changes	(2,141,382)	18	13.056743	(164,006)
2015	Pre FY 2015 Cost Method Changes	2,259,301	18	13.056743	173,037
2015	FY 2015 Plan Experience	(3,449,663)	18	13.056743	(264,205)
2015	FY 2015 Assumption and Method Changes	(5,709,953)	18	13.056743	(437,318)
2015	FY 2015 Plan Changes	-	18	13.056743	-
2016	FY 2016 Plan Experience	(232,171)	19	13.540546	(17,146)
2017	FY 2017 Plan Experience	2,426,269	20	14.005222	173,239
Unfunded Liability		\$ (14,117,389)	17.7 yrs.	12.914022	\$ (1,093,183)

Actuarial Valuation Results

Amortization of Unfunded Actuarial Accrued Liability and Amortization Payments By Group (Continued)

Total

Base Year	Description	Unfunded Liability Base*							Total	
		Non-Public Safety		Public Safety						
		Group A	Group H	Group E	Group J	Group F	Group G	GRIP		
2015	Pre FY 2015 Retirement Incentive	\$ 8,382,669	\$ 11,491,647	\$ 1,049,713	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 20,924,029
2015	Pre FY 2015 Plan Experience	67,985,311	74,467,239	38,198,409	-	112,223,637	113,815,285	(7,269,790)		399,420,091
2015	Pre FY 2015 Plan Changes	26,429,748	36,283,542	3,412,251	-	(1,648,158)	70,637,406	(2,141,382)		132,973,407
2015	Pre FY 2015 Cost Method Changes	6,338,205	4,921,653	209,707	-	354,006	1,338,633	2,259,301		15,421,505
2015	FY 2015 Plan Experience	(46,266,329)	(27,136,541)	(22,957,544)	-	(59,832,877)	(40,602,921)	(3,449,663)		(200,245,875)
2015	FY 2015 Assumption and Method Changes	24,731,835	15,876,929	(8,076,441)	-	(18,466,360)	(8,185,514)	(5,709,953)		170,496
2015	FY 2015 Plan Changes	-	-	4,565,358	-	-	-	-		4,565,358
2016	FY 2016 Plan Experience	(686,511)	(7,202,409)	(7,463,639)	-	(25,023,394)	(20,898,823)	(232,171)		(61,506,947)
2017	FY 2017 Plan Experience	(15,558,172)	(21,839,938)	(10,875,706)	(210,003)	(23,113,850)	(21,405,463)	2,426,269		(90,576,863)
Unfunded Liability		\$ 71,356,756	\$ 86,862,122	\$ (1,937,892)	\$ (210,003)	\$ (15,506,996)	\$ 94,698,603	\$ (14,117,389)		\$ 221,145,201

Base Year	Description	Remaining Financing Period	Amortization Factor	Amortization of Unfunded Liability Base							Total
				Non-Public Safety		Public Safety					
				Group A	Group H	Group E	Group J	Group F	Group G	GRIP	
2015	Pre FY 2015 Retirement Incentive	7.2 yrs.	6.390166	\$ 1,347,185	\$ 1,846,830	\$ 80,396	\$ -	\$ -	\$ -	\$ -	\$ 3,274,411
2015	Pre FY 2015 Plan Experience	11.5	9.381678	10,925,968	11,967,683	2,925,570	-	8,595,071	8,716,974	(556,784)	42,574,482
2015	Pre FY 2015 Plan Changes	10.3	8.601218	4,247,544	5,831,154	261,340	-	(126,230)	5,410,032	(164,006)	15,459,834
2015	Pre FY 2015 Cost Method Changes	8.4	7.245875	1,018,618	790,962	16,061	-	27,113	102,524	173,037	2,128,315
2015	FY 2015 Plan Experience	11.4	9.308835	(7,435,495)	(4,361,133)	(1,758,290)	-	(4,582,528)	(3,109,728)	(264,205)	(21,511,379)
2015	FY 2015 Assumption/Method Changes	0.0	0.049720	3,974,670	2,551,593	(618,565)	-	(1,414,315)	(626,919)	(437,318)	3,429,146
2015	FY 2015 Plan Changes	18.0	13.056750	-	-	349,655	-	-	-	-	349,655
2016	FY 2016 Plan Experience	15.5	11.765706	(110,330)	(1,157,504)	(551,207)	-	(1,848,034)	(1,543,425)	(17,146)	(5,227,646)
2017	FY 2017 Plan Experience	11.3	9.235615	(2,500,365)	(3,509,912)	(776,546)	(14,995)	(1,650,374)	(1,528,392)	173,239	(9,807,345)
Amortization Payments		8.3 yrs.	7.210597	\$ 11,467,795	\$ 13,959,673	\$ (71,586)	\$ (14,995)	\$ (999,297)	\$ 7,421,066	\$ (1,093,183)	\$ 30,669,473

*Unfunded liability for Non-Public Safety group excludes Outside Agency Non-GRIP unfunded liability of \$12,990,249.

Actuarial Valuation Results

Gain/Loss Analysis

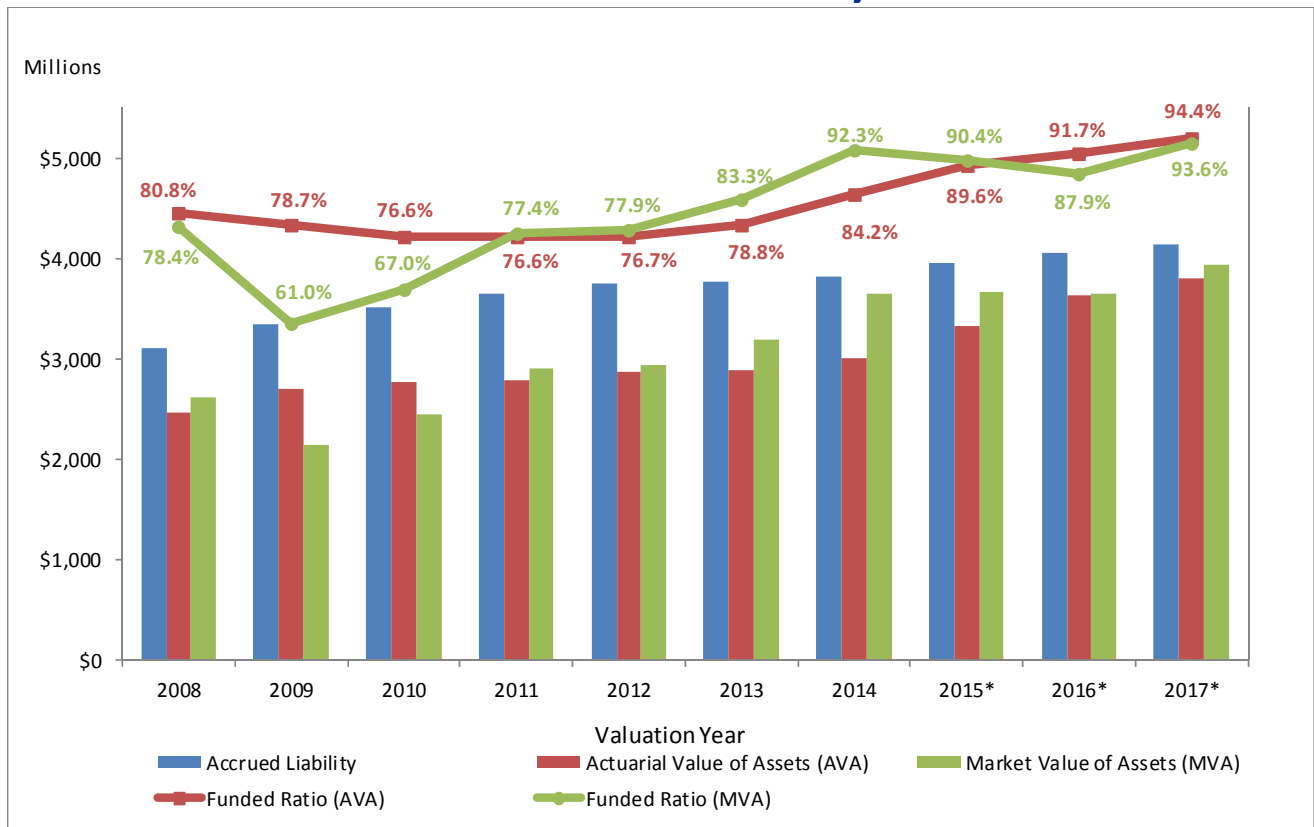
	Non-Public Safety	Public Safety	GRIP	Total
Unfunded liability at previous valuation	\$ 225,746,419	\$ 133,375,283	\$ (16,616,009)	\$ 342,505,693
<u>Expected unfunded liability at current valuation</u>				
Normal cost for plan year	10,460,860	53,387,756	10,867,912	74,716,528
Interest on unfunded liability and normal cost	17,316,172	11,968,994	(846,022)	28,439,144
Contributions with interest to current valuation date	<u>43,577,843</u>	<u>66,083,298</u>	<u>9,949,539</u>	<u>119,610,680</u>
Total expected change in unfunded liability at current valuation	(15,800,811)	(726,548)	72,351	(16,455,008)
Total expected unfunded liability at current valuation	209,945,608	132,648,735	(16,543,658)	326,050,685
Change due to:				
Recognition of asset (gains)/losses	(4,330,054)	(6,534,592)	(101,848)	(10,966,494)
Salary increases	(5,746,377)	(12,574,685)	-	(18,321,062)
COLA increases	(24,244,463)	(26,204,485)	-	(50,448,948)
Amount and timing of contributions	(944,850)	(4,620,472)	(1,366,610)	(6,931,932)
Demographic experience and other	(3,470,737)	(5,670,789)	3,894,727	(5,246,799)
Change in actuarial assumptions	-	-	-	-
Plan improvements	-	-	-	-
Measurement improvements	-	-	-	-
Total change	(38,736,481)	(55,605,023)	2,426,269	(91,915,235)
Unfunded liability at current valuation	\$ 171,209,127	\$ 77,043,712	\$ (14,117,389)	\$ 234,135,450

	Non-Public Safety	Public Safety	GRIP
FY 2018 County Contribution	45.12%	22.05%	5.46%
Expected FY 2019 County Contribution	50.55%	22.06%	5.57%
Change due to:			
Recognition of asset (gains)/losses	-1.00%	-0.20%	-0.01%
Salary increases	-1.23%	-0.40%	0.02%
COLA increases	-5.58%	-0.81%	0.00%
Amount and timing of contributions	-0.22%	-0.14%	-0.08%
Demographic experience and other	-0.44%	-0.09%	0.24%
Measurement improvements	0.00%	0.00%	0.00%
Plan improvements	0.00%	0.00%	0.00%
Change in assumptions and amortization period	0.00%	0.00%	0.00%
Total change	-8.47%	-1.64%	0.17%
FY 2019 County Contribution	42.08%	20.42%	5.74%

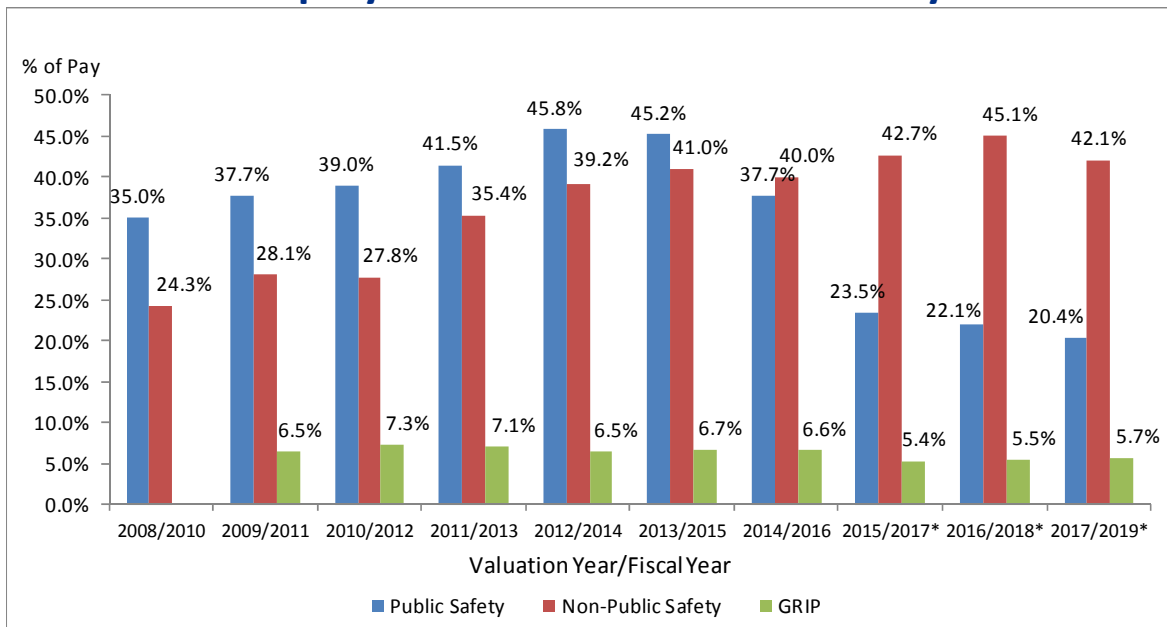
Demographic Experience and Other includes changes due to retirement, mortality, disability and termination experience that varied from the actuarial assumptions, and data changes.

Historical Trends of Funded Ratio and Employer Contributions

Funded Ratio History



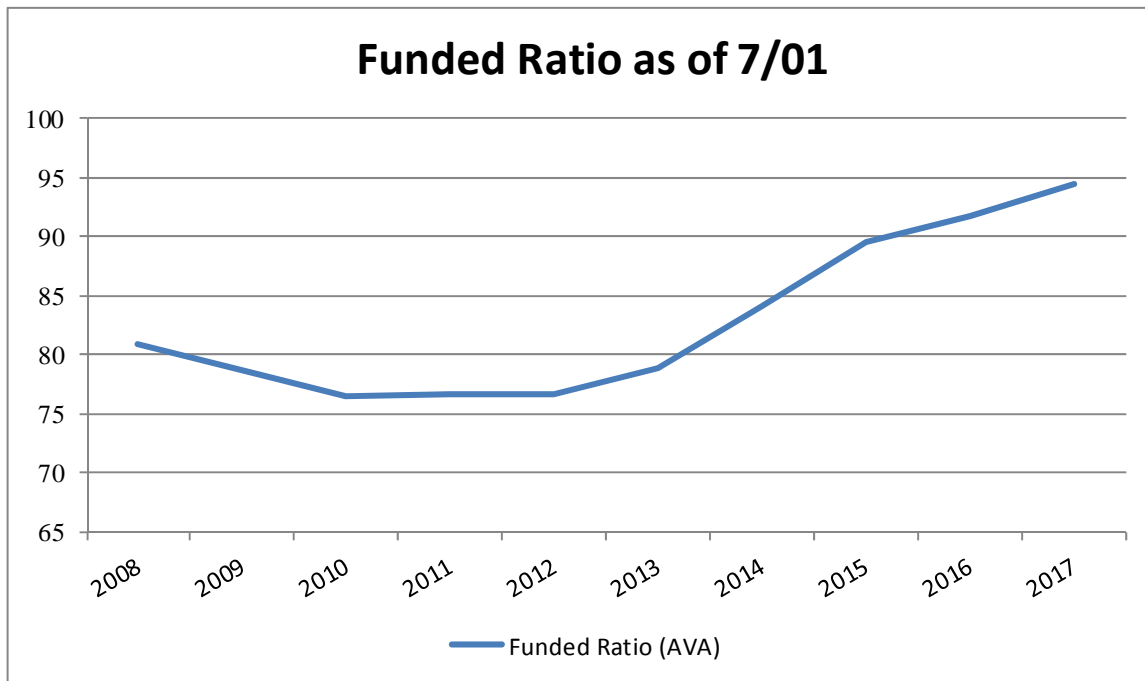
Employer Contribution Rate History



* Results beginning with the 2015 valuation (FY 2017) include changes to amortization periods used to finance the unfunded liability and changes to the actuarial assumptions used in the valuation, based on the key findings from an experience review of the System for the period from July 1, 2009, to July 1, 2014.

