

MONTGOMERY COUNTY EMPLOYEES' RETIREMENT SYSTEM
ACTUARIAL VALUATION AS OF JULY 1, 2016

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November 17, 2016

Ms. Linda Herman
Executive Director
Montgomery County Employee Retirement Plans
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, 2016, 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, 2017, and ending on June 30, 2018. 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.

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, 2016. 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, 2015. The average County contribution requirement as a percentage of payroll calculated in this actuarial valuation is approximately 1 percent of pay lower and the estimated County contribution requirement as a dollar amount is approximately \$3 million lower than the County contribution requirement calculated in the last actuarial valuation. Because the System is less than 100 percent funded, the County may want to consider contributing an amount that is not less than the prior year County contribution amount.

All plan provisions have remained unchanged since the last actuarial valuation, performed as of July 1, 2015.

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.

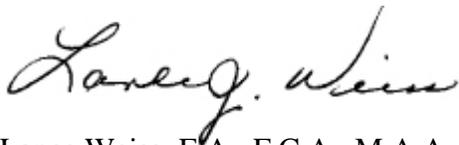
The signing actuaries are independent of the plan sponsor.

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., F.C.A., M.A.A.A.
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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, 2016.

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, 2017; 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 5,513 active members (excluding DRSP and DROP) were included in the actuarial valuation as of July 1, 2016. Between the 2015 and 2016 actuarial valuations, the number of active employees decreased by 28 members, or 0.5 percent. The average annual actuarial valuation pay (excluding DRSP and DROP) increased by 2.6 percent, from \$75,569 to \$77,566 between the 2015 and 2016 actuarial valuation. The number of benefit recipients (including DRSP and DROP) increased from 6,380 to 6,453, or 1.1 percent, since the last actuarial valuation. The average monthly benefit increased by 1.1 percent, from \$3,077 to \$3,110. 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 \$2,813,800 to \$3,028,300.

Section D outlines the principal benefit provisions of the System. There have been no plan changes since the last actuarial valuation as of July 1, 2015.

During the plan year ending June 30, 2016, the unfunded actuarial accrued liability ("UAAL") decreased from \$420,661,242 as of July 1, 2015, to \$342,505,693 as of July 1, 2016, which is a decrease of \$78,155,549. The key factors contributing to the decrease in the UAAL were contributions under the funding policy that are expected to decrease the UAAL, higher dollar contributions than expected and lower than expected cost of living (COLA) increases for retired members. (The COLA increase was 1.212 percent compared to an assumed COLA increase of 2.75 percent from last year's actuarial valuation for 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,

COMMENTS ON THE ACTUARIAL VALUATION (CONTINUED)

2011. For members that receive an increase based on 60 percent of CPI, the actual increase was 0.727 percent compared to an assumption of 1.65 percent from last year's valuation.) These gains were partially offset by recognition of deferred asset losses from fiscal years 2012, 2015, and 2016.

On a market value basis, the Plan assets had an investment return of approximately 1.42¹ percent (net of investment expenses). Recognition of the fiscal year end 2012, 2015, and 2016 investment losses were partially offset by recognition of investment gains during fiscal years ending 2013 and 2014, which resulted in an estimated net asset rate of return of 6.86 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 89.6 percent to 91.7 percent on an actuarial value of assets basis, but decreased from 90.4 percent to 87.9 percent on a market value of assets basis between the 2015 and 2016 actuarial valuations.

The funded ratio and unfunded actuarial accrued liability are appropriate 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 unfunded liability as of July 1, 2015, for the Non-Public Safety groups (Groups A and H) was amortized over a closed period of 9 years (8 years remaining at the actuarial valuation as of July 1, 2016) and the unfunded liability base established as of July 1, 2016, was amortized over an 8-year closed period. 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 (19 years remaining at the actuarial valuation as of July 1, 2016) and the unfunded liability base established as of July 1, 2016, was amortized over a 20-year closed period.

The single equivalent amortization period for the System in total as of July 1, 2016, is 10.0 years. The single equivalent amortization period is 8.0 years for the Non-Public Safety groups, 18.6 years for the Public Safety groups, and 19.0 years for GRIP as of July 1, 2016. The current unfunded liability as of July 1, 2016, is expected to be fully paid off after eight years (at the end of fiscal year 2025) for the non-public safety groups and after 20 years (at the end of fiscal year 2037) for the public safety groups and GRIP. (Because the unfunded liability base established as of July 1, 2016, was negative, which results in amortization credits, the unfunded liability is expected to be fully paid off after 19 years.)

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. 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 2018 reflects the assumption that fiscal year 2018 payroll will decrease from the payroll as of July 1, 2016, for the closed groups.

¹ As provided by Montgomery County ERS.

COMMENTS ON THE ACTUARIAL VALUATION (CONTINUED)

The total contribution rate minus the average employee contribution rate equals the County contribution rate. The actuarial valuation as of July 1, 2015, established the County contribution rate for fiscal year beginning July 1, 2016 and ending June 30, 2017. The actuarial valuation as of July 1, 2016, establishes the County contribution rate for fiscal year beginning July 1, 2017, and ending June 30, 2018.

Non-GRIP

The unfunded liability by group as of July 1, 2016, was calculated as the difference between the actuarial accrued liability and the actuarial value of assets as of July 1, 2016. The unfunded liability as of July 1, 2016, is amortized over a single closed eight 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 (19 years remaining at the actuarial valuation as of July 1, 2016) as a level percentage of payroll. The additional unfunded liability from the actuarial valuation as of July 1, 2016 (and each subsequent actuarial valuation) 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 rate for fiscal year 2018 decreased for Public Safety and increased for non-Public Safety from the fiscal year 2017 County contribution rate. Both Public Safety and non-Public Safety groups experienced favorable experience during fiscal year 2016, 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 2012, 2015, and 2016.

The average County contribution requirement as a percentage of payroll calculated in this actuarial valuation is approximately 1 percent of pay lower and the estimated County contribution requirement as a dollar amount is approximately \$3 million lower than the County contribution requirement calculated in the last actuarial valuation. Because the System is less than 100 percent funded, the County may want to consider contributing an amount that is not less than the prior year County contribution amount.

The actuarial value of assets is currently 104 percent of the market value of assets. There is \$151,588,453 in net asset losses currently being deferred (\$156,952,661 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 (CONTINUED)

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 (19 years remaining at the actuarial valuation as of July 1, 2016) as a level percentage of payroll. The additional unfunded liability from the actuarial valuation as of July 1, 2016 (and 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 2018 increased for GRIP members from the fiscal year 2017 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 actuarial value of GRIP assets is approximately 104 percent of the market value of assets. There is \$5,364,208 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, 2015 Results	July 1, 2016 Results
Membership			
Data			
	Active Members	5,541	5,513
	DRSP/DROP	95	105
	Deferred Vested	402	395
	Retirees and Beneficiaries	6,285	6,348
	TOTAL	12,323	12,361
Plan			
Liabilities			
	Actuarial Accrued Liability:		
	Active Members	\$ 1,352,696,130	\$ 1,393,485,137
	DRSP/DROP	94,230,847	102,641,844
	Deferred Vested	27,037,115	29,099,401
	Retirees and Beneficiaries	2,576,772,760	2,615,834,586
	TOTAL	\$ 4,050,736,852	\$ 4,141,060,968
	Actuarial Value of Assets at Valuation Date	\$ 3,630,075,610	\$ 3,798,555,275
	Unfunded (Overfunded) Actuarial Accrued Liability	\$ 420,661,242	\$ 342,505,693
	Funded Position of Plan's Actuarial Accrued Liability ¹	89.6 %	91.7 %
Recommended			
Annual Contribution			
Requirements ²			
	Annual Normal Cost as of Valuation Date	\$ 70,847,993	\$ 71,688,228
	Normal Cost Expense Load	2,813,800	3,028,300
	Amortization Payment	42,872,473	39,202,730
	Total Annual Required Contribution	116,534,266	113,919,258
	Expected Employee Contributions	24,551,555	24,812,730
	County Contribution Requirement	\$ 91,982,711	\$ 89,106,528
	Contribution Basis Payroll:		
	For Normal Cost	\$ 399,844,856	\$ 407,676,995
	For Amortization of Unfunded Liability	\$ 399,838,119	\$ 408,401,466
	County Contribution % of Payroll		
	Public Safety	23.51%	22.05%
	Non-Public Safety	42.71%	45.12%
	GRIP	5.35%	5.46%

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 of \$372,542 and the non-GRIP outside agency estimated normal cost contribution of \$157,494. County estimated contribution is \$88,576,492.

CONTRIBUTION RATE SUMMARY

ALL PLANS

	Valuation as of July 1, 2016								July 1, 2015		
	Non-Public Safety			Public Safety					GRIP	Total	Total
	Group A	Group H	Total Non PS	Group E	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%	
	Valuation as of July 1, 2015								July 1, 2014		
	Non-Public Safety			Public Safety					GRIP	Total	Total
	Group A	Group H	Total Non PS	Group E	Group F	Group G	Total PS				
County Contribution Requirement (\$)											
Non-GRIP	\$ 15,808,781	\$ 20,193,086	\$ 36,001,867	\$ 7,124,759	\$ 18,746,781	\$ 25,414,118	\$ 51,285,658	\$ -	\$ 87,287,525	\$ 109,897,544	
GRIP	-	-	-	-	-	-	-	4,695,186	4,695,186	4,930,008	
Total All Plans	\$ 15,808,781	\$ 20,193,086	\$ 36,001,867	\$ 7,124,759	\$ 18,746,781	\$ 25,414,118	\$ 51,285,658	\$ 4,695,186	\$ 91,982,711	\$ 114,827,552	
County Normal Cost Contribution Requirement (% of Payroll)											
Non-GRIP	5.63%	5.56%	5.60%	14.00%	17.93%	18.99%	17.56%		13.90%	17.60%	
GRIP								6.61%	6.61%	7.27%	
Total All Plans	5.63%	5.56%	5.60%	14.00%	17.93%	18.99%	17.56%	6.61%	12.28%	15.44%	
County UAL Contribution Requirement (% of Payroll)											
Non-GRIP	34.23%	39.63%	37.11%	2.61%	2.47%	11.61%	5.95%		14.34%	20.24%	
GRIP								-1.26%	-1.26%	-0.66%	
Total All Plans	34.23%	39.63%	37.11%	2.61%	2.47%	11.61%	5.95%	-1.26%	10.72%	15.64%	
Total County Contribution Requirement (% of Payroll)											
Non-GRIP	39.86%	45.19%	42.71%	16.61%	20.40%	30.60%	23.51%		28.24%	37.84%	
GRIP								5.35%	5.35%	6.61%	
Total All Plans	39.86%	45.19%	42.71%	16.61%	20.40%	30.60%	23.51%	5.35%	23.00%	31.08%	

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 (which is not included in the amounts above). The level dollar amortization payment will be made for 20 years and is not based on payroll. There are 19 years remaining in the 20-year closed amortization period as of July 1, 2016.

