



Benefits and Actuarial Committee (B&A) Meeting

**1111 E. Main Street
3rd Floor Board Room
Richmond, VA 23219
Monday, 11/15/2021
1:00 - 3:30 PM ET**

I. Welcome and Introductions

II. Approve Minutes

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III. Action Item

- **Cavanaugh Macdonald Consulting, LLC, 2021 Actuarial Valuation Results for Political Subdivision Retirement Plans, the Virginia Local Disability Program (VLDP), Local Health Insurance Credit (HIC), and Line of Duty Act (LODA) Fund.**

RBA_RatesForPoliSubs_HIC_VLDP_LODA - Page 5

Locals2021 Presentation - Page 7

LODA2021_B&A - 170.1 Part B FINAL - Page 85

IV. Information Item

- **2022 B&A Committee Meeting Schedule**
 - February 9 at 1:00 p.m.
 - June 6 at 1:00 p.m.
 - October 17 at 1:00 p.m.
 - November 14 at 1:00 p.m.

V. Other Business

Minutes

A regular meeting of the Benefits and Actuarial Committee was held on October 13, 2021 in Richmond, Virginia with the following members participating:

William A. Garrett, Chair
Michael P. Disharoon, Vice Chair
John Bennett

Board members present:
O'Kelly E. McWilliams, III, Board Chair
Joseph W. Montgomery, Board Vice Chair
Troilen G. Seward

VRS Staff:

Patricia Bishop, Jennifer Schreck, Rory Badura, Ty Bowers, Jeanne Chenault, Michael Cooper, Sara Denson, Valerie Disanto, Barry Faison, Jon Farmer, Andy Feagans, Krystal Groff, Robert Irving, Angela Payne, Jillian Sherman, Virginia Sowers and Cindy Wilkinson.

Guests:

Larry Langer, Alisa Bennett, and Brad Wild, Cavanaugh Macdonald Consulting, LLC; Adam Rosatelli, Senate Finance and Appropriations Committee; Latosha Johnson, Department of Planning and Budget; Jamie Bitz, Joint Legislative Audit and Review Commission; Louise Moody, Fairfax County Public Schools; and Bea Snidow, Virginia Education Association.

The meeting convened at 10:01 a.m.

Opening Remarks

Mr. Garrett called the meeting to order and welcomed everyone to the October 13, 2021 meeting of the Benefits and Actuarial Committee.

Approval of Minutes

Upon a motion by Mr. Bennett, with a second by Mr. Disharoon, the Committee approved the minutes of its September 1, 2021 meeting.

Cavanaugh Macdonald Consulting, LLC, 2021 Actuarial Valuation Results for Five Statewide Retirement Plans, Group Life Insurance, State and Teacher Retiree Health Insurance Credit, and the Virginia Sickness and Disability Program (includes self-funded Long-Term Care)

Mr. Garrett introduced Larry Langer and Alisa Bennett with the VRS plan actuary, Cavanaugh Macdonald Consulting, LLC, who presented the June 30, 2021 actuarial valuations for the Five Statewide Retirement Plans (Teachers, State Employees, JRS, SPORS, and ValORS). In addition, the results of the Other Post-Employment Benefit Programs (OPEBs), including Group Life Insurance, Health Insurance Credit (HIC), and the Virginia Sickness and Disability Program, which includes self-funded Long-Term Care, were presented.

Mr. Langer began his presentation by stating that the June 30, 2021 valuations are used to set the contribution rates for fiscal years 2023 and 2024. He provided an overview of the actuarial valuation process used to determine contribution rates and the funded status of pension and OPEB plans.

Since the previous valuation, there were several significant changes to assumptions and plan experience that differed from what was assumed, which will impact future contribution rates. Such factors included assumption changes from the April 2021 experience study, investment return, salary increases and demographic changes. The most significant assumption change was to the mortality assumptions, which included moving to a generational mortality improvement scale. This generally increased liabilities for pension plans and had mixed results on OPEB plans.

Mr. Langer advised that the 2021 investment return of 27.5% had an immediate positive impact to the funded status on the market value of assets basis. The investment gain will be phased in over a five-year period due to actuarial smoothing of assets for funding calculations. The Teacher retirement plan and the State HIC also benefitted from additional cash infusions above the required contributions; \$61.3 million and \$38.7 million respectively. He also noted that the Governor's budget included 5% salary increases for state employees and 8% salary increases for SPORS members, along with additional compression increases for eligible SPORS members. Mr. Langer advised that headcounts for State, Teachers, and VaLORS plans decreased from the prior year. The plans generally experienced more terminations, deaths, and refunds than expected, and fewer hires.

The contribution rates for the upcoming biennium are lower than the rates paid for fiscal years 2021 and 2022 for all plans except SPORS, VaLORS and JRS, which had increases in liability associated with the experience study that were not fully offset by the investment gains.

Mr. Garrett thanked Mr. Langer and Ms. Bennett for their presentation.

Upon a motion by Mr. Bennett, with a second by Mr. Disharoon, the Committee recommended approval of the following action to the full Board of Trustees:

RBA: Certify the contribution rates for the Five Statewide Retirement Plans and associated OPEBs for FY 2023 and FY 2024.

Request for Board Action: After considering the recommendations of its actuary, the Board certifies the rates as presented for the Five Statewide Retirement Plans (State Employees, Teachers, JRS, SPORS, and VaLORS) and the associated OPEBs; Group Life Insurance (GLI); Health Insurance Credit (HIC); and the Virginia Sickness and Disability Program (VSDP), including self-funded Long-Term Care, all effective July 1, 2022.

Information Item

Rory Badura, Senior Staff Actuary, provided a brief overview of strategies to enhance funding, which included shortening amortization periods for legacy unfunded liabilities, using level dollar rather than percentage of pay amortization, as well as maintaining higher contribution rates following years in which the plan has favorable experience.

Mr. Garrett advised that the Committee will meet November 15, 2021 at 1:00 p.m. to receive the valuation results for the Local Plans and the Line of Duty Act Fund. Lastly, Mr. Garrett noted the Board of Trustees will meet October 14, 2021 at 1:00 p.m.

Adjournment

There being no further business and following a motion by Mr. Montgomery, with a second by Mr. Bennett, the Committee agreed to adjourn the meeting at 11:11 a.m.

Date

William A. Garrett, Chair
Benefits and Actuarial Committee



Approve contribution rates for political subdivisions, the Health Insurance Credit for certain political subdivisions, the Virginia Local Disability Program and the Line of Duty Act Fund, effective for FY 2023 and FY 2024.

Requested Action

After considering the recommendations of its Plan Actuary, the Board accepts the June 30, 2021 valuation report for political subdivisions and the Health Insurance Credit (HIC) for certain political subdivisions; approves a contribution rate of 0.36% for constitutional officers, a rate of 0.37% for social services employees, and a contribution rate of 0.32% for general registrars; approves a contribution rate of 0.47% for the Virginia Local Disability Program (VLDP), including self-funded Long-Term Care for Teachers and a rate of 0.85% for VLDP, including self-funded Long-Term Care for Political Subdivisions; and approves a full-time equivalent premium rate of \$681.84 for the Line of Duty Death and Health Benefits Trust Fund (Fund), all for both FY2023 and FY2024, to be effective July 1, 2022.

Rationale for Requested Action

The certified employer contribution rates reflect the assumptions and provisions in effect as of June 30, 2021 including the assumed rate of return of 6.75%.

The employer contribution rates will go into effect on July 1, 2022.

Under *Code of Virginia* § 51.1-1403(A), the cost of HIC for retired local officers, retired general registrars (and the retired employees of each), and retired employees of a local social services board is borne by the Commonwealth and not the political subdivisions.

The Line of Duty Act (LODA) provides benefits to eligible first responders who die or become disabled in the line of duty. VRS administers, manages and invests the Fund. VRS is responsible for determining costs for the Fund in order to provide benefit payments and for collecting required contributions from participating employers.

Code of Virginia § 9.1-400.1(D) requires participating employer contributions to the Fund to be determined by the Board on a current disbursement basis (pay-as-you-go). Contributions fund the claims and administrative expenses for participating employers. The FY2023 and FY2024 premium rate of \$681.84 is based on a participating FTE count of 19,087.20.

Authority for Requested Action

Code of Virginia §§ 51.1-124.22(5) and -145 authorize the Board to determine the required contribution rate for the various employer groups in the Retirement System. *Code of Virginia* § 9.1-400.1 authorizes the Board to set the employer contribution rates for the Line of Duty Death and Health Benefits Trust Fund.

The above action is approved.

O'Kelly E. McWilliams, III, Chair
VRS Board of Trustees

Date



Cavanaugh Macdonald
CONSULTING, LLC

The experience and dedication you deserve



Virginia Retirement System Political Subdivisions June 30, 2021 Actuarial Valuations

November 15, 2021

Larry Langer, ASA, FCA, MAAA, EA
Principal and Consulting Actuary

Alisa Bennett, FSA, FCA, MAAA, EA
President



- The Actuarial Valuation Process and Purpose

- June 30, 2021 Results:
 - Employer Contribution Rates
 - Funded Status
 - Unfunded Actuarial Accrued Liability

- Plan by Plan Analysis

- Appendix

Purpose of the June 30, 2021 Actuarial Valuation



- The actuarial valuation provides a basic source document for information regarding actuarially determined contributions (employer rates) as well as the funded status of pension and other post-employment benefit (OPEB) plans.

- The June 30, 2021 valuations will be used to set contribution rates for the two-year period from July 1, 2022 through June 30, 2024
 - Odd year valuations are for rate setting.
 - Even year valuations are for informational purposes.

Purpose of the June 30, 2021 Actuarial Valuation



- Each fall, CMC presents results over two Board meetings:

Pension	Other Post Employment Benefits (OPEB)
Virginia Retirement System	Group Life Insurance Fund
<ul style="list-style-type: none"> ▪ State Employees ▪ Teachers ▪ Political Subdivisions 	Retiree Health Insurance Credit (HIC)
Virginia Law Officers (VaLORS)	<ul style="list-style-type: none"> ▪ State Employees ▪ Teachers ▪ Political Subdivisions ▪ Constitutional Officers ▪ Social Services Employees ▪ Registrars
State Police Officers (SPORS)	Virginia Sickness and Disability Program (VSDP)
Judges (JRS)	Virginia Local Disability Program (VLDP)
	<ul style="list-style-type: none"> ▪ Teachers ▪ Political Subdivisions
	Line of Duty Act Fund (LODA)

- We present results for the plans **in bold** in November; the remainder were presented in October.
- LODA results are in a separate presentation.

Basic funding equation for benefits:

$$\mathbf{C + I = B + E}$$

Contributions + Investment returns = Benefits + Expenses

- Over the long term, actual investment returns, benefits and expenses determine the amount of contributions.
- Over the short term, estimated investment returns, benefits and expenses developed in an actuarial valuation will determine the amount of contribution.

- The actuarial valuation process can be viewed as a budgeting process. Like a budget, we make use of information we know as of a certain date, and using assumptions, we estimate what we think will happen in the future.
- Member data, asset data and benefit provisions are provided by Staff. Thank you!!
- Assumptions and funding methodology are determined by the Board of Trustees, Code of Virginia and GASB, with input from the actuary and other professionals.

Inputs

Member Data
Asset Data
Benefit Provisions
Assumptions
Funding Methodology



Results

Actuarial Value of Assets (AVA)
Actuarial Accrued Liability (AAL)
Net Actuarial Gain or Loss
Funded Ratio/UAAAL
Employer Contribution Rates
Projections

Executive Summary

- Since the prior valuation, there have been several significant changes to assumptions as well as plan experience that differed from what was assumed which will impact future contribution rates.
- Significant factors that impacted results:
 - Assumptions changes
 - Investment return
 - COLAs less than expected
 - Demographic changes
 - Possible COVID Impacts?
 - Headcounts are down in several plans
 - Higher terminations, deaths, and refunds
 - Fewer new hires
 - Political subdivisions which had changes in coverage since the last valuation
 - HIC political subdivisions saw increases in averages due to payroll increasing less than expected, more schools electing the extra \$1 benefit and more plans with surcharges.
- The impact of these events had mixed results across plans as we will see on the following slides.

Experience Study Recommendations

- Most significant change was to the mortality assumptions
 - PUB-2010 with generational mortality improvement scale

- Generally increased liabilities for pension plans and had mixed results on OPEB plans

Executive Summary



- Changes in assumptions recommended by CMC and adopted by the Board in April 2021 increased liabilities for pension plans.
- Changes in assumptions had larger impact on plans with Hazardous Duty members.

System	Actuarial Accrued Liability		
	Before Assumption Changes	After Assumption Changes	% Change in Liability
State	\$ 26,326,136	\$ 26,727,971	1.53%
Teachers	\$ 51,871,407	\$ 52,747,596	1.69%
SPORS	\$ 1,267,565	\$ 1,326,646	4.66%
VaLORS	\$ 2,339,223	\$ 2,407,153	2.90%
JRS	\$ 681,969	\$ 733,408	7.54%
Political Subdivisions	\$ 26,217,770	\$ 27,161,308	3.60%
Total	\$ 108,704,070	\$ 111,104,082	2.21%

Executive Summary



- Changes in assumptions recommended by CMC and adopted by the Board in April 2021 had mixed impact on OPEB plan liabilities.
- Method change to mid-year decrements for all plans except Teachers lowered costs for VLDP Political Subdivisions due to the limited term nature of the benefit.

Plan	Actuarial Accrued Liability		
	Before Assumption Changes	After Assumption Changes	% Change in Liability
Group Life	\$ 3,717,938	\$ 3,524,464	-5.20%
HIC State	\$ 1,033,299	\$ 1,044,663	1.10%
HIC Teachers	\$ 1,457,810	\$ 1,471,397	0.93%
VSDP	\$ 254,646	\$ 250,103	-1.78%
HIC Political Subdivisions	\$ 81,265	\$ 82,791	1.88%
HIC Constitutional Officers	\$ 32,715	\$ 33,241	1.61%
HIC Social Service Employees	\$ 14,592	\$ 14,833	1.65%
HIC Registrars	\$ 581	\$ 590	1.55%
VLDP Teachers	\$ 4,799	\$ 5,102	6.31%
VLDP Political Subdivisions	\$ 5,520	\$ 5,005	-9.33%
Total	\$ 6,603,165	\$ 6,432,189	-2.59%

Investment Return for 2021

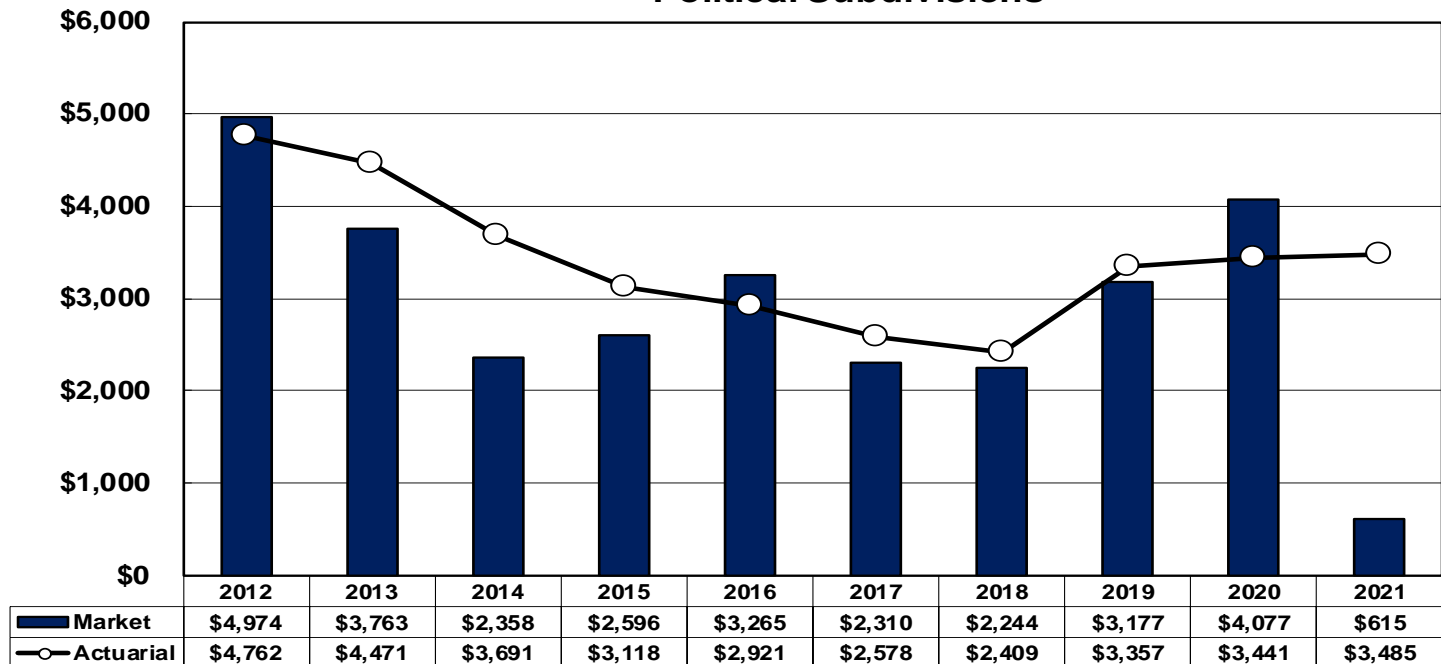
- Fiscal year investment return for 2021 was 27.5%
- Immediate positive impact to funded status on market value of asset basis
- Investment gain is phased in over a five-year period due to actuarial smoothing of assets for funding calculations

Executive Summary



- Since the actuarial value of assets smooths in the excess gains over a four-year period, the unfunded liabilities on an actuarial value of assets basis should trend downward toward the unfunded liabilities on a market value basis if all other assumptions are met.

Political Subdivisions



Demographic Changes

- Active headcounts are down in aggregate for Political Subdivisions, but varied across employers
- Generally, the impact of demographic changes on the valuation results was less than the impact of the change in assumptions, market returns being more than expected and COLAs being less than expected

Demographic Changes

System	Active Counts		
	2020	2021	% Change in Active Counts
State	\$ 75,069	\$ 73,686	-1.80%
Teachers	\$ 150,681	\$ 149,793	-0.60%
SPORS	\$ 1,924	\$ 1,947	1.20%
VaLORS	\$ 8,554	\$ 7,823	-8.50%
JRS	\$ 449	\$ 453	0.90%
Political Subdivisions	\$ 110,854	\$ 108,613	-2.00%

HIC Political Subdivisions Experience

- The average contribution rate for HIC Political Subdivisions increased from 0.64% to 0.72%
 - Demographic experience caused an increase of 0.03%
 - This is mostly due to payroll not increasing as much as expected (1.3% versus 3% assumed)
 - The election of 12 new schools offering the extra \$1 benefit also contributed to the increase
 - Additional Funding Contribution and “At-Risk” Surcharge experience caused an increase of 0.04%
 - There are 12 employers that required an additional funding contribution due to GASB cross-over calculation. This is up from 10 employers who required additional contribution last rate-setting.
 - All 12 with an additional funding contribution are school locations, and of those, 8 were not participating prior to HB 1513 being enacted.
 - There are 62 employers with an “at-risk” surcharge compared to 119 during the last rate-setting. The “at-risk” surcharge is applied to plans with low funded levels in an effort to bring the funded level to a more sustainable level.
 - The remaining increase was due to the changes in assumptions related to the experience study.