Funded Ratio History

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (b)	Unfunded AAL (UAAL) (b - a)	Funded Ratio (AVA) (a / b)
07/01/2008	\$2,701,119,470	\$3,341,549,425	\$640,429,955	80.8 %
07/01/2009	2,766,230,073	3,516,824,342	750,594,269	78.7
07/01/2010	2,791,144,974	3,645,576,341	854,431,367	76.6
07/01/2011	2,869,422,276	3,744,713,474	875,291,198	76.6
07/01/2012	2,891,435,563	3,768,745,962	877,310,399	76.7
07/01/2013	3,012,547,244	3,821,380,732	808,833,488	78.8
07/01/2014	3,333,484,724	3,958,929,718	625,444,994	84.2
07/01/2015	3,630,075,610	4,050,736,852	420,661,242	89.6
07/01/2016	3,798,555,275	4,141,060,968	342,505,693	91.7
07/01/2017	3,968,497,692	4,202,633,142	234,135,450	94.4



Actuarial Valuation Results Solvency Test

Valuation Date	(1) Active Member Contributions	(2) Retirees, Term Vested and Beneficiaries	(3) Active Members (Employer Financed Portion)	Actuarial Value of Assets	Portion (%) of Present Value Covered By Assets			
					(1)	(2)	(3)	
6/30	Total Actuarial Accrued Liability							
1999	\$1,818,990,623	\$124,544,357	\$ 943,551,243	\$ 750,895,023	\$1,707,450,187	100%	100%	85%
2000	1,931,914,313	136,181,427	1,014,314,792	781,418,094	1,911,114,401	100%	100%	97%
2001	2,111,946,453	143,356,036	1,029,982,653	938,607,764	1,990,882,017	100%	100%	87%
2002	2,273,179,216	146,500,545	1,125,070,362	1,001,608,309	2,036,100,709	100%	100%	76%
2003	2,411,492,724	155,686,014	1,247,359,872	1,008,446,838	2,029,314,438	100%	100%	62%
2004	2,561,328,232	160,523,789	1,354,272,329	1,046,532,114	2,045,098,796	100%	100%	51%
2005	2,775,047,412	166,078,802	1,426,030,001	1,182,938,609	2,100,532,623	100%	100%	43%
2006	2,918,336,073	177,391,695	1,578,703,590	1,162,240,788	2,222,724,295	100%	100%	40%
2007	3,100,637,723	187,104,227	1,661,692,386	1,251,841,110	2,469,933,200	100%	100%	50%
2008	3,341,549,425	186,171,030	1,847,516,034	1,307,862,361	2,701,119,470	100%	100%	51%
2009	3,516,824,342	210,385,653	1,892,331,796	1,414,106,893	2,766,230,073	100%	100%	47%
2010	3,645,576,341	213,191,851	2,054,949,883	1,377,434,607	2,791,144,974	100%	100%	38%
2011	3,744,713,474	237,074,023	2,181,816,842	1,325,822,609	2,869,422,276	100%	100%	34%
2012	3,768,745,962	210,537,737	2,465,714,392	1,092,493,833	2,891,435,563	100%	100%	20%
2013	3,821,380,732	248,331,006	2,526,844,154	1,046,205,572	3,012,547,244	100%	100%	23%
2014	3,958,929,718	265,055,643	2,585,446,584	1,108,427,491	3,333,484,724	100%	100%	44%
2015	4,050,736,852	280,135,577	2,698,040,722	1,072,560,553	3,630,075,610	100%	100%	61%
2016	4,141,060,968	297,715,372	2,747,575,831	1,095,769,765	3,798,555,275	100%	100%	69%
2017	4,202,633,142	314,707,102	2,789,167,599	1,098,758,441	3,968,497,692	100%	100%	79%

DRSP and DROP member liability included in item (2) with retirees beginning in 2012.

Results in 2009 and 2011 are measured as of July 1, and differ from the Comprehensive Annual Financial Report (CAFR). Results in the CAFR are as of June 30, and do not reflect the transfer of members effective July 1 of those years.

Statement of Fiduciary Net Position

Assets	Fiscal Year Ending	
	June 30, 2016	June 30, 2017
Equity in County's pooled cash and investments	\$ 1,151,082	\$ 86,255
Investments:		
Government and agency obligations	403,510,670	494,936,771
Municipal/Provincial obligations	15,015,541	8,802,535
Asset-backed securities	3,713,101	575,265
Corporate bonds	709,062,527	652,601,536
Collateralized mortgage obligations *	840,430	938,220
Commercial mortgage-backed securities	726,834	1,636,717
Common and preferred stock	1,506,763,258	1,683,366,447
Mutual and commingled funds	389,914,184	444,710,885
Short-term investments	94,518,574	101,410,350
Cash collateral received under securities lending agreements	224,650,451	205,422,910
Private real assets	196,611,691	191,725,989
Private equity/debt	283,122,107	337,417,190
Total Investments	3,828,449,368	4,123,544,815
Dividend, interest, and other receivables *	32,931,237	14,113,462
Contributions receivable *	8,727,701	7,025,652
Net capital assets	300,015	-
Total assets	3,871,559,403	4,144,770,184
Liabilities		
Payable for collateral received under securities lending agreements	224,650,451	205,422,910
Benefit payable and other liabilities *	5,306,338	5,841,863
Total liabilities	229,956,789	211,264,773
Net position restricted for pensions	\$ 3,641,602,614	\$ 3,933,505,411

* June 30, 2016 amounts differ from July 1, 2016 valuation report based on updated financial report provided by Montgomery County ERS.

Statement of Changes in Fiduciary Net Position Total Employees' Retirement System (ERS)

	Fiscal Year Ending	
	June 30, 2016	June 30, 2017
Additions:		
Contributions:		
Employer	\$ 134,806,256	\$ 95,398,957
Members	27,056,040	27,940,416
Total contributions	161,862,296	123,339,373
Total income from investment activities	73,371,263	430,251,652
Less investment expenses	16,862,178	18,438,444
Net income from investment activities	56,509,085	411,813,208
Income from securities lending	1,605,465	2,895,806
Less securities lending expenses	438,493	1,362,310
Net income from securities lending	1,166,972	1,533,496
Total additions	219,538,353	536,686,077
Deductions:		
Retiree benefits	171,391,248	175,048,760
Disability benefits	50,287,324	50,741,385
Survivor benefits	9,017,219	9,334,089
Refunds and distributions	5,887,137	6,473,277
Administrative expenses	3,014,055	3,185,769
Total deductions	239,596,983	244,783,280
Net increase in net position	(20,058,630)	291,902,797
Net position restricted for pensions		
Beginning of year	3,661,661,244	3,641,602,614
End of year	\$ 3,641,602,614	\$ 3,933,505,411

Statement of Changes in Fiduciary Net Position Allocation Between GRIP and Non-GRIP Assets

	Fiscal Year Ending June 30, 2016	Fiscal Year Ending June 30, 2017		Total
	Total	Non-GRIP	GRIP	
Additions:				
Contributions:				
Employer	\$ 134,806,256	\$ 89,209,550	\$ 6,189,407	\$ 95,398,957
Members	27,056,040	23,215,560	4,724,856	27,940,416
Total contributions	161,862,296	112,425,110	10,914,263	123,339,373
Net investment income	57,676,057	399,132,913	14,213,791	413,346,704
Total additions	219,538,353	511,558,023	25,128,054	536,686,077
Deductions:				
Benefit Payments and distributions	236,582,928	236,906,086	4,691,425	241,597,511
Administrative expenses	3,014,055	2,972,708	213,061	3,185,769
Total deductions	239,596,983	239,878,794	4,904,486	244,783,280
Net increase in net position	(20,058,630)	271,679,229	20,223,568	291,902,797
Net position restricted for pensions				
Beginning of year	3,661,661,244	3,521,471,432	120,131,182	3,641,602,614
End of year	<u>\$ 3,641,602,614</u>	<u>\$ 3,793,150,661</u>	<u>\$ 140,354,750</u>	<u>\$ 3,933,505,411</u>

Net investment income is allocated using the estimated market value rate of return on total plan assets during the fiscal year (1.59% and 11.54% for fiscal years ending June 30, 2016, and June 30, 2017, respectively) and net non-investment cash flow and the market value of assets from the prior fiscal year end for the respective GRIP and Non-GRIP groups.

Development of Actuarial Value of Assets (Total ERS)

Fiscal Year Ending	2017	2018	2019	2020	2021
Beginning of Year:					
(1) Market Value of Assets	\$ 3,641,602,614				
(2) Actuarial Value of Assets	3,798,555,275				
End of Year:					
(3) Market Value of Assets	3,933,505,411				
(4a) Contributions	123,339,373				
(4b) Net Disbursements	244,783,280				
(5) Total Investment Income					
=(3)-(1)-(4a)+(4b)	413,346,704				
(6) Projected Rate of Return	7.50%				
(7) Projected Investment Income					
=(1)x(6)+([1+(6)] ^{.5} -1)x(4a-4b)	268,648,380				
(8) Asset Adjustment	-				
(9) Investment Income in Excess of Projected Income	144,698,324				
(10) Excess Investment Income Recognized					
This Year (5 year recognition)					
(10a) From This Year	\$ 28,939,665				
(10b) From One Year Ago	(42,817,237)	\$ 28,939,665			
(10c) From Two Years Ago	(40,949,749)	(42,817,237)	\$ 28,939,665		
(10d) From Three Years Ago	59,600,269	(40,949,749)	(42,817,237)	\$ 28,939,665	
(10e) From Four Years Ago	17,964,996	59,600,269	(40,949,750)	(42,817,236)	\$ 28,939,664
(10f) Total Recognized Investment Gain/(Loss)	22,737,944	4,772,948	(54,827,322)	(13,877,571)	28,939,664
(11) Change in Actuarial Value of Assets					
=(4a)-(4b)+(7)+(8)+(10f)	169,942,417				
End of Year:					
(3) Market Value of Assets	\$ 3,933,505,411				
(12) Final Actuarial Value of Assets as of 6/30 = (2)+(11)	\$ 3,968,497,692				
(13) Difference Between Market & Actuarial Values	(34,992,281)				
(14) Estimated Market Value Rate of Return on Total Plan Assets	11.54%				
(15) Estimated Market Value Return on Invested Plan Assets ¹	11.65%				
(16) Actuarial Value Rate of Return	7.80%				
(17) Ratio of Actuarial Value to Market Value	101%				

¹ Rate calculated and provided by the County.

Development of Actuarial Value of Assets (Assets Allocated to GRIP)

Fiscal Year Ending	2017	2018	2019	2020	2021
Beginning of Year:					
(1) Market Value of Assets	\$ 120,131,182				
(2) Actuarial Value of Assets	125,495,390				
End of Year:					
(3) Market Value of Assets	140,354,750				
(4a) Contributions	10,914,263				
(4b) Net Disbursements	4,904,486				
(5) Total Investment Income					
=(3)-(1)-(4a)+(4b)	14,213,791				
(6) Projected Rate of Return	7.50%				
(7) Projected Investment Income					
=(1)x(6)+([1+(6)] ⁵ -1)x(4a-4b)	9,231,131				
(8) Asset Adjustment	-				
(9) Investment Income in Excess of Projected Income	4,982,660				
(10) Excess Investment Income Recognized					
This Year (5 year recognition)					
(10a) From This Year	\$ 996,532				
(10b) From One Year Ago	(1,361,821)	\$ 996,532			
(10c) From Two Years Ago	(1,208,679)	(1,361,821)	\$ 996,532		
(10d) From Three Years Ago	1,630,977	(1,208,679)	(1,361,821)	\$ 996,532	
(10e) From Four Years Ago	447,155	1,630,979	(1,208,677)	(1,361,821)	\$ 996,532
(10f) Total Recognized Investment Gain/(Loss)	504,164	57,011	(1,573,966)	(365,289)	996,532
(11) Change in Actuarial Value of Assets					
=(4a)-(4b)+(7)+(8)+(10f)	15,745,072				
End of Year:					
(3) Market Value of Assets	\$ 140,354,750				
(12) Final Actuarial Value of Assets as of 6/30 = (2)+(11)	\$ 141,240,462				
(13) Difference Between Market & Actuarial Values	(885,712)				
(14) Estimated Market Value Rate of Return on Total Plan Assets	11.54%				
(15) Estimated Market Value Return on Invested Plan Assets ¹	11.65%				
(16) Actuarial Value Rate of Return	7.58%				
(17) Ratio of Actuarial Value to Market Value	101%				

¹ Rate calculated and provided by the County.

Development of Actuarial Value of Assets (Assets Allocated to All Benefit Groups)

	Valuation as of July 1, 2017								
	Non-Public Safety		Public Safety					GRIP	Total
	Group A	Group H	Group E	Group J	Group F	Group G			
Beginning of Year:									
(1) Actuarial Value of Assets ¹	\$ 856,238,444	\$ 620,535,139	\$ 419,426,613		\$ 1,027,901,530	\$ 748,958,159	\$ 125,495,390	\$ 3,798,555,275	
End of Year:									
(2a) County Contributions	\$ 17,331,776	\$ 20,781,966	\$ 6,736,257		\$ 18,856,523	\$ 25,503,028	\$ 6,189,407	\$ 95,398,957	
(2b) Employee Contributions	<u>3,000,225</u>	<u>3,118,372</u>	<u>3,086,617</u>		<u>7,047,098</u>	<u>6,963,248</u>	<u>4,724,856</u>	<u>27,940,416</u>	
(2c) Total Contributions ²	\$ 20,332,001	\$ 23,900,338	\$ 9,822,874		\$ 25,903,621	\$ 32,466,276	\$ 10,914,263	\$ 123,339,373	
(3a) Benefit Payments and Refunds	\$ 70,334,975	\$ 50,479,810	\$ 23,751,226		\$ 51,348,358	\$ 40,991,717	\$ 4,691,425	\$ 241,597,511	
(3b) Administrative Expenses	<u>502,768</u>	<u>464,810</u>	<u>353,379</u>		<u>853,749</u>	<u>798,002</u>	<u>213,061</u>	<u>3,185,769</u>	
(3c) Total Deductions ³	\$ 70,837,743	\$ 50,944,620	\$ 24,104,605		\$ 52,202,107	\$ 41,789,719	\$ 4,904,486	\$ 244,783,280	
(4) Investment Return (AVA Basis)	\$ 64,860,703	\$ 47,371,817	\$ 32,172,141		\$ 79,178,291	\$ 58,068,077	\$ 9,735,295	\$ 291,386,324	
(5) Actuarial Value of Assets	\$ 870,593,405	\$ 640,862,674	\$ 437,317,023		\$ 1,080,781,335	\$ 797,702,793	\$ 141,240,462	\$ 3,968,497,692	
(6) AVA Rate of Return	7.80%	7.80%	7.80%		7.80%	7.80%	7.58%	7.80%	
(7) Final Actuarial Value of Assets ⁴	\$ 870,593,405	\$ 640,862,674	\$ 394,559,893	\$ 42,757,130	\$ 1,080,781,335	\$ 797,702,793	\$ 141,240,462	\$ 3,968,497,692	