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, 2016							July 1, 2015			
	Non-Public Safety		Public Safety				GRIP	Total	% of Payroll	Total	% of Payroll
	Group A	Group H	Group E	Group F	Group G						
Total All Plans											
Active Members											
Number	447	665	583	1,198	1,094	1,526	5,513		5,541		
Average Age	57.4	57.9	43.8	39.0	38.7	48.7	45.9		45.6		
Average Service	27.1	25.5	12.4	13.3	12.5	8.0	14.2		14.0		
Total Base Payroll	\$ 46,836,047	\$ 49,424,131	\$ 42,790,779	\$ 96,127,773	\$ 86,442,465	\$ 106,001,280	\$ 427,622,475		\$ 418,728,584		
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		\$ 399,844,856		
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		399,838,119		
DRSP/DROP Members											
Number			23	39	43		105		95		
Total Base Payroll			\$ 2,222,867	\$ 4,082,407	\$ 4,750,449		\$ 11,055,723		\$ 9,795,371		
Total Benefits			1,338,295	2,613,118	2,839,457		6,790,870		6,050,676		
Terminated Vested Members											
Number	57	74	33	33	21	177	395		402		
Total Benefits	\$ 587,053	\$ 575,867	\$ 513,580	\$ 384,236	\$ 162,769		\$ 2,223,505		\$ 2,164,397		
Retired Members and Beneficiaries											
Number						3	6,348		6,285		
Total Benefits						\$ 22,477	\$ 234,072,926		\$ 229,562,199		
Total Membership							12,361		12,323		
Actuarial Accrued Liability											
Active Members	\$ 224,054,934	\$ 205,088,252	\$ 150,640,366	\$ 387,871,192	\$ 327,789,480	\$ 98,040,913	\$ 1,393,485,137		\$ 1,352,696,130		
DRSP/DROP Members			19,543,200	39,966,991	43,131,653		102,641,844		94,230,847		
Terminated Vested Members	4,874,868	4,780,222	4,716,849	3,223,076	868,598	10,635,788	29,099,401		27,037,115		
Retired Members and Beneficiaries	735,017,172	528,704,554	253,523,215	604,546,998	493,839,967	202,680	2,615,834,586		2,576,772,760		
Total	963,946,974	738,573,028	428,423,630	1,035,608,257	865,629,698	108,879,381	4,141,060,968		4,050,736,852		
Actuarial Value of Assets	\$ 856,238,444	\$ 620,535,139	\$ 419,426,613	\$ 1,027,901,530	\$ 748,958,159	\$ 125,495,390	\$ 3,798,555,275		\$ 3,630,075,610		
Unfunded Actuarial Accrued Liability	\$ 107,708,530	\$ 118,037,889	\$ 8,997,017	\$ 7,706,727	\$ 116,671,539	\$ (16,616,009)	\$ 342,505,693		\$ 420,661,242		
Outside Agency Non-GRIP Unfunded Liability	13,328,949	-	-	-	-	-	13,328,949		13,644,019		
Net Unfunded Actuarial Accrued Liability	94,379,581	118,037,889	8,997,017	7,706,727	116,671,539	(16,616,009)	329,176,744		407,017,223		
Funded Ratio (Actuarial Value of Assets)	88.8%	84.0%	97.9%	99.3%	86.5%	115.3%	91.7%		89.6%		
Annual Gross Normal Cost											
Benefits	\$ 4,643,157	\$ 4,885,095	\$ 8,086,150	\$ 22,063,048	\$ 21,355,927	\$ 10,654,851	\$ 71,688,228	(17.58%)	\$ 70,847,993	(17.72%)	
Expenses of Administration	486,913	445,695	327,369	842,915	712,347	213,061	3,028,300	(0.75%)	2,813,800	(0.70%)	
Total	5,130,070	5,330,790	8,413,519	22,905,963	22,068,274	10,867,912	74,716,528	(18.33%)	73,661,793	(18.42%)	
Amortization of Unfunded Liability ¹	\$ 13,528,485	\$ 16,919,694	\$ 682,771	\$ 630,583	\$ 8,667,757	\$ (1,226,560)	\$ 39,202,730	(9.60%)	\$ 42,872,473	(10.72%)	
Annual Contribution Requirement:											
County Portion	\$ 15,986,431	\$ 19,476,538	\$ 6,349,798	\$ 17,267,166	\$ 24,542,019	\$ 5,484,576	\$ 89,106,528	(21.84%)	\$ 91,982,711	(23.00%)	
Employee Portion	2,672,124	2,773,946	2,746,492	6,269,380	6,194,012	4,156,776	24,812,730	(6.09%)	24,551,555	(6.14%)	
Total	18,658,555	22,250,484	9,096,290	23,536,546	30,736,031	9,641,352	113,919,258	(27.93%)	116,534,266	(29.14%)	
Non-Public Safety/Public Safety/GRIP County Portion		\$ 35,462,969			\$ 48,158,983	\$ 5,484,576					
*Excludes Non-GRIP Payroll from Outside Agencies											
Outside Agency UAL Payroll	\$ 2,539,450										

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, 2016

Non-GRIP	Assessment and Taxation	Circuit Court	CRU 92 Credit		Housing Opportunities Commission	Revenue Authority	Strathmore Hall	Town of Chevy Chase	Washington Suburban Transit Commission	Total Agency (Excluding GRIP)	Total Non-Agency (Excluding GRIP)	Total ERS (Excluding GRIP)
			Union	District Court								
Actuarial Accrued Liability												
Active Members (Non-GRIP)	\$ -	\$ 615,210	\$ 600,869	\$ -	\$ 11,503,086	\$ 394,172	\$ 837,896	\$ -	\$ -	\$ 13,951,233	\$ 1,281,492,991	\$ 1,295,444,224
DRSP/DROP Members	-	-	-	-	-	-	-	-	-	-	102,641,844	102,641,844
Terminated Vested Members	-	-	-	-	1,361,905	-	-	25,153	-	1,387,058	17,076,555	18,463,613
Retired Members and Beneficiaries	13,015,922	-	3,994,454	1,492,038	38,071,392	4,601,808	2,456,257	1,097,575	258,622	64,988,068	2,550,643,838	2,615,631,906
Total	\$ 13,015,922	\$ 615,210	\$ 4,595,323	\$ 1,492,038	\$ 50,936,383	\$ 4,995,980	\$ 3,294,153	\$ 1,122,728	\$ 258,622	\$ 80,326,359	\$ 3,951,855,228	\$ 4,032,181,587
Actuarial Accrued Liability by Group												
Group A	\$ 13,015,922	\$ 615,210	\$ 4,595,323	\$ 1,492,038	\$ 50,936,383	\$ 4,995,980	\$ 3,294,153	\$ 1,122,728	\$ 258,622	\$ 80,326,359		
Remaining Unfunded Actuarial Accrued Liability												
Non-GRIP	\$ 2,257,758	\$ 82,597	\$ 748,050	\$ 396,294	\$ 8,074,932	\$ 983,893	\$ 534,401	\$ 139,285	\$ 111,739	\$ 13,328,949	\$ 345,792,753	\$ 359,121,702
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)	\$ -	\$ 66,002	\$ 115,546	\$ -	\$ 2,334,961	\$ 78,270	\$ 197,666	\$ -	\$ -	\$ 2,792,445	\$ 303,497,786	\$ 306,290,231
Normal Cost Contribution Requirement (% of Payroll)	5.64%	5.64%	5.64%	5.64%	5.64%	5.64%	5.64%	5.64%	5.64%	5.64%		
Estimated Normal Cost \$ Contribution Requirement	\$ -	\$ 3,723	\$ 6,517	\$ -	\$ 131,692	\$ 4,414	\$ 11,148	\$ -	\$ -	\$ 157,494	\$ 43,035,168	\$ 43,192,662
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	40,429,290	41,674,287
Estimated Total \$ Contribution Requirement	\$ 210,887	\$ 11,438	\$ 76,389	\$ 37,016	\$ 885,935	\$ 96,315	\$ 61,064	\$ 13,010	\$ 10,437	\$ 1,402,491	\$ 83,464,458	\$ 84,866,949
GRIP												
Contribution Basis Payroll:												
For Normal Cost (GRIP)	\$ -	\$ 977,805	\$ -	\$ -	\$ 5,432,117	\$ 101,895	\$ 330,076	\$ 35,943	\$ -	\$ 6,877,836	\$ 94,508,928	\$ 101,386,764
For Amortization of Unfunded Liability (GRIP)	-	1,002,402	-	-	5,646,891	105,788	343,650	36,674	-	7,135,405	98,865,876	106,001,280
Normal Cost Contribution Requirement (% of Payroll)	6.62%	6.62%	6.62%	6.62%	6.62%	6.62%	6.62%	6.62%	6.62%			
UAL Contribution Requirement (% of Payroll)	-1.16%	-1.16%	-1.16%	-1.16%	-1.16%	-1.16%	-1.16%	-1.16%	-1.16%			
Estimated Normal Cost \$ Contribution Requirement	\$ -	\$ 64,731	\$ -	\$ -	\$ 359,606	\$ 6,745	\$ 21,851	\$ 2,379	\$ -	\$ 455,313	\$ 6,255,823	\$ 6,711,136
Estimated \$ UAL Contribution Requirement	-	(11,628)	-	-	(65,504)	(1,227)	(3,986)	(425)	-	(82,771)	(1,143,789)	(1,226,560)
Estimated Total \$ Contribution Requirement	\$ -	\$ 53,103	\$ -	\$ -	\$ 294,102	\$ 5,518	\$ 17,865	\$ 1,954	\$ -	\$ 372,542	\$ 5,112,034	\$ 5,484,576
Total Non-GRIP and GRIP												
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	-	56,825	6,517	-	425,794	9,933	29,013	1,954	-	530,036		
Total Estimated Contribution	\$ 210,887	\$ 64,540	\$ 76,389	\$ 37,016	\$ 1,180,037	\$ 101,834	\$ 78,929	\$ 14,964	\$ 10,437	\$ 1,775,033	\$ 88,576,492	\$ 90,351,525

¹The remaining amortization period is 19 years as of July 1, 2016.

