

# Howard County Retirement Plan

## *July 1, 2018 Actuarial Valuation Results*

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**Bolton**

# Purpose

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- Funding Valuation
  - Provides the County's recommended contribution to the plan
  - July 1, 2018 valuation provides the County's recommended contribution for FY2020
  
- Accounting Valuation
  - Provides information for the County's financial statements
  - GASB 67/68
  - Not covered in today's presentation

# Actuarially Determined Contribution (ADC)

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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**

# Plan Funded Ratio

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- The Plan's assets relative to the expected value of benefits provides the Plan's Funded Ratio
  - **The shortfall between the assets and the expected value of benefits is referred to as the Unfunded Liability**
  - **A portion of the County's ADC is a payment toward reducing the Unfunded Liability**

# Changes for Consideration

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- An experience study was presented on September 20, 2018
  - **Recommended demographic and salary scale assumption changes**
    - Update mortality tables to more recent standard tables
    - Lower retirement rates to reflect members working longer
    - Change employee turnover slightly
    - Lower disablement rates for General Employees
    - Lower salary increases
  - **Recommended investment return and inflation/COLA reductions**
    - Decrease investment return assumption from 7.50% to 7.45%
    - Decrease inflation/COLA assumption from 2.75% to 2.70%
    - Revisit these assumptions each year and consider further reductions

# Results

	2017 Valuation for FY19	2018 Valuation (FY20) Change assumptions retain 7.50%/2.75%	2018 Valuation (FY20) Change assumptions including 7.45%/2.70%
Contribution Amount	\$14,296,317	\$14,634,848	\$14,808,044
Contribution as a Percentage of Payroll	11.5%	11.4%	11.6%
Funded Percentage	95.2%	96.0%	95.8%

# Historical County Contribution Rates

FYE	% of Payroll		FYE	% of Payroll
6/30/2020	11.4% or 11.6%		6/30/2015	13.5%
6/30/2019	11.5%		6/30/2014	13.1%
6/30/2018	11.7%*		6/30/2013	12.3%
6/30/2017	11.6%*		6/30/2012	11.7%*
6/30/2016	12.4%		6/30/2011	11.9%