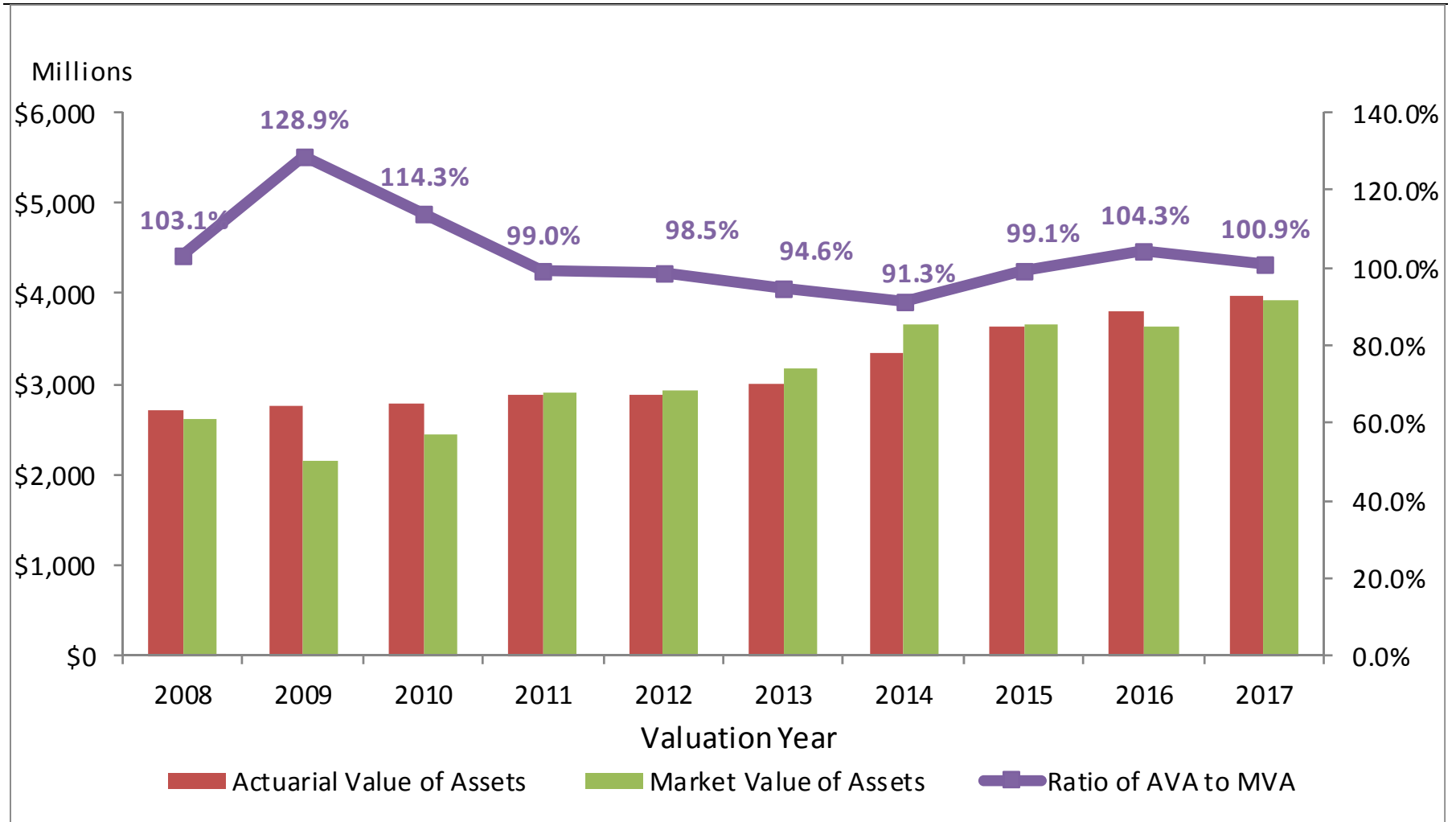
¹ Actuarial value of assets by group is from the actuarial valuation as of July 1, 2016.

² Contributions by group allocated based on fiscal year 2017 contribution rates and expected fiscal year 2017 payroll from the prior actuarial valuation as of July 1, 2016.

³ Deductions by group allocated based on amounts projected by group from the prior actuarial valuation as of July 1, 2016.

⁴ The actuarial value of assets was allocated between Group E and Group J as of July 1, 2017 such that the funded ratio is equal for the two groups.

Historical Comparison of Actuarial Value of Assets to Market Value of Assets (Total ERS)



SECTION B

ACTUARIAL VALUATION DATA

Summary of Participant Data (July 1, 2017 and July 1, 2016)

	Valuation as of July 1, 2017							Total
	Non-Public Safety		Public Safety					
	Group A	Group H	Group E	Group J	Group F	Group G	GRIP	
Total All Plans								
Active Members								
Number	429	580	461	142	1,222	1,132	1,772	5,738
Average Age	58.3	58.3	42.2	46.3	39.2	38.7	47.9	45.6
Average Service	27.9	26.2	11.5	13.5	13.4	12.3	7.6	13.6
Total Base Payroll	\$ 45,885,715	\$ 43,632,124	\$ 32,512,716	\$ 11,667,832	\$ 99,735,151	\$ 88,495,531	\$ 122,345,446	\$ 444,274,516
Contribution Basis Payroll:								
For Normal Cost	\$ 42,296,741	\$ 40,412,532	\$ 31,015,093	\$ 10,857,193	\$ 96,137,066	\$ 85,423,860	\$ 116,749,876	\$ 422,892,361
For Amortization of Unfunded Liability*	34,160,769	35,629,470	32,512,716	11,667,832	99,735,151	88,495,531	122,345,446	424,546,915
DRSP/DROP Members								
Number			30		40	53		123
Total Base Payroll			\$ 3,016,165		\$ 4,333,333	\$ 5,525,429		\$ 12,874,926
Total Benefits			1,841,607		2,975,376	3,630,499		8,447,482
Terminated Vested Members								
Number	54	64	35		35	26	266	480
Total Benefits	\$ 553,775	\$ 495,664	\$ 534,908		\$ 350,660	\$ 237,588		\$ 2,172,593
Retired Members and Beneficiaries								
Number							3	6,393
Total Benefits							\$ 22,477	\$ 236,691,546
Total Membership							2,041	12,734

	Valuation as of July 1, 2016							Total
	Non-Public Safety		Public Safety					
	Group A	Group H	Group E	Group J	Group F	Group G	GRIP	
Total All Plans								
Active Members								
Number	447	665	583		1,198	1,094	1,526	5,513
Average Age	57.4	57.9	43.8		39.0	38.7	48.7	45.9
Average Service	27.1	25.5	12.4		13.3	12.5	8.0	14.2
Total Base Payroll	\$ 46,836,047	\$ 49,424,131	\$ 42,790,779		\$ 96,127,773	\$ 86,442,465	\$ 106,001,280	\$ 427,622,475
Contribution Basis Payroll:								
For Normal Cost	\$ 43,551,017	\$ 46,061,369	\$ 40,620,151		\$ 92,581,455	\$ 83,476,239	\$ 101,386,764	\$ 407,676,995
For Amortization of Unfunded Liability*	35,985,028	41,054,141	42,790,779		96,127,773	86,442,465	106,001,280	408,401,466
DRSP/DROP Members								
Number			23		39	43		105
Total Base Payroll			\$ 2,222,867		\$ 4,082,407	\$ 4,750,449		\$ 11,055,723
Total Benefits			1,338,295		2,613,118	2,839,457		6,790,870
Terminated Vested Members								
Number	57	74	33		33	21	177	395
Total Benefits	\$ 587,053	\$ 575,867	\$ 513,580		\$ 384,236	\$ 162,769		\$ 2,223,505
Retired Members and Beneficiaries								
Number							3	6,348
Total Benefits							\$ 22,477	\$ 234,072,926
Total Membership							1,706	12,361

*Excludes Non-GRIP UAL Payroll from Outside Agencies. As of July 1, 2017, this amount is \$2,565,981, and as of July 1, 2016, this amount is \$2,539,450.

Summary of Active Participant Data By Plan

	Valuation as of July 1, 2017 Including DROP/DRSP Actives							
	Non-Public Safety		Public Safety				GRIP	Total
	Group A	Group H	Group E	Group J	Group F	Group G		
<u>Optional Non-Integrated</u>								
Number	3	4	-	-	-	1		8
Total Base Payroll	\$ 409,999	\$ 396,990	\$ -	\$ -	\$ -	\$ 97,755		\$ 904,744
<u>Optional Integrated</u>								
Number	11	5	-	-	-	1		17
Total Base Payroll	\$ 1,063,651	\$ 329,447	\$ -	\$ -	\$ -	\$ 126,907		\$ 1,520,005
<u>Mandatory Integrated</u>								
Number	415	571	491	142	1,262	1,183		4,064
Total Base Payroll	\$ 44,412,065	\$ 42,905,687	\$ 35,528,881	\$ 11,667,832	\$ 104,068,484	\$ 93,796,298		\$ 320,711,415
<u>GRIP</u>								
Number							1,772	1,772
Total Base Payroll							\$ 122,345,446	\$ 122,345,446
<u>Total All Plans</u>								
Number	429	580	491	142	1,262	1,185	1,772	5,861
Total Base Payroll	\$ 45,885,715	\$ 43,632,124	\$ 35,528,881	\$ 11,667,832	\$ 104,068,484	\$ 94,020,960	\$ 122,345,446	\$ 445,481,610
	Valuation as of July 1, 2017 Excluding DROP/DRSP Actives							
	Non-Public Safety		Public Safety				GRIP	Total
	Group A	Group H	Group E	Group J	Group F	Group G		
<u>Optional Non-Integrated</u>								
Number	3	4	-	-	-	1		8
Total Base Payroll	\$ 409,999	\$ 396,990	\$ -	\$ -	\$ -	\$ 97,755		\$ 904,744
<u>Optional Integrated</u>								
Number	11	5	-	-	-	1		17
Total Base Payroll	\$ 1,063,651	\$ 329,447	\$ -	\$ -	\$ -	\$ 126,907		\$ 1,520,005
<u>Mandatory Integrated</u>								
Number	415	571	461	142	1,222	1,130		3,941
Total Base Payroll	\$ 44,412,065	\$ 42,905,687	\$ 32,512,716	\$ 11,667,832	\$ 99,735,151	\$ 88,270,869		\$ 319,504,320
<u>GRIP</u>								
Number							1,772	1,772
Total Base Payroll							\$ 122,345,446	\$ 122,345,446
<u>Total All Plans</u>								
Number	429	580	461	142	1,222	1,132	1,772	5,738
Total Base Payroll	\$ 45,885,715	\$ 43,632,124	\$ 32,512,716	\$ 11,667,832	\$ 99,735,151	\$ 88,495,531	\$ 122,345,446	\$ 444,274,515

Summary of Active Participant Data Outside Agencies

Valuation as of July 1, 2017

	Assessment and Taxation	Circuit Court	CRU 92 Credit Union	District Court	Housing Opportunities Commission	Revenue Authority	Strathmore Hall	Town of Chevy Chase	Washington Suburban Transit Commission	Total Agency	Total Non- Agency	Total ERS
Non-GRIP Membership												
Active Members												
Number	-	1	1	-	32	2	3	-	-	39	3,927	3,966
Average Age	-	66.6	56.8	-	59.7	48.5	57.7	-	-	59.1	44.4	44.5
Average Service	-	46.0	26.8	-	27.8	27.2	16.3	-	-	27.3	16.2	16.3
Total Base Payroll	\$ -	\$ 75,562	\$ 122,244	\$ -	\$ 2,497,738	\$ 90,958	\$ 427,772	\$ -	\$ -	\$ 3,214,274	\$ 318,714,796	\$ 321,929,070
DRSP/DROP Members												
Number											123	123
Total Base Payroll											\$ 12,874,926	\$ 12,874,926
Total Benefits											\$ 8,447,482	\$ 8,447,482
Terminated Vested Members												
Number	-	1	-	-	17	-	-	1	-	19	195	214
Total Benefits	\$ -	\$ 2,427	\$ -	\$ -	\$ 9,095	\$ -	\$ -	\$ 364	\$ -	\$ 11,886	\$ 2,160,709	\$ 2,172,595
Retired Members and Beneficiaries												
Number	21	3	7	8	143	19	5	4	1	211	6,179	6,390
Total Benefits	\$ 1,168,500	\$ 61,640	\$ 328,723	\$ 191,210	\$ 3,425,294	\$ 400,920	\$ 174,763	\$ 93,692	\$ 20,363	\$ 5,865,106	\$ 230,803,963	\$ 236,669,069
Total Non-GRIP Membership	21	5	8	8	192	21	8	5	1	269	10,424	10,693
GRIP Membership												
Active Members												
Number	-	1	-	-	100	2	7	1	-	111	1,661	1,772
Average Age	-	66.8	-	-	47.1	48.7	39.0	39.1	-	46.7	48.0	47.9
Average Service	-	11.0	-	-	6.2	9.9	2.8	6.5	-	6.1	7.7	7.6
Total Base Payroll	\$ -	\$ 48,630	\$ -	\$ -	\$ 6,361,875	\$ 108,971	\$ 420,526	\$ 36,674	\$ -	\$ 6,976,676	\$ 115,368,770	\$ 122,345,446
Terminated GRIP Members		1	1		15		3			20	246	266
Retired GRIP Members											3	3
Total GRIP Membership	-	2	1	-	115	2	10	1	-	131	1,910	2,041
Total GRIP and Non-GRIP Membership	21	7	9	8	307	23	18	6	1	400	12,334	12,734

Age/Service by Group as of July 1, 2017

Group A

Current Age	Under 5	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 and Over	Totals	Valuation Payroll
Under 25	-	-	-	-	-	-	-	-	-	0	\$ -
25-29	-	-	-	-	-	-	-	-	-	0	-
30-34	-	1	-	-	-	-	-	-	-	1	81,291
35-39	-	-	2	-	-	-	-	-	-	2	148,179
40-44	-	1	1	2	3	1	-	-	-	8	605,501
45-49	-	-	2	1	14	20	1	-	-	38	3,466,531
50-54	-	-	-	4	24	43	16	-	-	87	8,546,523
55-59	-	-	-	2	14	71	26	3	1	117	13,093,464
60-64	1	1	2	3	16	33	33	10	4	103	11,404,857
65-69	1	-	1	1	9	20	19	3	3	57	6,556,290
70-74	-	-	-	-	1	2	4	4	1	12	1,461,870
75 and Over	-	-	-	-	-	3	-	1	-	4	521,209
Total	2	3	8	13	81	193	99	21	9	429	\$ 45,885,715

While not used in the financial computations, the following group averages are computed and shown because of their general interest.