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 2017 amount. Actual projected payroll for non-GRIP for fiscal year 2018 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, 2016						July 1, 2015		
	Agency					Total GRIP	Total		
	CC	CM	CN	CP	CZ				
Total All Plans									
Active Members									
Number	-	1,015	498	5	8	1,526		1,352	
Average Age		48.0	50.0	55.1	57.6	48.7		49.5	
Average Service		7.7	8.4	11.0	7.8	8.0		8.4	
Total Base Payroll	\$ -	\$ 59,279,514	\$ 45,040,774	\$ 703,524	\$ 977,468	\$ 106,001,280		\$ 92,688,914	
Contribution Basis Payroll:									
For Normal Cost	\$ -	\$ 56,750,461	\$ 43,043,969	\$ 678,164	\$ 914,170	\$ 101,386,764		\$ 88,754,341	
For Amortization of Unfunded Liability	-	59,279,514	45,040,774	703,524	977,468	106,001,280		92,688,914	
Terminated Members									
Number	1	94	82			177		177	
Retired Members and Beneficiaries									
Number	-	2	1	-	-	3		1	
Total Benefits		8,811	13,666			22,477		5,024	
Total Membership	1	1,111	581	5	8	1,706		1,530	
Actuarial Accrued Liability									
Active Members	\$ -	\$ 51,578,675	\$ 44,462,034	\$ 1,147,683	\$ 852,521	\$ 98,040,913		\$ 86,379,933	
Terminated Vested Members	88,057	5,055,181	5,492,551	-	-	10,635,788		8,988,686	
Retired Members and Beneficiaries	-	202,680	-	-	-	202,680		44,531	
Total	88,057	56,836,536	49,954,585	1,147,683	852,521	108,879,381		95,413,150	
Actuarial Value of Assets	\$ 101,495	\$ 65,510,320	\$ 57,578,120	\$ 1,322,830	\$ 982,624	\$ 125,495,390		\$ 111,825,416	
Unfunded Actuarial Accrued Liability	\$ (13,438)	\$ (8,673,784)	\$ (7,623,535)	\$ (175,147)	\$ (130,103)	\$ (16,616,009)		\$ (16,412,266)	
Funded Ratio (Actuarial Value of Assets)	115.3%	115.3%	115.3%	115.3%	115.3%	115.3%		117.2%	
Annual Gross Normal Cost									
Benefits	\$ -	\$ 5,933,244	\$ 4,545,811	\$ 80,350	\$ 95,446	\$ 10,654,851	(10.51%)	\$ 9,316,983	(10.50%)
Expenses of Administration	172	111,221	97,754	2,246	1,668	213,061	(0.21%)	179,684	(0.20%)
Total	172	6,044,465	4,643,565	82,596	97,114	10,867,912	(10.72%)	9,496,667	(10.70%)
Amortization of Unfunded Liability	\$ (992)	\$ (640,281)	\$ (562,754)	\$ (12,929)	\$ (9,604)	\$ (1,226,560)	(-1.16%)	\$ (1,171,867)	(-1.26%)
Annual Contribution Requirement:									
County Portion	\$ (820)	\$ 3,133,758	\$ 2,258,253	\$ 43,431	\$ 49,954	\$ 5,484,576	(5.46%)	\$ 4,695,186	(5.35%)
Employee Portion	-	2,270,426	1,822,558	26,236	37,556	4,156,776	(4.10%)	3,629,614	(4.09%)
Total	(820)	5,404,184	4,080,811	69,667	87,510	9,641,352	(9.56%)	8,324,800	(9.44%)
Non-Public Safety County Portion						\$ 5,441,145	(5.46%)	\$ 4,650,007	(5.34%)
Public Safety County Portion (Agency CP)						\$ 43,431	(6.47%)	\$ 45,179	(6.48%)

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	\$ 9,102,612	\$ 12,478,602	\$ 21,581,214	8 yrs.	6.976360	\$ 1,304,780	\$ 1,788,698	\$ 3,093,478
2015	Pre FY 2015 Plan Experience	73,824,201	80,862,826	154,687,027	8	6.976360	10,582,051	11,590,976	22,173,027
2015	Pre FY 2015 Plan Changes	28,699,656	39,399,739	68,099,395	8	6.976360	4,113,844	5,647,607	9,761,451
2015	Pre FY 2015 Cost Method Changes	6,882,560	5,344,347	12,226,907	8	6.976360	986,555	766,065	1,752,620
2015	FY 2015 Plan Experience	(50,239,894)	(29,467,152)	(79,707,046)	8	6.976360	(7,201,448)	(4,223,858)	(11,425,306)
2015	FY 2015 Assumption and Method Changes	26,855,918	17,240,512	44,096,430	8	6.976360	3,849,560	2,471,276	6,320,836
2015	FY 2015 Plan Changes	-	-	-	8	6.976360	-	-	-
2016	FY 2016 Plan Experience	(745,472)	(7,820,985)	(8,566,457)	8	6.976360	(106,857)	(1,121,070)	(1,227,927)
Unfunded Liability		\$ 94,379,581	\$ 118,037,889	\$ 212,417,470	8.0 yrs.	6.976360	\$ 13,528,485	\$ 16,919,694	\$ 30,448,179

Public Safety

Base Year	Description	Unfunded Liability Base				Remaining Financing Period	Amortization Factor	Amortization Payment			
		Group E	Group F	Group G	Total			Group E	Group F	Group G	Total
2015	Pre FY 2015 Retirement Incentive	\$ 1,054,343	\$ -	\$ -	\$ 1,054,343	19 yrs.	13.540546	\$ 77,866	\$ -	\$ -	\$ 77,866
2015	Pre FY 2015 Plan Experience	38,366,885	112,718,605	114,317,274	265,402,764	19	13.540546	2,833,481	8,324,524	8,442,590	19,600,595
2015	Pre FY 2015 Plan Changes	3,427,301	(1,655,427)	70,948,956	72,720,830	19	13.540546	253,114	(122,257)	5,239,741	5,370,598
2015	Pre FY 2015 Cost Method Changes	210,632	355,568	1,344,537	1,910,737	19	13.540546	15,556	26,260	99,297	141,113
2015	FY 2015 Plan Experience	(23,058,800)	(60,096,773)	(40,782,002)	(123,937,575)	19	13.540546	(1,702,945)	(4,438,283)	(3,011,843)	(9,153,071)
2015	FY 2015 Assumption and Method Changes	(8,112,062)	(18,547,806)	(8,221,617)	(34,881,485)	19	13.540546	(599,094)	(1,369,797)	(607,185)	(2,576,076)
2015	FY 2015 Plan Changes	4,585,494	-	-	4,585,494	19	13.540546	338,649	-	-	338,649
2016	FY 2016 Plan Experience	(7,476,776)	(25,067,440)	(20,935,609)	(53,479,825)	20	14.005222	(533,856)	(1,789,864)	(1,494,843)	(3,818,563)
Unfunded Liability		\$ 8,997,017	\$ 7,706,727	\$ 116,671,539	\$ 133,375,283	18.6 yrs.	13.362769	\$ 682,771	\$ 630,583	\$ 8,667,757	\$ 9,981,111

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	\$ -	19 yrs.	13.540546	\$ -
2015	Pre FY 2015 Plan Experience	(7,301,853)	19	13.540546	(539,258)
2015	Pre FY 2015 Plan Changes	(2,150,826)	19	13.540546	(158,843)
2015	Pre FY 2015 Cost Method Changes	2,269,265	19	13.540546	167,590
2015	FY 2015 Plan Experience	(3,464,878)	19	13.540546	(255,889)
2015	FY 2015 Assumption and Method Changes	(5,735,137)	19	13.540546	(423,553)
2015	FY 2015 Plan Changes	-	19	13.540546	-
2016	FY 2016 Plan Experience	(232,580)	20	14.005222	(16,607)
Unfunded Liability		\$ (16,616,009)	19.0 yrs.	13.546837	\$ (1,226,560)

ACTUARIAL VALUATION RESULTS
AMORTIZATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY AND AMORTIZATION PAYMENTS
BY GROUP (CONTINUED)

Total

Base Year	Description	Unfunded Liability Base						Total
		Group A	Group H	Group E	Group F	Group G	GRIP	
2015	Pre FY 2015 Retirement Incentive	\$ 9,102,612	\$ 12,478,602	\$ 1,054,343	\$ -	\$ -	\$ -	\$ 22,635,557
2015	Pre FY 2015 Plan Experience	73,824,201	80,862,826	38,366,885	112,718,605	114,317,274	(7,301,853)	412,787,938
2015	Pre FY 2015 Plan Changes	28,699,656	39,399,739	3,427,301	(1,655,427)	70,948,956	(2,150,826)	138,669,399
2015	Pre FY 2015 Cost Method Changes	6,882,560	5,344,347	210,632	355,568	1,344,537	2,269,265	16,406,909
2015	FY 2015 Plan Experience	(50,239,894)	(29,467,152)	(23,058,800)	(60,096,773)	(40,782,002)	(3,464,878)	(207,109,499)
2015	FY 2015 Assumption and Method Changes	26,855,918	17,240,512	(8,112,062)	(18,547,806)	(8,221,617)	(5,735,137)	3,479,808
2015	FY 2015 Plan Changes	-	-	4,585,494	-	-	-	4,585,494
2016	FY 2016 Plan Experience	(745,472)	(7,820,985)	(7,476,776)	(25,067,440)	(20,935,609)	(232,580)	(62,278,862)
Unfunded Liability		\$ 94,379,581	\$ 118,037,889	\$ 8,997,017	\$ 7,706,727	\$ 116,671,539	\$ (16,616,009)	\$ 329,176,744