\* County elected to contribute 11.9% in FY2012 and 12.4% in FY2017 and FY2018

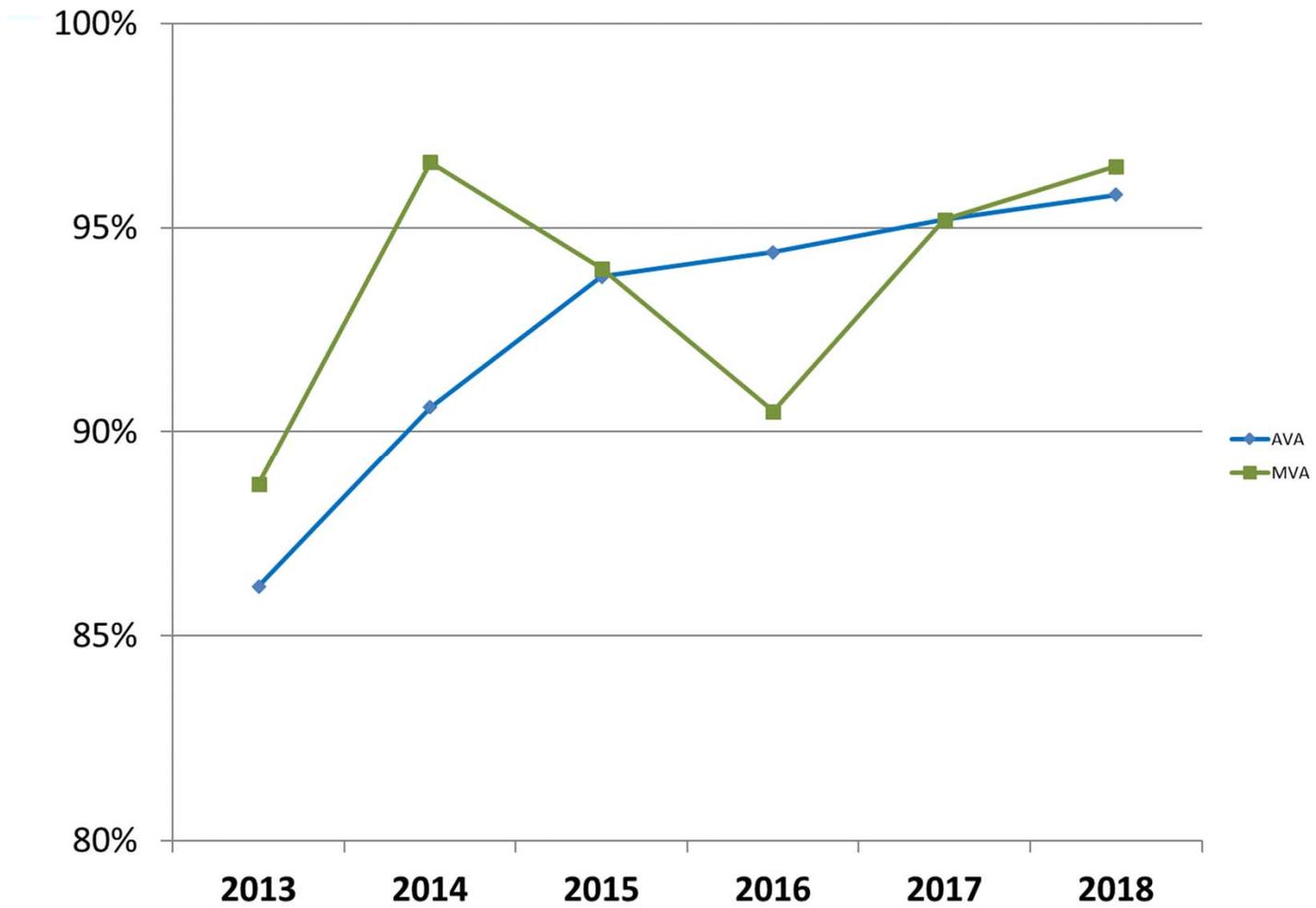
## Funded Ratio

	7/1/2015	7/1/2016	7/1/2017	7/1/2018
Actuarial Value of Assets	\$353.6	\$378.0	\$410.4	\$444.8
Actuarial Accrued Liabilities	\$377.1	\$400.5	\$431.0	\$464.1
Funded Ratio on AVA	93.8%	94.4%	95.2%	95.8%
Market Value of Assets	\$354.4	\$362.3	\$410.1	\$447.8
Funded Ratio on MVA	94.0%	90.5%	95.2%	96.5%
Unfunded Actuarial Accrued Liabilities based on AVA	\$23.5	\$22.5	\$20.6	\$19.3
UAAL as a Percentage of Payroll	23.2%	20.7%	18.3%	16.3%

(Dollars in millions)

- 7/1/2018 using 7.45% investment return and 2.70% COLA

# Funded Ratio



# Historical Investment Returns

FYE	MVA	AVA
6/30/2018	8.7%	7.9%
6/30/2017	12.5%	7.9%
6/30/2016	1.3%	6.0%
6/30/2015	2.9%	9.5%
6/30/2014	15.8%	11.6%
6/30/2013	11.8%	6.2%
6/30/2012	-0.9%	2.1%
6/30/2011	21.9%	5.1%
6/30/2010	14.8%	2.3%
6/30/2009	-15.9%	2.6%

## Participant Summary

	2014	2015	2016	2017	2018
Active	1,669	1,692	1,760	1,803	1,816
Terminated Vested	191	195	198	191	196
Retirees & Beneficiaries	556	619	660	731	787
Disabled	13	18	18	17	15
Total Population	2,429	2,524	2,636	2,742	2,814
Active Average Age	47.66	47.54	47.24	47.00	47.04
Active Average Service	11.28	11.07	10.97	10.79	10.80
Active Average Salary	\$60,042	\$62,097	\$62,854	\$65,303	\$66,761