Current Valuation		Previous Valuation	
Average Age:	58.3	Average Age:	57.4
Average Service:	27.9	Average Service:	27.1
Average Annual Pay:	\$ 106,960	Average Annual Pay:	\$ 104,779
Vested Participants	427	Vested Participants	445
Nonvested Participants	2	Nonvested Participants	2
Total Participants	429	Total Participants	447

Group H

Current Age	Under 5	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 and Over	Totals	Valuation Payroll
Under 25	-	-	-	-	-	-	-	-	-	0	\$ -
25-29	-	-	-	-	-	-	-	-	-	0	-
30-34	1	-	3	-	-	-	-	-	-	4	230,378
35-39	-	1	2	2	-	-	-	-	-	5	372,483
40-44	2	-	2	4	1	1	-	-	-	10	725,884
45-49	-	3	3	8	21	18	1	-	-	54	4,082,002
50-54	-	-	8	11	28	51	9	-	-	107	8,076,347
55-59	-	1	1	7	39	76	22	14	-	160	12,144,351
60-64	-	-	3	7	31	60	24	14	2	141	10,673,953
65-69	-	1	-	6	15	28	8	11	1	70	5,370,767
70-74	-	-	1	-	6	3	4	4	-	18	1,260,011
75 and Over	-	1	-	-	1	4	3	-	2	11	695,948
Total	3	7	23	45	142	241	71	43	5	580	\$ 43,632,124

While not used in the financial computations, the following group averages are computed and shown because of their general interest.

Current Valuation		Previous Valuation	
Average Age:	58.3	Average Age:	57.9
Average Service:	26.2	Average Service:	25.5
Average Annual Pay:	\$ 75,228	Average Annual Pay:	\$ 74,322
Vested Participants	577	Vested Participants	664
Nonvested Participants	3	Nonvested Participants	1
Total Participants	580	Total Participants	665

Age/Service by Group as of July 1, 2017

Group E

Current Age	Under 5	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 and Over	Totals	Valuation Payroll
Under 25	20	-	-	-	-	-	-	-	-	20	\$ 940,839
25-29	45	6	-	-	-	-	-	-	-	51	2,623,102
30-34	36	11	10	-	-	-	-	-	-	57	3,190,605
35-39	14	11	23	7	-	-	-	-	-	55	3,689,110
40-44	15	7	30	28	3	-	-	-	-	83	6,049,491
45-49	4	6	21	24	24	3	-	-	-	82	6,668,620
50-54	6	2	15	19	15	9	1	-	-	67	5,500,023
55-59	2	3	8	14	4	3	1	-	-	35	2,859,384
60-64	-	-	2	4	2	2	-	-	-	10	913,827
65-69	-	-	-	1	-	-	-	-	-	1	77,715
70-74	-	-	-	-	-	-	-	-	-	0	-
75 and Over	-	-	-	-	-	-	-	-	-	0	-
Total	142	46	109	97	48	17	2	-	-	461	\$ 32,512,716

While not used in the financial computations, the following group averages are computed and shown because of their general interest.

Current Valuation		Previous Valuation*	
Average Age:	42.2	Average Age:	43.8
Average Service:	11.5	Average Service:	12.4
Average Annual Pay:	\$ 70,526	Average Annual Pay:	\$ 73,398
Vested Participants	319	Vested Participants	442
Nonvested Participants	142	Nonvested Participants	141
Total Participants	461	Total Participants	583

*Previous valuation figures include members ineligible for DROP.

Group J

Current Age	Under 5	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 and Over	Totals	Valuation Payroll
Under 25	-	-	-	-	-	-	-	-	-	0	\$ -
25-29	10	-	-	-	-	-	-	-	-	10	546,587
30-34	4	8	1	-	-	-	-	-	-	13	798,950
35-39	5	3	5	4	-	-	-	-	-	17	1,242,317
40-44	7	1	2	9	3	-	-	-	-	22	1,793,666
45-49	2	4	4	6	5	1	-	-	-	22	2,033,339
50-54	1	3	10	7	3	6	-	-	-	30	2,713,612
55-59	2	1	3	1	-	6	1	-	-	14	1,275,809
60-64	-	1	3	1	1	3	1	1	-	11	1,003,677
65-69	1	1	-	-	-	1	-	-	-	3	259,875
70-74	-	-	-	-	-	-	-	-	-	0	-
75 and Over	-	-	-	-	-	-	-	-	-	0	-
Total	32	22	28	28	12	17	2	1	-	142	\$ 11,667,832

While not used in the financial computations, the following group averages are computed and shown because of their general interest.

Current Valuation		Previous Valuation	
Average Age:	46.3	Average Age:	
Average Service:	13.5	Average Service:	
Average Annual Pay:	\$ 82,168	Average Annual Pay:	
Vested Participants	110	Vested Participants	
Nonvested Participants	32	Nonvested Participants	
Total Participants	142	Total Participants	

Age/Service by Group as of July 1, 2017

Group F

Current Age	Under 5	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 and Over	Totals	Valuation Payroll
Under 25	39	1	-	-	-	-	-	-	-	40	\$ 2,124,784
25-29	157	34	-	-	-	-	-	-	-	191	11,284,632
30-34	53	83	95	-	-	-	-	-	-	231	15,872,164
35-39	11	15	138	40	-	-	-	-	-	204	16,763,243
40-44	6	6	45	93	19	-	-	-	-	169	15,498,296
45-49	1	6	22	52	131	31	1	-	-	244	23,867,618
50-54	-	-	15	9	33	41	4	1	-	103	10,382,675
55-59	-	-	1	1	7	9	12	1	-	31	3,154,549
60-64	-	3	-	-	3	-	1	1	-	8	693,970
65-69	-	-	-	-	-	-	1	-	-	1	93,220
70-74	-	-	-	-	-	-	-	-	-	0	-
75 and Over	-	-	-	-	-	-	-	-	-	0	-
Total	267	148	316	195	193	81	19	3	-	1,222	\$ 99,735,151

While not used in the financial computations, the following group averages are computed and shown because of their general interest.

Current Valuation		Previous Valuation	
Average Age:	39.2	Average Age:	39.0
Average Service:	13.4	Average Service:	13.3
Average Annual Pay:	\$ 81,616	Average Annual Pay:	\$ 80,240
Vested Participants	955	Vested Participants	906
Nonvested Participants	267	Nonvested Participants	292
Total Participants	1,222	Total Participants	1,198

Group G

Current Age	Under 5	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 and Over	Totals	Valuation Payroll
Under 25	34	6	-	-	-	-	-	-	-	40	\$ 2,084,726
25-29	116	54	1	-	-	-	-	-	-	171	9,643,606
30-34	88	67	82	-	-	-	-	-	-	237	15,581,652
35-39	32	34	80	50	-	-	-	-	-	196	15,394,614
40-44	8	15	47	92	9	-	-	-	-	171	15,288,983
45-49	4	5	34	56	44	42	-	-	-	185	17,696,337
50-54	1	4	5	25	18	28	15	-	-	96	9,499,299
55-59	2	2	1	2	2	13	5	1	-	28	2,612,149
60-64	-	-	3	2	-	-	-	1	-	6	500,214
65-69	-	-	1	-	-	-	-	-	1	2	193,951
70-74	-	-	-	-	-	-	-	-	-	0	-
75 and Over	-	-	-	-	-	-	-	-	-	0	-
Total	285	187	254	227	73	83	20	2	1	1,132	\$ 88,495,531

While not used in the financial computations, the following group averages are computed and shown because of their general interest.

Current Valuation		Previous Valuation	
Average Age:	38.7	Average Age:	38.7
Average Service:	12.3	Average Service:	12.5
Average Annual Pay:	\$ 78,176	Average Annual Pay:	\$ 79,015
Vested Participants	847	Vested Participants	810
Nonvested Participants	285	Nonvested Participants	284
Total Participants	1,132	Total Participants	1,094

Age/Service by Group as of July 1, 2017

GRIP

Current Age	Under 5	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 and Over	Totals	Valuation Payroll
Under 25	16	1	-	-	-	-	-	-	-	17	\$ 688,687
25-29	127	10	2	-	-	-	-	-	-	139	7,062,948
30-34	146	27	4	1	-	-	-	-	-	178	9,842,557
35-39	110	38	14	3	-	-	-	-	-	165	9,981,844
40-44	128	30	33	21	1	-	-	-	-	213	15,069,240
45-49	95	43	44	37	9	-	-	-	-	228	15,585,224
50-54	92	49	56	40	9	-	-	-	-	246	17,683,029
55-59	86	44	65	56	11	1	-	-	-	263	20,412,511
60-64	52	48	45	51	19	-	-	-	-	215	16,768,856
65-69	11	16	27	24	5	1	1	-	-	85	7,255,299
70-74	1	1	6	7	4	-	-	-	-	19	1,621,314
75 and Over	1	2	-	1	-	-	-	-	-	4	373,937
Total	865	309	296	241	58	2	1	-	-	1,772	\$ 122,345,446

While not used in the financial computations, the following group averages are computed and shown because of their general interest.

Current Valuation		Previous Valuation	
Average Age:	47.9	Average Age:	48.7
Average Service:	7.6	Average Service:	8.0
Average Annual Pay:	\$ 69,044	Average Annual Pay:	\$ 69,463
Vested Participants	1,165	Vested Participants	1,097
Nonvested Participants	607	Nonvested Participants	429
Total Participants	1,772	Total Participants	1,526

Total All Groups

Current Age	Under 5	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 and Over	Totals	Valuation Payroll
Under 25	109	8	-	-	-	-	-	-	-	117	\$ 5,839,036
25-29	455	104	3	-	-	-	-	-	-	562	31,160,875
30-34	328	197	195	1	-	-	-	-	-	721	45,597,597
35-39	172	102	264	106	-	-	-	-	-	644	47,591,790
40-44	166	60	160	249	39	2	-	-	-	676	55,031,061
45-49	106	67	130	184	248	115	3	-	-	853	73,399,672
50-54	100	58	109	115	130	178	45	1	-	736	62,401,508
55-59	92	51	79	83	77	179	67	19	1	648	55,552,217
60-64	53	53	58	68	72	98	59	27	6	494	41,959,354
65-69	13	18	29	32	29	50	29	14	5	219	19,807,117
70-74	1	1	7	7	11	5	8	8	1	49	4,343,195
75 and Over	1	3	-	1	1	7	3	1	2	19	1,591,094
Total	1,596	722	1,034	846	607	634	214	70	15	5,738	\$ 444,274,516

While not used in the financial computations, the following group averages are computed and shown because of their general interest.

Current Valuation		Previous Valuation	
Average Age:	45.6	Average Age:	45.9
Average Service:	13.6	Average Service:	14.2
Average Annual Pay:	\$ 77,427	Average Annual Pay:	\$ 77,566
Vested Participants	4,400	Vested Participants	4,364
Nonvested Participants	1,338	Nonvested Participants	1,149
Total Participants	5,738	Total Participants	5,513

Schedule of Active Member Data as of July 1, 2017

Valuation Date 7/1	Number	Annual Payroll	Average Annual Pay	% Increase in Avg Pay
2003	5,876	\$336,019,788	\$57,185	2.61%
2004	5,670	341,629,327	60,252	5.36%
2005	5,628	355,105,993	63,096	4.72%
2006	5,362	357,361,131	66,647	5.63%
2007	5,294	374,792,608	70,796	6.23%
2008	5,060	376,002,333	74,309	4.96%
2009	5,012	376,014,994	75,023	0.96%
2010	5,786	431,226,155	74,529	-0.66%
2011	5,515	405,336,529	73,497	-1.38%
2012	5,554	398,460,248	71,743	-2.39%
2013	5,606	395,988,026	70,636	-1.54%
2014	5,535	402,899,096	72,791	3.05%
2015	5,541	418,728,584	75,569	3.82%
2016	5,513	427,622,475	77,566	2.64%
2017	5,738	444,274,516	77,427	-0.18%

Prior to the July 1, 2014, valuation, counts and payroll include DRSP and DROP members.

Schedule of Members in Pay Status as of July 1, 2017

Valuation Date 7/1	Annuitants	Survivors	Disableds	Total Number	Total Annual Benefits	Total Average Annual Benefit
2003	3,203	350	817	4,370		\$25,204
2004	3,348	360	851	4,559		26,276
2005	3,443	369	853	4,665		27,591
2006	3,564	365	919	4,848		29,229
2007	3,661	361	975	4,997		30,011
2008	3,905	380	1,021	5,306		31,808
2009	3,957	386	1,036	5,379		31,698
2010	4,132	380	1,079	5,591		32,606
2011	4,245	393	1,074	5,712		34,348
2012	4,309	438	1,077	5,824	\$203,710,715	34,978
2013	4,412	448	1,101	5,961	210,686,878	35,344
2014	4,669	452	1,121	6,242	229,568,856	36,778
2015	4,807	448	1,125	6,380	235,612,875	36,930
2016	4,882	445	1,126	6,453	240,863,796	37,326
2017	4,947	453	1,116	6,516	245,139,028	37,621

Total Annual Benefits first shown in actuarial valuation report in 2012. Amounts in prior years are not readily available. Beginning with the July 1, 2014, valuation, counts for annuitants and annual benefit amounts include DRSP and DROP members.

Reconciliation of Participant Data as of July 1, 2017

Non-Public Safety

	Actives	Deferred Vested	Retirees and Beneficiaries*	Total
Participants at 07/01/2016	1,112	131	-	1,243
New Entrants and Rehires	-	-	-	-
Transfers To DROP/DRSP	-	-	-	-
Non-Vested Terminations/ Refund of Contributions	(4)	(2)	-	(6)
Vested Terminations	-	-	-	-
Transfers from GRIP	1	-	-	1
Transfer to E, F, G	(1)	-	-	(1)
Transfer from E, F, G	2	-	-	2
Service Retirements	(96)	(12)	-	(108)
Disability	-	-	-	-
New Beneficiaries	-	-	-	-
Deaths	(6)	-	-	(6)
Benefit Terminations	-	-	-	-
Status Adjustments	1	1	-	2
Participants at 07/01/2017	1,009	118	-	1,127

**Reconciliation of non-GRIP retirees and beneficiaries shown in total only.*

Reconciliation of Participant Data as of July 1, 2017

Public Safety

	Actives	Deferred Vested	Retirees and Beneficiaries*	DRSP/DROP Members	Total
Participants at 07/01/2016	2,875	87	-	105	3,067
New Entrants and Rehires	207	-	-	1	208
Transfers To DROP/DRSP	(49)	-	-	49	-
Non-Vested Terminations/ Refund of Contributions	(39)	-	-	-	(39)
Vested Terminations	(11)	11	-	-	-
Transfers from GRIP	2	-	-	-	2
Transfer to A, H	(2)	-	-	-	(2)
Transfer from A, H	1	-	-	-	1
Service Retirements	(19)	(4)	-	(28)	(51)
Disability	(7)	-	-	-	(7)
New Beneficiaries	-	-	-	-	-
Deaths	(2)	-	-	(3)	(5)
Benefit Terminations	-	-	-	(1)	(1)
Status Adjustments	1	2	-	1	3
Participants at 07/01/2017	2,957	96	-	123	3,176

*Reconciliation of non-GRIP retirees and beneficiaries shown in total only.