Base Year	Description	Remaining Financing Period	Amortization Factor	Amortization of Unfunded Liability Base						Total
				Group A	Group H	Group E	Group F	Group G	GRIP	
2015	Pre FY 2015 Retirement Incentive	8.2 yrs.	7.137528	\$ 1,304,780	\$ 1,788,698	\$ 77,866	\$ -	\$ -	\$ -	\$ 3,171,344
2015	Pre FY 2015 Plan Experience	12.5	10.010775	10,582,051	11,590,976	2,833,481	8,324,524	8,442,590	(539,258)	41,234,364
2015	Pre FY 2015 Plan Changes	11.3	9.261170	4,113,844	5,647,607	253,114	(122,257)	5,239,741	(158,843)	14,973,206
2015	Pre FY 2015 Cost Method Changes	9.4	7.959407	986,555	766,065	15,556	26,260	99,297	167,590	2,061,323
2015	FY 2015 Plan Experience	12.4	9.940811	(7,201,448)	(4,223,858)	(1,702,945)	(4,438,283)	(3,011,843)	(255,889)	(20,834,266)
2015	FY 2015 Assumption/Method Changes	1.0	1.047754	3,849,560	2,471,276	(599,094)	(1,369,797)	(607,185)	(423,553)	3,321,207
2015	FY 2015 Plan Changes	19.0	13.540551	-	-	338,649	-	-	-	338,649
2016	FY 2016 Plan Experience	16.5	12.300547	(106,857)	(1,121,070)	(533,856)	(1,789,864)	(1,494,843)	(16,607)	(5,063,097)
Amortization Payments		10.0 yrs.	8.396781	\$ 13,528,485	\$ 16,919,694	\$ 682,771	\$ 630,583	\$ 8,667,757	\$ (1,226,560)	\$ 39,202,730

ACTUARIAL VALUATION RESULTS GAIN/LOSS ANALYSIS

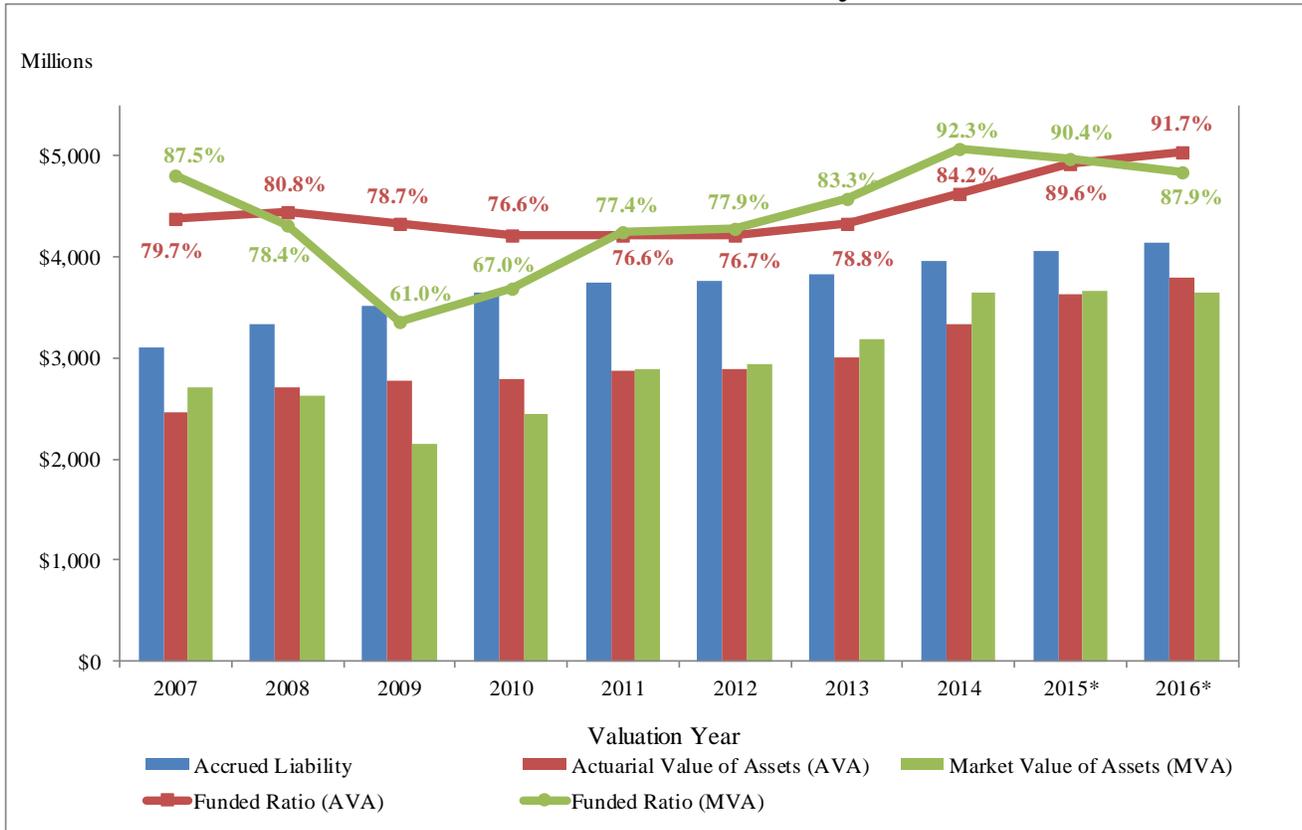
	Non-Public Safety	Public Safety	GRIP	Total
Unfunded liability at previous valuation	\$ 249,889,500	\$ 187,184,008	\$ (16,412,266)	\$ 420,661,242
Expected unfunded liability at current valuation				
Normal cost for plan year	11,097,998	53,067,128	9,496,667	73,661,793
Interest on unfunded liability and normal cost	19,150,364	15,992,842	(881,233)	34,261,973
Contributions with interest to current valuation date	44,486,615	69,388,869	8,586,597	122,462,081
Total expected change in unfunded liability at current valuation	(14,238,253)	(328,899)	28,837	(14,538,315)
Total expected unfunded liability at current valuation	235,651,247	186,855,109	(16,383,429)	406,122,927
Change due to:				
Recognition of asset (gains)/losses	9,086,279	13,208,591	884,097	23,178,967
Salary increases	(1,050,308)	909,198	-	(141,110)
COLA increases	(17,694,638)	(18,952,125)	-	(36,646,763)
Amount and timing of contributions	(3,490,763)	(39,472,602)	(2,394,656)	(45,358,021)
Demographic experience and other	3,244,602	(9,172,888)	1,277,979	(4,650,307)
Change in actuarial assumptions	-	-	-	-
Plan improvements	-	-	-	-
Measurement improvements	-	-	-	-
Total change	(9,904,828)	(53,479,826)	(232,580)	(63,617,234)
Unfunded liability at current valuation	\$ 225,746,419	\$ 133,375,283	\$ (16,616,009)	\$ 342,505,693

	Non-Public Safety	Public Safety	GRIP
FY 2017 County Contribution	42.71%	23.51%	5.35%
Expected FY 2018 County Contribution	46.63%	23.69%	5.45%
Change due to:			
Recognition of asset (gains)/losses	1.69%	0.42%	0.06%
Salary increases	-0.11%	0.02%	0.00%
COLA increases	-3.29%	-0.60%	0.00%
Amount and timing of contributions	-0.65%	-1.25%	-0.16%
Demographic experience and other	0.85%	-0.23%	0.11%
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	-1.51%	-1.64%	0.01%
FY 2018 County Contribution	45.12%	22.05%	5.46%

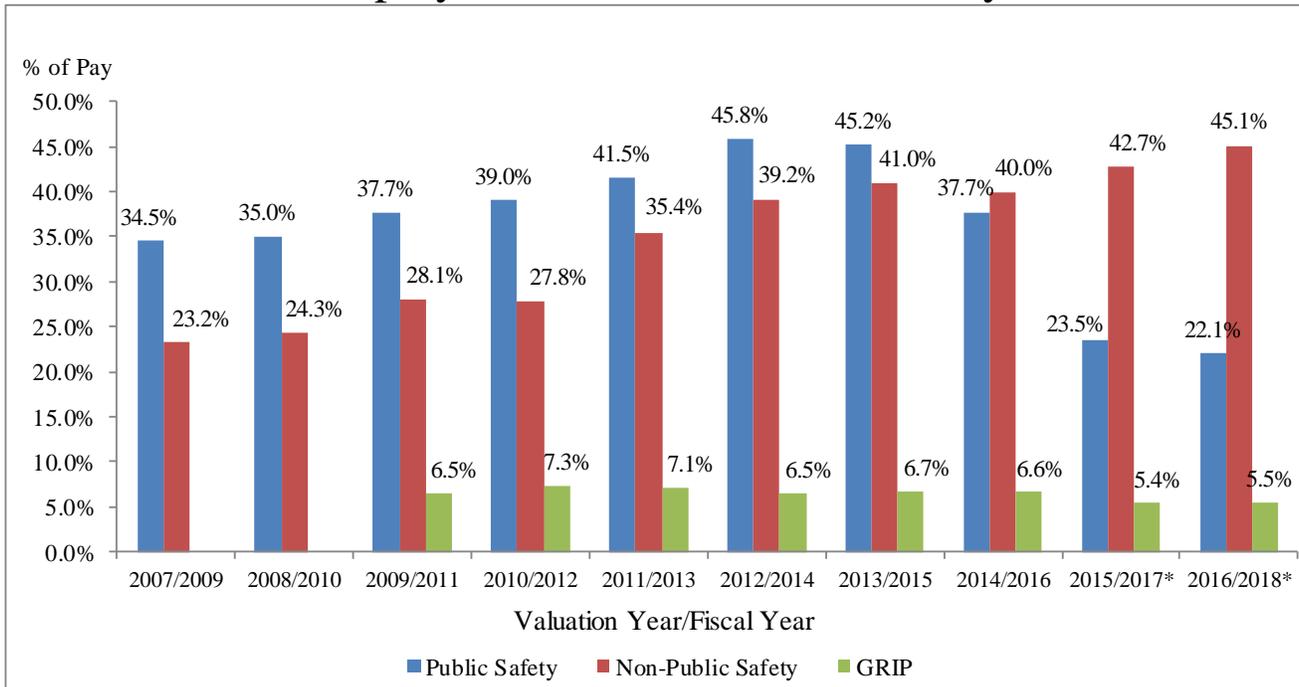
Demographic Experience and Other includes changes due to retirement, mortality, disability and termination experience that varied from the actuarial assumptions, and data changes.