# Hot Topics

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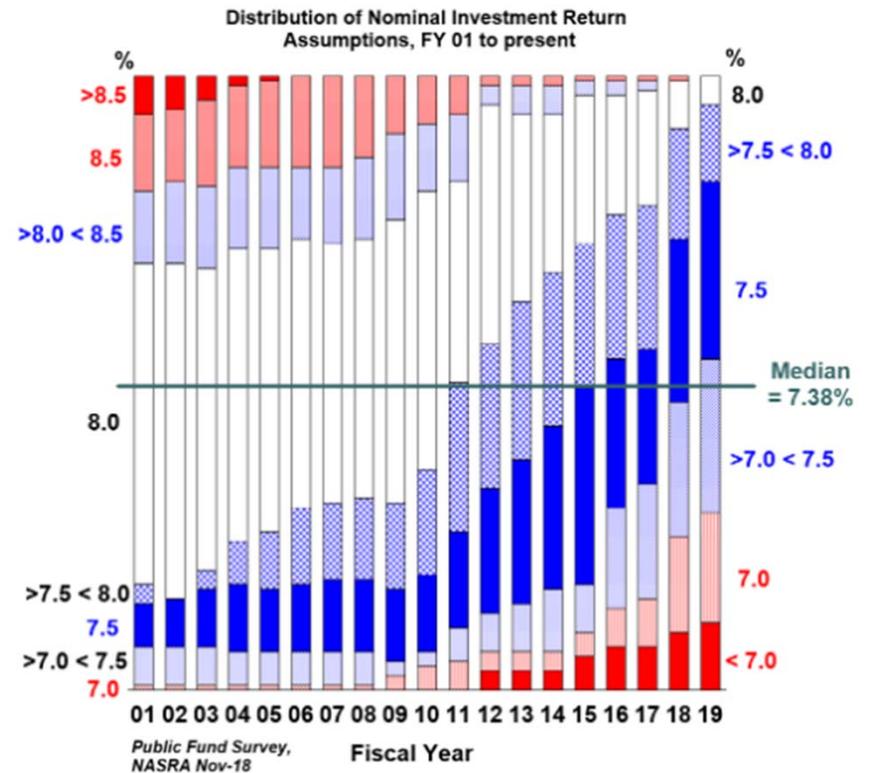
- NASRA Study of Investment Returns
  - **75% of 128 plans surveyed have reduced their investment return since 2010**
  - **Median return in 2010 was about 8%, currently 7.4%**
  - **Approximately 30% at 7% or lower**
- Public Plan Mortality Study Released by SOA
- Actuarial Standards of Practice No. 51 – Risk Disclosure
- Proposals to disclosure liability at risk free interest rate
  - **Proposed change to Actuarial Standard of Practice No. 4**
  - **Public Employee Pension Transparency Act (PEPTA)**
    - Introduced by Congress
    - Disclose liability at Treasury Bond Rate
  - **Multiemployer plan proposed legislation**

# Investment Returns

## LOCAL

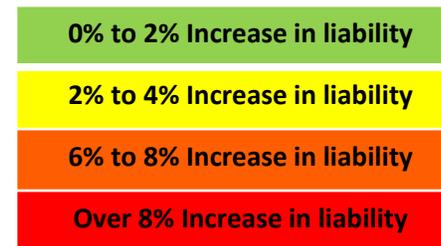
County	Discount Rate
Anne Arundel County	7.50%/7.45%
Baltimore County	6.375%
Caroline County	7.05%
Carroll County	7.00%
Cecil County	7.00%
Charles County	7.50%/7.40%
Frederick County	7.00%
Harford County	7.00%
St. Mary's County	7.25%

## NATIONAL



# Public Plan Mortality Tables

- Final tables released in January 2019
- Based on data from NASRA
  - **Data from 2008 – 2013**
  - **35 pension systems**
  - **78 plans**
  - **46 million life-years of exposure**
  - **580,000 deaths**
- 3 Job Classification Tables
  - **PUBT-2010: Teachers**
  - **PUBS-2010: Safety**
  - **PUBG-2010: General**
- Highlights
  - **Teachers live longest**
  - **Public safety has modest improvement over recent studies**
  - **General employees between total mortality and white collar mortality of recent studies**



Employee Group	Male	Female	Total
Teachers	Over 8% Increase in liability	6% to 8% Increase in liability	Over 8% Increase in liability
Safety	2% to 4% Increase in liability	0% to 2% Increase in liability	2% to 4% Increase in liability
General	2% to 4% Increase in liability	2% to 4% Increase in liability	2% to 4% Increase in liability

Compared to RP-2006 with MP-2017

# ASOP 51

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- Purpose
  - **Disclosure of the risk that actual future measurements may differ from expected future measurement**
  - **Future measurements include:**
    - Pension obligations
    - Actuarially determined contributions
    - Funded Status
- Types of risk
  - **Investment risk**
  - **Asset/liability matching risk**
  - **Interest rate risk**
  - **Longevity risk**
  - **Contribution risk**
- Possible enhancements
  - **Long-range projections**
  - **Sensitivities**
- Effective Date
  - **Measurements after November 1, 2018**
  - **For Howard County, July 1, 2019 actuarial valuation**

# Risk Measures

<b>Risk Measure</b>	<b>7/1/2016</b>	<b>7/1/2017</b>	<b>7/1/2018</b>	<b>Conservative Measure</b>
Retiree Liability as a Percent of Total Liability	44%	45%	47%	<50%
Assets to Payroll	3.3	3.5	3.7	<5
Liabilities to Payroll	3.6	3.7	3.8	<5
Benefit Payments to Contributions	0.8	0.9	0.9	1-3

- 7/1/2018 using 7.45% investment return and 2.70% COLA

# Summary

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- Current Year Valuation Highlights
  - **Assumption changes as recommended in experience study**
  - **Minimal change in ADC as a percentage of payroll**
  - **Continued increase in funded status**
- Future Considerations
  - **Review public plan mortality tables**
  - **Impact of declining equity markets**
  - **Risk measures for ASOP 51**
  - **Lowering discount rate**

# 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, 2018.
- 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.