Reconciliation of Participant Data as of July 1, 2017

GRIP

	Actives	Deferred Vested	Retirees and Beneficiaries	Total
Participants at 07/01/2016	1,526	177	3	1,706
New Entrants and Rehires	368	-	-	368
Transfers To DROP/DRSP	-	-	-	-
Non-Vested Terminations/ Refund of Contributions	(43)	(23)	-	(66)
Vested Terminations	(76)	76	-	-
Transfers	-	-	-	-
Transfers from GRIP	(3)	-	-	(3)
Service Retirements	-	-	-	-
Disability	-	-	-	-
Lump Sum Retirement	-	-	-	-
Deaths	-	-	-	-
Benefit Terminations	-	-	-	-
Status Adjustments	-	36	-	36
Participants at 07/01/2017	1,772	266	3	2,041

Reconciliation of Participant Data as of July 1, 2017

Total

	Actives	Deferred Vested	Retirees and Beneficiaries	DRSP/DROP Members	Total
Participants at 07/01/2016	5,513	395	6,348	105	12,361
New Entrants and Rehires	575	-	-	1	576
Transfers To DROP/DRSP	(49)	-	-	49	-
Non-Vested Terminations/ Refund of Contributions	(86)	(25)	-	-	(111)
Vested Terminations	(87)	87	-	-	-
Transfers	-	-	-	-	-
Service Retirements	(115)	(16)	159	(28)	-
Disability	(7)	-	7	-	-
New Beneficiaries	-	-	41	-	41
Deaths	(8)	-	(170)	(3)	(181)
Benefit Terminations	-	-	-	(1)	(1)
Adjustments	2	39	8	-	49
Participants at 07/01/2017	5,738	480	6,393	123	12,734

SECTION C

ACTUARIAL VALUATION METHODS AND ASSUMPTIONS

Actuarial Cost Method

Normal cost and the allocation of benefit values between service rendered before and after the valuation date were determined using the **Individual Entry-Age Normal actuarial cost method** having the following characteristics:

- The normal cost for each individual active member, payable from the date of employment to the date of retirement, is sufficient to accumulate the value of the member's benefit at the time of retirement; and
- Each annual normal cost is a constant percentage of the member's year by year projected covered pay.

Financing of Unfunded Actuarial Accrued Liabilities. The unfunded actuarial accrued liability is amortized using a level-percentage of pay amortization of a closed period amortization base. The amortization method was changed from an 18-year closed period amortization of the base established on July 1, 2010, and 20-year closed period amortization of the bases established thereafter, to recombining all amortization bases established prior to July 1, 2015, into a single amortization base equal to the unfunded actuarial liability as of July 1, 2015. The single amortization base as of July 1, 2015, and subsequent unfunded liability arising in future valuations are amortized over a single nine-year closed period for non-public safety groups and separate 20-year closed periods for public safety groups and GRIP beginning July 1, 2015.

Allocation of Unfunded Liability and Amortization Payments by Group. The amortization payments for non-GRIP members are allocated between Groups A, E, F, G, H and J. The amortization payment schedule by group for the bases established prior to the 2012 valuation is based on the allocation established by the prior actuary. The amortization payment schedule by group for the bases established beginning in the 2012 valuation is based on allocations calculated by GRS using a consistent method with the prior actuary.

The unfunded liability as of July 1, 2014, was calculated for each group based on the amortization payment amounts in that valuation and the remaining amortization period for each payment. Beginning with the July 1, 2015, actuarial valuation, changes in the unfunded liability are separately calculated and reported for each group.

The actuarial value of assets by group as of July 1, 2014, was calculated as the difference between the actuarial accrued liability and the unfunded liability as of July 1, 2014. Beginning with the actuarial valuation as of July 1, 2015, the non-GRIP actuarial value of assets by group is calculated using the following methodology:

- 1) Beginning of year actuarial value of assets for each benefit group (calculated in the prior year's valuation); plus
- 2) Non-investment cash flows (allocated based on each group's projected non-investment cash flows from the prior valuation); plus
- 3) Assumed investment return on the actuarial value of assets (rate of return equal to the rate of return on an actuarial value of assets basis for non-GRIP assets).

Actuarial Value of Pension Plan Assets. The calculated value is determined by adjusting the market value of assets to reflect the investment gains and losses (the difference between the actual investment return and the expected investment return) during each of the last five years at the rate of 20 percent per year.

Actuarial Cost Method (Continued)

Contribution Basis Payroll. The payroll for each member who is active at the actuarial valuation date is called the Base Payroll. For purposes of calculating the contribution rates based on the dollar contributions determined, different payroll amounts are used.

Contribution Basis Payroll for Normal Cost is the expected payroll for current active members payable in the upcoming year and reflects that a percentage of members will exit the active population due to retirement, termination, death or disability. This payroll is on a consistent basis with the normal cost dollars shown in the report.

Contribution Basis Payroll for Amortization of Unfunded Liability is equal to the total base payroll for the open groups (groups that are enrolling new members) and projected payroll for the period July 1, 2018, through June 30, 2019, for the closed groups (groups that are closed to new members). The projected payroll for the closed groups reflects that a percentage of members will exit the active population due to retirement, termination, death or disability and no additional employees will be hired into those groups. The objective of using this payroll basis is to have the actual County contribution made in fiscal year 2019 for the amortization of the unfunded liability (which is based on a contribution rate and actual payroll during the year) be as close as possible to the dollar amount calculated in the 2017 actuarial valuation report.

Groups A and H are closed and the remaining groups are open.

Actuarial Assumptions in the Valuation Process

The contribution and benefit values of the System are calculated by applying actuarial assumptions to the benefit provisions and census information furnished, using the actuarial cost method described on the previous page.

The principal areas of financial risk which require assumptions about future experiences are:

- Long-term rates of investment return to be generated by the assets of the Plan;
- Patterns of pay increases to members;
- Rates of mortality among members, retirees and beneficiaries;
- Rates of withdrawal of active members;
- Rates of disability among members; and
- The age patterns of actual retirement.

In an actuarial valuation, the monetary effect of each actuarial assumption is calculated for as long as a present covered person survives; a period of time which can be as long as a century.

Actual experience of the Plan will not coincide exactly with assumed experience. Each actuarial valuation provides a complete recalculation of assumed future experience and takes into account all past differences between assumed and actual experience. The result is a continual series of adjustments (usually small) to the computed contribution rate.

From time to time it becomes appropriate to modify one or more of the assumptions, to reflect experience trends (but not random year-to-year fluctuations). Thus, an experience review of the Montgomery County Employees' Retirement System for the period July 1, 2009, to July 1, 2014, was performed to compare the demographic and economic experience against the actuarial assumptions used in the actuarial valuations. The actuarial assumptions described in this section were adopted by the Directors for use beginning with the July 1, 2015, actuarial valuation. Additional information regarding the rationale for the actuarial assumptions may be found in the 2015 experience review report. All actuarial assumptions are expectations of future experience, not current market measures.

Actuarial Valuation Assumptions

The assumed rate of price inflation is 2.75 percent.

The assumed COLA is as follows:

	Assumed COLA
100% of CPI, benefit attributable to pre 7/1/2011 service	2.75%
60% of CPI, benefit attributable to pre 7/1/2011 service	1.65%
100% of CPI*, benefit attributable to service on or after 7/1/2011	2.30%

**Capped at 2.5 percent.*

The following groups have a COLA equal to 60 percent of the increase in CPI:

- Unrepresented Non-Public Safety Enrolled 7/1/78 & after-retired before 11/1/01
- Certain Sheriffs and Inspectors Enrolled 7/1/78 & after-retired prior to 11/1/01
- Represented Non-Public Safety Enrolled 7/1/78 & after-retired prior to 11/1/01
- Sheriffs/Corrections Enrolled 7/1/78 & after-retired prior to 11/1/01
- Fire Enrolled 7/1/78 & after-retired prior to 3/1/00
- Police Enrolled 7/1/78 & after-retired prior to 3/1/00

The assumed rate of investment return used was 7.50%, net of expenses, annually.

Actuarial Valuation Assumptions (Continued)

The rates of annual salary increase used for individual members are in accordance with the following table. This assumption is used to project a member's current salary to the salaries upon which benefit amounts will be based.

Service At Assumed Pay Increase	Group A, H and GRIP	Group E and J	Group F	Group G
1	6.00%	9.50%	8.00%	9.50%
2	5.50%	9.00%	8.00%	9.00%
3	5.00%	7.00%	8.00%	7.00%
4	4.50%	6.50%	6.50%	6.50%
5	4.00%	6.00%	6.00%	6.00%
6	4.00%	5.50%	5.50%	6.00%
7	4.00%	5.00%	5.00%	6.00%
8	4.00%	4.50%	4.50%	6.00%
9	4.00%	4.00%	4.00%	6.00%
10	4.00%	4.00%	4.00%	6.00%
11	3.25%	4.00%	4.00%	4.50%
12	3.25%	4.00%	4.00%	4.50%
13	3.25%	4.00%	4.00%	4.50%
14	3.25%	4.00%	4.00%	4.50%
15	3.25%	4.00%	4.00%	4.50%
16	3.25%	4.00%	4.00%	4.00%
17	3.25%	4.00%	4.00%	4.00%
18	3.25%	4.00%	4.00%	4.00%
19	3.25%	4.00%	4.00%	4.00%
20	3.25%	4.00%	4.00%	4.00%
21+	3.25%	3.25%	3.25%	3.25%

The assumed rate of total payroll growth used in amortizing the unfunded liability as a level percentage of pay is 3.25 percent.

The assumed increase in the Social Security Taxable Wage Base is 3.25 percent.

Actuarial Valuation Assumptions (Continued)

The mortality assumptions are as follows:

	Male Set Forward	Female Set Forward
RP-2014 Employee, sex distinct (pre-retirement, non-service connected)*	None	None
RP-2014 Healthy Annuitant, sex distinct (non-disabled post-retirement)	None	None
RP-2014 Healthy Annuitant, sex distinct (disabled post retirement)	6 years	8 years

*Rates multiplied by 15 percent were used for pre-retirement service connected mortality for Groups F and G.

To provide a margin for future mortality improvements, generational mortality improvements from 2014 using projection scale MP-2014 was used.

Age	Healthy Mortality				Disabled Mortality	
	Pre-Retirement Future Life		Post-Retirement Future Life		Future Life	
	Expectancy (years) in 2017		Expectancy (years) in 2017		Expectancy (years) in 2017	
	Men	Women	Men	Women	Men	Women
20	69.30	73.56	66.97	69.92	60.79	61.71
25	63.98	68.23	61.56	64.48	55.40	56.31
30	58.64	62.91	56.20	59.10	50.07	51.00
35	53.31	57.59	50.90	53.79	44.85	45.80
40	47.98	52.29	45.69	48.58	39.76	40.70
45	42.67	47.02	40.59	43.46	34.82	35.67
50	37.44	41.80	35.63	38.42	30.05	30.72
55	32.33	36.66	30.87	33.47	25.45	25.93
60	27.39	31.61	26.29	28.64	21.06	21.40
65	22.69	26.66	21.89	24.00	16.95	17.19
70	18.31	21.86	17.73	19.62	13.18	13.36
75	14.25	17.25	13.86	15.53	9.82	9.95
80	10.58	12.88	10.39	11.83	6.99	7.08
85	7.43	8.95	7.43	8.61	4.83	4.92
90	5.11	6.06	5.13	6.01	3.39	3.43
95	3.56	4.14	3.56	4.14	2.44	2.45
100	2.54	2.90	2.54	2.90	1.86	1.87
105	1.91	2.12	1.91	2.12	1.59	1.59

Life expectancy based on non-service connected mortality rates only.

Actuarial Valuation Assumptions (Continued)

Rates of separation from active membership are represented by the following table (rates do not apply to members eligible to retire and do not include separation on account of death or disability). This assumption measures the probabilities of members terminating employment.

Service Beginning of Year	Group A, H and GRIP		Group E and J		Group F and G	
	Male	Female	Male	Female	Male	Female
0	11.50%	12.50%	12.00%	15.00%	6.00%	9.00%
1	9.50%	10.50%	10.00%	12.00%	5.00%	7.00%
2	8.00%	9.50%	6.00%	7.00%	4.00%	5.00%
3	6.00%	6.50%	5.00%	6.50%	3.00%	4.50%
4	4.50%	4.50%	4.00%	4.00%	2.50%	3.50%
5	4.00%	4.25%	3.90%	3.90%	2.25%	3.00%
6	4.00%	4.25%	3.80%	3.80%	2.00%	2.75%
7	4.00%	4.25%	3.70%	3.70%	1.75%	2.50%
8	4.00%	4.25%	3.60%	3.60%	1.50%	2.00%
9	4.00%	4.25%	3.50%	3.50%	1.25%	1.75%
10	3.25%	2.75%	2.00%	2.00%	1.00%	1.50%
11	3.25%	2.75%	1.50%	1.50%	0.75%	1.25%
12	3.25%	2.75%	1.00%	1.00%	0.50%	1.00%
13	3.25%	2.75%	1.00%	1.00%	0.50%	0.75%
14	3.25%	2.75%	1.00%	1.00%	0.50%	0.50%
15	2.00%	2.50%	1.00%	1.00%	0.50%	0.50%
16	2.00%	2.50%	1.00%	1.00%	0.50%	0.50%
17	2.00%	2.50%	1.00%	1.00%	0.50%	0.50%
18	2.00%	2.50%	1.00%	1.00%	0.50%	0.50%
19	2.00%	2.50%	1.00%	1.00%	0.50%	0.50%
20+	2.00%	2.50%	1.00%	1.00%	0.50%	0.50%

Vested participants that terminate are assumed to elect the option with the greater present value:

- 1) *A refund of their accumulated contributions with interest or*
- 2) *A deferred benefit.*

Actuarial Valuation Assumptions (Continued)

Rates of disability were as follows:

Age	Non-Public Safety		Public Safety					
	Groups A and H		Groups E and J		Group F		Group G	
	Male	Female	Male	Female	Male	Female	Male	Female
20	0.0257%	0.0068%	0.0515%	0.0315%	0.1029%	0.1125%	0.1029%	0.1125%
25	0.0527%	0.0180%	0.1054%	0.0840%	0.2107%	0.3000%	0.2107%	0.3000%
30	0.1078%	0.0480%	0.2156%	0.2240%	0.4312%	0.8000%	0.4312%	0.8000%
35	0.1323%	0.0705%	0.2646%	0.3290%	0.5292%	1.1750%	0.5292%	1.1750%
40	0.1752%	0.0983%	0.3504%	0.4585%	0.7007%	1.6375%	0.9109%	1.6375%
45	0.3332%	0.2631%	0.6664%	1.2278%	1.3328%	4.3850%	1.5994%	4.3850%
50	0.5537%	0.3537%	1.1074%	1.6506%	2.2148%	5.8950%	2.5692%	5.8950%
55	0.6762%	0.3717%	1.3524%	1.7346%	2.7048%	6.1950%	3.5162%	6.1950%
60	0.7987%	0.3789%	1.3524%	1.7346%	2.7048%	6.1950%	3.5162%	6.1950%

The assumed split of service-connected and non-service connected disabilities is as follows:

Group	Total	Total	Service Connected Disability	
	Non-Service	Service	Total Incapacity	Partial Incapacity
	Connected	Connected	70% Benefit	52.5% Benefit
A and H	65%	35%	17.5%	17.5%
E and J	40%	60%	20.0%	40.0%
F	5%	95%	30.0%	65.0%
G	5%	95%	30.0%	65.0%

Actuarial Valuation Assumptions (Continued)

Rates of retirement for members eligible to retire during the next year were as follows:

Age	Groups A and H (Non Public Safety)		Groups E and J			Group F			Group G			GRIP						
	Under 30 Years of Service	30 Years of Service and Over	Under 25 Years of Service	25 Years of Service	26 Years of Service and Over	Under 25 Years of Service	25 Years of Service	26 Years of Service and Over	Under 20 or 21 - 24 Years of Service	20 Years of Service	25 Years of Service and Over	Under 15 Years of Service	15 Years of Service and Over					
Under 42			3.50%	3.50%	3.50%				2.50%	20.00%	2.50%			2.50%	10.00%	5.00%		
42			3.50%	3.50%	3.50%				2.50%	20.00%	2.50%			5.00%	10.00%	5.00%		
43			3.50%	3.50%	3.50%				2.50%	20.00%	2.50%			5.00%	10.00%	5.00%		
44			3.50%	3.50%	3.50%				2.50%	20.00%	2.50%			5.00%	10.00%	5.00%		
45	2.00%	2.00%	3.50%	8.00%	8.00%				2.50%	20.00%	2.50%			7.50%	10.00%	10.00%		
46	2.00%	2.00%	3.50%	8.00%	8.00%				3.50%	20.00%	3.50%			7.50%	10.00%	10.00%		
47	2.00%	2.00%	3.50%	8.00%	8.00%				4.50%	20.00%	4.50%			7.50%	10.00%	10.00%		
48	2.00%	2.00%	3.50%	8.00%	8.00%				5.50%	20.00%	5.50%			7.50%	10.00%	10.00%		
49	2.00%	2.00%	3.50%	8.00%	8.00%				6.50%	20.00%	6.50%			7.50%	10.00%	10.00%		
50	3.00%	15.00%	10.00%	10.00%	10.00%				10.00%	20.00%	20.00%			10.00%	15.00%	17.50%		
51	3.00%	15.00%	10.00%	10.00%	10.00%				10.00%	20.00%	20.00%			10.00%	15.00%	17.50%		
52	3.00%	15.00%	10.00%	12.00%	12.00%				10.00%	20.00%	20.00%			12.50%	20.00%	25.00%		
53	3.00%	15.00%	10.00%	12.00%	12.00%				15.00%	25.00%	25.00%			12.50%	20.00%	25.00%		
54	3.00%	15.00%	10.00%	12.00%	12.00%				15.00%	25.00%	25.00%			12.50%	20.00%	25.00%		
55	6.00%	15.00%	15.00%	30.00%	30.00%				15.00%	40.00%	40.00%			20.00%	40.00%	35.00%	3.00%	3.00%
56	6.00%	15.00%	15.00%	30.00%	30.00%				15.00%	40.00%	40.00%			20.00%	40.00%	35.00%	3.00%	3.00%
57	6.00%	15.00%	15.00%	30.00%	30.00%				15.00%	40.00%	40.00%			20.00%	40.00%	35.00%	6.00%	6.00%
58	8.00%	15.00%	15.00%	30.00%	30.00%				15.00%	40.00%	40.00%			20.00%	40.00%	35.00%	6.00%	6.00%
59	8.00%	15.00%	15.00%	30.00%	30.00%				15.00%	40.00%	40.00%			20.00%	40.00%	35.00%	6.00%	6.00%
60	13.00%	18.00%	25.00%	50.00%	50.00%				25.00%	70.00%	70.00%			40.00%	40.00%	40.00%	6.00%	10.00%
61	13.00%	18.00%	25.00%	50.00%	50.00%				25.00%	70.00%	70.00%			40.00%	40.00%	40.00%	6.00%	10.00%
62	13.00%	18.00%	25.00%	50.00%	50.00%				25.00%	70.00%	70.00%			40.00%	40.00%	40.00%	8.00%	25.00%
63	13.00%	18.00%	25.00%	50.00%	50.00%				25.00%	70.00%	70.00%			40.00%	40.00%	40.00%	8.00%	25.00%
64	13.00%	18.00%	25.00%	50.00%	50.00%				25.00%	70.00%	70.00%			40.00%	40.00%	40.00%	8.00%	25.00%
65	20.00%	25.00%	100.00%	100.00%	100.00%				100.00%	100.00%	100.00%			100.00%	100.00%	100.00%	20.00%	30.00%
66	20.00%	25.00%															20.00%	30.00%
67	20.00%	25.00%															20.00%	30.00%
68	20.00%	25.00%															20.00%	30.00%
69	20.00%	25.00%															20.00%	30.00%
70	40.00%	40.00%															50.00%	50.00%
71	40.00%	40.00%															50.00%	50.00%
72	40.00%	40.00%															50.00%	50.00%
73	40.00%	40.00%															50.00%	50.00%
74	40.00%	40.00%															50.00%	50.00%
75	100.00%	100.00%															100.00%	100.00%

Assumption for DRSP and DROP eligible members are as follows:

	Group E (DROP)	Group F (DRSP)	Group G (DROP)
Percent Assumed to Participate	75%	75%	75%
Average Years of Participation	3 years	3 years	3 years

Actuarial Valuation Assumptions (Continued)

Assumed Additional Sick Leave Credit:

Members are assumed to accumulate additional service credit at termination or retirement for unused sick leave credit up to a maximum of 2 years.

Group	Years of Sick Leave Per Year of Credited Service
A	0.022
E, J	0.025
F	0.040
G	0.031
H	0.016

Marital Status:

It is assumed that 80 percent of active participants have an eligible spouse. The male spouse is assumed to be three years older than the female spouse.

Form of Payment:

Plan	Normal Form	Assumed in Valuation
Mandatory Integrated	Life Annuity, guaranteed returned employee contributions with interest	3 Year Certain and Continuous Annuity
Optional Integrated	Life Annuity with 120 monthly payments guaranteed	10 Year Certain and Continuous Annuity
Optional Non-Integrated	Life Annuity with 120 monthly payments guaranteed	10 Year Certain and Continuous Annuity
GRIP	Lump Sum	Lump Sum at Termination or Retirement

Benefit Service:

Exact fractional years of service are used to determine the amount of benefit payable.

Decrement Timing:

All decrements are assumed to occur at the middle of the year.

Decrement Operation:

Turnover decrements do not operate after the member reaches retirement eligibility.

Eligibility Testing:

Eligibility for benefits is determined based upon the age nearest birthday and service on the date the decrement is assumed to occur.

Pay Increase Timing:

End of (fiscal) year.

Actuarial Valuation Assumptions (Continued)

Expenses: Assumed administrative expenses were added to the Normal Cost and are based on 105 percent of the average of the administrative expenses over the past 3 years. The assumed amount added to the Normal Cost is:

Valuation Year	Actual Administrative Expenses				Assumed Expenses Added to Normal Cost
	3 Years Prior	2 Years Prior	1 Year Prior	3 Year Average	
2015	\$ 2,400,996	\$ 2,953,807	\$ 2,684,560	\$ 2,679,788	\$ 2,813,800
2016	2,953,807	2,684,560	3,014,055	2,884,141	3,028,300
2017	2,684,560	3,014,055	3,185,769	2,961,461	3,109,500

**Assumptions for
Missing or Incomplete
Data:**

Active members:

If payroll was not provided, the current year payroll was set equal to the prior year payroll. For new hires, the current year payroll was set equal to the average payroll for new hires in the same group (A, E, J, F, G, H, and GRIP).

Vesting service and credited service were calculated for GRIP members based on date of hire and the valuation date.

Retired members:

If a beneficiary date of birth was not provided for members with a joint and survivor option, it was assumed that there was a beneficiary and males are three years older than their female spouses.

SECTION D

BENEFIT PROVISIONS

Brief Summary of Plan Provisions as of July 1, 2017

Following is a summary of the major plan provisions used in the valuation summarized in this report. Montgomery County is solely responsible for the validity, accuracy and comprehensiveness of this information. If any of the plan provisions shown below are not accurate and complete, the valuation results may differ significantly from those shown in this report and may require a revision of this report. Moreover, these plan provisions may be susceptible to different interpretations, each of which could be reasonable, and the different interpretations could lead to different valuation results.

1. Effective Date of the Plan

August 15, 1965. Latest changes to the plan were made for group A, group E, group F, group G, group H, group J and GRIP members in FY11 and were reflected in the 2011 actuarial valuation. Some of the changes were effective July 1, 2011, while others were effective July 1, 2012.

2. Employee Eligibility Requirements

- A. Optional non-integrated retirement plan: Employees enrolled prior to July 1, 1978, who do not elect to join the integrated retirement plan.
- B. Optional integrated plan: Employees enrolled prior to July 1, 1978, who elect to join the integrated retirement plan.
- C. Mandatory integrated retirement plan: Employees enrolled on or after July 1, 1978. The Plan is closed to Non-Public Safety employees hired or rehired after September 30, 1994.

3. Membership Groups and Eligibility

- Group A: Any employee who is not eligible for coverage under another membership group.
- Group B: Any correctional officer, fire prevention officer, or deputy sheriff appointed or promoted to the position on or before June 30, 1978 who has not elected to transfer to another membership group.
- Group D: Any full-time police officer appointed on or before August 15, 1965, who has been continuously employed as a police officer and has not elected to transfer to any other membership group.
- Group E: The chief administrative officer, the director of the council staff, the hearing examiners, the county attorney and each head of a principal department, office or agency of the county government, if appointed before July 30, 1978, or a member having held such position on or before October 1, 1972. Any sworn deputy sheriff and such correctional staff as designated by the chief administrative officer. Non-correctional officers were moved to Group J.
- Group F: Any sworn police officer who is not eligible for coverage under another membership group.

Brief Summary of Plan Provisions as of July 1, 2017 (Continued)

- Group G: Any paid firefighter, paid fire officer or paid rescue service personnel not eligible for coverage under another membership group.
- Group H: Any member, including any probationary employee, who holds a bargaining unit position, unless the member is eligible for membership in Groups B, D, E, F or G.
- Group J: Group J was established as of December 21, 2016. Non-correctional officer employees hired prior to December 21, 2016, who participated in Group E were transferred to Group J on May 28, 2017. Group J members are not eligible for Deferred Retirement Option Plan (DROP) coverage.

4. Member Contributions as a Percent of Regular Base Earnings

Effective July 1, 1989, member contributions are pre-tax and interest shall be credited annually on each member's accumulated contributions at a 4.0 percent annual rate.

A. Optional non-integrated plan:

	Prior to 7/1/2001	Effective 7/1/2001	Effective 7/1/2011	Effective 7/1/2012 and After
Group A	6%	6%	7%	8%
Group B*	7%	n/a	n/a	n/a
Group D**	n/a	n/a	n/a	n/a
Group E, J	7½%	8½%	9½%	10½%
Group F	7½%	8½%	9½%	10½%
Group G	7½%	8½%	9½%	10½%
Group H	6%	6%	7%	8%

* The last Group B member retired August 1, 1998

** The last Group D member retired November 1, 1992

B. Optional integrated plan:

	Prior to 7/1/2001*		Effective 7/1/2001*		Effective 7/1/2011		Effective 7/1/2012 and After	
	Up to SSTWB	In excess of SSTWB	Up to SSTWB	In excess of SSTWB	Up to SSTWB	In excess of SSTWB	Up to SSTWB	In excess of SSTWB
Group A	3%	6%	4%	6%	5%	7%	6%	8%
Group B**	3½%	7%	4½%	7%	n/a	n/a	n/a	n/a
Group D	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Group E, J	3¾%	7½%	4¾%	8½%	5¾%	9½%	6¾%	10½%
Group F	4%	8%	4¾%	8½%	5¾%	9½%	6¾%	10½%
Group G with less than 25 years of service								
	4¾%	8½%	5½%	9¼%	6½%	10¼%	7½%	11¼%
Group G with at least 25 years of service								
	4¾%	8½%	4¾%	8½%	5¾%	9½%	6¾%	10½%
Group H	3%	6%	4%	6%	5%	7%	6%	8%

* 7/1/2007 for Group G

** The last Group B member retired February 1, 2008

SSTWB means Social Security Taxable Wage Base.

Brief Summary of Plan Provisions as of July 1, 2017 (Continued)

C. Mandatory integrated plan:

	Prior to 7/1/2001*		Effective 7/1/2001*		Effective 7/1/2011		Effective 7/1/2012 and After	
	Up to SSTWB	In excess of SSTWB	Up to SSTWB	In excess of SSTWB	Up to SSTWB	In excess of SSTWB	Up to SSTWB	In excess of SSTWB
Group A	3%	6%	4%	6%	5%	7%	6%	8%
Group B	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Group D	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Group E, J	3¾%	7½%	4¾%	8½%	5¾%	9½%	6¾%	10½%
Group F	4%	8%	4¾%	8½%	5¾%	9½%	6¾%	10½%
Group G with less than 25 years of service								
	4¾%	8½%	5½%	9¼%	6½%	10¼%	7½%	11¼%
Group G with at least 25 years of service								
	4¾%	8½%	4¾%	8½%	5¾%	9½%	6¾%	10½%
Group H	3%	6%	4%	6%	5%	7%	6%	8%

* 7/1/2007 for Group G

5. Credited Service

A member's credited service is the total service rendered under the Employees' Retirement System of Montgomery County, plus credited service earned under State of Maryland and/or Montgomery County Police Relief and Retirement Fund Law or any other Maryland Public Plan, plus any purchased prior service or granted.

- A. Full-time: Full-time members receive one year of credited service for rendering the full normal working time in a 12-month period.
- B. Part-time: Part-time members working less than the normal scheduled workweek for full-time employees on a continuing basis shall receive one year of credited service for each 12-month period.
- C. Combined part-time and full-time: Combined part-time and full-time employees will receive one month of credited service for 176 hours worked each fiscal year. Accumulated hours of 88 to 176 or 15 days or more in any calendar month will equal one month of credited service.
- D. Sick Leave: Any employee whose retirement is effective on or after May 1, 1970, will have 176 hours of accumulated sick leave equivalent to one month of credited service up to a maximum of 4,224 hours. Accumulated sick leave of less than 11 days shall not be credited; 11 to 22 days shall be credited as one month for retirement purposes. Any member who vests on or after October 1, 1971, may have sick leave credited for vesting purposes on the same basis.

Brief Summary of Plan Provisions as of July 1, 2017 (Continued)

6. Average Final Earnings

For members enrolled on or before June 30, 1978, average final earnings are equal to the regular earnings for the 12-month period immediately preceding retirement, or any consecutive 12-month period, if greater.

For members enrolled on or after July 1, 1978, average final earnings are equal to the average of regular annual earnings for the 36-month period immediately preceding retirement, or any consecutive 36-month period, if greater.

7. Social Security Wage Base

For any particular year, the maximum amount of earnings creditable for benefit computation purposes under the Old Age, Survivors and Disabilities Insurance Program established by the Federal Social Security Act.

Year	Social Security Taxable Wage Base
2011	\$106,800
2012	\$110,100
2013	\$113,700
2014	\$117,000
2015	\$118,500
2016	\$118,500
2017	\$127,200

8. Social Security Maximum Compensation Level

The maximum dollar amount of earnings upon which Social Security benefits are based, assuming: (1) an employee's annual compensation is at least as great as the taxable wage base each year, for a 35-year period through the year in which the employee attains Social Security Retirement Age, (2) the employee remained in covered employment during each calendar year, (3) the taxable wage base stays level from date of retirement to Social Security Retirement Age.

9. Social Security Retirement Age

- Age 65 for employees born prior to January 1, 1938.
- Age 66 for employees born on or after January 1, 1938, and prior to January 1, 1955.
- Age 67 for employees born on or after January 1, 1955.

10. Regular Earnings

Gross pay for actual hours worked, excluding overtime.

Brief Summary of Plan Provisions as of July 1, 2017 (Continued)

Imputed Compensation for FY2010 only (effective July 1, 2009):

- Regular earnings for a Group A, E, J or H member who is employed on July 1, 2009, includes amounts as if the member had received an increase of 4.5% in the member's gross pay as of July 1, 2009, except for the purpose of calculating a member's contribution.
- Regular earnings for a Group F member who is employed on July 1, 2009, includes amounts as if the member had received an increase of 4.25 percent in the member's gross pay as of July 1, 2009, except for the purpose of calculating a member's contribution.
- Regular earnings for a Group G member who is employed on July 1, 2009, includes amounts as if the member had received an increase of 4.00 percent in the member's gross pay as of July 1, 2009, except for the purpose of calculating a member's contribution.