HISTORICAL TRENDS OF FUNDED RATIO AND EMPLOYER CONTRIBUTIONS

Funded Ratio History



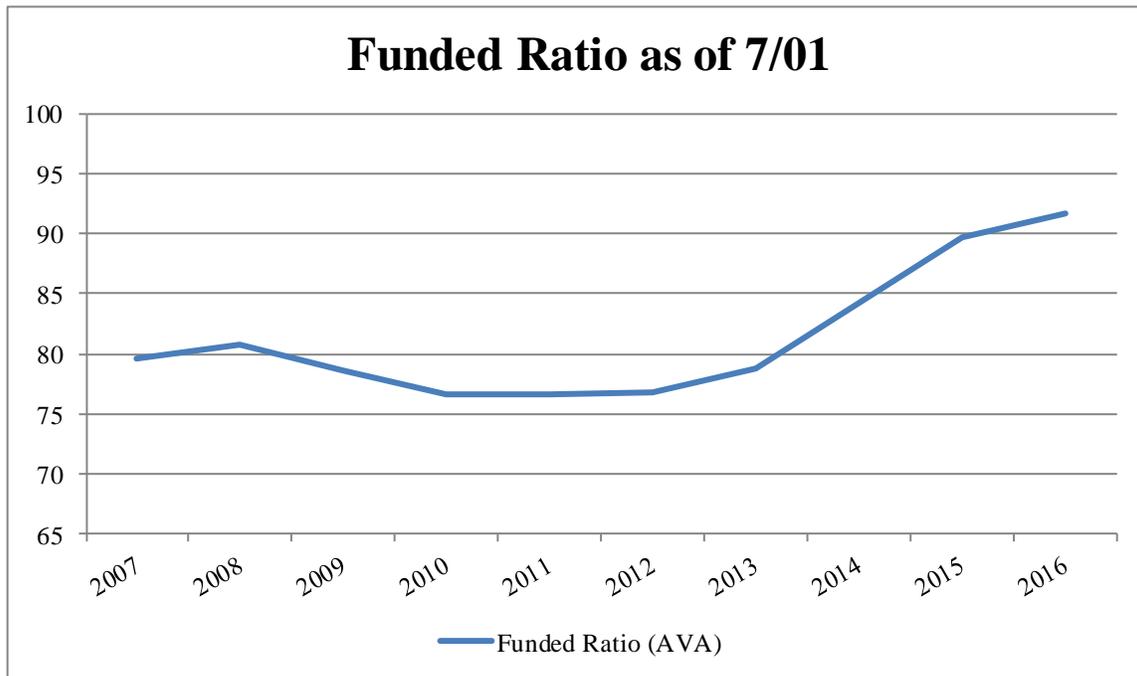
Employer Contribution Rate History



*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)
07/01/2007	\$ 2,469,933,200	\$ 3,100,637,723	\$ 630,704,523	79.7 %
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



ACTUARIAL VALUATION RESULTS SOLVENCY TEST

Valuation Date 6/30	(1) Total Actuarial Accrued Liability	(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)
1998	\$1,660,034,038	\$121,197,443	\$899,019,607	\$639,816,988	\$1,496,651,390	100%	100%	74%
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%

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, 2015	June 30, 2016
Equity in County's pooled cash and investments	\$ 981,456	\$ 1,151,082
Investments:		
Government and agency obligations	395,527,073	403,510,670
Municipal/Provincial obligations	12,358,783	15,015,541
Asset-backed securities	3,464,339	3,713,101
Corporate bonds	656,471,268	709,062,527
Collateralized mortgage obligations	-	840,431
Commercial mortgage-backed securities	-	726,834
Common and preferred stock	1,455,833,853	1,506,763,258
Mutual and commingled funds	365,620,792	389,914,184
Short-term investments	119,853,979	94,518,574
Cash collateral received under securities lending agreements	273,912,882	224,650,451
Real estate	380,180,632	196,611,691
Private equity	261,364,506	283,122,107
Total Investments	3,924,588,107	3,828,449,369
Dividend, interest, and other receivables	6,640,354	32,931,236
Contributions receivable	8,443,224	8,730,338
Capital Assets	600,029	300,015
Total assets	3,941,253,170	3,871,562,040
Liabilities		
Payable for collateral received under securities lending agreements	273,912,882	224,650,451
Benefit payable and other liabilities	5,679,044	5,308,975
Total liabilities	279,591,926	229,959,426
Net position restricted for pensions	\$ 3,661,661,244	\$ 3,641,602,614

**STATEMENT OF CHANGES IN FIDUCIARY NET POSITION
TOTAL EMPLOYEES' RETIREMENT SYSTEM (ERS)**

	Fiscal Year Ending	
	<u>June 30, 2015</u>	<u>June 30, 2016</u>
Additions:		
Contributions:		
Employer	\$ 151,301,867	\$ 134,806,256
Members	26,627,493	27,056,040
Total contributions	<u>177,929,360</u>	<u>161,862,296</u>
Investment income	88,488,213	73,371,263
Less investment expense	<u>22,506,400</u>	<u>16,862,178</u>
Net gain from investment activities	65,981,813	56,509,085
Income from securities lending	1,156,632	1,605,465
Less securities lending expenses	<u>68,012</u>	<u>438,493</u>
Net income from securities lending	<u>1,088,620</u>	<u>1,166,972</u>
Total additions	<u>244,999,793</u>	<u>219,538,353</u>
Deductions:		
Retiree benefits	171,784,946	171,391,248
Disability benefits	49,879,651	50,287,324
Survivor benefits	8,982,132	9,017,219
Refunds and distributions	2,874,357	5,887,137
Administrative expenses	<u>2,684,560</u>	<u>3,014,055</u>
Total deductions	<u>236,205,646</u>	<u>239,596,983</u>
Increase in net position	8,794,147	(20,058,630)
Net position restricted for pensions		
Beginning of year	<u>3,652,867,097</u>	<u>3,661,661,244</u>
End of year	<u>\$ 3,661,661,244</u>	<u>\$ 3,641,602,614</u>

**STATEMENT OF CHANGES IN FIDUCIARY NET POSITION
ALLOCATION BETWEEN GRIP AND NON-GRIP ASSETS**

	Fiscal Year Ending June 30, 2015	Fiscal Year Ending June 30, 2016		Total
	Total	Non-GRIP	GRIP	
Additions:				
Contributions:				
Employer	\$ 151,301,867	\$ 128,254,449	\$ 6,551,807	\$ 134,806,256
Members	26,627,493	23,016,586	4,039,454	27,056,040
Total contributions	<u>177,929,360</u>	<u>151,271,035</u>	<u>10,591,261</u>	<u>161,862,296</u>
Net Investment income	<u>67,070,433</u>	<u>55,840,107</u>	<u>1,835,950</u>	<u>57,676,057</u>
Total additions	<u>244,999,793</u>	<u>207,111,142</u>	<u>12,427,211</u>	<u>219,538,353</u>
Deductions:				
Benefit Payments and distributions	233,521,086	232,119,493	4,463,435	236,582,928
Administrative expenses	<u>2,684,560</u>	<u>2,834,371</u>	<u>179,684</u>	<u>3,014,055</u>
Total deductions	<u>236,205,646</u>	<u>234,953,864</u>	<u>4,643,119</u>	<u>239,596,983</u>
Increase in net position	8,794,147	(27,842,722)	7,784,092	(20,058,630)
Net position restricted for pensions				
Beginning of year	<u>3,652,867,097</u>	<u>3,549,314,154</u>	<u>112,347,090</u>	<u>3,661,661,244</u>
End of year	<u>\$3,661,661,244</u>	<u>\$3,521,471,432</u>	<u>\$ 120,131,182</u>	<u>\$3,641,602,614</u>

DEVELOPMENT OF ACTUARIAL VALUE OF ASSETS (TOTAL ERS)

Fiscal Year Ending	2016	2017	2018	2019	2020
Beginning of Year:					
(1) Market Value of Assets	\$ 3,661,661,244				
(2) Actuarial Value of Assets	3,630,075,610				
End of Year:					
(3) Market Value of Assets	3,641,602,614				
(4a) Contributions	161,862,296				
(4b) Net Disbursements	239,596,983				
(5) Total Investment Income					
=(3)-(1)-(4a)+(4b)	57,676,057				
(6) Projected Rate of Return	7.50%				
(7) Projected Investment Income					
=(1)x(6)+([1+(6)]^5-1)x(4a-4b)	271,762,241				
(8) Asset Adjustment	-				
(9) Investment Income in Excess of Projected Income	(214,086,184)				
(10) Excess Investment Income Recognized					
This Year (5 year recognition)					
(10a) From This Year	\$ (42,817,237)				
(10b) From One Year Ago	(40,949,749)	\$ (42,817,237)			
(10c) From Two Years Ago	59,600,269	(40,949,749)	\$ (42,817,237)		
(10d) From Three Years Ago	17,964,997	59,600,269	(40,949,749)	\$ (42,817,237)	
(10e) From Four Years Ago	(19,346,169)	17,964,996	59,600,269	(40,949,750)	\$ (42,817,236)
(10f) Total Recognized Investment Gain/(Loss)	(25,547,889)	(6,201,721)	(24,166,717)	(83,766,987)	(42,817,236)
(11) Change in Actuarial Value of Assets					
=(4a)-(4b)+(7)+(8)+(10f)	168,479,665				
End of Year:					
(3) Market Value of Assets	\$ 3,641,602,614				
(12) Final Actuarial Value of Assets as of 6/30 = (2)+(11)	\$ 3,798,555,275				
(13) Difference Between Market & Actuarial Values	(156,952,661)				
(14) Estimated Market Value Rate of Return on Total Plan Assets	1.59%				
(15) Estimated Market Value Return on Invested Plan Assets ¹	1.42%				
(16) Actuarial Value Rate of Return	6.86%				
(17) Ratio of Actuarial Value to Market Value	104.3%				

¹ Rate calculated and provided by the County.