Results

Employer Contribution Rate Pension Plans

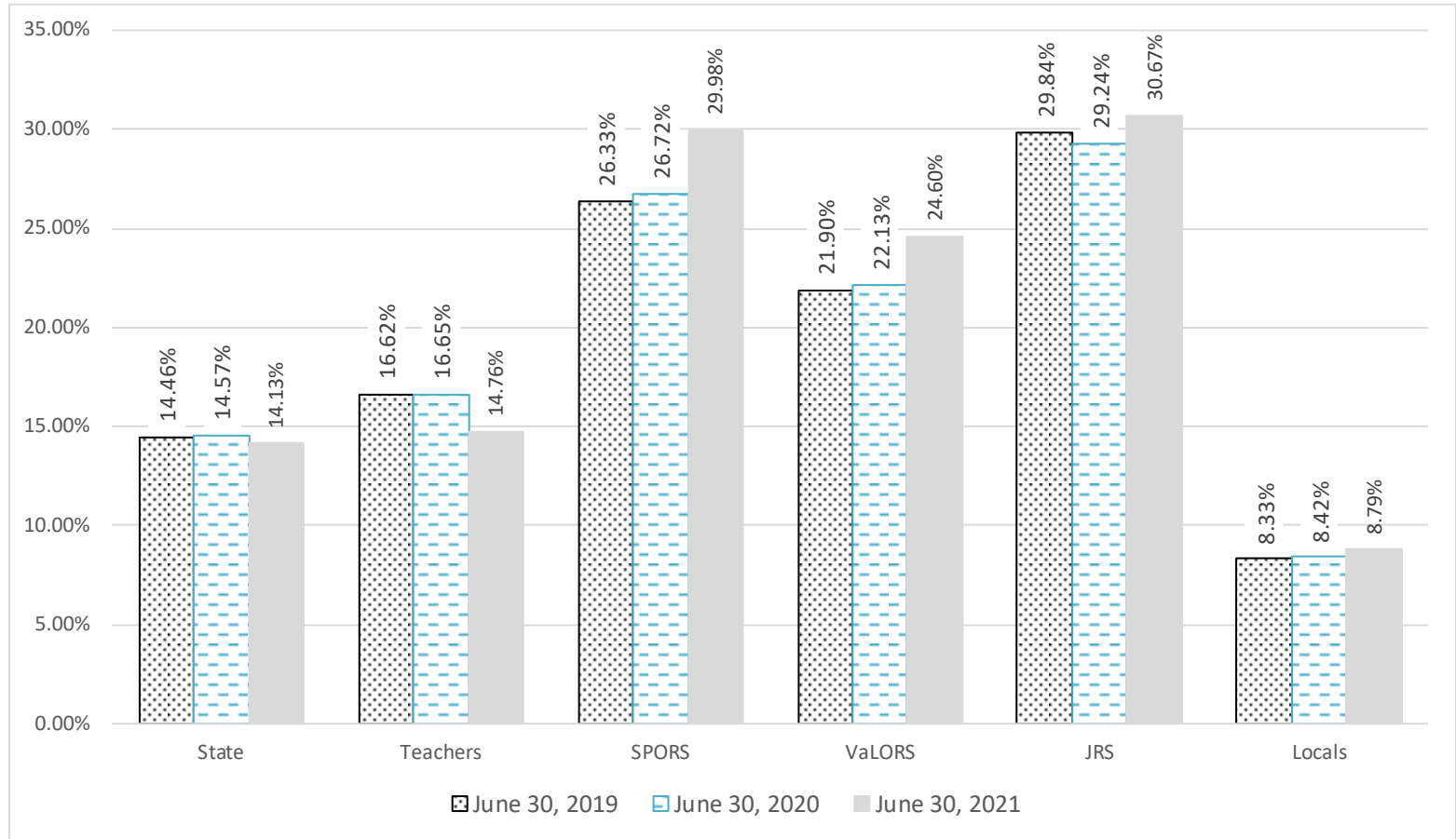
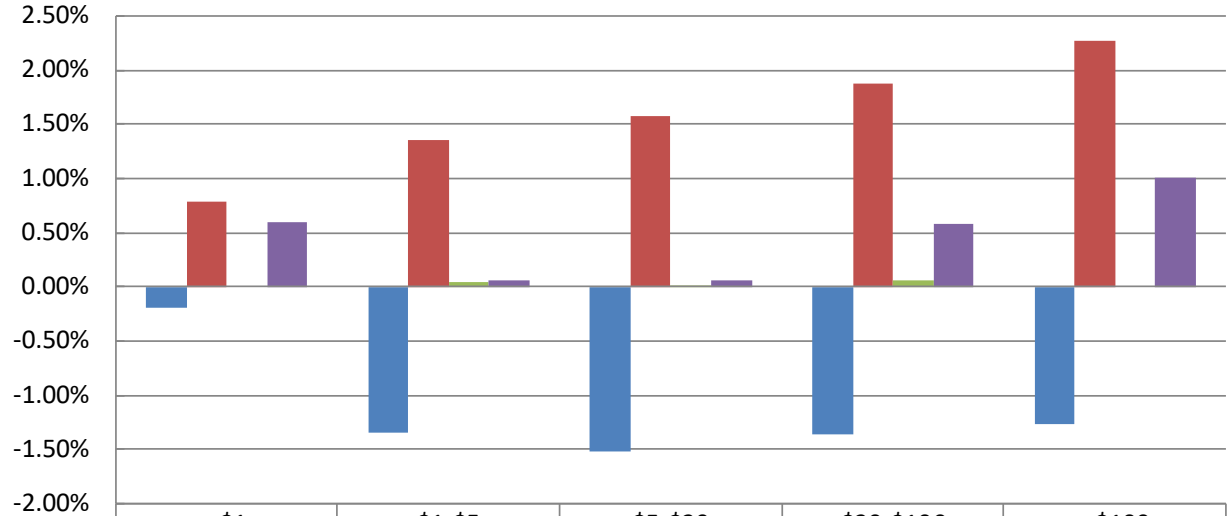


Chart of employer contribution results is also shown in appendix on slide 45.

Average Change in Employer Contribution Rates by Market Asset Size (2021 vs. 2020) (Dollars in Millions)



	<\$1	\$1-\$5	\$5-\$20	\$20-\$100	>\$100
■ Due to Plan Experience	-0.20%	-1.34%	-1.52%	-1.36%	-1.27%
■ Due to Assumption/Method Change	0.79%	1.36%	1.57%	1.88%	2.27%
■ Due to Plan Amendment	0.00%	0.04%	0.01%	0.06%	0.00%
■ Net Change	0.59%	0.06%	0.06%	0.58%	1.00%

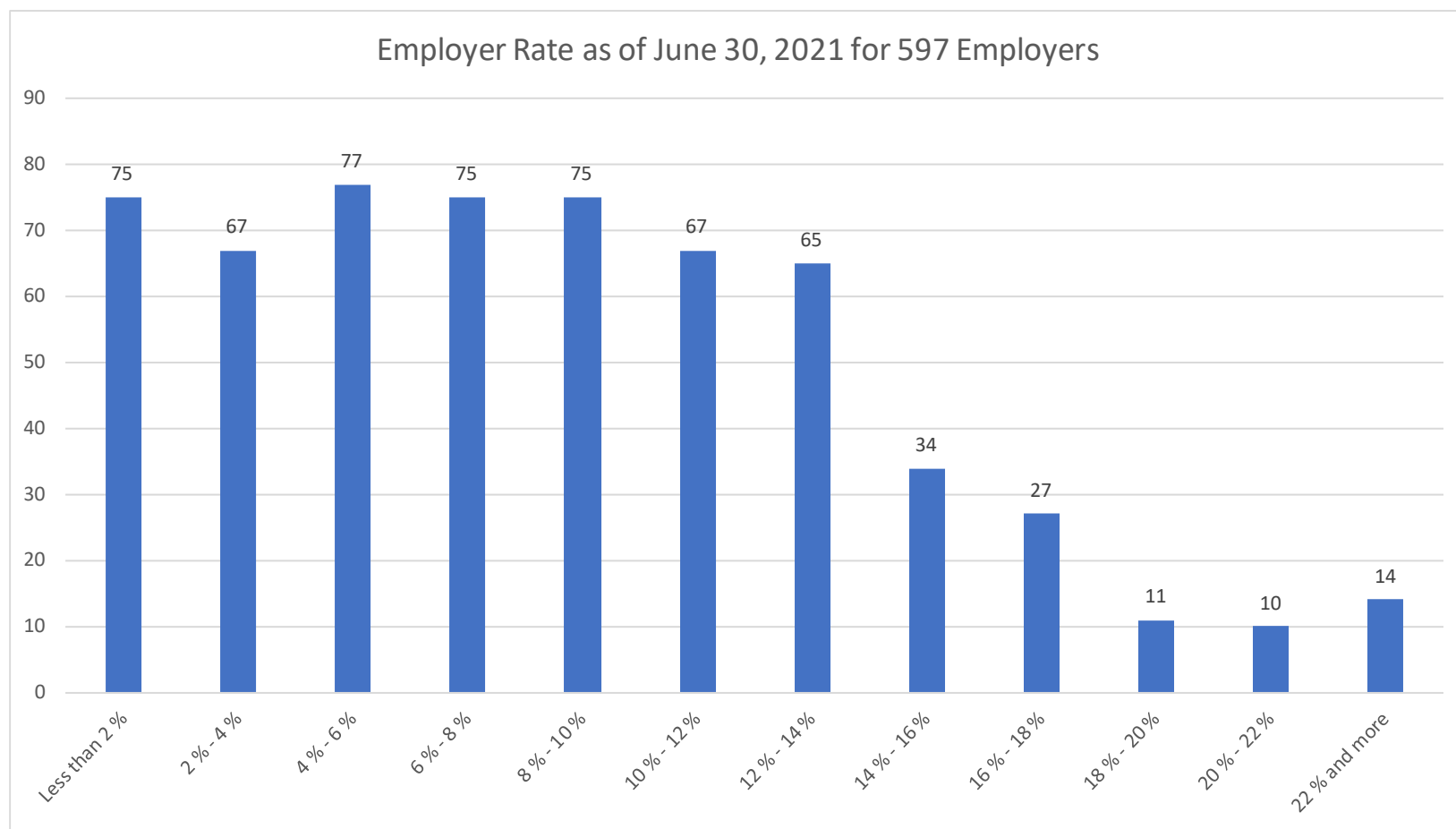
Average change in contribution due to plan experience is -1.24%.

Note: Distribution includes only the 595 employers that have a 2020 rate for comparison. The comparison includes the change in employer Hybrid defined contribution match.

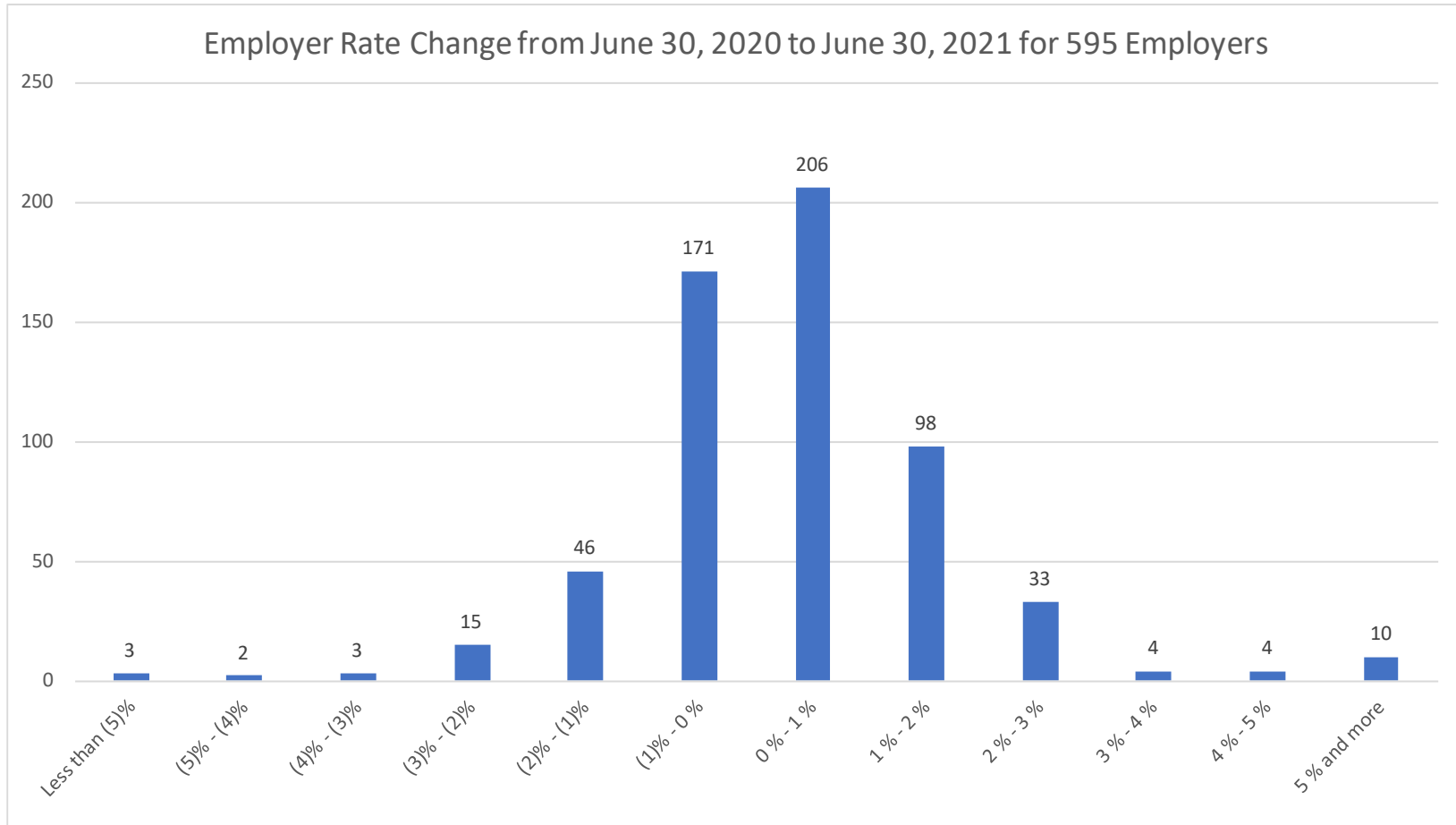
"Plan amendments" generally refer to addition of enhanced hazardous duty coverage.

"Assumption/Method Change" refers to the updated assumptions based on the results of an experience study completed for the four-year period ending June 30, 2020.

Employer Rate Political Subdivisions



Employer Rate Change Political Subdivisions



Employer Contribution Rate OPEB Plans

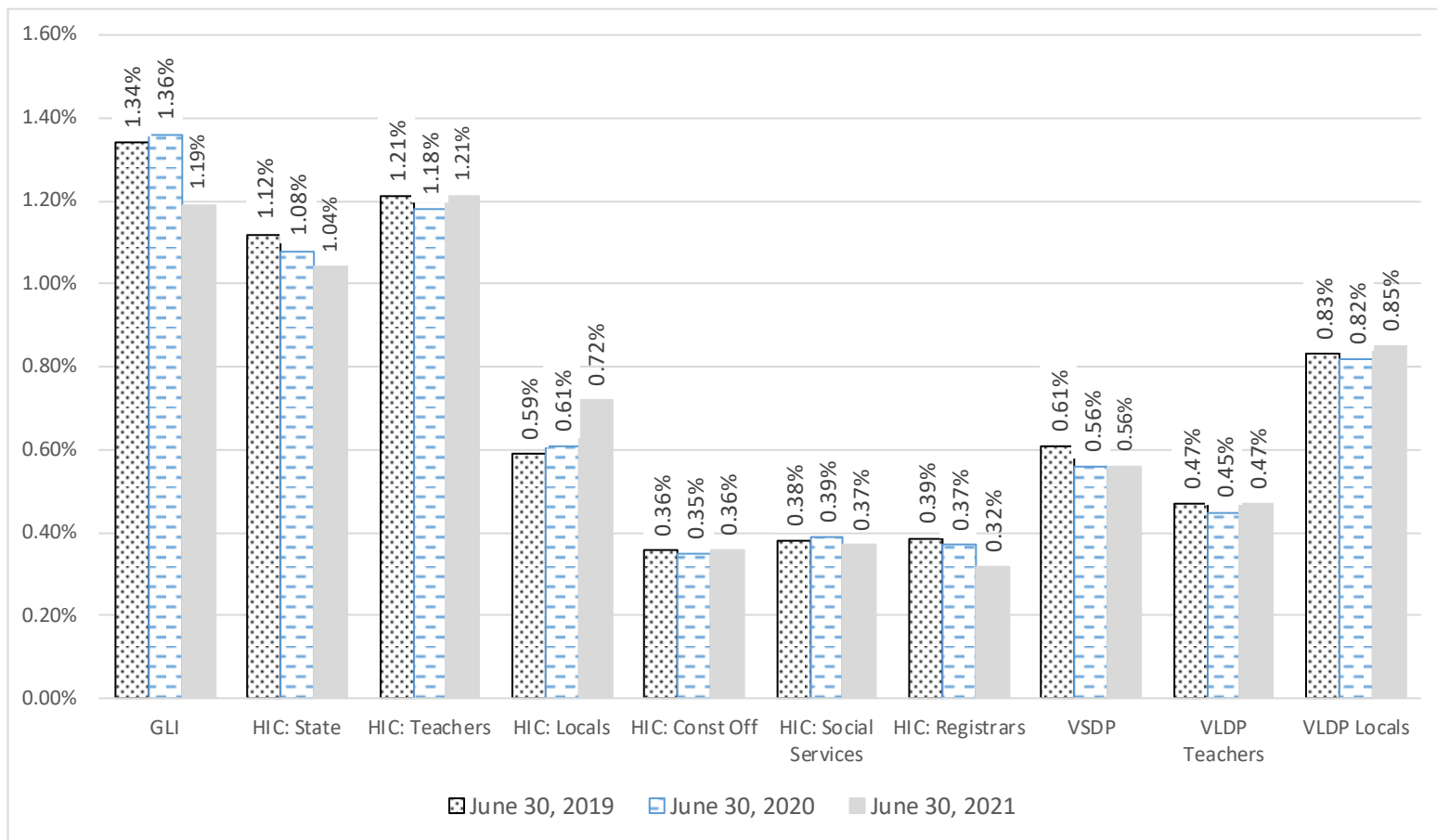
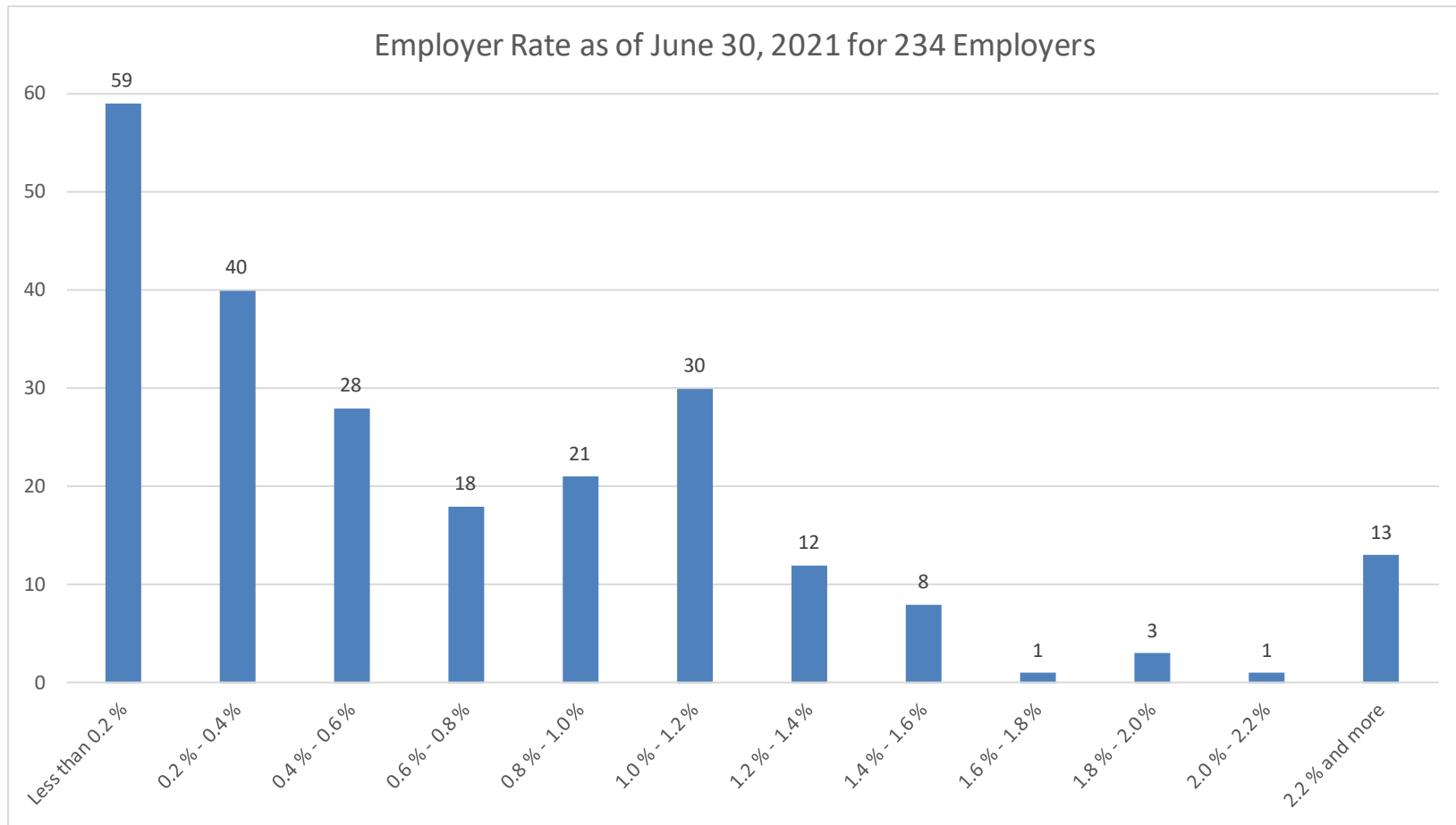