11. Benefits

A. Normal Retirement Date:

Age and Service Requirement:

- Group A: Age 60 and five years of credited service, or age 55 and 30 years of credited service (*after June 30, 2002, age 60 and five years of credited service, or age 50 and 30 years of credited service for members who are Police Telecommunicators*).
- Group B: Age 55 and 15 years of credited service, or age 51 and 30 years of credited service.
- Group D: The requirements contained in the police relief and retirement fund law of the county.
- Group E, J: Age 55 and 15 years of credited service, or age 46 and 25 years of credited service.
- Group F: Age 55 and 15 years of credited service, or 25 years of credited service (effective July 1, 2008; previously, age 55 and 15 years of credited service, or age 46 and 25 years of credited service).
- Group G: Age 55 and 15 years of credited service, or any age with 20 years of credited service (effective July 1, 2007; previously age 55 and 15 years of credited service, or any age with 25 years of credited service).
- Group H: Age 60 and five years of credited service, or age 55 and 30 years of credited service (*after June 30, 2002, age 60 and five years of credited service, or age 50 and 30 years of credited service for members who are Police Telecommunicators or members of the Service, Labor and Trades (SLT) bargaining unit*).

Brief Summary of Plan Provisions as of July 1, 2017 (Continued)

B. Benefit Amount:

1. Optional non-integrated plan: All groups other than Group E, J, F or G – 2 percent of average final earnings multiplied by years of credited service, up to a maximum of 36 years, plus sick leave credits.
 - Group E, J: 2.4 percent of average final earnings for each of the first 25 years of credited service, plus 2 percent of average final earnings for each year of credited service after 25 years up to a maximum of 31 years, plus sick leave credits. Sick leave credit in excess of 25 years is credited at 2 percent of average final earnings.
 - Group F: 2.4 percent of average final earnings for each year of credited service, up to a maximum of 36 years, plus sick leave credits.
 - Group G: 2.5 percent of average final earnings for each of the first 20 years of credited service, plus 2 percent of average final earnings for each year of credited service after 20 years up to a maximum of 31 years, plus sick leave credits (effective July 1, 2007; previously 2 percent of average final earnings for each of the first 20 years of credited service, plus 3 percent of average final earnings for each year of credited service from 21st year through 24th year, plus 8 percent of average final earnings for the 25th year of credited service, plus 2 percent of average final earnings for each year of credited service after 25 years up to a maximum of 31 years, plus sick leave credits).
2. Integrated plans:
 - a. From date of retirement to Social Security Retirement Age:
 - For groups other than Groups E, J, F or G: 2 percent of average final earnings multiplied by years of credited service, up to a maximum of 36 years, plus sick leave credits.
 - Group E, J: 2.4 percent of average final earnings for each of the first 25 years of credited service, plus 2 percent of average final earnings for each year of credited service more than 25 years up to a maximum of 31 years, plus sick leave credits.
 - Group F: 2.4 percent of average final earnings multiplied by years of credited service, up to a maximum of 36 years of service including sick leave credits. (Effective 7/1/2008; previously 2.4 percent of average final earnings for each year of credited service, up to a maximum of 30 years, plus sick leave credits. Sick leave credit in excess of 30 years is credited at 2 percent of average final earnings).
 - Group G: 2.5 percent of average final earnings for each of the first 20 years of credited service, plus 2 percent of average final earnings for each year of credited service after 20 years up to a maximum of 31 years, plus sick leave credits (effective 7/1/2007; previously 2 percent of average final earnings for each of the first 20 years of credited service, plus 3 percent of average final earnings for each year of credited

Brief Summary of Plan Provisions as of July 1, 2017 (Continued)

service from 21st year through 24th year, plus 8 percent of average final earnings for the 25th year of credited service, plus 2 percent of average final earnings for each year of credited service after 25 years up to a maximum of 31 years, plus sick leave credits).

b. From attainment of Social Security Retirement Age:

- For Groups A, B or H: 1.25 percent of average final earnings up to Social Security maximum covered compensation plus 2 percent of average final earnings above Social Security maximum covered compensation, multiplied by years of credited service up to 36 years, plus sick leave credits.
- Group D: 1 percent of average final earnings up to Social Security maximum covered compensation plus 2 percent of average final earnings above Social Security maximum covered compensation, multiplied by years of credited service up to 36 years, plus sick leave credits.
- Group E, J: 1.25 percent (effective 7/1/2009: 1.65 percent) of average final earnings up to Social Security maximum covered compensation for each year of credited service up to a maximum of 31 years plus sick leave credits, plus 2.4 percent of average final earnings above Social Security maximum covered compensation for each of the first 25 years, and 2 percent of average final earnings above Social Security maximum covered compensation for each year of credited service after 25 years up to a maximum of 31 years, plus sick leave credits. Sick leave credits used for years in excess of 25 years is credited at 2 percent of average final earnings above Social Security maximum covered compensation.
- Group F: 1.65 percent of average final earnings up to Social Security maximum covered compensation for each year of credited service up to a maximum of 36 years including sick leave credits and 2.4 percent of average final earnings above Social Security maximum covered compensation for each year of credited service up to a maximum of 36 years including sick leave credits. (Effective 7/1/2008; previously 1.65 percent of average final earnings up to Social Security maximum covered compensation for each year of credited service up to a maximum of 30 years, plus 1.25 percent of average final earnings up to Social Security maximum covered compensation for each year of credited service in excess of 30 years, plus sick leave credits, and 2.4 percent of average final earnings above Social Security maximum covered compensation for each year of credited service up to a maximum of 30 years, plus sick leave credits. Sick leave credits used for years in excess of 30 years is credited at 2 percent of average final earnings above Social Security maximum covered compensation).
- Group G: 1.71875 percent of average final earnings for each of the first 20 years of credited service, plus 1.375 percent of average final earnings for each year of credited service after 20 years up to a maximum of 31 years, plus sick leave credits.

Brief Summary of Plan Provisions as of July 1, 2017 (Continued)

12. Early Pension

A. Age and service requirements:

- Group A: Age 50 and 15 years of credited service, or age 45 and 20 years of credited service.
- Group B: Age 45 and 15 years of credited service.
- Group D: Not applicable.
- Group E, J: Age 45 and 15 years of credited service, or age 41 and 20 years of credited service.
- Group F: Age 45 and 15 years of credited service, or age 41 and 20 years of credited service.
- Group G: Only normal retirement is allowed (effective 7/1/2007, previously age 45 and 15 years of credited service, or age 41 and 20 years of credited service).
- Group H: Age 50 with 15 years of credited service, or age 45 and 20 years of credited service.

B. Benefit amount: Regular pension accrued, reduced by the following schedule:

		YEARS EARLY										
		0	1	2	3	4	5	6	7	8	9	10
MONTHS EARLY	0	100.00%	98.00%	95.00%	91.00%	86.00%	80.00%	72.00%	64.00%	56.00%	48.00%	40.00%
	1	99.83%	97.75%	94.67%	90.58%	85.50%	79.33%	71.33%	63.33%	55.33%	47.33%	
	2	99.67%	97.50%	94.33%	90.17%	85.00%	78.67%	70.67%	62.67%	54.67%	46.67%	
	3	99.50%	97.25%	94.00%	89.75%	84.50%	78.00%	70.00%	62.00%	54.00%	46.00%	
	4	99.33%	97.00%	93.67%	89.33%	84.00%	77.33%	69.33%	61.33%	53.33%	45.33%	
	5	99.17%	96.75%	93.33%	88.92%	83.50%	76.67%	68.67%	60.67%	52.67%	44.67%	
	6	99.00%	96.50%	93.00%	88.50%	83.00%	76.00%	68.00%	60.00%	52.00%	44.00%	
	7	98.83%	96.25%	92.67%	88.08%	82.50%	75.33%	67.33%	59.33%	51.33%	43.33%	
	8	98.67%	96.00%	92.33%	87.67%	82.00%	74.67%	66.67%	58.67%	50.67%	42.67%	
	9	98.50%	95.75%	92.00%	87.25%	81.50%	74.00%	66.00%	58.00%	50.00%	42.00%	
	10	98.33%	95.50%	91.67%	86.83%	81.00%	73.33%	65.33%	57.33%	49.33%	41.33%	
11	98.17%	95.25%	91.33%	86.42%	80.50%	72.67%	64.67%	56.67%	48.67%	40.67%		

Unreduced early retirement benefits are available if the member's age and service equals 85 with at least 35 years of credited service.

13. Disability Pension

A. Non-service-connected disability retirement:

Age and service requirement: Five years of credited service.

Amount: The greater of the accrued benefit under 11(B) or 33⅓ percent of final earnings.

Brief Summary of Plan Provisions as of July 1, 2017 (Continued)

B. Service-connected disability retirement:

Age and service requirement: None

Benefit amount:

1. For total incapacity: The greater of the accrued benefit under 11(B) or 66⅔ percent of final earnings.
2. For Group G members: Benefits described in (1.) above are modified as follows:
 - The minimum benefit is 70 percent of final earnings if the member meets the definition of Social Security disability.
 - The minimum benefit is 52½ percent of final earnings if the member is disabled but does not qualify for the 70 percent minimum benefit above. The Chief Administrative Officer of the County may offer a disabled member an alternative position with the County with a 5 percent pay increase in lieu of this disability benefit.
 - Certain causes of disability are automatically deemed to be service-connected.

Effective July 1, 2012, the service-connected benefit amount is modified as follows:

- Total incapacity: the minimum benefit is 70 percent of final earnings if the Disability Review Panel approves. If the member has been granted Social Security disability benefits, the Disability Review Panel must recommend total incapacity status if the Social Security award is based primarily on the impairment for which plan benefits are paid.
- Partial incapacity: the minimum benefit is 52½ percent of final earnings if the member is disabled but does not qualify for the 70 percent minimum benefit above.
- Group G: The Chief Administrative Officer of the County may offer a disabled member an alternative position with the County with a 5 percent pay increase in lieu of this disability benefit. This does not apply to Group F.

14. Termination of Employment

A. Vesting provision:

Service requirement: Effective July 1, 1989, all employees who render five or more years of credited service become fully vested. Previously, vesting was based on a five to 10-year graded vesting schedule. Elected officials become vested after five years of service with a minimum monthly benefit of \$150.

Benefit amount: The monthly vested pension payable at normal retirement date is the benefit determined according to the normal retirement pension provisions based on credited service to the date of termination.

Brief Summary of Plan Provisions as of July 1, 2017 (Continued)

Effective July 1, 2010, unreduced benefit commencement date provision clarification for future terminated vested members: The unreduced benefit commencement date for groups A and H is age 60. The comparable date for groups E, J, F and G members is age 70 ½ for members who are not 55 years old with 15 years of service at their termination date.

B. Return of employee contributions:

A member's contributions plus interest will be refunded if:

- A member's service with the county terminates before the member becomes eligible to vest.
- A member eligible to vest terminates service and voluntarily elects to withdraw.

15. Discontinued Service Pension

Applies if employment ends because of an administrative action and participant has 10 or more years of continuous service. Discontinued service pension begins at early retirement date but no reductions are made for early retirement. A participant may not receive a discontinued service pension if the participant was terminated for cause or resigned.

A. Groups A, E, J, F, G and H

1. Optional Non-Integrated plan members and Optional Non-Integrated plan members who elected to transfer to the Optional Integrated plan on or before September 26, 1983.

Eligibility: 10 or more years of continuous or credited service, and not an elected or appointed member.

Benefit amount: The amount of pension that the participant would receive for a regular retirement modified as follows:

- Substitute final earnings for average final earnings
- Add 5 percent of final earnings
- No reduction at Social Security Normal Retirement Age

2. Optional Non-Integrated plan members who transferred to the Optional Integrated plan after September 26, 1983.

Eligibility: 10 or more years of credited or continuous service, and not an elected or appointed member.

Brief Summary of Plan Provisions as of July 1, 2017 (Continued)

Benefit amount: The amount of pension that the participant would receive for a regular retirement modified as follows:

- Substitute final earnings for average final earnings
- Add 5 percent of final earnings

3. Mandatory Integrated plan:

Eligibility: 10 or more years of continuous service and not an elected or appointed member.

Benefit amount: The amount of pension that the participant would receive for a regular retirement without any reduction for early retirement.

B. Elected and appointed members:

On or before September 26, 1983

Eligibility: 10 or more years of credited service and enrolled or re-enrolled *on or before* September 26, 1983, or submits an application to transfer from the optional plan to the integrated plan *before* September 26, 1983.

Benefit amount: Regular pension accrued under 11(B) except that “final earnings” replaces “average final earnings” in the calculation, minimum \$300.00 monthly.

After September 26, 1983

Eligibility: 10 or more years of credited service and enrolled or re-enrolled after September 26, 1983, or submits an application to transfer from the optional plan to the integrated plan after September 26, 1983.

Benefit amount: Regular pension accrued under 11(B) except that “final earnings” replaces “average final earnings” in the calculation, minimum \$300.00 monthly.

C. Notwithstanding the above provisions, any member covered by this plan on April 1, 1970, who has reached early retirement date with 20 years of continuous or credited service, is eligible to receive a pension commencing immediately in an amount not less than 50 percent of final earnings.

16. Death Benefits

A. Non service-connected:

Eligibility: None.

Benefit amount:

1. Return of member contributions with interest;

Brief Summary of Plan Provisions as of July 1, 2017 (Continued)

- plus
2. 50 percent of average final earnings if the member was a member of the Employees' Retirement System on or before December 31, 1966, and was a Maryland State plan member on August 15, 1965.

or

3. Alternate death benefits listed under (C.) below.

B. Service-connected:

Eligibility requirement: None

Benefit amount:

1. The spouse* will receive a benefit equal to 25 percent of the member's final earnings, with a minimum of \$250.00 per month. The child will receive a benefit equal to 5 percent of the member's final earnings with a minimum of \$50.00 per month to age 21 or life if disabled;
- plus
2. 50 percent of average final earnings if the member was a member of the Employees' Retirement System on or before December 31, 1966, and was a Maryland State plan member on August 15, 1965;
- or
3. Alternate death benefits listed under (C.) below.
4. For Group F and Group G members: if the member dies while performing duties for the County, the plan will pay death benefits to the spouse or domestic partner and child as if they were receiving a service-connected disability at the 70 percent minimum benefit level at the time of death and had elected the 100 percent joint and survivor option.

C. Alternative death benefits:

Eligibility: Member was eligible for vesting or retirement.

Benefit amount:

1. Spouse* or child may elect to receive the amount that would have been paid had the member elected to receive a 100 percent joint and survivor pension; plus
2. 50 percent of average final earnings if the member was a member of the Employees' Retirement System on or before December 31, 1966, and was a Maryland State plan member at August 15, 1965.

** Domestic partners who meet the requirements for domestic partnership are also eligible.*

Brief Summary of Plan Provisions as of July 1, 2017 (Continued)

17. Forms of Payment

A. Normal form:

1. Optional non-integrated plan: Lifetime benefit, with first 120 monthly payments guaranteed.
2. Optional integrated plan: Lifetime benefit, with first 120 monthly payments guaranteed.
3. Mandatory integrated plan: Lifetime benefit with refund of remaining contributions and interest.

B. Optional forms: A member may elect an optional form of pension actuarially equivalent to the normal form of retirement, otherwise payable, excluding members who qualified for a non-service-connected disability retirement before reaching early retirement date.