DEVELOPMENT OF ACTUARIAL VALUE OF ASSETS (ASSETS ALLOCATED TO GRIP)

Fiscal Year Ending	2016	2017	2018	2019	2020
Beginning of Year:					
(1) Market Value of Assets	\$ 112,347,090				
(2) Actuarial Value of Assets	111,825,416				
End of Year:					
(3) Market Value of Assets	120,131,182				
(4a) Contributions	10,591,261				
(4b) Net Disbursements	4,643,119				
(5) Total Investment Income					
=(3)-(1)-(4a)+(4b)	1,835,950				
(6) Projected Rate of Return	7.50%				
(7) Projected Investment Income					
=(1)x(6)+([1+(6)] ⁵ -1)x(4a-4b)	8,645,055				
(8) Asset Adjustment	-				
(9) Investment Income in Excess of Projected Income	(6,809,105)				
(10) Excess Investment Income Recognized					
This Year (5 year recognition)					
(10a) From This Year	\$ (1,361,821)				
(10b) From One Year Ago	(1,208,679)	\$ (1,361,821)			
(10c) From Two Years Ago	1,630,977	(1,208,679)	\$ (1,361,821)		
(10d) From Three Years Ago	447,153	1,630,977	(1,208,679)	\$ (1,361,821)	
(10e) From Four Years Ago	(430,853)	447,155	1,630,979	(1,208,677)	\$ (1,361,821)
(10f) Total Recognized Investment Gain/(Loss)	(923,223)	(492,368)	(939,521)	(2,570,498)	(1,361,821)
(11) Change in Actuarial Value of Assets					
=(4a)-(4b)+(7)+(8)+(10f)	13,669,974				
End of Year:					
(3) Market Value of Assets	\$ 120,131,182				
(12) Final Actuarial Value of Assets as of 6/30 = (2)+(11)	\$ 125,495,390				
(13) Difference Between Market & Actuarial Values	(5,364,208)				
(14) Estimated Market Value Rate of Return on Total Plan Assets	1.59%				
(15) Estimated Market Value Return on Invested Plan Assets ¹	1.42%				
(16) Actuarial Value Rate of Return	6.73%				
(17) Ratio of Actuarial Value to Market Value	104%				

¹ Rate calculated and provided by the County.

DEVELOPMENT OF ACTUARIAL VALUE OF ASSETS (ASSETS ALLOCATED TO ALL BENEFIT GROUPS)

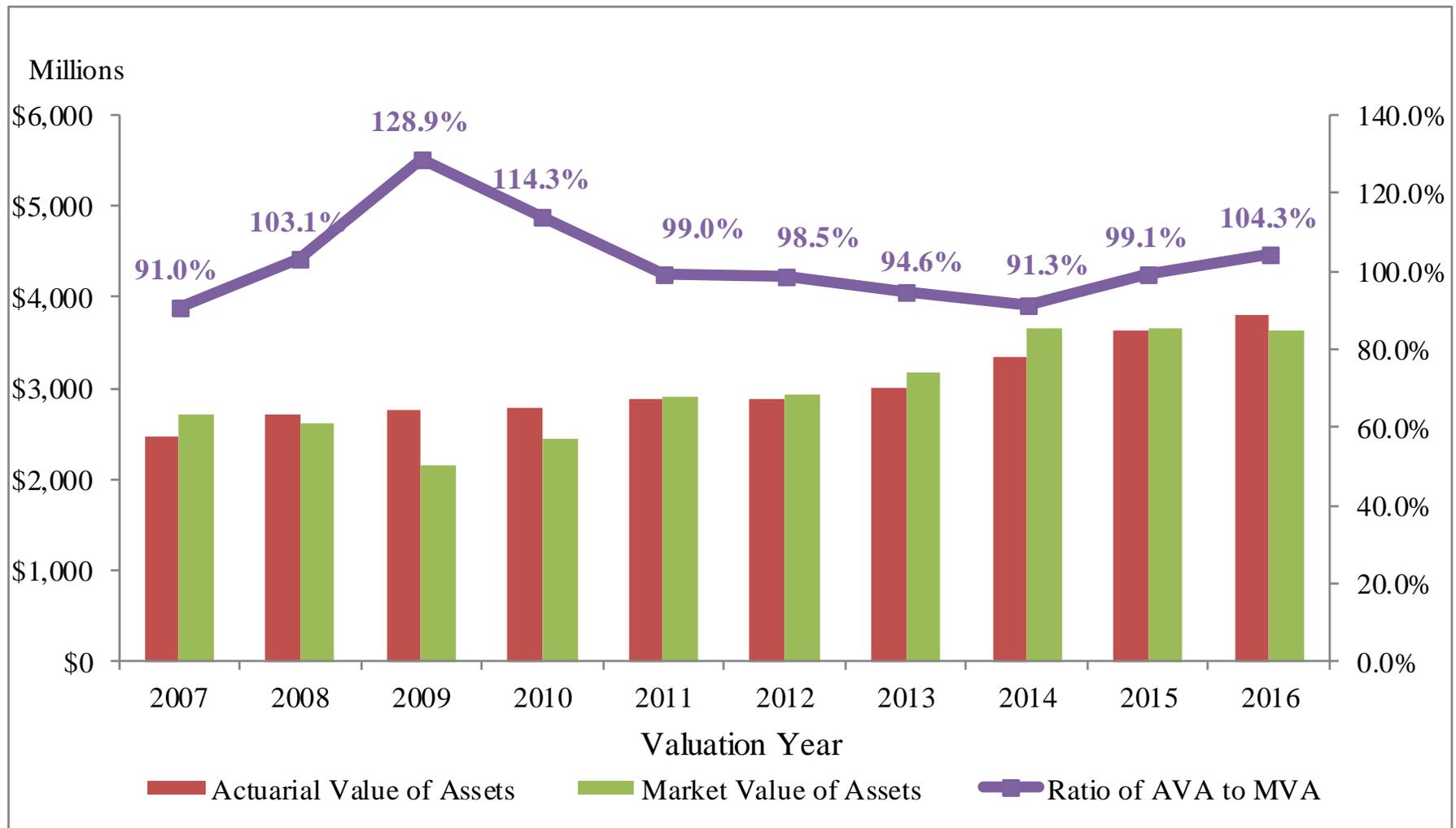
	Valuation as of July 1, 2016							Total
	Non-Public Safety		Public Safety			GRIP		
	Group A	Group H	Group E	Group F	Group G			
Beginning of Year:								
(1) Actuarial Value of Assets ¹	\$ 847,202,949	\$ 605,492,066	\$ 398,313,672	\$ 970,774,943	\$ 696,466,564	\$ 111,825,416		\$ 3,630,075,610
End of Year:								
(2a) County Contributions	\$ 19,398,491	\$ 21,404,797	\$ 14,570,919	\$ 35,295,703	\$ 37,584,539	\$ 6,551,807		\$ 134,806,256
(2b) Employee Contributions	3,108,491	3,242,587	3,162,866	6,821,780	6,680,862	4,039,454		27,056,040
(2c) Total Contributions ²	\$ 22,506,982	\$ 24,647,384	\$ 17,733,785	\$ 42,117,483	\$ 44,265,401	\$ 10,591,261		\$ 161,862,296
(3a) Benefit Payments and Refunds	\$ 69,476,297	\$ 49,810,501	\$ 23,393,603	\$ 50,438,004	\$ 39,001,088	\$ 4,463,435		\$ 236,582,928
(3b) Administrative Expenses	503,303	460,006	344,839	829,217	697,006	179,684		3,014,055
(3c) Total Deductions ³	\$ 69,979,600	\$ 50,270,507	\$ 23,738,442	\$ 51,267,221	\$ 39,698,094	\$ 4,643,119		\$ 239,596,983
(4) Investment Return (AVA Basis)	\$ 56,508,113	\$ 40,666,196	\$ 27,117,598	\$ 66,276,325	\$ 47,924,288	\$ 7,721,832		\$ 246,214,352
(5) Actuarial Value of Assets	\$ 856,238,444	\$ 620,535,139	\$ 419,426,613	\$ 1,027,901,530	\$ 748,958,159	\$ 125,495,390		\$ 3,798,555,275
(6) AVA Rate of Return	6.86%	6.86%	6.86%	6.86%	6.86%	6.73%		6.86%

¹ Actuarial value of assets by group is from the actuarial valuation as of July 1, 2015.

² Contributions by group allocated based on fiscal year 2016 contribution rates and expected fiscal year 2016 payroll from the prior actuarial valuation as of July 1, 2015.

³ Deductions by group allocated based on amounts projected by group from the prior actuarial valuation as of July 1, 2015.

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, 2016 AND JULY 1, 2015)

	Valuation as of July 1, 2016						
	Non-Public Safety		Public Safety			GRIP	Total
	Group A	Group H	Group E	Group F	Group G		
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

	Valuation as of July 1, 2015						
	Non-Public Safety		Public Safety			GRIP	Total
	Group A	Group H	Group E	Group F	Group G		
Total All Plans							
Active Members							
Number	483	719	630	1,232	1,125	1,352	5,541
Average Age	57.1	57.2	43.6	38.1	37.9	49.5	45.6
Average Service	26.5	24.8	12.2	12.3	11.6	8.4	14.0
Total Base Payroll	\$ 49,347,557	\$ 52,217,370	\$ 44,963,880	\$ 94,711,068	\$ 84,799,795	\$ 92,688,914	\$ 418,728,584
Contribution Basis Payroll:							
For Normal Cost	\$ 46,199,907	\$ 48,913,390	\$ 42,488,047	\$ 91,504,350	\$ 81,984,821	\$ 88,754,341	\$ 399,844,856
For Amortization of Unfunded Liability*	38,579,217	44,095,246	44,963,880	94,711,068	84,799,795	92,688,914	399,838,119
DRSP/DROP Members							
Number				39	56		95
Total Base Payroll				\$ 3,932,109	\$ 5,863,262		\$ 9,795,371
Total Benefits				2,506,780	3,543,896		6,050,676
Terminated Vested Members							
Number	64	81	28	33	19	177	402
Total Benefits	\$ 685,941	\$ 641,753	\$ 355,828	\$ 384,579	\$ 126,296		\$ 2,194,397
Retired Members and Beneficiaries							
Number						1	6,285
Total Benefits						\$ 5,024	\$ 229,562,199
Total Membership						1,530	12,323

*Excludes Non-GRIP UAL Payroll from Outside Agencies. As of July 1, 2016, this amount is \$2,539,450, and as of July 1, 2015, this amount is \$2,810,590.