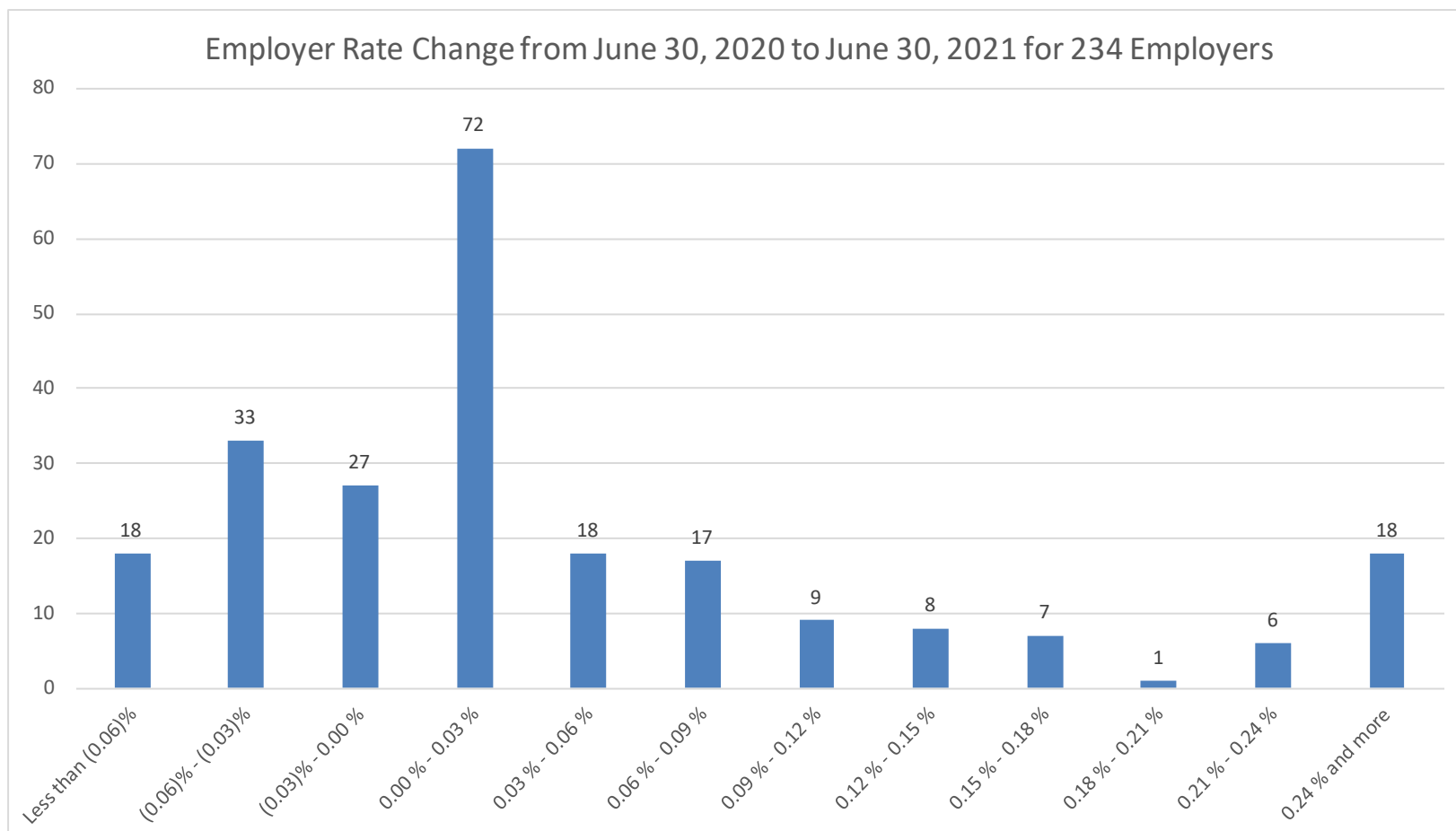
Chart of employer contribution results is also shown in appendix on slide 46.

Employer Rate

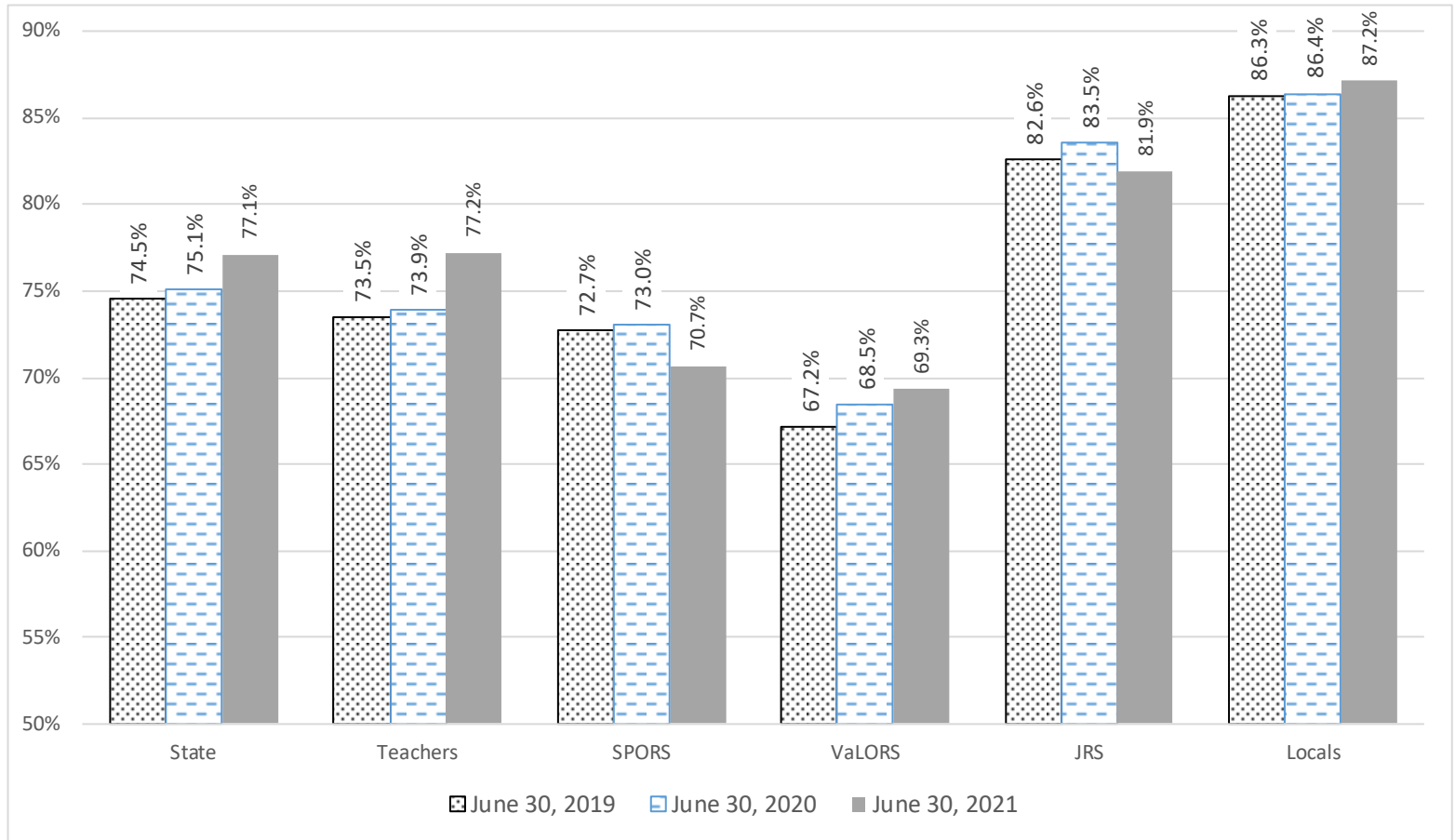
OPEB HIC Political Subdivisions



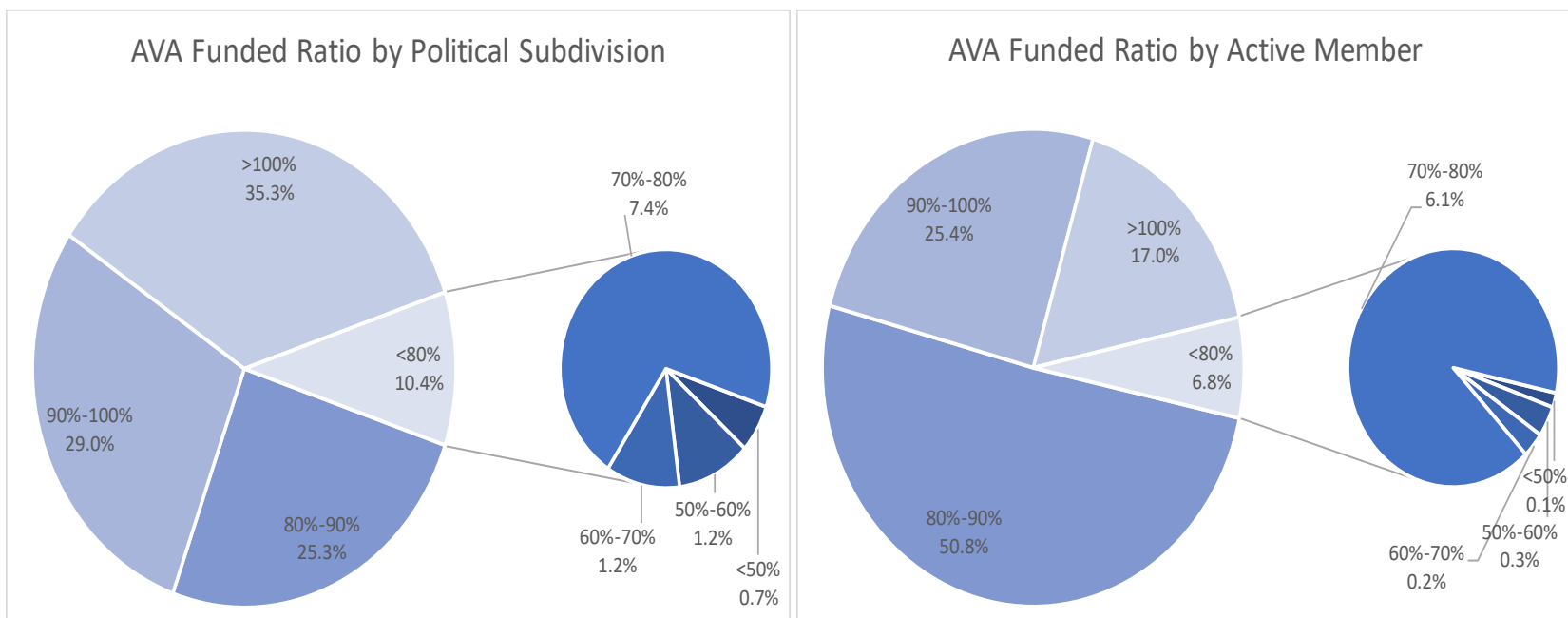
Employer Rate Change OPEB HIC Political Subdivisions



Funded Ratio on Actuarial Value Pension Plans



Funded Ratio Breakdowns Political Subdivisions

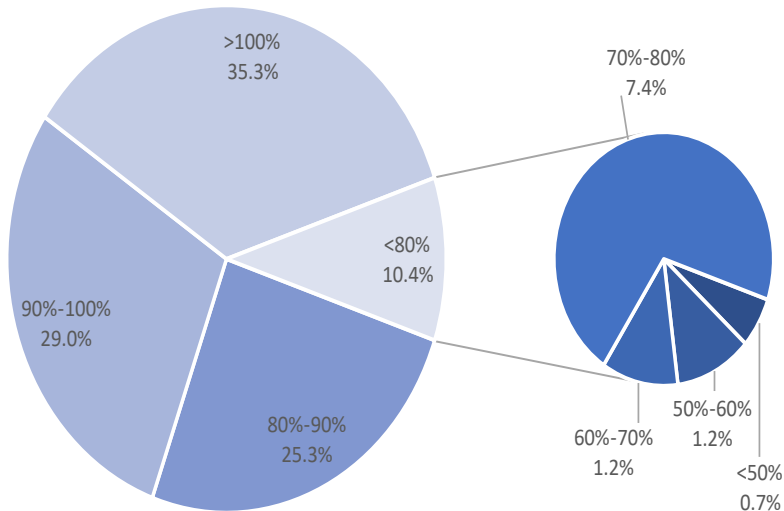


- While the overall funded ratio on actuarial value is 87.2%, the funded ratio varies significantly across the 597 political subdivisions and 108,613 active members as illustrated in the charts above
- Over a third - 35.3% - of political subdivisions are over 100% funded; these tend to be smaller and not have hazardous duty coverage
- Just over half - 50.8% - of active members are covered in political subdivisions that are funded in 80%-90% range.

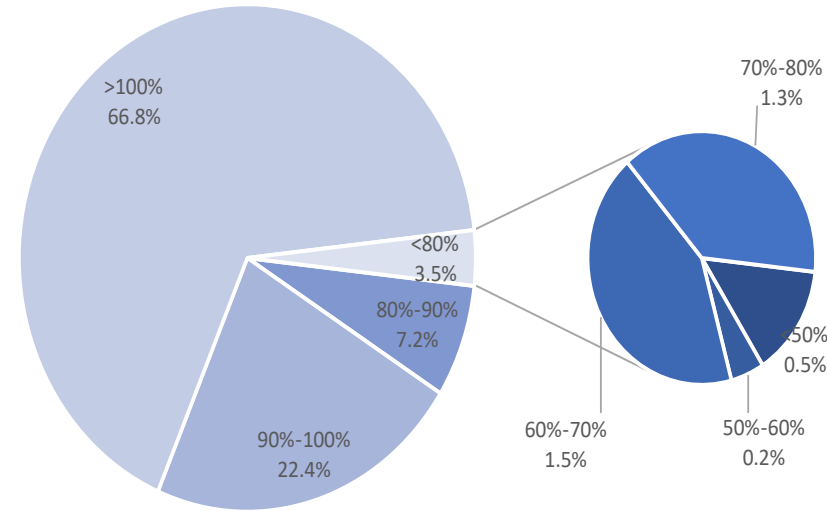
Funded Ratio Breakdowns Political Subdivisions



AVA Funded Ratio by Political Subdivision

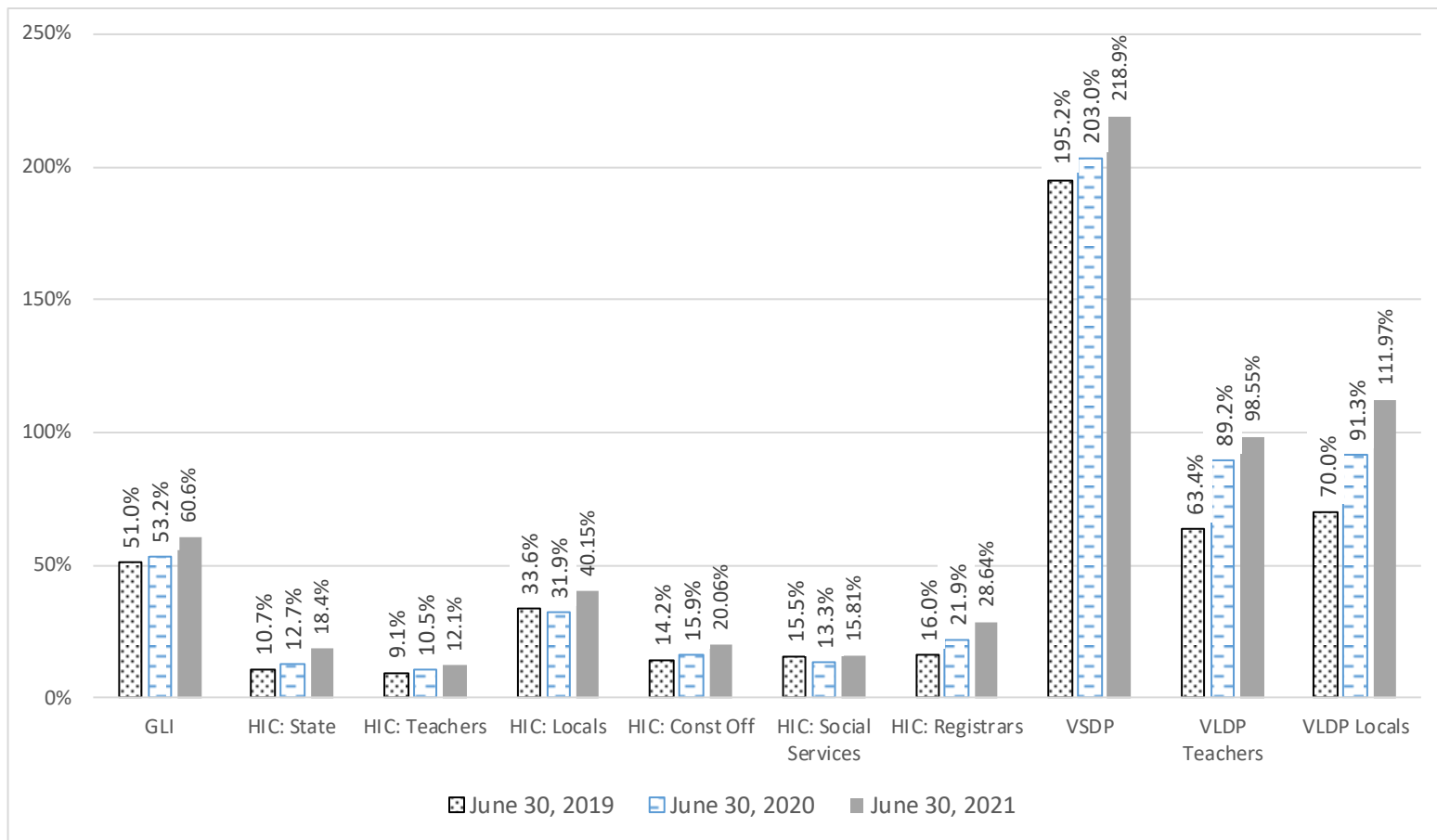


MVA Funded Ratio by Political Subdivision



- On a market basis, funded status improves, with the number of political subdivisions with funded ratio over 100% almost doubling from 35.3% to 66.8%
- This increase indicates the **potential** for lower contributions rates at the next rate setting effective July 1, 2024

Funded Ratio on Actuarial Value OPEB Plans



Unfunded Actuarial Accrued Liability on Actuarial Value Basis Pension Plans

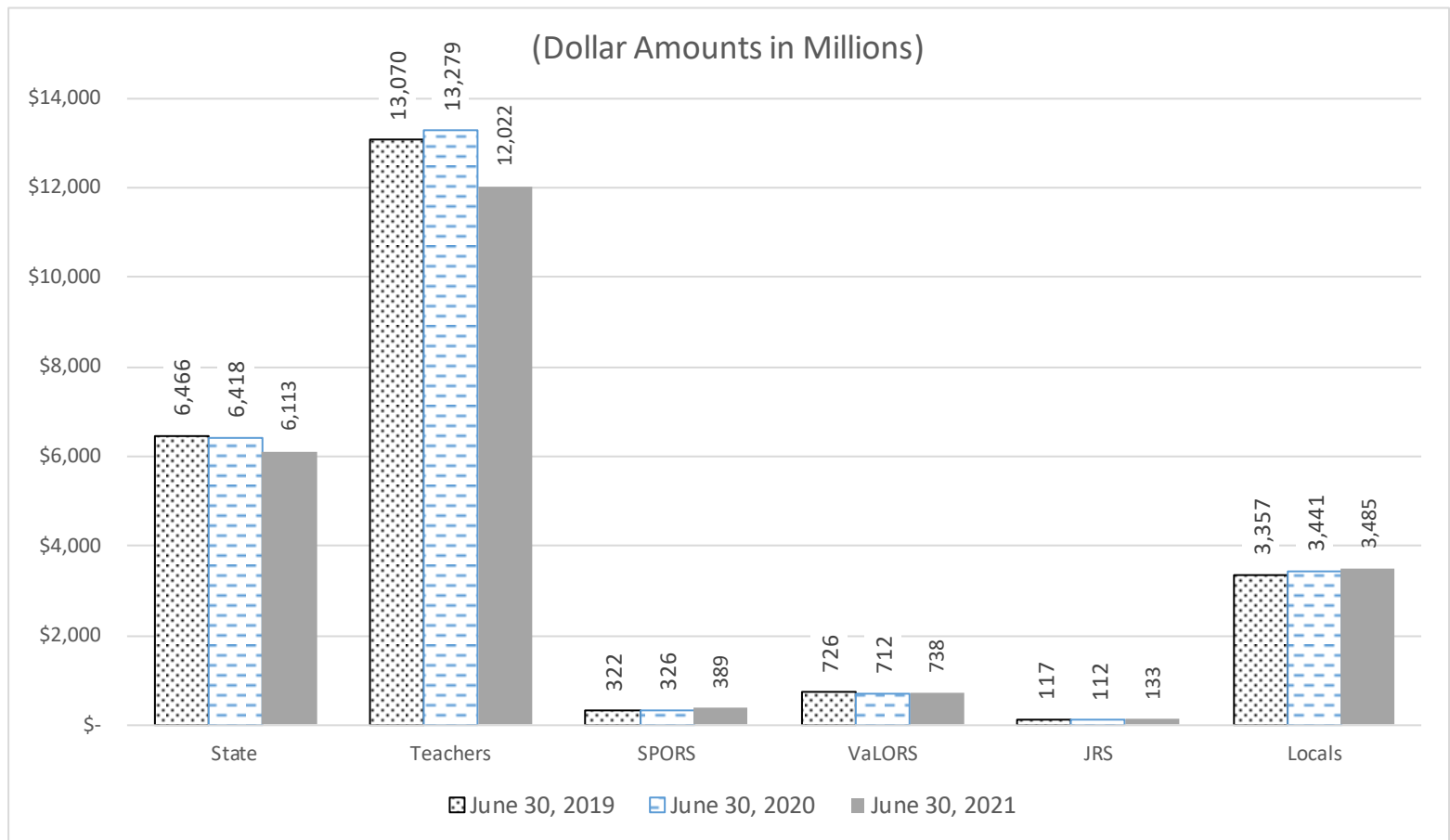


Chart of unfunded liabilities is also shown in appendix on slide 47.

