

# Howard County Police and Fire Employees' Retirement Plan *July 1, 2019 Actuarial Valuation Results*

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# Agenda

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- Purpose
- Key Terms
- Data
- Results
- Assumption Discussion
- Additional Risks to Plan
- Risk Mitigation
- Recap

# Purpose

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- Funding Valuation
  - Provides the County's recommended contribution to the plan
  - July 1, 2019 valuation provides the County's recommended contribution for FY2021
- Accounting Valuation
  - Provides information for the County's financial statements
  - GASB 67/68
  - Not covered in today's presentation

# Key Terms

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- The County contributes an Actuarially Determined Contribution (ADC) to the Retirement Plan
  - **The ADC is used to help ensure sufficient assets are accumulated to pay the expected benefits**
  - **The ADC allocates the expected value of future benefits (paid after employment) to the service periods when they are earned**
  - **Contributing the ADC creates generational equity for taxpayers and added security for plan members**
- The Plan's assets relative to the Actuarial Accrued Liability provides the Plan's Funded Ratio
  - **The shortfall between the assets and the actuarial accrued liability is referred to as the Unfunded Actuarial Accrued Liability**
  - **A portion of the County's ADC is a payment toward reducing the Unfunded Actuarial Accrued Liability**

## Participant Summary

	2015	2016	2017	2018	2019
Active	828	799	830	821	847
DROP	54	73	74	79	82
Terminated Vested	18	19	18	18	22
Retirees & Beneficiaries	304	320	341	370	389
Disabled	31	33	33	34	36
Total Population	1,235	1,244	1,296	1,322	1,395
Active Average Age*	38.82	39.41	39.37	39.48	39.33
Active Average Service*	12.53	13.08	13.02	13.20	13.09
Active Average Salary*	\$82,529	\$86,787	\$88,574	\$90,960	\$91,690

\*Includes participants in DROP

# Results

	2018 Valuation for FY20	2019 Valuation for FY21 - 7.45%	2019 Valuation for FY21 - 7.40%
Contribution Amount	\$30,577,565	\$30,022,073	\$30,756,436
Contribution as a Percentage of Payroll	35.4%	33.4%	34.2%
Funded Percentage	83.3%	85.4%	84.8%

- COLA capped at 2% for both discount rates

# Historical County Contribution Rates

FYE	% of Payroll
6/30/2021	33.4% or 34.2%
6/30/2020	35.4%
6/30/2019	33.1%
6/30/2018	32.5%
6/30/2017	30.6%
6/30/2016	30.0%
6/30/2015	32.0%
6/30/2014	31.0%
6/30/2013	30.5%
6/30/2012	29.6%

## Funded Ratio

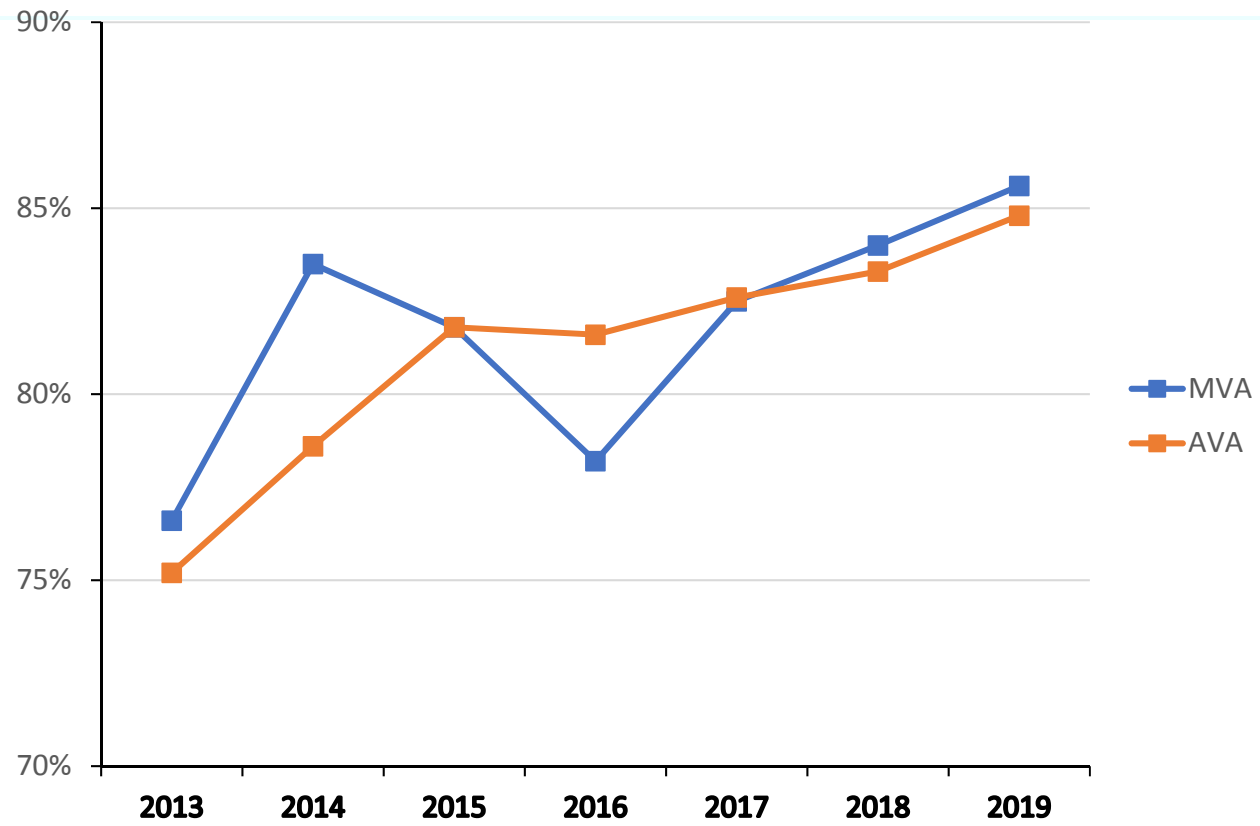
	7/1/2016	7/1/2017	7/1/2018	7/1/2019
Actuarial Value of Assets	\$468.5	\$516.8	\$567.2	\$614.0
Actuarial Accrued Liabilities	\$574.4	\$625.9	\$680.9	\$723.7
Funded Ratio on AVA	81.6%	82.6%	83.3%	84.8%
Market Value of Assets	\$448.9	\$516.3	\$571.9	\$619.4
Funded Ratio on MVA	78.2%	82.5%	84.0%	85.6%
Unfunded Actuarial Accrued Liabilities based on AVA	\$105.9	\$109.1	\$113.7	\$109.7