SUMMARY OF PARTICIPANT DATA OUTSIDE AGENCIES

Valuation as of July 1, 2016

	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
Total All Plans												
Non-GRIP Membership												
Active Members												
Number	-	1	1	-	34	2	2	-	-	40	3,947	3,987
Average Age	-	65.6	49.7	-	55.7	46.7	45.7	-	-	54.8	44.7	44.8
Average Service	-	45.0	25.8	-	26.9	26.2	22.9	-	-	27.1	16.4	16.5
Total Base Payroll	\$ -	\$ 75,562	\$ 117,543	\$ -	\$ 2,582,553	\$ 79,518	\$ 200,234	\$ -	\$ -	\$ 3,055,409	\$ 318,565,786	\$ 321,621,195
DRSP/DROP Members												
Number											105	105
Total Base Payroll											\$ 11,055,723	\$ 11,055,723
Total Benefits											\$ 6,790,870	\$ 6,790,870
Terminated Vested Members												
Number	-	-	-	-	19	-	-	1	-	20	198	218
Total Benefits	\$ -	\$ -	\$ -	\$ -	\$ 10,381	\$ -	\$ -	\$ 364	\$ -	\$ 10,745	\$ 2,212,760	\$ 2,223,505
Retired Members and Beneficiaries												
Number	21	-	7	8	141	20	5	4	1	207	6,138	6,345
Total Benefits	\$ 1,160,596	\$ -	\$ 326,500	\$ 189,917	\$ 3,344,817	\$ 465,318	\$ 173,591	\$ 93,067	\$ 20,226	\$ 5,774,032	\$ 228,276,417	\$ 234,050,449
Total Non-GRIP Membership	21	1	8	8	194	22	7	5	1	267	10,388	10,655
GRIP Membership												
Active Members												
Number	-	12	-	-	93	2	6	1	-	114	1,412	1,526
Average Age	-	48.7	-	-	47.4	47.7	37.1	38.1	-	46.9	48.8	48.7
Average Service	-	9.0	-	-	6.0	8.9	2.0	5.5	-	6.2	8.1	8.0
Total Base Payroll	\$ -	\$ 1,002,402	\$ -	\$ -	\$ 5,646,891	\$ 105,788	\$ 343,650	\$ 36,674	\$ -	\$ 7,135,405	\$ 98,865,876	\$ 106,001,280
Terminated GRIP Members		1	1		15		3			20	157	177
Retired GRIP Members											3	3
Total GRIP Membership	-	13	1	-	108	2	9	1	-	134	1,572	1,706
Total GRIP and Non-GRIP Membership	21	14	9	8	302	24	16	6	1	401	11,960	12,361

AGE/SERVICE BY GROUP AS OF JULY 1, 2016

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	68,303
35-39	1	-	3	-	-	-	-	-	-	4	285,988
40-44	-	1	-	3	4	4	1	-	-	13	1,027,443
45-49	-	-	2	-	20	27	-	-	-	49	4,301,753
50-54	-	-	-	6	19	47	16	-	-	88	8,799,071
55-59	-	2	-	3	19	80	25	7	1	137	14,832,510
60-64	1	1	-	2	19	41	23	8	3	98	10,886,294
65-69	-	-	2	1	10	15	9	6	4	47	5,346,546
70-74	-	-	-	-	1	3	2	-	-	6	917,430
75 and Over	-	-	-	-	-	3	-	1	-	4	370,709
Total	2	5	7	15	92	220	76	22	8	447	\$ 46,836,047

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:	57.4	Average Age:	57.1
Average Service:	27.1	Average Service:	26.5
Average Annual Pay:	\$ 104,779	Average Annual Pay:	\$ 102,169
Vested Participants	445	Vested Participants	482
Nonvested Participants	2	Nonvested Participants	1
Total Participants	447	Total Participants	483

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	-	3	1	-	-	-	-	-	-	4	246,123
35-39	-	2	1	2	-	-	-	-	-	5	327,427
40-44	-	2	2	3	5	-	-	-	-	12	869,282
45-49	1	2	5	15	31	23	-	-	-	77	5,667,238
50-54	-	2	6	12	38	54	14	1	-	127	9,625,120
55-59	-	2	2	11	48	82	20	12	-	177	13,209,251
60-64	-	1	5	6	40	71	21	15	3	162	12,255,488
65-69	-	-	2	7	18	25	12	11	1	76	5,590,739
70-74	-	1	1	1	5	1	3	2	1	15	990,902
75 and Over	-	-	-	-	2	5	1	-	2	10	642,561
Total	1	15	25	57	187	261	71	41	7	665	\$ 49,424,131

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:	57.9	Average Age:	57.2
Average Service:	25.5	Average Service:	24.8
Average Annual Pay:	\$ 74,322	Average Annual Pay:	\$ 72,625
Vested Participants	664	Vested Participants	717
Nonvested Participants	1	Nonvested Participants	2
Total Participants	665	Total Participants	719

AGE/SERVICE BY GROUP AS OF JULY 1, 2016

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	15	-	-	-	-	-	-	-	-	15	\$ 724,423
25-29	35	7	-	-	-	-	-	-	-	42	2,188,138
30-34	37	23	9	-	-	-	-	-	-	69	3,909,397
35-39	21	19	28	13	-	-	-	-	-	81	5,515,843
40-44	14	12	36	30	9	-	-	-	-	101	7,565,261
45-49	8	12	25	36	20	8	-	-	-	109	9,031,786
50-54	7	4	26	27	15	14	2	-	-	95	7,885,339
55-59	3	3	15	5	2	10	2	1	-	41	3,538,288
60-64	-	3	8	8	2	5	-	-	-	26	2,117,696
65-69	1	-	2	-	-	1	-	-	-	4	314,608
70-74	-	-	-	-	-	-	-	-	-	0	-
75 and Over	-	-	-	-	-	-	-	-	-	0	-
Total	141	83	149	119	48	38	4	1	-	583	\$ 42,790,779

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:	43.8	Average Age:	43.6
Average Service:	12.4	Average Service:	12.2
Average Annual Pay:	\$ 73,398	Average Annual Pay:	\$ 71,371
Vested Participants	442	Vested Participants	481
Nonvested Participants	141	Nonvested Participants	149
Total Participants	583	Total Participants	630

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	44	-	-	-	-	-	-	-	-	44	\$ 2,337,718
25-29	171	18	-	-	-	-	-	-	-	189	10,833,007
30-34	53	134	27	-	-	-	-	-	-	214	14,617,933
35-39	11	47	134	10	-	-	-	-	-	202	16,182,107
40-44	9	16	59	82	17	-	-	-	-	183	16,317,192
45-49	2	7	30	59	117	23	-	-	-	238	23,034,486
50-54	-	2	5	12	30	40	4	-	-	93	9,352,997
55-59	1	-	1	1	3	10	10	-	-	26	2,634,490
60-64	1	1	-	-	3	1	1	1	-	8	725,548
65-69	-	-	-	-	-	-	1	-	-	1	92,295
70-74	-	-	-	-	-	-	-	-	-	0	-
75 and Over	-	-	-	-	-	-	-	-	-	0	-
Total	292	225	256	164	170	74	16	1	-	1,198	\$ 96,127,773

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:	39.0	Average Age:	38.1
Average Service:	13.3	Average Service:	12.3
Average Annual Pay:	\$ 80,240	Average Annual Pay:	\$ 76,876
Vested Participants	906	Vested Participants	905
Nonvested Participants	292	Nonvested Participants	327
Total Participants	1,198	Total Participants	1,232

AGE/SERVICE BY GROUP AS OF JULY 1, 2016

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	44	-	-	-	-	-	-	-	-	44	\$ 2,315,439
25-29	131	31	4	-	-	-	-	-	-	166	9,227,235
30-34	64	78	73	4	-	-	-	-	-	219	14,717,805
35-39	31	36	88	33	2	-	-	-	-	190	14,865,655
40-44	8	18	49	77	16	2	-	-	-	170	15,378,578
45-49	4	11	32	43	51	51	-	-	-	192	18,670,109
50-54	2	4	4	14	14	34	6	-	-	78	7,845,684
55-59	-	-	3	1	1	14	3	3	-	25	2,468,436
60-64	-	2	2	2	-	1	-	1	1	9	828,662
65-69	-	-	-	-	-	1	-	-	-	1	124,862
70-74	-	-	-	-	-	-	-	-	-	0	-
75 and Over	-	-	-	-	-	-	-	-	-	0	-
Total	284	180	255	174	84	103	9	4	1	1,094	\$ 86,442,465

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:	37.9
Average Service:	12.5	Average Service:	11.6
Average Annual Pay:	\$ 79,015	Average Annual Pay:	\$ 75,378
Vested Participants	810	Vested Participants	832
Nonvested Participants	284	Nonvested Participants	293
Total Participants	1,094	Total Participants	1,125

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	-	-	-	-	-	-	-	-	16	\$ 632,455
25-29	98	8	-	-	-	-	-	-	-	106	5,265,498
30-34	111	24	3	-	-	-	-	-	-	138	7,647,615
35-39	71	27	18	2	-	-	-	-	-	118	7,555,027
40-44	94	28	35	21	1	-	-	-	-	179	12,610,962
45-49	82	48	36	32	5	-	-	-	-	203	13,629,252
50-54	81	56	56	43	7	-	-	-	-	243	17,634,229
55-59	74	46	58	51	11	-	-	-	-	240	18,437,190
60-64	41	44	41	41	17	-	-	-	-	184	14,498,732
65-69	8	21	22	24	5	1	1	-	-	82	6,779,680
70-74	1	-	6	4	2	-	-	-	-	13	1,001,398
75 and Over	1	2	-	-	1	-	-	-	-	4	309,242
Total	678	304	275	218	49	1	1	-	-	1,526	\$ 106,001,280

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:	48.7	Average Age:	49.5
Average Service:	8.0	Average Service:	8.4
Average Annual Pay:	\$ 69,463	Average Annual Pay:	\$ 68,557
Vested Participants	1,097	Vested Participants	1,050
Nonvested Participants	429	Nonvested Participants	302
Total Participants	1,526	Total Participants	1,352