Unfunded Actuarial Accrued Liability on Actuarial Value Basis OPEB Plans

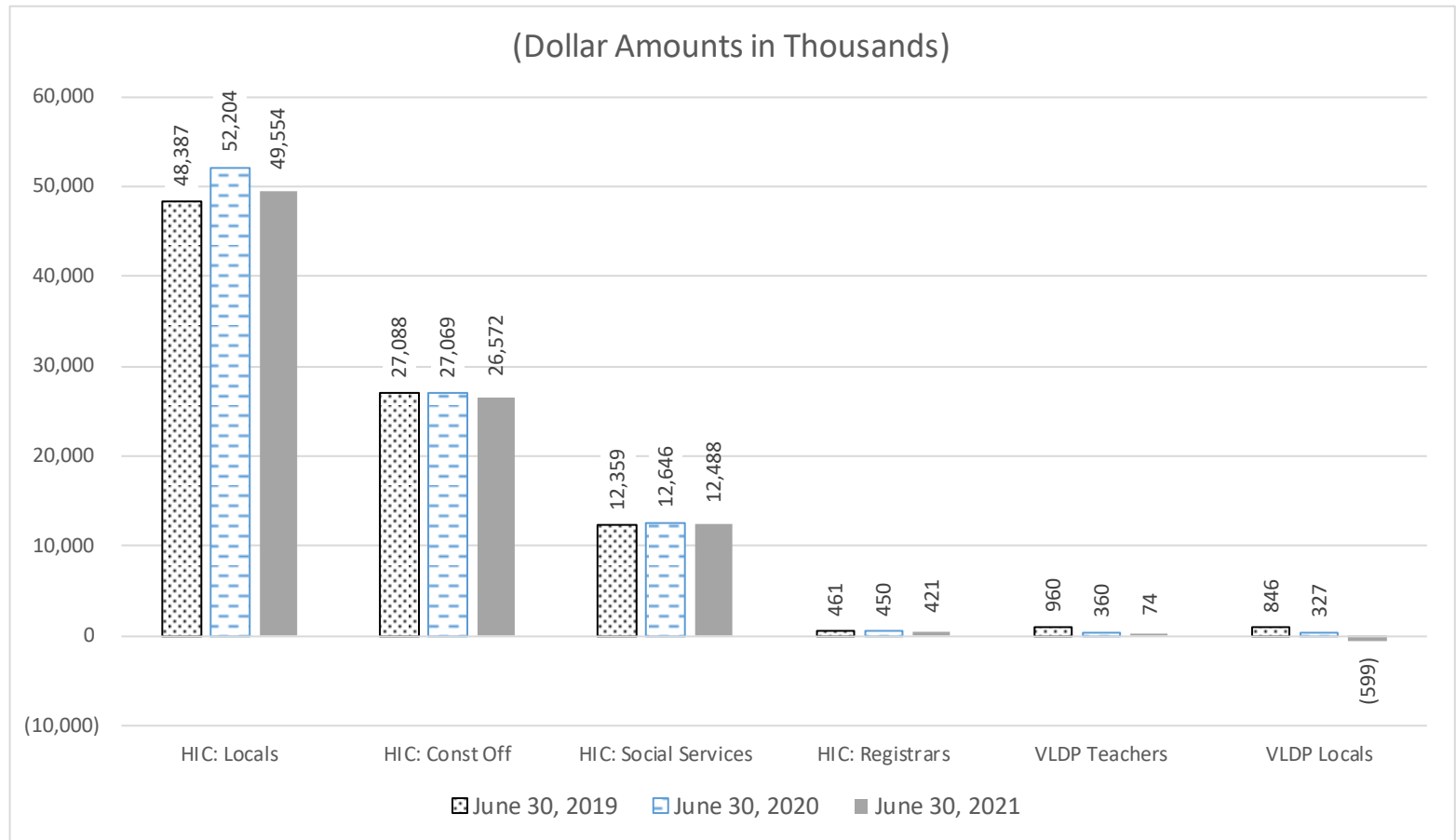
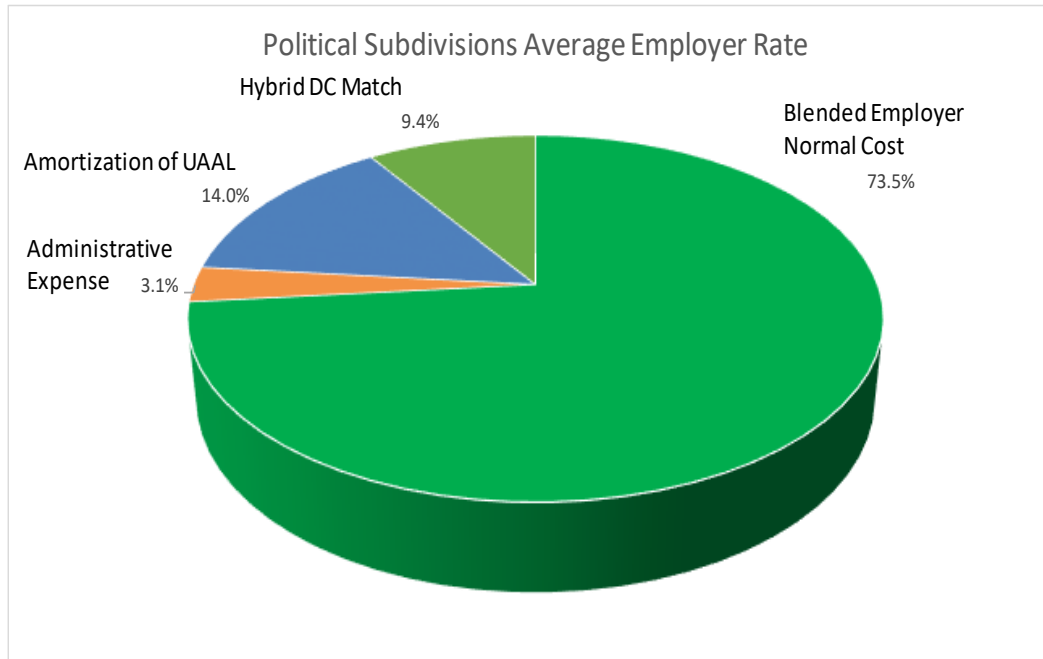


Chart of unfunded liabilities is also shown in appendix on slide 49.

Source of Change in UAAL

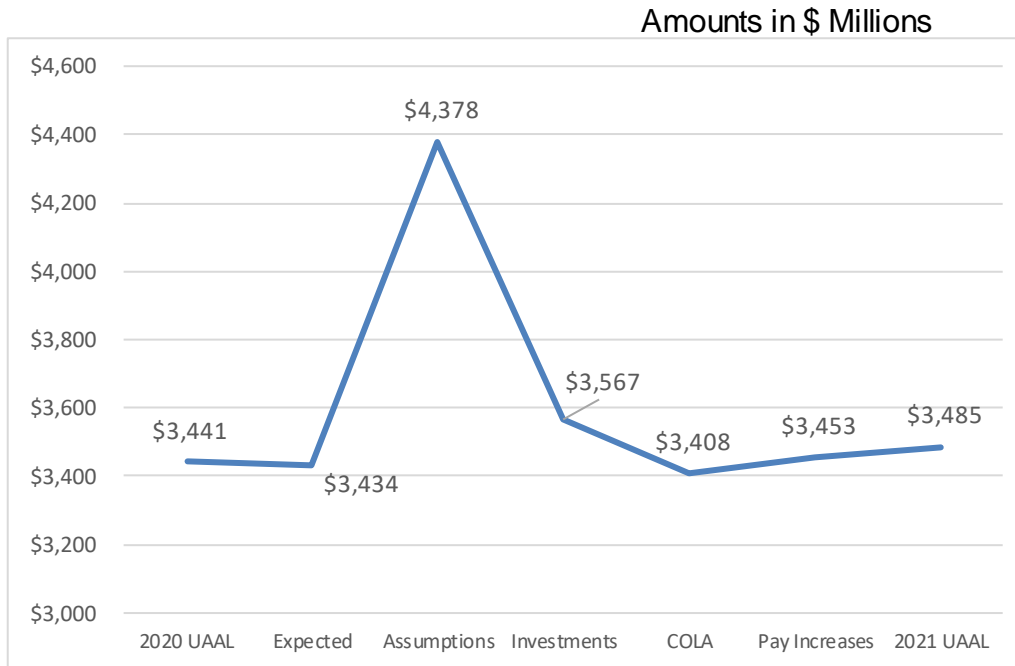
Breakdown of Employer Costs



- Normal cost rate remains relatively stable and continues to trend downward in plans that have hybrid membership.
- While over 50% of the employer rate for most of the statewide plans is dedicated to paying down unfunded liabilities, only 14% is dedicated to paying down liabilities for the locals in aggregate.
- Understanding the impacts of gains and losses is crucial in managing the pay-off of unfunded liabilities for some Political Subdivisions.

Blended Employer Normal Cost Rate	6.46%
Administrative Expense	0.27%
Amortization of UAAL	1.23%
Total Defined Benefit Rate	7.97%
DC Contribution for Hybrid Members	0.82%
Total Employer Pension Rate	8.79%

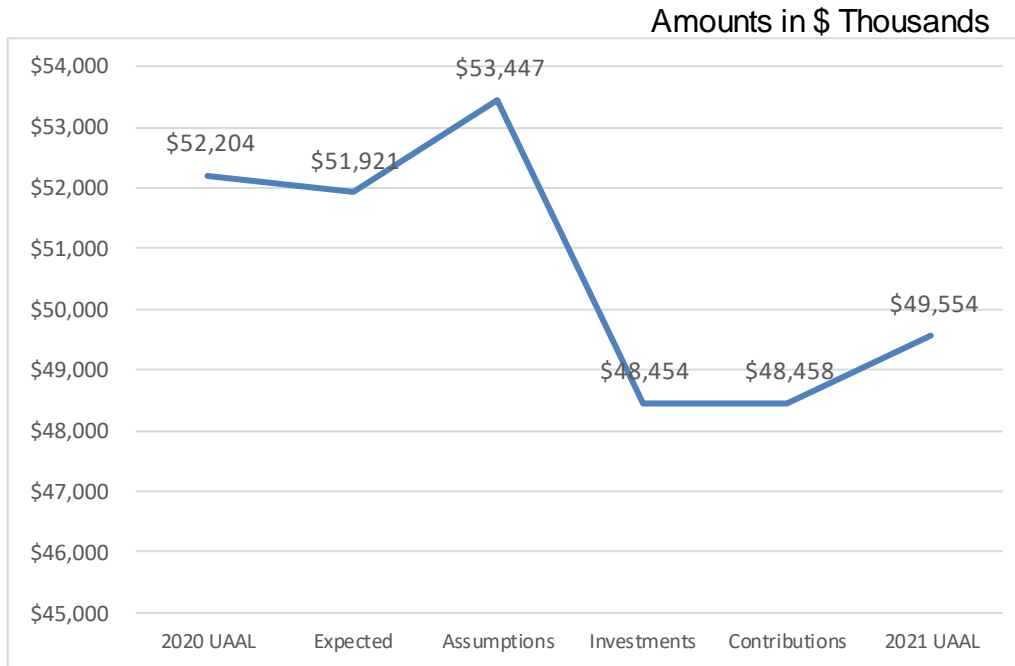
Change in UAAL due to FYE June 30, 2021 Plan Experience Political Subdivisions



Change in UAAL by Source	
Expected	\$ (7)
Assumptions	944
Investments	(811)
COLA	(159)
Pay Increases	45
All Else	32
Total	44

- The increases in liability associated with assumption and method changes from the experience study were almost offset by the investment gain.
- Change in assumptions had larger impact on plans with Hazardous Duty members.
- Similarly, higher-than-expected pay increases were partially offset by lower-than-expected COLAs.
- The Political Subdivisions also had more retirements than expected which caused a loss of \$70.9 million.

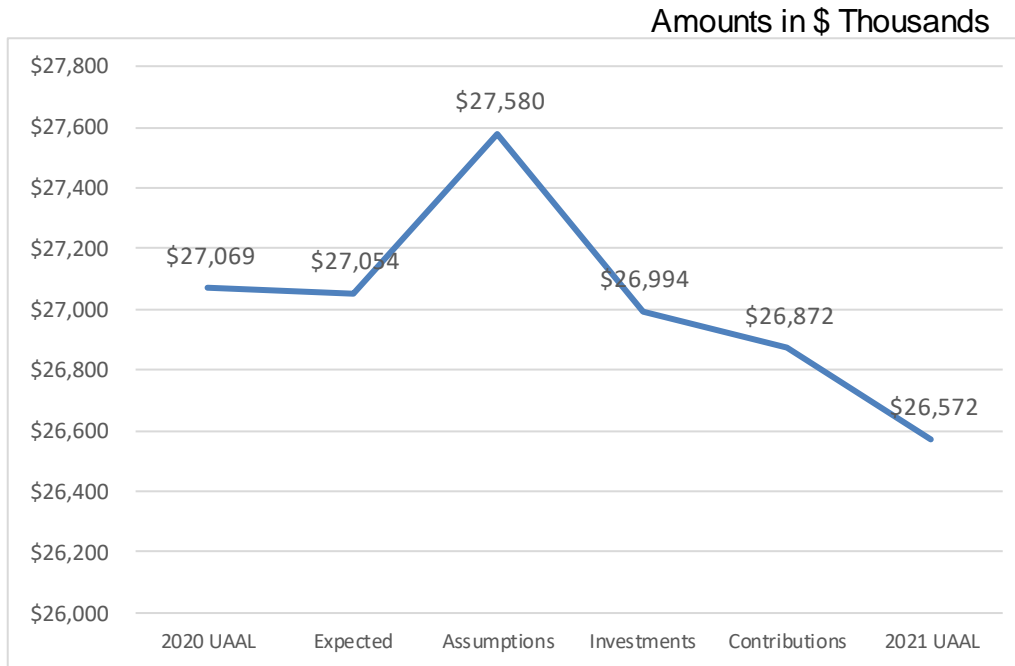
Change in UAAL due to FYE June 30, 2021 Plan Experience Health Insurance Credit - Political Subdivisions



Change in UAAL by Source	
Expected	\$ (283)
Assumptions	1,526
Investments	(4,993)
Contributions	4
All Else	1,096
Total	(2,650)

- The increases in liability associated with assumption and method changes from the experience study were more than offset by the investment gain.
- All other changes, including the demographic changes, resulted in increasing the liabilities by approximately \$1,096 thousand.

Change in UAAL due to FYE June 30, 2021 Plan Experience Health Insurance Credit - Constitutional Officers



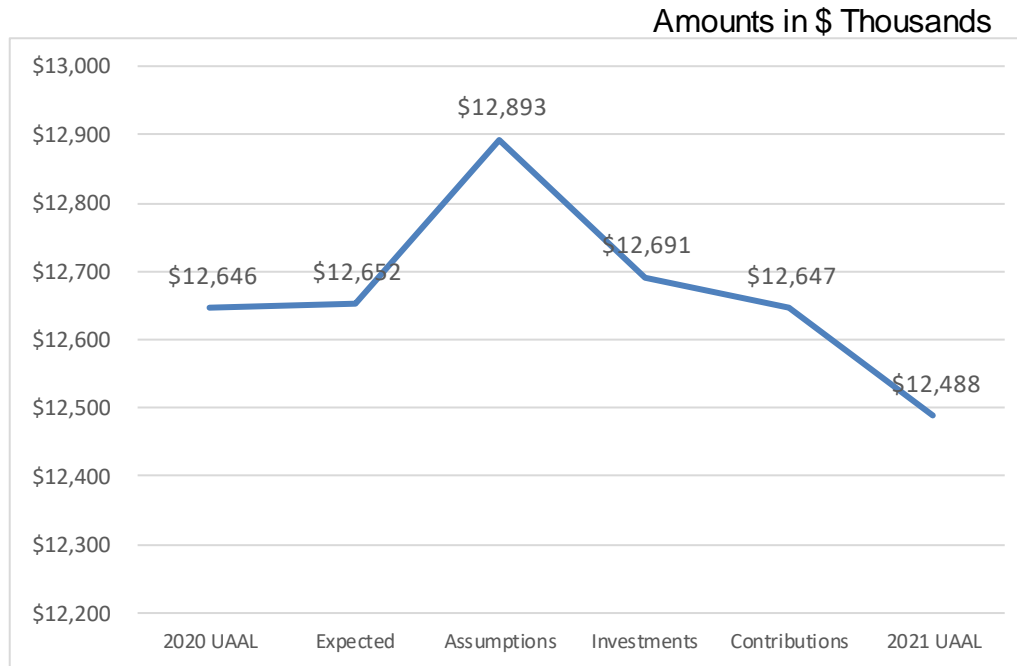
Change in UAAL by Source	
Expected	\$ (15)
Assumptions	526
Investments	(586)
Contributions	(122)
All Else	(300)
Total	(497)

- The increases in liability associated with assumption and method changes from the experience study were more than offset by the investment gain and employer contributions.
- All other changes, including the demographic changes, resulted in lowering the liabilities by approximately \$300 thousand.

Change in UAAL due to FYE June 30, 2021 Plan Experience



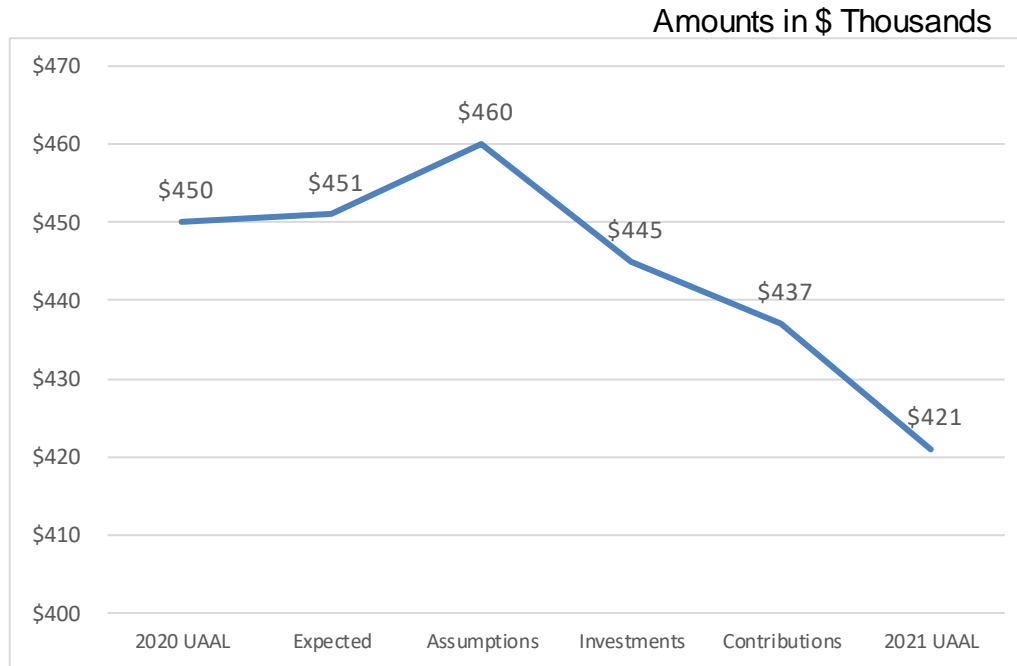
Health Insurance Credit - Social Services Employees



Change in UAAL by Source	
Expected	\$ 6
Assumptions	241
Investments	(202)
Contributions	(44)
All Else	(159)
Total	(158)

- The increases in liability associated with assumption and method changes from the experience study were more than offset by the investment gain and employer contributions.
- All other changes, including the demographic changes, resulted in lowering the liabilities by approximately \$159 thousand.