(Dollars in millions)

- 7/1/2019 using 7.40% investment return and COLA capped at 2%



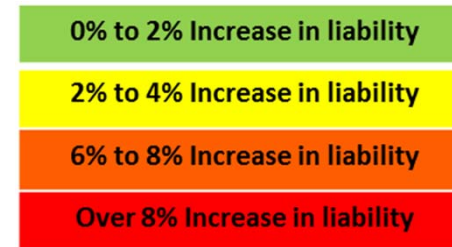
# Funded Ratio



# Assumption Discussion

- **Recommended investment return and inflation/COLA reductions**
  - Decrease investment return assumption from 7.45% to 7.40%
  - Decrease inflation/COLA assumption from 2.70% to 2.65% (COLA continues to be capped at 2%)
  - Revisit these assumptions each year and consider further reductions
  
- **Public Plan Mortality Tables**
  - Released in January 2019

Employee Group	Male	Female	Total
<b>Teachers</b>			
<b>Safety</b>			
<b>General</b>			



# Historical Investment Returns

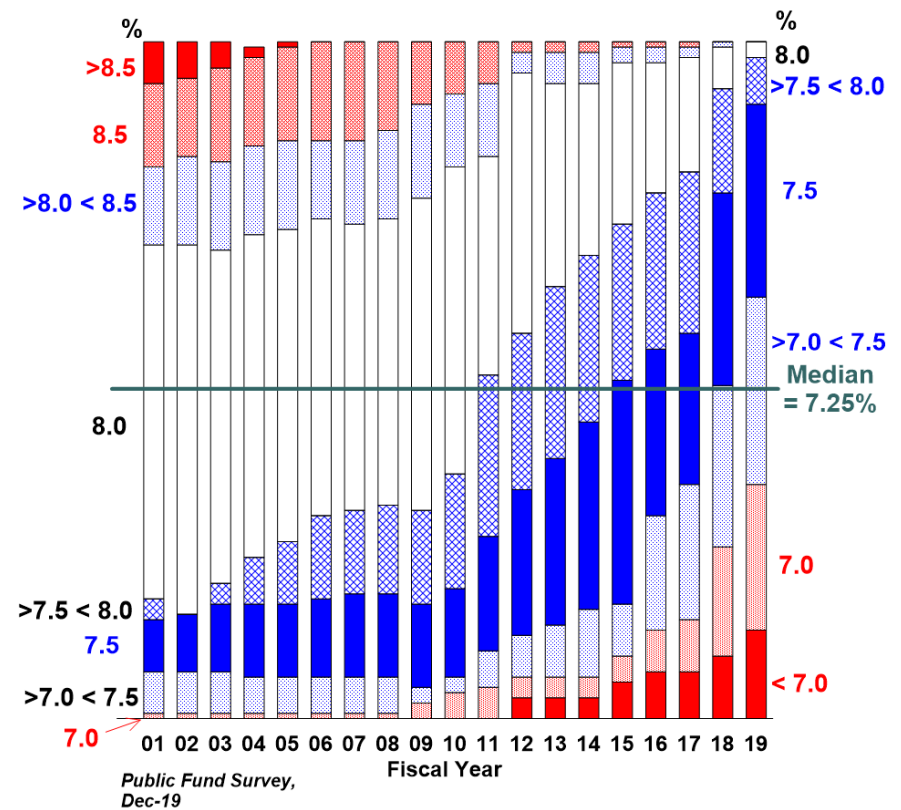
FYE	MVA	AVA
6/30/2019	6.9%	6.8%
6/30/2018	8.9%	7.9%
6/30/2017	12.3%	7.8%
6/30/2016	1.5%	5.9%
6/30/2015	2.8%	9.0%
6/30/2014	15.7%	11.0%
6/30/2013	11.5%	5.9%
6/30/2012	-1.0%	3.9%
6/30/2011	20.2%	4.8%
6/30/2010	14.0%	2.3%