AGE/SERVICE BY GROUP AS OF JULY 1, 2016

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	119	-	-	-	-	-	-	-	-	119	\$ 6,010,035
25-29	435	64	4	-	-	-	-	-	-	503	27,513,878
30-34	265	263	113	4	-	-	-	-	-	645	41,207,176
35-39	135	131	272	60	2	-	-	-	-	600	44,732,047
40-44	125	77	181	216	52	6	1	-	-	658	53,768,717
45-49	97	80	130	185	244	132	-	-	-	868	74,334,624
50-54	90	68	97	114	123	189	42	1	-	724	61,142,440
55-59	78	53	79	72	84	196	60	23	1	646	55,120,165
60-64	43	52	56	59	81	119	45	25	7	487	41,312,421
65-69	9	21	28	32	33	43	23	17	5	211	18,248,730
70-74	1	1	7	5	8	4	5	2	1	34	2,909,730
75 and Over	1	2	-	-	3	8	1	1	2	18	1,322,512
Total	1,398	812	967	747	630	697	177	69	16	5,513	\$ 427,622,475

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:	45.9	Average Age:	45.6
Average Service:	14.2	Average Service:	14.0
Average Annual Pay:	\$ 77,566	Average Annual Pay:	\$ 75,569
Vested Participants	4,364	Vested Participants	4,467
Nonvested Participants	1,149	Nonvested Participants	1,074
Total Participants	5,513	Total Participants	5,541

SCHEDULE OF ACTIVE MEMBER DATA AS OF JULY 1, 2016

Valuation Date 7/1	Number	Annual Payroll	Average Annual Pay	% Increase in Avg Pay
2002	5,983	\$333,449,862	\$55,733	5.33%
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%

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, 2016

Valuation Date 7/1	Annuitants	Survivors	Disableds	Total Number	Total Annual Benefits	Total Average Annual Benefit
2002	3,002	330	783	4,115		\$24,259
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

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, 2016

Non-Public Safety

	Actives	Deferred Vested	Retirees and Beneficiaries*	Total
Participants at 07/01/2015	1,202	145	-	1,347
New Entrants and Rehires	-	-	-	-
Transfers To DROP/DRSP	-	-	-	-
Non-Vested Terminations/ Refund of Contributions	(1)	-	-	(1)
Vested Terminations	-	-	-	-
Transfers to GRIP	-	-	-	-
Transfer to E, F, G	-	-	-	-
Transfer from E, F, G	5	-	-	5
Service Retirements	(90)	(13)	-	(103)
Disability	(4)	-	-	(4)
New Beneficiaries	-	-	-	-
Deaths	-	(1)	-	(1)
Benefit Terminations	-	-	-	-
Status Adjustments	-	-	-	-
Participants at 07/01/2016	1,112	131	-	1,243

Public Safety

	Actives	Deferred Vested	Retirees and Beneficiaries*	DRSP/DROP Members	Total
Participants at 07/01/2015	2,987	80	-	95	3,162
New Entrants and Rehires	28	-	-	-	28
Transfers To DROP/DRSP	(46)	-	-	46	-
Non-Vested Terminations/ Refund of Contributions	(45)	-	-	-	(45)
Vested Terminations	(11)	11	-	-	-
Transfers to GRIP	-	-	-	-	-
Transfer to A, H	(5)	-	-	-	(5)
Transfer from A, H	-	-	-	-	-
Service Retirements	(18)	(4)	-	(33)	(55)
Disability	(12)	-	-	(3)	(15)
New Beneficiaries	-	-	-	-	-
Deaths	(3)	-	-	-	(3)
Benefit Terminations	-	-	-	-	-
Status Adjustments	-	-	-	-	-
Participants at 07/01/2016	2,875	87	-	105	3,067

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

RECONCILIATION OF PARTICIPANT DATA AS OF JULY 1, 2016

GRIP

	Actives	Deferred Vested	Retirees and Beneficiaries	Total
Participants at 07/01/2015	1,352	177	1	1,530
New Entrants and Rehires	268	(3)	-	265
Transfers To DROP/DRSP	-	-	-	-
Non-Vested Terminations/ Refund of Contributions	(43)	(50)	-	(93)
Vested Terminations	(49)	49	-	-
Transfers	-	-	-	-
Service Retirements	(2)	-	2	-
Disability	-	-	-	-
Lump Sum Retirement	-	-	-	-
Deaths	-	-	-	-
Benefit Terminations	-	-	-	-
Status Adjustments	-	4	-	4
Participants at 07/01/2016	1,526	177	3	1,706

Total

	Actives	Deferred Vested	Retirees and Beneficiaries	DRSP/DROP Members	Total
Participants at 07/01/2015	5,541	402	6,285	95	12,323
New Entrants and Rehires	296	(3)	-	-	293
Transfers To DROP/DRSP	(46)	-	-	46	-
Non-Vested Terminations/ Refund of Contributions	(89)	(50)	-	-	(139)
Vested Terminations	(60)	60	-	-	-
Transfers	-	-	-	-	-
Service Retirements	(110)	(17)	160	(33)	-
Disability	(16)	-	19	(3)	-
New Beneficiaries	-	-	29	-	29
Deaths	(3)	(1)	(135)	-	(139)
Benefit Terminations	-	-	(15)	-	(15)
Adjustments	-	4	5	-	9
Participants at 07/01/2016	5,513	395	6,348	105	12,361

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 and H. 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

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, 2017, through June 30, 2018, 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 2018 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 2016 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.

VALUATION ASSUMPTIONS (CONTINUED)

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.

**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	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.

**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	<u>Healthy Mortality</u>				<u>Disabled Mortality</u>	
	<u>Pre-Retirement</u>		<u>Post-Retirement</u>		<u>Future Life</u>	
	<u>Future Life</u>		<u>Future Life</u>			
	<u>Expectancy (years) in 2016</u>		<u>Expectancy (years) in 2016</u>		<u>Expectancy (years) in 2016</u>	
	<u>Men</u>	<u>Women</u>	<u>Men</u>	<u>Women</u>	<u>Men</u>	<u>Women</u>
20	69.21	73.49	66.86	69.82	60.67	61.59
25	63.88	68.16	61.45	64.38	55.28	56.19
30	58.55	62.83	56.09	58.99	49.96	50.89
35	53.21	57.52	50.79	53.69	44.73	45.69
40	47.88	52.21	45.58	48.48	39.64	40.59
45	42.58	46.94	40.48	43.36	34.71	35.56
50	37.35	41.72	35.53	38.32	29.94	30.62
55	32.24	36.59	30.77	33.37	25.35	25.83
60	27.30	31.54	26.20	28.55	20.97	21.31
65	22.61	26.59	21.81	23.91	16.86	17.11
70	18.23	21.79	17.65	19.53	13.11	13.29
75	14.17	17.18	13.78	15.45	9.75	9.87
80	10.51	12.81	10.31	11.75	6.92	7.02
85	7.36	8.89	7.37	8.54	4.77	4.86
90	5.06	6.00	5.07	5.96	3.34	3.38
95	3.52	4.10	3.52	4.10	2.41	2.42
100	2.51	2.87	2.51	2.87	1.84	1.85
105	1.89	2.10	1.89	2.10	1.58	1.57

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

**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		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.*

**VALUATION ASSUMPTIONS
(CONTINUED)**

Rates of disability were as follows:

Age	Non-Public Safety		Public Safety					
	Groups A and H		Group E		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	40%	60%	20.0%	40.0%
F	5%	95%	30.0%	65.0%
G	5%	95%	30.0%	65.0%

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)		Group E			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

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	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.

VALUATION ASSUMPTIONS (CONTINUED)

Pay Increase Timing: End of (fiscal) year.

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	
2014	\$ 3,545,654	\$ 2,400,996	\$ 2,953,807	\$ 2,966,819	\$ 2,966,800
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

**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, F, G, H, 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, 2016

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 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.
- 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, 2016
(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.

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	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	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, 2016
(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	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.

6. Average Final Earnings

For members enrolled on or before June 30, 1978, average final earnings are equal to the

BRIEF SUMMARY OF PLAN PROVISIONS AS OF JULY 1, 2016 (CONTINUED)

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

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.

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

- Regular earnings for a Group A, E 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.

BRIEF SUMMARY OF PLAN PROVISIONS AS OF JULY 1, 2016 (CONTINUED)

- 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: 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*).

B. Benefit Amount:

1. Optional non-integrated plan: All groups other than Group E, 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.

BRIEF SUMMARY OF PLAN PROVISIONS AS OF JULY 1, 2016 (CONTINUED)

- Group E: 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, 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: 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 service from 21st year through 24th year, plus 8 percent of average final earnings for the 25th year of credited service, plus 2

BRIEF SUMMARY OF PLAN PROVISIONS AS OF JULY 1, 2016 (CONTINUED)

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: 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, 2016
(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: 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 33½ percent of final earnings.

BRIEF SUMMARY OF PLAN PROVISIONS AS OF JULY 1, 2016 (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 $66\frac{2}{3}$ 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 $52\frac{1}{2}$ 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 $52\frac{1}{2}$ 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.

BRIEF SUMMARY OF PLAN PROVISIONS AS OF JULY 1, 2016 (CONTINUED)

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.

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, 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, 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, 2016 (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.

BRIEF SUMMARY OF PLAN PROVISIONS AS OF JULY 1, 2016
(CONTINUED)

Benefit amount:

1. Return of member contributions with interest;
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, 2016
(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, 2016 (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, 2016 (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 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, 2016
(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*)

H. 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.

I. Exit from DRSP:

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

J. 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.

K. 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, 2016
(CONTINUED)

L. 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.

M. 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.

N. 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.

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.

BRIEF SUMMARY OF PLAN PROVISIONS AS OF JULY 1, 2016
(CONTINUED)

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.
 - 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.

BRIEF SUMMARY OF PLAN PROVISIONS AS OF JULY 1, 2016 (CONTINUED)

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 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.

BRIEF SUMMARY OF PLAN PROVISIONS AS OF JULY 1, 2016 (CONTINUED)

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

With the exception of the DROP implementation for Group E eligible uniformed correctional officers and sworn deputy sheriffs, there were no additional 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.”