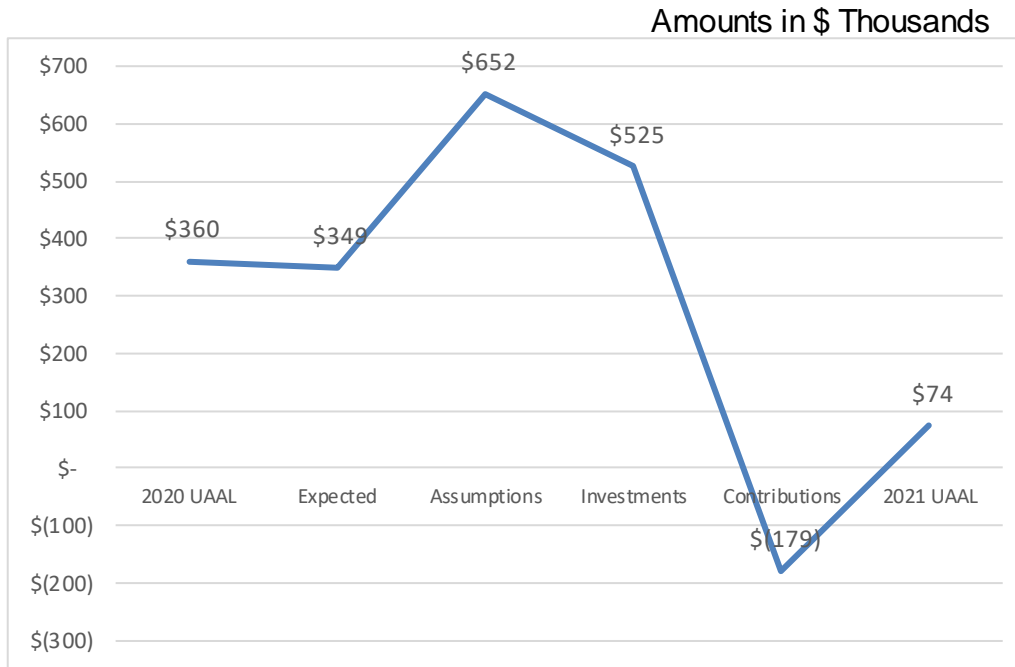
Change in UAAL due to FYE June 30, 2021 Plan Experience Health Insurance Credit - Registrars



Change in UAAL by Source		
Expected	\$	1
Assumptions		9
Investments		(15)
Contributions		(8)
All Else		(16)
Total		(29)

- The increases in liability associated with assumption and method changes from the experience study were more than offset by the investment gain and employer contributions.
- All other changes, including the demographic changes, resulted in lowering the liabilities by approximately \$16 thousand.

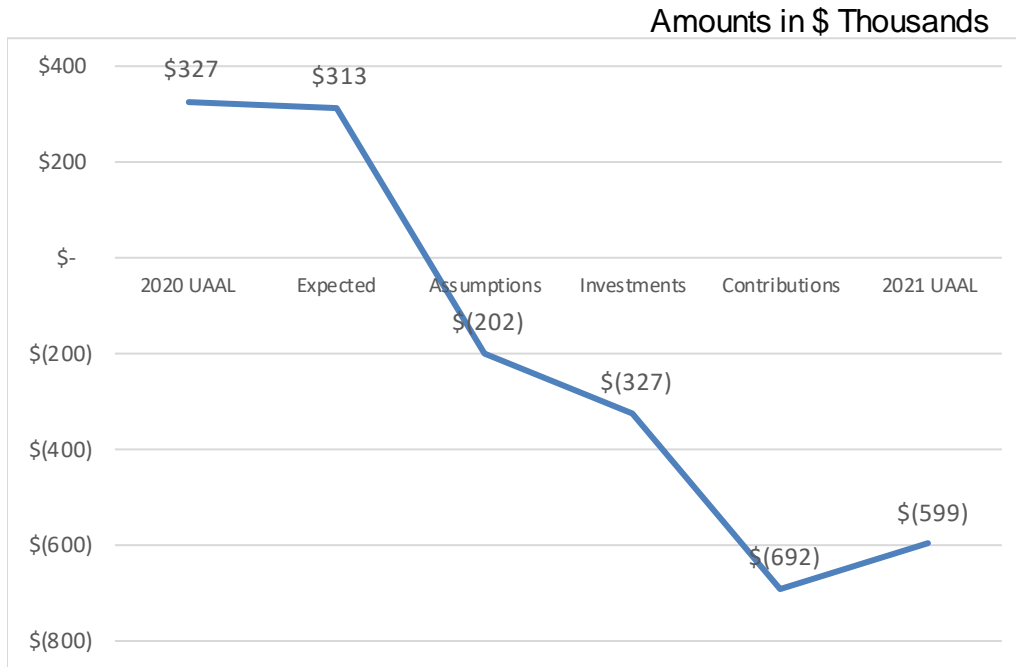
Change in UAAL due to FYE June 30, 2021 Plan Experience VLDP - Teachers



Change in UAAL by Source	
Expected	\$ (11)
Assumptions	303
Investments	(127)
Contributions	(704)
All Else	253
Total	(286)

- The increases in liability associated with assumption and method changes from the experience study were more than offset by the investment gain and employer contributions.
- All other changes, including the demographic changes, resulted in increasing the liabilities by approximately \$253 thousand.

Change in UAAL due to FYE June 30, 2021 Plan Experience VLDP - Political Subdivisions



Change in UAAL by Source	
Expected	\$ (14)
Assumptions	(515)
Investments	(125)
Contributions	(365)
All Else	93
Total	(926)

- The decreases in liability associated with assumption and method changes from the experience study together with the investment gain and employer contributions lowered liabilities such that there is now a negative unfunded.
- Method change to mid-year decrements lowered costs due to the limited term nature of the benefit.
- All other changes, including the demographic changes, resulted in increasing the liabilities by approximately \$93 thousand.

Thank you



Questions?

Appendix

Detailed Results

Changes In Coverage Since Last Valuation (Pension)



Coverage Expanded to EMTs, Firefighters and Police Officers at 1.70% Hazardous Duty Benefits		
Employer	Employee Group	Change in Employer Contribution Rate
Charles City County (55118)	Fire and EMT	1.94%
Clarke County (55121)	Fire and EMT	2.38%
Town of Kenbridge (55385)	Law Enforcement Officers	6.36%
Coverage Expanded to EMTs, Firefighters and Police Officers at 1.85% Hazardous Duty Benefits		
Employer	Employee Group	Change in Employer Contribution Rate
Buckingham County (55114)	EMT	0.78%
Carroll County (55117)	Fire and EMT	2.30%
Gloucester County (55136)	Law Enforcement Officers	0.75%
Isle of Wight County (55146)	Law Enforcement Officers, Fire and EMT	0.54%
King George County (55148)	Law Enforcement Officers, Fire and EMT	0.93%
Page County (55169)	Fire and EMT	1.82%
Town of Christiansburg (55327)	Law Enforcement Officers, Fire and EMT	1.04%
New Political Subdivisions in VRS		
Employer		New Employer Contribution Rate
Orange County Broadband Authority (55854)		5.54%
Blue Ridge Resource Authority (55856)		6.63%

Note: Pittsylvania County Service Authority (55402) no longer has active employees as of June 30, 2021.

Changes In Coverage Since Last Valuation (HIC)



Schools electing to offer extra \$1 per month of service	
Fiscal Year 2021	
Employer	Employer Contribution Rate
Fluvanna County Public Schools (55532)	0.90%
Grayson County School Board (55538)	2.72%
Nelson County Public Schools (55562)	1.98%
Richmond County School Board (55579)	0.82%
Stafford County School Board (55589)	0.48%
Westmoreland Co School Bd (55596)	2.12%
Wise County School Board (55597)	1.07%
Fauquier County School Board (55611)	0.90%
Manassas City Schools (55632)	0.49%
City Of Salem Schools (55635)	1.11%
Newport News Public Schools (55637)	0.24%
Williamsburg-James City Co Sch (55802)	0.46%

Pension Contribution Rates



Fiscal Years Ending June 30	2019/2020	2021/2022	2023/2024
Actuarial Valuation Date	June 30, 2017	June 30, 2019	June 30, 2021
	Board & General Assembly Approved	Board & General Assembly Approved	Submitted for Approval
Pension Plan			
State	13.52%	14.46%	14.13%
Teachers	15.68%	16.62%	14.76%
SPORS	24.88%	26.33%	29.98%
VaLORS	21.61%	21.90%	24.60%
JRS	34.39%	29.84%	30.67%
Political Subdivisions (Average rates)	7.60%	8.33%	8.79%

Contribution rates for retirement systems are net of 5% and 4% member contribution rates for Plan 1 and 2 and Hybrid Plan respectively.

Employer rate for Hybrid defined contribution component assumes employer match to DC portion of the Hybrid Plan based on DC rates for each individual employer observed during prior fiscal year.

OPEB Contribution Rates



Fiscal Years Ending June 30,	2019/2020	2021/2022	2023/2024
Actuarial Valuation date	June 30, 2017	June 30, 2019	June 30, 2021
OPEB Plan	Board & General Assembly Approved	Board & General Assembly Approved	Submitted for Approval
Group Life Insurance*	1.31%	1.34%	1.19%
Health Insurance Credit (HIC) Program			
▪ State Employees	1.17%	1.12%	1.04%
▪ Teachers	1.20%	1.21%	1.21%
▪ Participating Political Subdivisions**	0.32%	0.59%	0.72%
▪ Constitutional Officers	0.38%	0.36%	0.36%
▪ Social Service Employees	0.43%	0.38%	0.37%
▪ Registrars	0.39%	0.39%	0.32%
Virginia Sickness and Disability Program (VSDP)	0.62%	0.61%	0.56%
Virginia Local Disability Program (VLDP)			
▪ Teachers	0.41%	0.47%	0.47%
▪ Political Subdivisions	0.72%	0.83%	0.85%

* The contribution rate for GLI includes an adjustment of .34% for active group life insurance for the 2017 and 2019 valuation dates and an adjustment of .35% for the 2021 valuation date.

** Average of individual rates. The contribution rate includes the impact of HB 1513 (2020).

Unfunded Pension Liabilities



System	Unfunded Liability Using Actuarial Value of Assets (\$'s Thousands)		
	2020	2021	
		Before Assumption/Plan Changes	After Assumption/Plan Changes
State	\$ 6,417,661	\$ 5,710,835	\$ 6,112,670
Teachers	\$ 13,278,662	\$ 11,145,625	\$ 12,021,814
SPORS	\$ 325,590	\$ 330,233	\$ 389,314
VaLORS	\$ 712,025	\$ 670,421	\$ 738,351
Judicial	\$ 111,633	\$ 81,299	\$ 132,738
Total Statewide Systems	\$ 20,845,571	\$ 17,938,413	\$ 19,394,887
Locals Aggregate	\$ 3,441,151	\$ 2,536,717	\$ 3,485,332
Total Fund	\$ 24,286,722	\$ 20,475,130	\$ 22,880,219

System	Unfunded Liability using Market Value of Assets (\$'s Thousands)		
	2020	2021	
		Before Assumption/Plan Changes	After Assumption/Plan Changes
State	\$ 6,981,267	\$ 3,213,719	\$ 3,615,554
Teachers	\$ 14,385,554	\$ 6,253,529	\$ 7,129,718
SPORS	\$ 351,662	\$ 217,417	\$ 276,498
VaLORS	\$ 758,084	\$ 470,299	\$ 538,229
Judicial	\$ 128,417	\$ 8,817	\$ 60,256
Total Statewide Systems	\$ 22,604,984	\$ 10,163,781	\$ 11,620,255
Locals Aggregate	\$ 4,076,749	\$ (333,429)	\$ 615,186
Total Fund	\$ 26,681,733	\$ 9,830,352	\$ 12,235,441

The Political Subdivisions Aggregate unfunded liabilities do not include Political Subdivisions with no active members.

Unfunded Liability Amortization Political Subdivisions in Aggregate



- Breakdown of UAAL based on actuarial value of assets

	Aggregate Unfunded Accrued Liability (UAL) (\$'s Thousands)		
	Original Amount	Outstanding Balance as of June 30, 2021	Remaining Amortization Period as of June 30, 2021
Legacy Unfunded 6/30/2013	\$4,490,061	\$4,729,247	22 years
2014 (Gain) Loss Base	(\$849,477)	(\$763,130)	13 years
2015 (Gain) Loss Base	(\$624,072)	(\$576,042)	14 years
2016 (Gain) Loss Base	(\$247,959)	(\$234,026)	15 years
2017 (Gain) Loss Base	(\$393,166)	(\$374,842)	16 years
2018 (Gain) Loss Base	(\$223,765)	(\$217,886)	17 years
2019 (Gain) Loss Base	\$895,629	\$882,434	18 years
2020 (Gain) Loss Base	\$38,398	\$38,404	19 years
2021 (Gain) Loss Base	\$1,173	\$1,173	20 years
Total		\$3,485,332	

Unfunded OPEB Liabilities



System	Unfunded Liability using Actuarial Value of Assets (\$'s Thousands)		
	2020	2021	
		Before Assumption/Plan Changes	After Assumption/Plan Changes
Group Life	\$ 1,677,898	\$ 1,582,751	\$ 1,389,277
HIC State	\$ 894,542	\$ 841,466	\$ 852,830
HIC Teachers	\$ 1,280,589	\$ 1,280,412	\$ 1,293,999
VSDP	\$ (256,367)	\$ (292,733)	\$ (297,276)
HIC Locals	\$ 52,204	\$ 48,028	\$ 49,554
HIC Constitutional Officers	\$ 27,069	\$ 26,046	\$ 26,572
HIC Social Services	\$ 12,646	\$ 12,247	\$ 12,488
HIC Registrars	\$ 450	\$ 412	\$ 421
VLDP Teachers	\$ 360	\$ (229)	\$ 74
VLDP Locals	\$ 327	\$ (84)	\$ (599)

System	Unfunded Liability using Market Value of Assets (\$'s Thousands)		
	2020	2021	
		Before Assumption/Plan Changes	After Assumption/Plan Changes
Group Life	\$ 1,728,029	\$ 1,304,864	\$ 1,111,390
HIC State	\$ 899,066	\$ 825,440	\$ 836,804
HIC Teachers	\$ 1,286,380	\$ 1,263,508	\$ 1,277,095
VSDP	\$ (241,350)	\$ (357,273)	\$ (361,816)
HIC Locals	\$ 52,204	\$ 48,028	\$ 49,554
HIC Constitutional Officers	\$ 27,069	\$ 26,046	\$ 26,572
HIC Social Services	\$ 12,646	\$ 12,247	\$ 12,488
HIC Registrars	\$ 450	\$ 412	\$ 421
VLDP Teachers	\$ 447	\$ (789)	\$ (486)
VLDP Locals	\$ 433	\$ (648)	\$ (1,163)

Funded Ratio



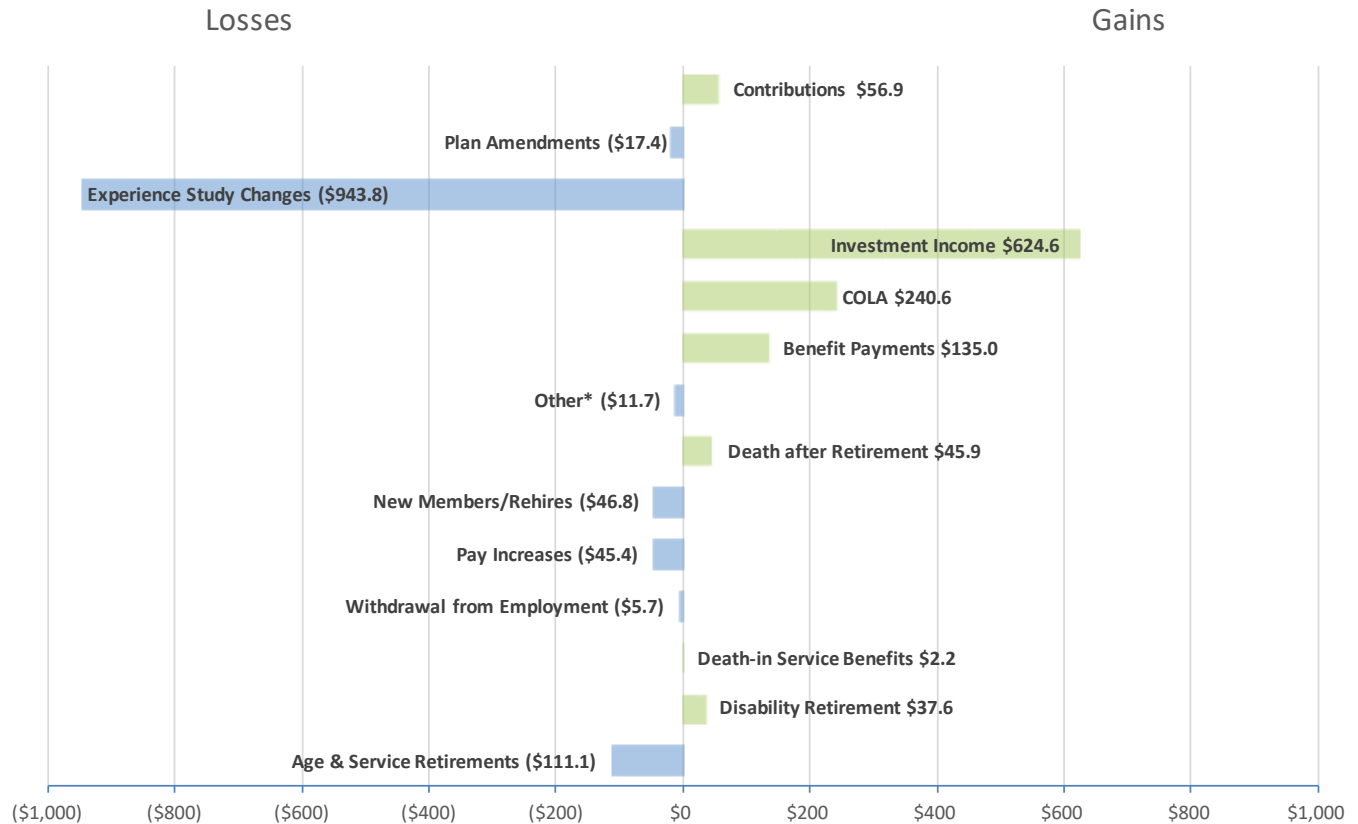
System	Funded Ratio based on:			
	Actuarial Value of Assets		Market Value of Assets	
	2020	2021	2020	2021
Pension:				
Political Subdivisions				
▪ Political Subdivisions with no Enhanced Hazardous Duty	93.9%	95.6%	91.2%	107.2%
▪ Political Subdivisions with Enhanced Hazardous Duty	84.6%	85.1%	82.1%	95.5%
▪ All Political Subdivisions	86.4%	87.2%	83.9%	97.7%
▪ All Political Subdivisions < 100% funded	84.5%	85.0%	82.2%	92.6%
OPEB:				
Health Insurance Credit (HIC) Program				
▪ Political Subdivisions	31.9%	40.1%	31.9%	40.1%
▪ Constitutional Officers	15.9%	20.1%	15.9%	20.1%
▪ Social Services Employees	13.3%	15.8%	13.3%	15.8%
▪ Registrars	21.9%	28.6%	21.9%	28.6%
Virginia Local Disability Program (VLDP)				
▪ Teachers	89.2%	98.5%	86.6%	109.5%
▪ Political Subdivisions	91.3%	112.0%	88.5%	123.2%

Note: Aggregate funded ratio is sum of all assets divided by sum of all liabilities. *All pension plans* are those with active members.

- The funding policy is designed to increase the funded ratio if assumptions are met. Generally larger improvements are expected for plans which are not as well funded.
- Funded status on an actuarial basis generally improved due to higher-than-expected returns phased in over 5 years.
- Market value returns are immediately reflected resulting in a higher funded ratio.