# Investment Returns

## LOCAL

County	Discount Rate
Anne Arundel County	7.45%
Baltimore County	6.375%
Calvert County	7.25%
Caroline County	7.00%
Carroll County	7.00%
Cecil County	7.00%
Charles County	7.40%/7.30%
Frederick County	7.00%
Harford County	7.00%
Montgomery County	7.50%
Prince George's County	7.25%
St. Mary's County	7.25%
State of Maryland	7.40%

## NATIONAL



# Investment Returns

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- NASRA Study of Investment Returns
  - **75% of 128 plans surveyed have reduced their investment return since 2010**
  - **Median return in 2010 was about 8%, currently 7.25%**
  - **Approximately 30% at 7% or lower**
  
- Maryland Pension Risk Mitigation Act
  - **Requires risk assessment of the Maryland State plan**
    - Primary risks focused on expected returns, asset allocation, and liquidity

# ASOP 51

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- Purpose
  - **Disclosure of the risk that actual future measurements may differ from expected future measurement**
  - **Future measurements include:**
    - Liabilities
    - Contributions
    - Funded ratios
- Types of risk
  - **Investment risk**
  - **Longevity risk**
  - **Contribution risk**
  - **Asset/liability matching risk**
  - **Interest rate risk**
- Effective Date
  - **Measurements after November 1, 2018**
  - **For Howard County, July 1, 2019 actuarial valuation**

# Risk Measures

Risk Measure	7/1/2017	7/1/2018	7/1/2019	Conservative Measure
Retiree Liability as a Percent of Total Liability	42%	44%	45%	<50%
Assets to Payroll	6.4	7.0	7.3	<5
Liabilities to Payroll	7.8	8.3	8.5	<5
Benefit Payments to Contributions	0.6	0.7	0.8	1-3

- 7/1/2019 using 7.40% investment return and COLA capped at 2%

# Risk Mitigation

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- Quantify investment risk
  - **Scenario test**
  - **Sensitivity test**
  - **Stochastic modeling**
  - **Stress test**
  
- Shared risk through plan design – NASRA paper
  - **Variable Employee Contribution Rates**
  - **Contingent or Limited Cost-of-Living Adjustments**
  - **Cash Balance Hybrid Plans**
  - **DB-DC Hybrid Plans**
  
- NASRA *Risk Sharing in Public Retirement Plans* - <https://www.nasra.org/content.asp?contentid=124>



# Summary

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- Current Year Valuation Highlights
  - **Decrease in ADC as a percentage of payroll due to demographic gains offset by potential decrease in discount rate**
  - **Continued increase in funded status**
  - **New ASOP 51 requirements**
  
- Future Considerations
  - **Continue to look at lowering discount rate**
  - **Quantification of risk**
  - **Review public plan mortality tables in next experience study**

# Disclosures

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- In preparing this presentation, we relied without audit, on information supplied by Howard County.
- The actuarial assumptions, data and methods are those used in the preparation of the latest actuarial valuation report prepared for this plan as of July 1, 2019.
- The assumptions reflect our understanding of the likely future experience of the plans and the assumptions as a whole represent our best estimate for the future experience of the plans. The results of this report are dependent upon future experience conforming to these assumptions. To the extent that future experience deviates from the actuarial assumptions, the true cost of the plans could vary from our results.
- We certify that, to the best of our knowledge, this report and its contents, which are work products of Bolton are complete and accurate and have been prepared in accordance with generally recognized and accepted actuarial principles and practices which are consistent with the Code of Professional Conduct and applicable Actuarial Standards of Practice set out by the Actuarial Standards Board. Furthermore, as credentialed actuaries, we meet the Qualification Standards of the American Academy of Actuaries to render the opinion contained in this report. This report does not address any contractual or legal issues. We are not attorneys and our firm does not provide any legal services or advice.
- Bolton's report was prepared exclusively for Howard County for a specific and limited purpose. It is not for the use or benefit of any third party for any purpose. The term third party does not include the County's auditor, attorney, third party administrator or other professional, when providing professional services to the County, or any governmental agency to which this certification is required to be submitted by law or regulation. Any third party recipient of Bolton's work product who desires professional guidance should not rely upon Bolton's work product, but should engage qualified professionals for advice appropriate to its own specific needs.