Available forms of payment are:

<i>Modified Cash Refund Annuity</i>	Lifetime benefit with return of employee contributions with interest guaranteed
<i>10-Year Certain and Continuous Annuity</i>	Lifetime benefit with 120 monthly payments guaranteed
<i>Social Security Adjustment Option Combined with either Modified Cash Refund Annuity or a 10-Year Certain and Continuous Annuity</i>	Provides a nearly level total income, from the Plan and Social Security, from date of retirement to date of death. At death, payment will continue to the beneficiary if the guarantee provided under the normal form of payment has not been exhausted.
<i>Joint and Survivor Annuity</i>	Provides a lifetime benefit and a continuation of a percentage of the retiree benefit upon death to the beneficiary. The minimum percentage is 10 percent. A guaranteed payment of employee contributions with interest is provided for the mandatory plan and 120 monthly payments from date of retirement for the optional plans.
<i>Joint and Survivor Annuity with Pop-Up</i>	Provides a lifetime benefit and a continuation of a percentage of the retiree benefit upon death to the beneficiary. The minimum percentage is 10 percent. If the beneficiary predeceases or divorces from the retiree, the monthly benefit pops up to the amount it would have been under the Modified Cash Refund option. A guaranteed payment of employee contributions with interest is provided.
<i>Social Security Adjustment Option Combined with Joint and Survivor Annuity Option</i>	Provides a nearly level total income, from the Plan and Social Security, from date of retirement to date of death and a continuation of a percentage of the retiree benefit upon death to the beneficiary. The minimum percentage is 10 percent.
<i>Social Security Adjustment Option Combined with Joint and Survivor Annuity Pop-Up Option</i>	Provides a nearly level total income, from the Plan and Social Security, from date of retirement to date of death and a continuation of a percentage of the retiree benefit upon death to the beneficiary. The minimum percentage is 10 percent. If the beneficiary predeceases or divorces from the retiree, the monthly benefit pops up to the amount it would have been under the Modified Cash Refund option. A guaranteed payment of employee contributions with interest is provided.

Brief Summary of Plan Provisions as of July 1, 2017 (Continued)

18. Post-Retirement Increases

Optional non-integrated plan: Annual adjustment to the benefit equal to 100 percent of the change in Consumer Price Index for the Washington Metro Area for years and months of credited service before July 1, 2011. For years and months of credited service after June 30, 2011, any adjustment will not exceed 2.5 percent.

Optional integrated plan: Annual adjustment to the benefit equal to 100 percent of the change in Consumer Price Index for the Washington Metro Area for years and months of credited service before July 1, 2011. For years and months of credited service after June 30, 2011, any adjustment will not exceed 2.5 percent.

Mandatory integrated plan:

- Participants who enrolled on or after July 1, 1978, and retired before November 1, 2001 – Annual adjustment to the benefit equal to 60 percent of CPI increase, limited to 5 percent. However, if over age 65 or disabled, then the maximum limit of 5 percent does not apply.
- Participants who enrolled on or after July 1, 1978, and retired on or after November 1, 2001 – Annual adjustment to the benefit equal to 100 percent of the change in Consumer Price Index for the Washington Metro Area up to 3 percent, plus 60 percent of any change in Consumer Price Index greater than 3 percent, not to exceed a total of 7.5 percent for years and months of credited service before July 1, 2011. The maximum 7.5 percent does not apply to disability retirees or retirees over age 65 for years of service before July 1, 2011. For years and months of credited service after June 30, 2011, any adjustment will not exceed 2.5 percent.

Disability Benefits:

For a disability occurring after June 30, 2011, as determined by the Disability Review Panel, any postretirement adjustment of the disability retirement benefit will not exceed 2.5 percent.

Sick Leave:

For purposes of applying any post-retirement adjustment, any sick leave will be credited as years and months of service as of the date of retirement. For participants who retire after July 1, 2011, any post-retirement adjustment will not exceed 2.5 percent on any sick leave credited as years and months of service.

DRSP Participants:

Effective July 1, 2011, any additional sick leave credited as years and months of service at DRSP exit is subject to the 2.5 percent post-retirement adjustment limit.

Brief Summary of Plan Provisions as of July 1, 2017 (Continued)

DROP Participants:

Effective July 1, 2011, any additional sick leave credited as years and months of service at DROP exit is subject to the 2.5 percent post-retirement adjustment limit.

Transferred Service:

For purposes of applying any post-retirement adjustment, any transferred service will be credited as years and months of service as of the date a properly completed application is filed with the Benefits Team. For applications to transfer service credit filed after June 30, 2011, any post-retirement adjustment will not exceed 2.5 percent on the transferred service.

Purchased Service:

For purposes of applying any post-retirement adjustment, any purchased service will be credited as years and months of service as of the date a properly completed application is filed with the Benefits Team. For applications to purchase service credit filed after June 30, 2011, any post-retirement adjustment will not exceed 2.5 percent on the purchased service.

19. Deferred Retirement Option Plan (DROP) for Group E (effective 7/1/2015)

A. Eligibility for DROP entry:

Any group E and J uniformed correctional officers or sworn deputy sheriffs who are at least 55 years old and have at least 15 years of credited service or have attained age 46 and 25 years of credited service may participate in the DROP plan.

B. Exit from DROP:

The first day of any month not to exceed 36 months.

C. The DROP account is:

- A member-directed account outside the System's usual investment.
- Credited with the investment gains and losses of the chosen investments.
- Credited with the monthly benefits that the member would have received if the member had retired at DROP entry.

Upon exit from DROP, the member can receive the DROP account as a lump sum payment or as actuarially equivalent monthly benefits.

D. Post-DROP monthly benefit:

The amount the participant would have received at DROP entry with post-retirement increases for the period in DROP.

Brief Summary of Plan Provisions as of July 1, 2017 (Continued)

E. Disability while in DROP:

Non-Service Connected: The member will receive a pension benefit calculated as if they retired with a non-service connected disability on the date they exited DROP and their DROP account.

Service Connected Disability: The member can elect (i) their DROP account and the post-DROP monthly benefit or (ii) a disability benefit calculated as if the member had never entered DROP.

F. Death while in DROP:

The beneficiary will receive the greater of (i) the death benefit that the beneficiary would have received if the member had died at DROP entry with post-retirement increases plus the DROP account or (ii) the death benefit calculated as if the member had never entered DROP.

G. Member Contributions:

Members do not contribute while in DROP.

20. Discontinued Retirement Service Program (DRSP) for Group F (effective 7/1/2008)

A. Eligibility for DRSP entry:

Any group F member who has attained age 46 and 25 years of credited service may participate in the DRSP plan.

B. Exit from DRSP:

The first day of any month not to exceed 36 months.

C. The DRSP account is:

- A member-directed account outside the System's usual investment.
- Credited with the investment gains and losses of the chosen investments.
- Credited with the monthly benefits that the member would have received if the member had retired at DRSP entry.

Upon exit from DRSP, the member can receive the DRSP account as a lump sum payment or as actuarially equivalent monthly benefits.

D. Post-DRSP monthly benefit:

The amount the participant would have received at DRSP entry with post-retirement increases for the period in DRSP.

Brief Summary of Plan Provisions as of July 1, 2017 (Continued)

E. Disability while in DRSP:

Non-Service Connected: The member will receive a pension benefit calculated as if they retired with a non-service connected disability on the date they exited DRSP and their DRSP account.

Service Connected Disability: The member can elect (i) their DRSP account and the post-DRSP monthly benefit or (ii) a disability benefit calculated as if the member had never entered DRSP.

F. Death while in DRSP:

The beneficiary will receive the greater of (i) the death benefit that the beneficiary would have received if the member had died at DRSP entry with post-retirement increases plus the DRSP account or (ii) the death benefit calculated as if the member had never entered DRSP.

G. Member Contributions:

Members do not contribute while in DRSP.

21. Deferred Retirement Option Plan (DROP) for Group G

A. Eligibility for DROP entry:

Any group G member who has met the age and service requirements for a normal retirement may participate in the DROP plan (*effective 7/1/2007; previously only Group G members with at least 25 years of credited service*).

B. Exit from DROP:

The first day of any month not to exceed 36 months.

C. The DROP account collects:

- The member's contributions while in DROP.
- The monthly benefits that the member would have received if the member had retired at DROP entry.
- 8.25 percent interest on the amount in the account.

Upon exit from DROP, the member can receive the DROP account as a lump sum payment or as actuarially equivalent monthly benefits.

D. Post-DROP monthly benefit:

The amount the participant would have received at DROP entry with post-retirement increases for the period in DROP.

Brief Summary of Plan Provisions as of July 1, 2017 (Continued)

E. Disability while in DROP:

Non-Service Connected: The member will receive a pension benefit calculated as if they retired with a non-service connected disability on the date they entered DROP and their DROP account.

Service Connected Disability: The member can elect (i) their DROP account and the post-DROP monthly benefit or (ii) a disability benefit calculated as if the member had never entered DROP.

F. Death while in DROP:

The beneficiary will receive the greater of (i) the death benefit that the beneficiary would have received if the member had died at DROP entry with post-retirement increases plus the DROP account or (ii) the death benefit calculated as if the member had never entered DROP.

22. Guaranteed Retirement Income Plan (effective 7/1/2009)

A. Eligibility for GRIP entry:

- Full-time Non-Public Safety employees hired on or after July 1, 2009, who do not participate in the retirement savings plan may make a one-time irrevocable election to participate in the GRIP within the first 150 days of full time employment. Participation in the plan begins 180 days after employment.
- Part-time or temporary Non-Public Safety employees hired on or after October 1, 1994, who do not participate in the retirement savings plan may make a one-time irrevocable election to participate in the GRIP after at least 150 days of employment. Participation in the plan begins 180 days after employment.

B. The GRIP account collects:

- Member contributions (pre-tax unless noted otherwise)
 - a. Non-public safety employees: 4 percent of regular base earnings up to the maximum Social Security wage base plus 8 percent of the excess.
 - b. Public safety employees: 3 percent of regular base earnings up to the maximum Social Security wage base plus 6 percent of the excess.
 - c. Effective July 1, 2011, members had the option to contribute an additional 2 percent of regular earnings for service between June 30, 2011 and July 1, 2012, on an after-tax basis by making an election in writing on or before September 1, 2011.
- Employer contributions
 - a. Non-public safety employees: 8 percent of regular base earnings. Effective July 1, 2011, the employer contribution was 6 percent of regular base earnings for service between June 30, 2011, and July 1, 2012.

Brief Summary of Plan Provisions as of July 1, 2017 (Continued)

b. Public safety employees: 10 percent of regular base earnings. Effective July 1, 2011, the employer contribution was 8 percent of regular base earnings for service between June 30, 2011, and July 1, 2012.

- 7.25 percent interest credited from the date of contribution.

C. Vesting Schedule:

- Employees are 100 percent vested in employee contributions at all times.
- County contributions are 0 percent vested from 0-3 years of credited service and 100 percent vested at 3 or more years of credited service.
- Participants become 100 percent vested at death or disability.

D. Normal Form of Payment – Lump sum

E. Optional Forms of Payment:

- Direct rollover
- Life annuity purchased from MCERP

F. Eligible Agencies:

- CC – credit union employees (outside agency)
- CM – union employees (represented)
- CN – non-bargaining employees (non-represented)
- CP – public safety employees
- CZ – elected officials who transferred from the EOP

23. Retirement Incentive Program (effective 6/1/2010 for one time election)

The Retirement Incentive Program offered a one-time election in June 2010 and provided enhanced benefits to 64 group A, group H and group E participants. Each retiree received up to a \$35,000 lump sum payment. The early retirement reductions that would normally apply were reduced for some participants and eliminated for others.

24. Elected Officials' Plan (EOP)

The Elected Officials' Plan is a defined contribution plan within the Employees' Retirement System.

A. Participant and Eligibility:

- Elected officials are eligible to participate in the EOP. An elected official is the sheriff, the state's attorney, a County Council member, the County Executive and any County official elected for a fixed term as specifically provided in the Charter.
- Unless an elected official was an active member of a County retirement plan before becoming an elected official, which includes being on leave without pay, an elected official

Brief Summary of Plan Provisions as of July 1, 2017 (Continued)

must participate in the EOP upon becoming an elected official. An elected official who chooses to continue to participate in another County retirement plan may become a member of the EOP at any time while an elected official after terminating participation in the other plan.

B. Transfer to the Guaranteed Retirement Income Plan (GRIP):

- An individual who is an elected official after December 6, 2010, may make a one-time irrevocable decision to terminate participation in the EOP and participate in the GRIP. An elected official must elect to participate in the GRIP during the first 150 days after becoming an elected official. Participation will begin on the first pay period after the elected official has been in office for 180 days. The elected official will have his or her EOP account transferred to the GRIP and the amount transferred into the GRIP will become the elected official's beginning GRIP account balance.
- An elected official who does not elect to participate in the GRIP must continue to participate in the EOP.

C. EOP Contributions:

- Employee contributions: 4 percent of pay (regular earnings) on a before-tax basis. Members may make an additional voluntary after tax contributions into the account of up to 7 percent of bi-weekly gross pay.
- Employer contributions: 8 percent of pay (regular earnings before taxes).

25. Changes in plan provisions

There were no changes in plan provisions since the last actuarial valuation as of July 1, 2014.

SECTION E

GLOSSARY OF TERMS

Glossary of Terms

Actuarial Accrued Liability (AAL). The difference between (i) the actuarial present value of future plan benefits, and (ii) the actuarial present value of future normal cost. Sometimes referred to as “accrued liability” or “past service liability.”

Actuarial Assumptions. Estimates of future plan experience such as investment return, expected lifetimes and the likelihood of receiving a pension from the Pension Plan. Demographic, or “people” assumptions, include rates of mortality, retirement and separation. Economic, or “money” assumptions, include expected investment return, inflation and salary increases.

Actuarial Cost Method. A mathematical budgeting procedure for allocating the dollar amount of the “actuarial present value of future plan benefits” between the actuarial present value of future normal cost and the actuarial accrued liability. Sometimes referred to as the “actuarial funding method.”

Actuarial Present Value of Future Plan Benefits. The amount of funds presently required to provide a payment or series of payments in the future. It is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Actuarial Value of Assets (AVA). Smoothed value of assets that recognizes the difference between the expected investment return using the valuation assumption of 7.50 percent and the actual investment return over a five-year period. Dampens volatility of asset value over time.

Amortization. Paying off an interest-bearing liability by means of periodic payments of interest and principal, as opposed to paying it off with a lump sum payment.

Annual Required Contribution. The sum of the normal cost and amortization of the unfunded actuarial accrued liability.

Asset Return. The net investment return for the asset divided by the mean asset value. Example: if \$1.00 is invested and yields \$1.075 after a year, the asset return is 7.50 percent.

Funded Ratio. The actuarial value of assets divided by the actuarial accrued liability. Measures the portion of the actuarial accrued liability that is currently funded.

Market Value of Assets (MVA). The value of assets currently held in the trust available to pay for benefits of the Pension Plan. Each of the investments in the trust is valued at market price which is the price at which buyers and sellers trade similar items in the open market

Normal Cost (NC). The annual cost assigned, under the actuarial funding method, to current and subsequent plan years. Sometimes referred to as “current service cost.” Any payment toward the unfunded actuarial accrued liability is not part of the normal cost.

Unfunded Actuarial Accrued Liability (UAAL). The difference between the actuarial accrued liability and valuation assets. Sometimes referred to as “unfunded accrued liability.”