2019-2021 Aggregate Pension Gain/Loss Analysis

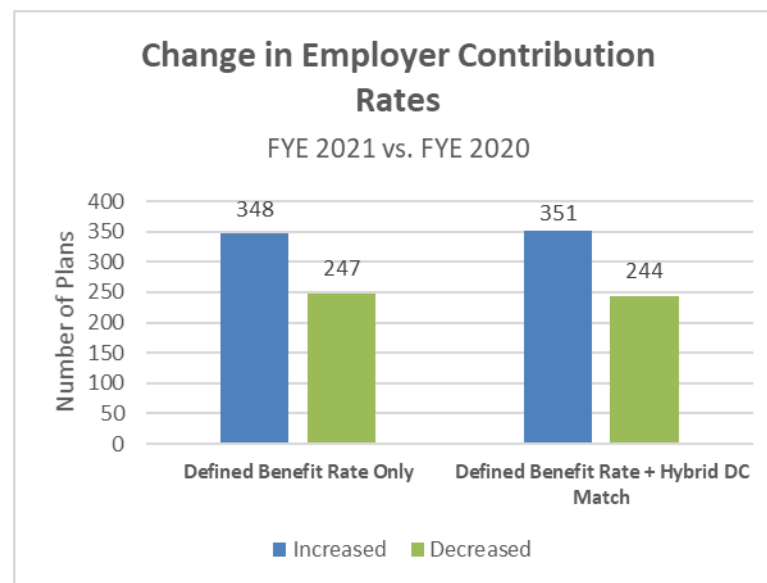
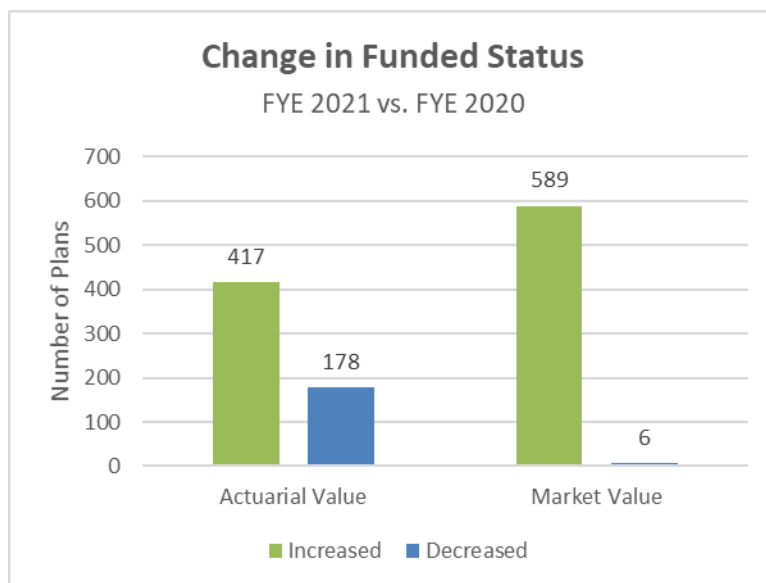
(Dollars in Millions)



Losses are events which increase the UAAL more than expected.
 Gains are events which decrease the UAAL more than expected.

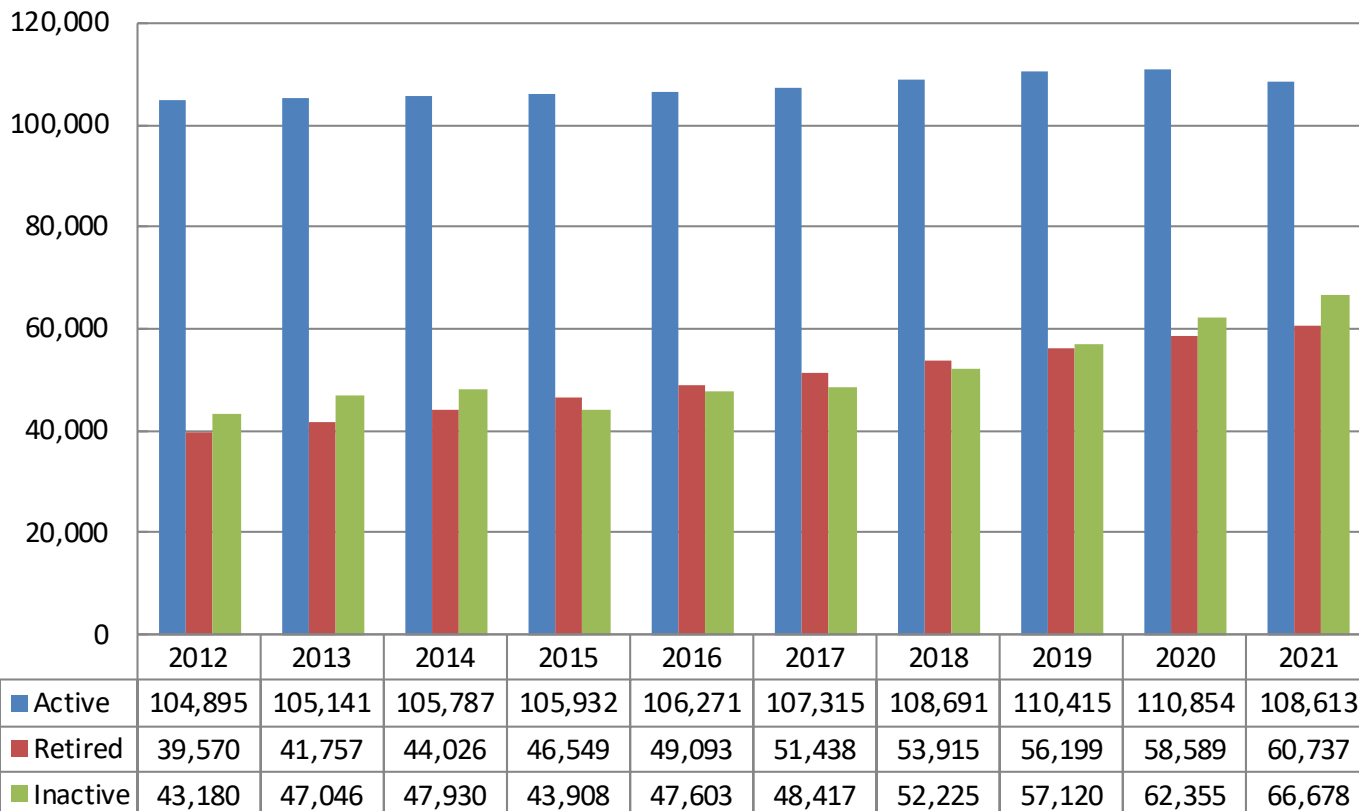
* e.g., data remediation, service purchase, demographic changes, etc.

Summary of Political Subdivision Changes



Note: 595 localities were enrolled in both 2021 and 2020.

Total Membership Political Subdivisions in Aggregate



0.4% average increase in active members since 2012; -2.0% increase for 2021.

4.9% average increase in retired members since 2012; 3.7% increase for 2021.

2.7 actives per retiree 9 years ago; 1.8 actives per retiree now. As plans mature, retiree population becomes larger portion of overall population.

“Retired” includes retirees, disabled retirees and beneficiaries.

“Inactive” includes deferred vested and non-vested members with employee contributions in plan.

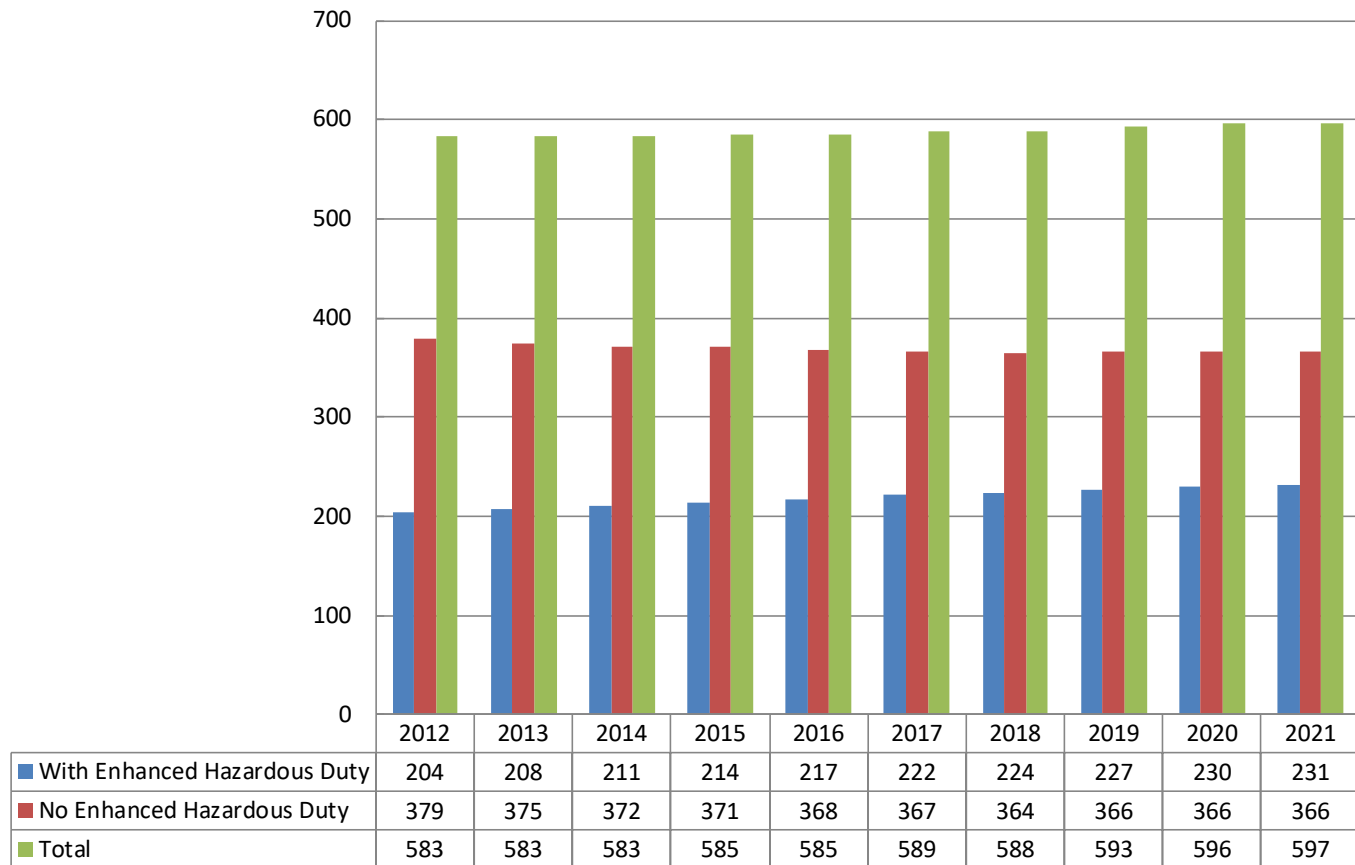
Average Age, Service, Pay and Benefits



Political Subdivisions in Aggregate

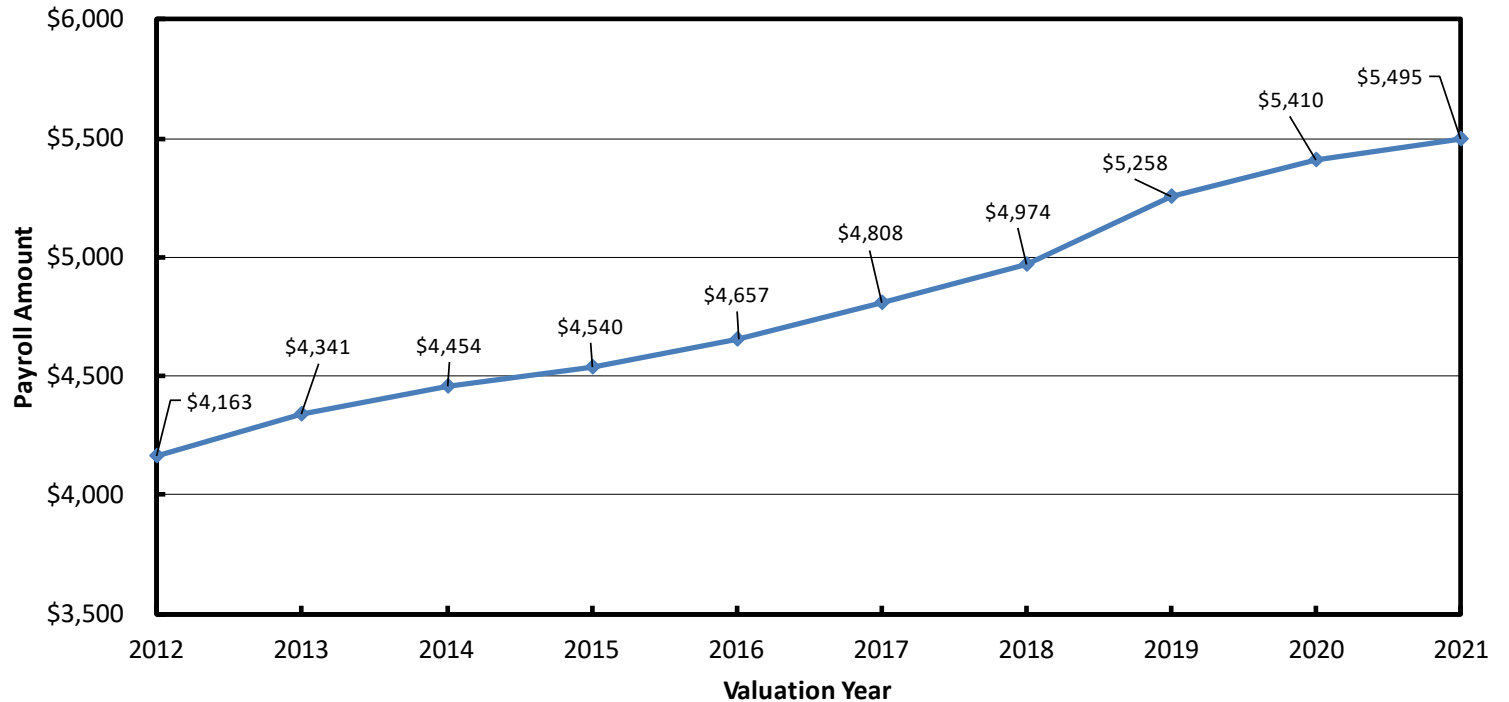
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Actives:										
Average Age	46.2	46.3	46.3	46.3	46.2	46.1	46.1	45.9	45.9	46.0
Average Vesting Service	11.0	11.1	11.2	11.1	11.0	11.0	10.8	10.6	10.5	10.7
Average Entry Age	36.2	36.2	36.2	36.2	36.2	36.3	36.4	36.5	36.5	36.5
Average pay	\$39,683	\$41,287	\$42,101	\$42,859	\$43,819	\$44,806	\$45,758	\$47,625	\$48,799	\$50,590
Retirees in the past year:										
Average Age at Retirement	62.1	62.1	62.4	62.3	63.2	62.4	62.3	62.5	62.9	62.9
Average Service at Retirement	19.9	19.9	19.6	20.3	20.9	20.4	20.6	22.3	21.4	21.7
Average AFC at Retirement	\$44,728	\$44,240	\$45,642	\$45,865	\$48,574	\$48,371	\$50,593	\$51,460	\$52,813	\$52,245
Average VRS Benefit at Retirement (as a Percent of Pay)	33.8%	34.7%	33.5%	33.5%	34.7%	34.7%	35.1%	35.3%	34.3%	34.8%
Average VRS Benefit at Retirement	\$15,135	\$15,367	\$15,290	\$15,365	\$16,855	\$16,785	\$17,758	\$18,165	\$18,115	\$18,181
Average Social Security Benefit at Age 62 or Average Retirement Age if Later	\$14,736	\$14,640	\$14,988	\$15,480	\$16,524	\$16,248	\$16,668	\$16,944	\$17,484	\$17,220

Number of Political Subdivisions Covered in VRS



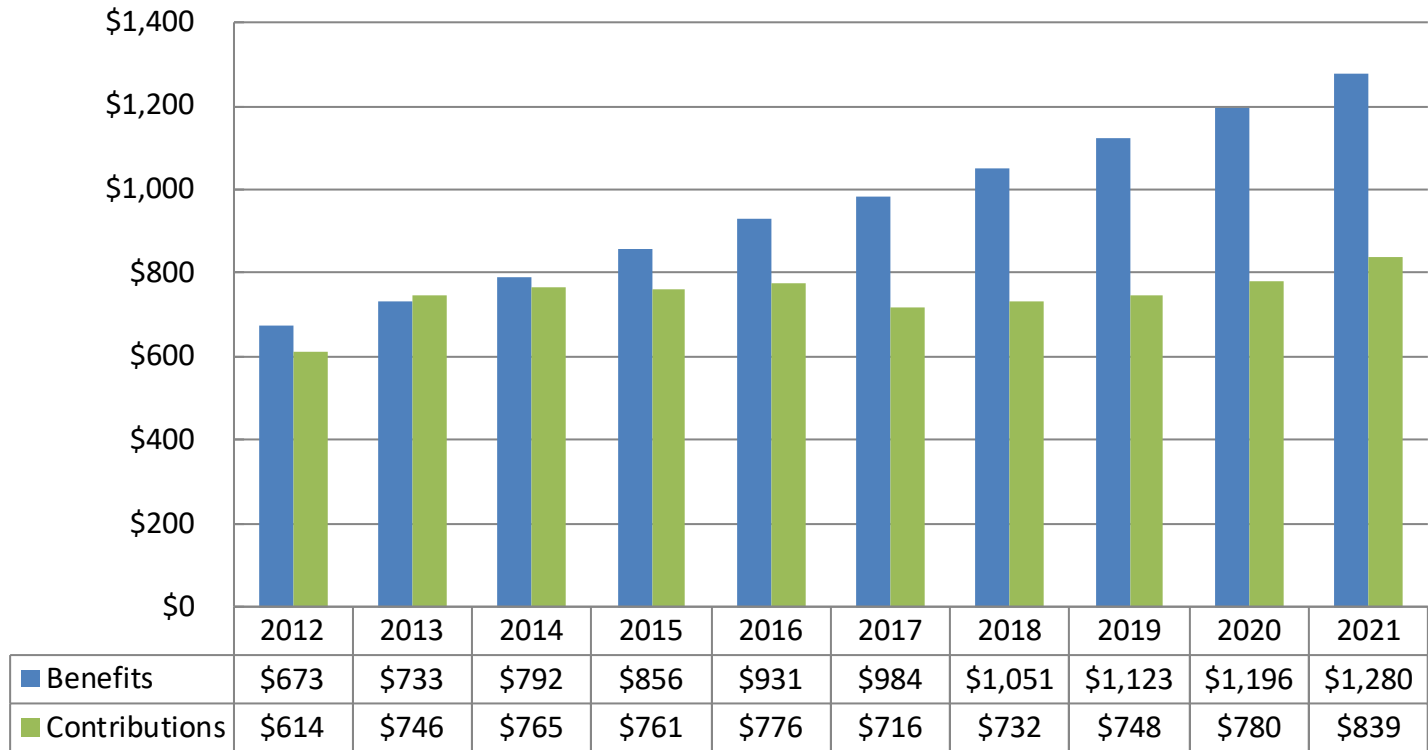
Note: Includes only political subdivisions with active members

Active Member Payroll Political Subdivisions in Aggregate (Dollars in Millions)



3.1% average increase in payroll since 2012; 1.6% increase for 2021.

Benefits and Contributions Political Subdivisions in Aggregate (Dollars in Millions)



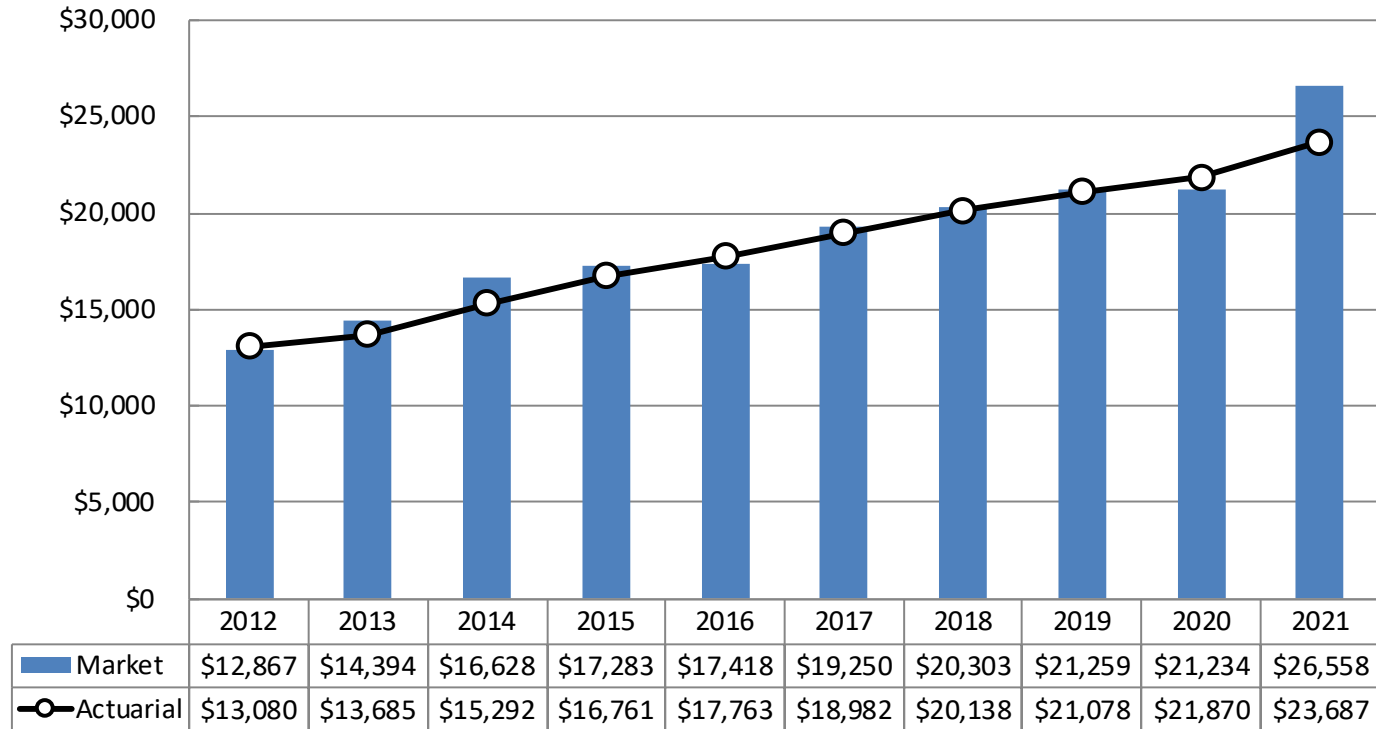
7.4% average increase in benefits since 2012; 7.0% increase for 2021.

3.5% average increase in contributions since 2012; 7.5% increase for 2021.

Assets



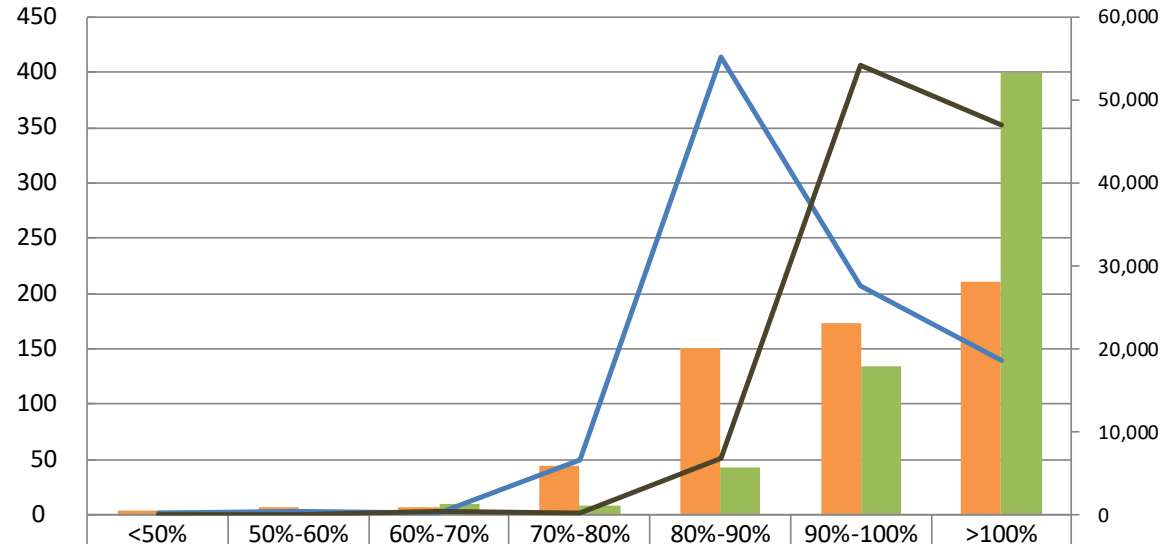
Political Subdivisions in Aggregate (Dollars in Millions)



	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Market Return	1.25%	11.75%	15.72%	4.53%	1.90%	12.10%	7.50%	6.70%	1.40%	27.50%
Actuarial Return	1.18%	4.52%	11.94%	10.26%	7.00%	8.52%	7.92%	6.67%	5.86%	10.50%

For fiscal year 2022, a return of approximately -9.87% is needed to achieve a 6.75% actuarial rate of return.

Funded Ratio Ranges By Employers

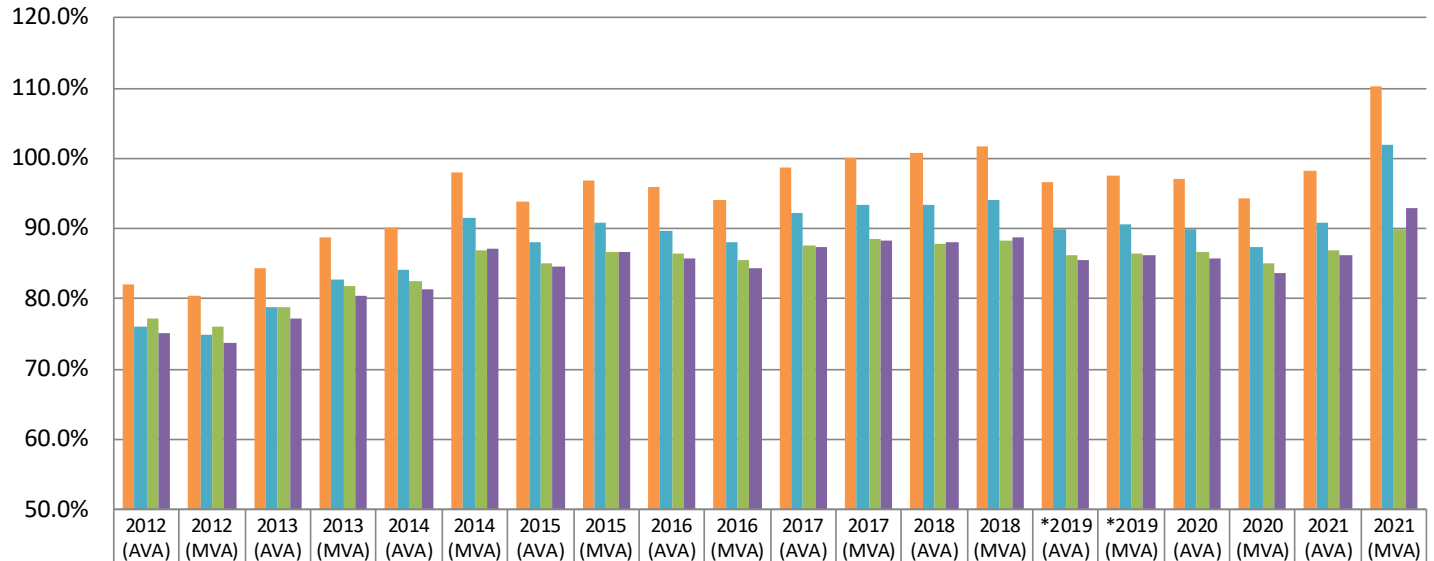


	<50%	50%-60%	60%-70%	70%-80%	80%-90%	90%-100%	>100%
Number of Employers AVA Funded Ratio	4	7	7	44	151	173	211
Number of Employers MVA Funded Ratio	3	1	9	8	43	134	399
Number of Employees AVA Funded Ratio	147	305	250	6,674	55,174	27,558	18,505
Number of Employees MVA Funded Ratio	72	75	413	167	6,689	54,266	46,931

Close to 90% of the political subdivision plans have a market value funded status greater than 90%, with over 35% of plans over 100% funded.

AVA = Actuarial Value of Assets; MVA = Market Value of Assets.

Average Funded Ratio



	2012 (AVA)	2012 (MVA)	2013 (AVA)	2013 (MVA)	2014 (AVA)	2014 (MVA)	2015 (AVA)	2015 (MVA)	2016 (AVA)	2016 (MVA)	2017 (AVA)	2017 (MVA)	2018 (AVA)	2018 (MVA)	*2019 (AVA)	*2019 (MVA)	2020 (AVA)	2020 (MVA)	2021 (AVA)	2021 (MVA)
All Plans	81.9%	80.5%	84.4%	88.7%	90.1%	97.9%	93.9%	96.8%	95.9%	94.0%	98.7%	100.1%	100.8%	101.6%	96.7%	97.5%	97.1%	94.3%	98.3%	110.3%
All Plans (Weighted**)	76.0%	74.8%	78.7%	82.8%	84.2%	91.6%	88.1%	90.9%	89.7%	88.0%	92.2%	93.4%	93.3%	94.1%	89.9%	90.7%	90.0%	87.4%	90.9%	101.9%
Plans <100% Funded	77.2%	76.0%	78.9%	81.8%	82.5%	86.8%	85.1%	86.7%	86.5%	85.5%	87.7%	88.5%	87.9%	88.3%	86.2%	86.5%	86.6%	85.1%	86.9%	89.8%
Plans <100% (Weighted**)	75.1%	73.8%	77.1%	80.4%	81.3%	87.2%	84.5%	86.6%	85.7%	84.4%	87.3%	88.3%	88.1%	88.7%	85.6%	86.2%	85.8%	83.6%	86.2%	92.9%

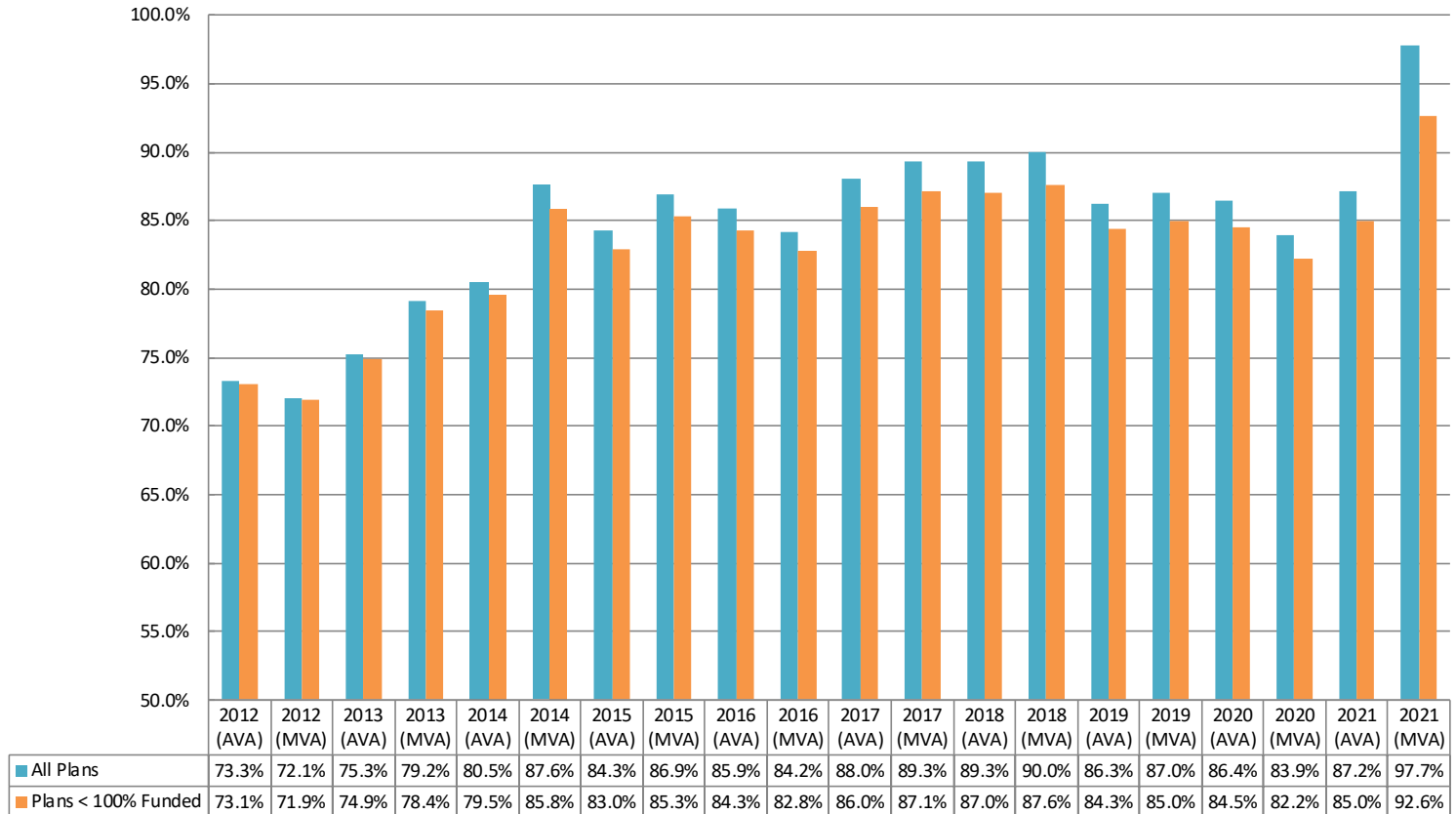
Note: Funding ratio for each location is determined first. Then the average for all locations is calculated.

AVA = Actuarial Value of Assets; MVA = Market Value of Assets.

*Excludes one new employer.

**Weighted averages are based on active headcounts. Plans with larger headcounts have a greater effect on the average. If you take a plan that is 100% funded and another that is 50% funded, the average funded ratio is 75%. If the 100% plan has 2000 members and the 50% plan has 4 members, the average funded ratio is 75% (not weighted) and 99.9% (weighted).

Aggregate Funded Ratio



Aggregate funded ratio is the sum of assets for all locations divided by sum of liabilities for all locations.

Includes only locations with active members.

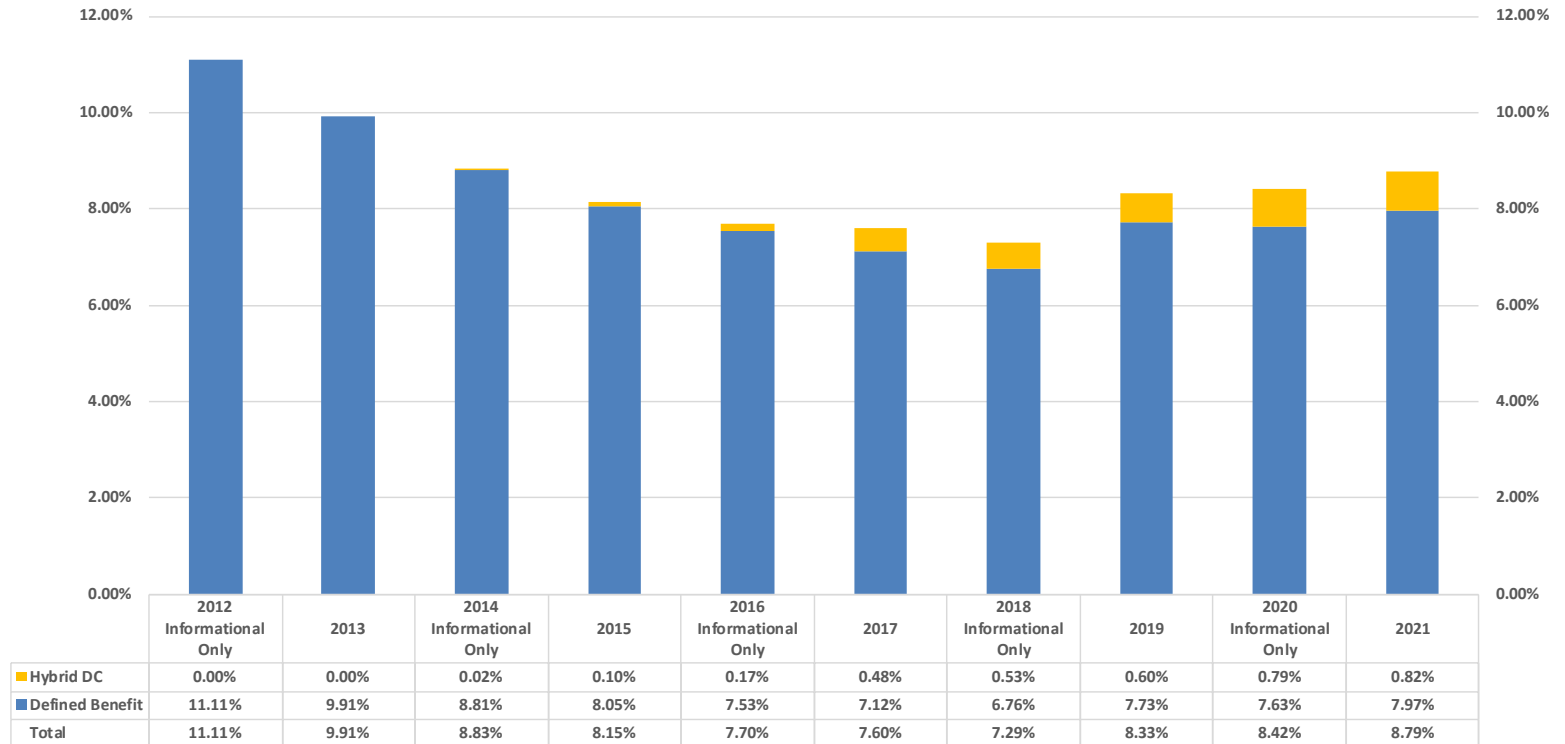
AVA = Actuarial Value of Assets; MVA = Market Value of Assets.

Average Funded Ratio by Market Asset Size (Dollars in Millions)



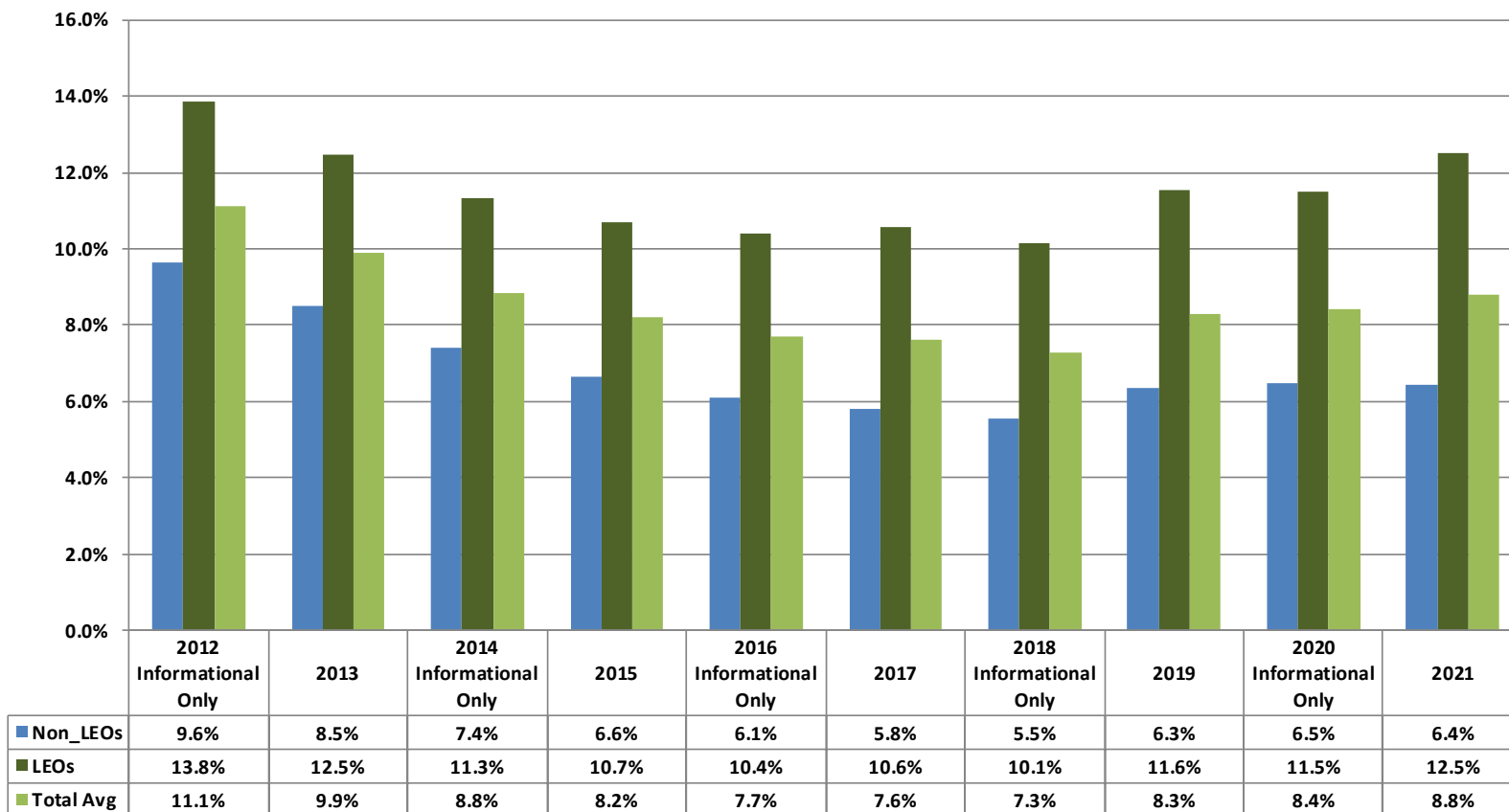
AVA = Actuarial Value of Assets; MVA = Market Value of Assets.

Average Employer Contribution Rates Including Defined Contribution Component of the Hybrid Plan



Rates net of member contribution rate.
Annual discount rates –7.00% from 2012 – 2018; 6.75% from 2019 – 2021

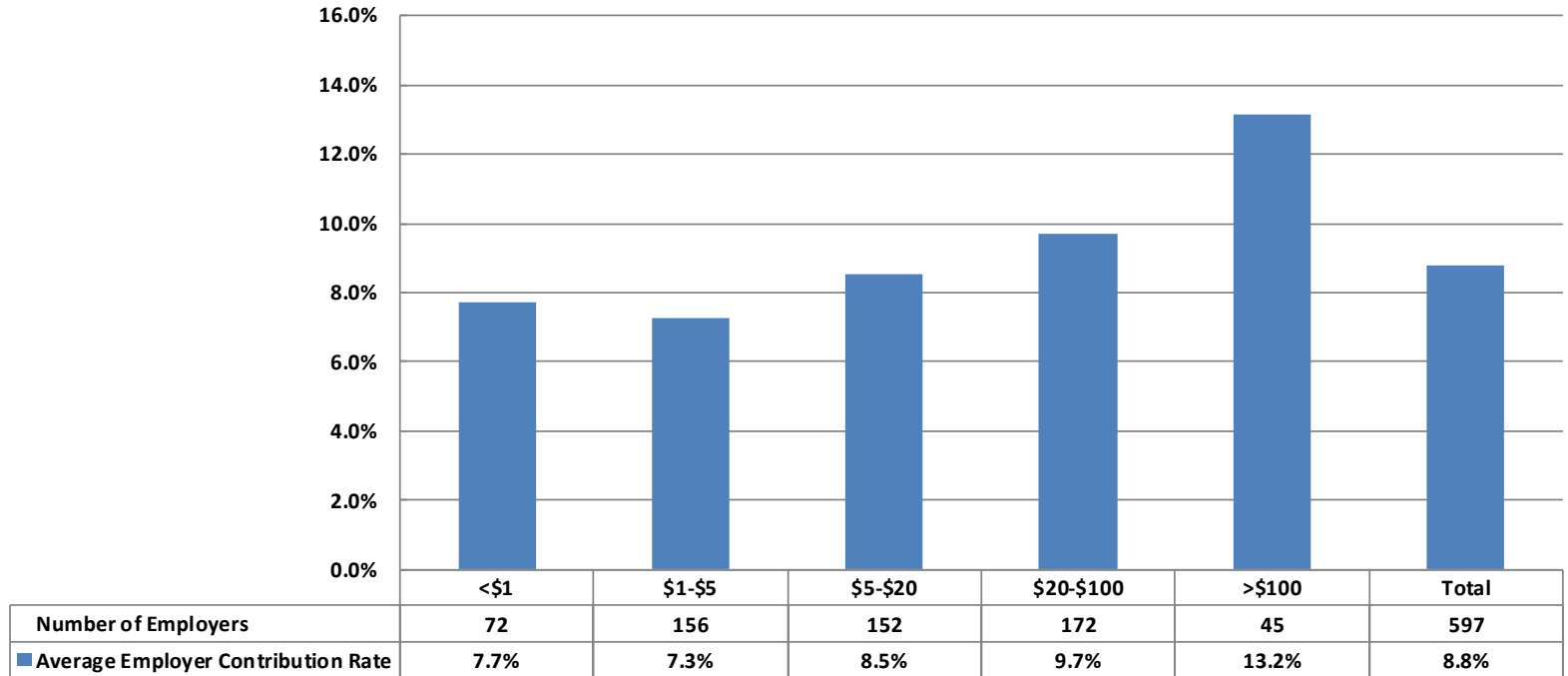
Average Employer Contribution Rates Plans With and Without Enhanced Hazardous Duty



Rates net of member contribution rate.

Rates beginning 2014 include employer contribution rate for Hybrid defined contribution component.

Average Employer Contribution Rates by Market Asset Size (Dollars in Millions)



Rates net of member contribution rate.
Includes employer rate for Hybrid defined contribution component.

Results for Top 10 Political Subdivisions



Political Subdivision	Market Value of Assets (\$ Millions)	Funded Ratio Based On		Fiscal Years 2021/2022	Informational Only	Fiscal Years 2023/2024		
		Actuarial Assets	Market Assets	Total Employer Rate for Retirement Plans	Total Employer Rate for Retirement Plans	Employer Rate for Defined Benefit Plan	Employer Rate for Hybrid DC Component	Total Employer Rate for Retirement Plans
				2019 Valuation	2020 Valuation	2021 Valuation		
Chesterfield County	\$1,196	81.4%	91.2%	15.03%	15.06%	16.47%	0.65%	17.12%
Henrico County	\$1,589	82.4%	92.4%	14.50%	14.76%	15.93%	0.60%	16.53%
Loudoun County	\$1,004	82.9%	92.9%	11.65%	12.45%	12.88%	0.84%	13.72%
Prince William County	\$1,524	84.5%	94.7%	14.68%	14.51%	15.04%	0.70%	15.74%
City of Alexandria	\$677	84.6%	94.9%	8.93%	10.29%	9.92%	1.08%	11.00%
City of Hampton	\$597	78.1%	87.6%	19.09%	18.92%	20.24%	0.56%	20.80%
City of Lynchburg	\$343	74.5%	83.5%	19.66%	19.27%	20.32%	0.64%	20.96%
City of Portsmouth	\$423	92.6%	103.8%	13.06%	12.57%	12.99%	0.53%	13.52%
City of Chesapeake	\$1,064	83.7%	93.9%	15.64%	15.71%	16.53%	0.64%	17.17%
City of Virginia Beach	\$2,123	80.6%	90.4%	16.29%	16.57%	17.57%	0.68%	18.25%

Contribution rates are net of 5% and 4% member contribution rates for Plan 1 and 2 and Hybrid Plan, respectively.

Employer rate for Hybrid defined contribution component assumes employer match to DC portion of the Hybrid Plan based on DC rates for each individual employer observed during prior fiscal year.

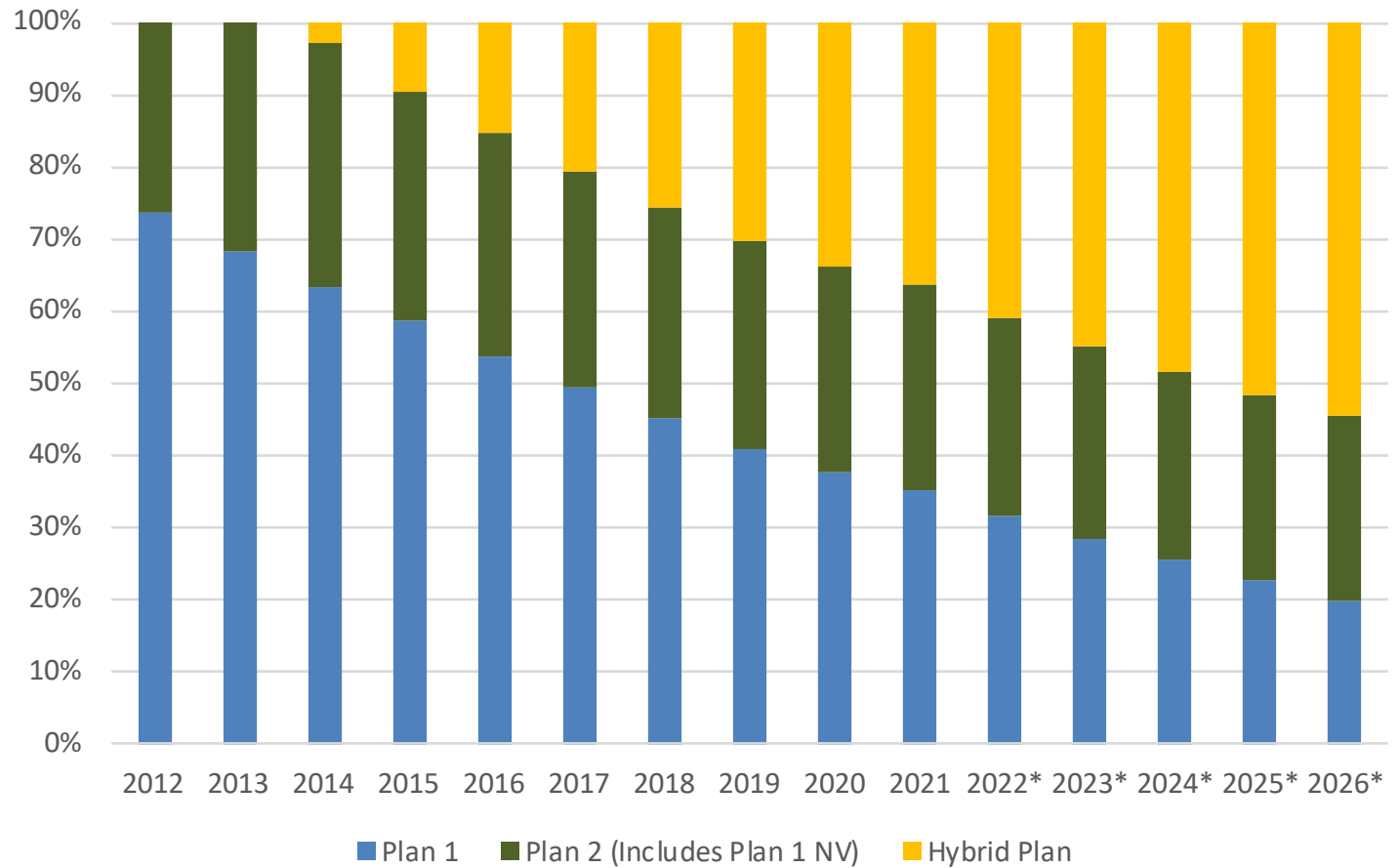
Rates increased for the top 10 political subdivisions due to changes in assumptions having larger impacts on plans with enhanced hazardous duty coverage.

Active Members Demographics by Plan (Payroll in Millions)



	June 30, 2021 Valuation Results - Locals in Aggregate					
	Pre Pension Reform	Post Pension Reform				Grand Total
	Plan 1 Vested 1/1/2013	Plan 1 Non-Vested 1/1/2013	Plan 2	Hybrid Plan	Pension Reform Plan Total	
Number Active Members <i>Percent of Total</i>	38,007	7,424	23,648	39,534	70,606 65.0%	108,613
Payroll Active Members <i>Percent of Total</i>	\$2,340	\$376	\$1,146	\$1,633	\$3,155 57.4%	\$5,495

Political Subdivision Plans Active Member Breakdowns



*Projected assuming number of actives remains constant

Health Insurance Credit



Health Insurance Credit Program (Dollars in Thousands)								
Actuarial Valuation as of June 30 Rates Applicable for FYE	Political Subdivisions		Constitutional Officers		Social Service Employees		Registrar	
	2020 Informational	2021 2023/2024	2020 Informational	2021 2023/2024	2020 Informational	2021 2023/2024	2020 Informational	2021 2023/2024
Number of Political Subdivisions	235	234	n/a	n/a	n/a	n/a	n/a	n/a
1 Participants								
a. Actives	37,398	36,426	13,608	13,435	6,307	6,147	254	265
b. Retirees	9,627	9,924	3,683	3,861	1,998	2,055	71	73
c. Disabled	1,638	1,716	332	325	167	165	2	2
d. Inactive, Vested	580	632	97	104	33	32	1	2
e. Total (1a through 1d)	49,243	48,698	17,720	17,725	8,505	8,399	328	342
2 Covered Payroll	\$1,488,073	\$1,507,656	\$733,934	\$747,716	\$303,771	\$304,315	\$12,961	\$14,843
3 Health Insurance Credit Payments	\$5,206	\$5,590	\$2,049	\$2,138	\$1,095	\$1,118	\$39	\$38
4 Assets (Actuarial = Market)	\$24,468	\$33,237	\$5,114	\$6,669	\$1,934	\$2,345	\$126	\$169
5 Actuarial Accrued Liability	\$76,672	\$82,791	\$32,183	\$33,241	\$14,580	\$14,833	\$576	\$590
6 Funded Ratio (4 ÷ 5)	31.91%	40.15%	15.89%	20.06%	13.26%	15.81%	21.88%	28.64%
7 UAAL (5 - 4)	\$52,204	\$49,554	\$27,069	\$26,572	\$12,646	\$12,488	\$450	\$421

Health Insurance Credit



Health Insurance Credit Program								
Actuarial Valuation as of June 30 Rates Applicable for FYE	Political Subdivisions		Constitutional Officers		Social Service Employees		Registrar	
	2020 Informational	2021 2023/2024	2020 Informational	2021 2023/2024	2020 Informational	2021 2023/2024	2020 Informational	2021 2023/2024
1 Employer Contribution Rate for FYE								
a. Employer Normal Cost Rate	0.15%	0.16%	0.11%	0.12%	0.11%	0.10%	0.15%	0.13%
b. Amortization Charge	0.44%	0.46%	0.24%	0.24%	0.28%	0.27%	0.22%	0.19%
c. Administrative Expenses	0.00%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
d. Additional Funding Contribution	0.02%	0.04%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
e. Plan Surcharge	0.03%	0.05%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
f. Total (1a through 1e)	0.64%	0.72%	0.35%	0.36%	0.39%	0.37%	0.37%	0.32%
Amortization Period	14 – 23	13 – 22	14 – 23	13 – 22	14 – 23	13 – 22	14 – 23	13 – 22

Health Insurance Credit Data Summary



Valuation Date	Number	Annual Covered Payroll (Dollars in Thousands)	Annual Average Pay	% Change in Average Pay
<u>PARTICIPATING POLITICAL SUBDIVISIONS</u>				
6/30/2021	36,426	\$ 1,507,656	\$ 41,390	4.02 %
6/30/2020	37,398	1,488,073	39,790	2.87 %
6/30/2019	37,448	1,440,731	38,679	(14.99)%
6/30/2018	23,034	1,048,068	45,501	3.52 %
6/30/2017	22,478	987,951	43,952	1.80 %
6/30/2016	21,846	943,186	43,174	2.32 %
<u>CONSTITUTIONAL OFFICERS</u>				
6/30/2021	13,435	\$ 747,716	\$ 55,654	3.19 %
6/30/2020	13,608	733,934	53,934	2.74 %
6/30/2019	13,302	698,316	52,497	3.78 %
6/30/2018	12,890	652,041	50,585	1.93 %
6/30/2017	12,706	630,541	49,625	1.16 %
6/30/2016	12,374	606,902	49,054	1.16 %
<u>SOCIAL SERVICE EMPLOYEES</u>				
6/30/2021	6,147	\$ 304,315	\$ 49,506	2.79 %
6/30/2020	6,307	303,771	48,164	1.95 %
6/30/2019	6,048	285,738	47,445	3.31 %
6/30/2018	5,713	261,274	45,733	1.69 %
6/30/2017	5,595	251,620	44,974	1.67 %
6/30/2016	5,418	239,648	44,232	1.87 %
<u>REGISTRARS</u>				
6/30/2021	265	\$ 14,843	\$ 56,011	9.77 %
6/30/2020	254	12,961	51,028	(0.37)%
6/30/2019	232	11,882	51,216	4.02 %
6/30/2018	233	11,474	49,236	1.80 %
6/30/2017	231	11,173	48,367	1.69 %
6/30/2016	216	10,274	47,565	2.50 %

Virginia Local Disability Program



Virginia Local Disability Program (Dollars in Thousands)				
Actuarial Valuation as of June 30 Rates Applicable for FYE	Teachers		Political Subdivisions	
	2020 Informational	2021 2023/2024	2020 Informational	2021 2023/2024
1 Participants				
a. Actives	13,027	14,312	10,672	11,017
b. Disabled	9	16	36	54
c. Ported	8	8	8	8
e. Total (1a through 1c)	13,044	14,336	10,716	11,079
2 Covered Payroll	\$571,356	\$642,284	\$392,684	\$423,151
3 Assets				
a. Market	\$2,886	\$5,588	\$3,319	\$6,168
b. Actuarial	\$2,973	\$5,028	\$3,425	\$5,604
4 Actuarial Accrued Liability	\$3,333	\$5,102	\$3,752	\$5,005
5 Funded Ratio				
a. Market Value of Assets (3a ÷ 4)	86.59%	109.53%	88.46%	123.24%
b. Actuarial Value of Assets (3b ÷ 4)	89.20%	98.55%	91.28%	111.97%
6 UAAL (5 - 3b)	\$360	\$74	\$327	(\$599)

Virginia Local Disability Program



Virginia Local Disability Program				
Actuarial Valuation as of June 30 Rates Applicable for FYE	Teachers		Political Subdivisions	
	2020 Informational	2021 2023/2024	2020 Informational	2021 2023/2024
1 Employer Contribution Rate for FYE				
a. Employer Normal Cost Rate	0.26%	0.29%	0.52%	0.57%
b. Amortization Charge	0.01%	0.00%	0.01%	-0.01%
c. Administrative Expenses	0.18%	0.18%	0.29%	0.29%
d. Additional Funding Contribution	0.00%	0.00%	0.00%	0.00%
e. Plan Surcharge	<u>0.00%</u>	<u>0.00%</u>	<u>0.00%</u>	<u>0.00%</u>
f. Total (1a through 2e)	0.45%	0.47%	0.82%	0.85%
Amortization Period	14 – 20	13 – 20	14 – 20	13 – 20

Virginia Local Disability Program Data Summary



Valuation Date	Number	Annual Covered Payroll (Dollars in Thousands)	Annual Average Pay	% Change in Average Pay
<u>TEACHERS</u>				
6/30/2021	14,312	\$ 642,284	\$ 44,877	2.32 %
6/30/2020	13,027	571,356	43,859	4.61 %
6/30/2019	11,047	463,174	41,928	3.57 %
6/30/2018	9,332	377,798	40,484	(4.05)%
6/30/2017	7,439	305,446	42,195	9.31 %
<u>POLITICAL SUBDIVISIONS</u>				
6/30/2021	11,017	\$ 423,151	38,409	4.38 %
6/30/2020	10,672	392,684	36,796	3.04 %
6/30/2019	9,447	337,363	35,711	5.42 %
6/30/2018	7,915	268,121	33,875	3.66 %
6/30/2017	6,331	206,895	32,680	3.42 %

Valuation Process

- The actuary determines the amount of employer contributions to be made to each VRS System during each member's career that, when combined with investment return and member contributions, is expected to be sufficient to pay for the benefit of that System
- In addition, the annual actuarial valuation is performed to:
 - Determine the progress on funding
 - Explore why the results of the current valuation differ from the results of the valuation of the previous year
 - Satisfy regulatory and accounting requirements

Definition of the results developed in the actuarial valuation:

- **Actuarial Accrued Liability (AAL)** – The cost of benefits attributable to service accrued as of the valuation date for the System.
- **Actuarial Value of Assets (AVA)** – the value of the System’s total assets used to develop Unfunded Actuarial Accrued Liability and the employer contribution towards it. The AVA is a smoothed value of assets where investment gains and losses which differ from the 6.75% assumed return are reflected over five years. Use of an AVA results in employer contributions which are less volatile than if the market value was used. For the Health Insurance Credit Political Subdivision and Special Coverage Code Plans, the AVA is equal to the market value of assets.
- **Unfunded Actuarial Accrued Liability (UAAL)** – the excess of Actuarial Accrued Liability (AAL) over Actuarial Value of Assets (AVA); the amount of liability to be funded with future contributions.
- **Funded Ratio** – the ratio of the AVA over AAL.
- **Net Actuarial Gain or Loss** – an increase (loss) or decrease (gain) in the UAAL due to actuarial experience different from expected.
- **Employer Contribution Rate** – the rate of pay developed to systematically pay off benefits accruing during the year, administrative expenses and the UAAL. Refer to components on the next slide.

The components of the employer contribution rates are as follows:

- **Employer Normal Cost Rate** - The ongoing annual cost of active employees accruing benefits under the plan, net of the member contribution rate.
- **Amortization Charge** - The amortization of, or payment towards, the unfunded actuarial accrued liability (UAAL) for the year.
- **Administrative Expenses** - An estimate of the administrative expenses to be paid out of the trust in the upcoming fiscal year.
- **Additional Funding Contribution** - The additional contribution rate needed to allow for the use of the 6.75% investment return as the single equivalent investment return assumption for purposes of the GASB 67/68 statements.
- **Plan Surcharge** - The additional contribution rate applied to plans with low funding levels to bring the plan to a more sustainable funding position as determined by the Plan Actuary.
- **DC Contribution for Hybrid Members** - 1% mandatory employer contribution as well as an estimate of the employer match to the voluntary contributions made to the DC plan by Hybrid Plan members.



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Virginia Retirement System Line of Duty Death and Health Benefits Trust Fund

November 15, 2021

Alisa Bennett, FSA, FCA, MAAA, EA
President

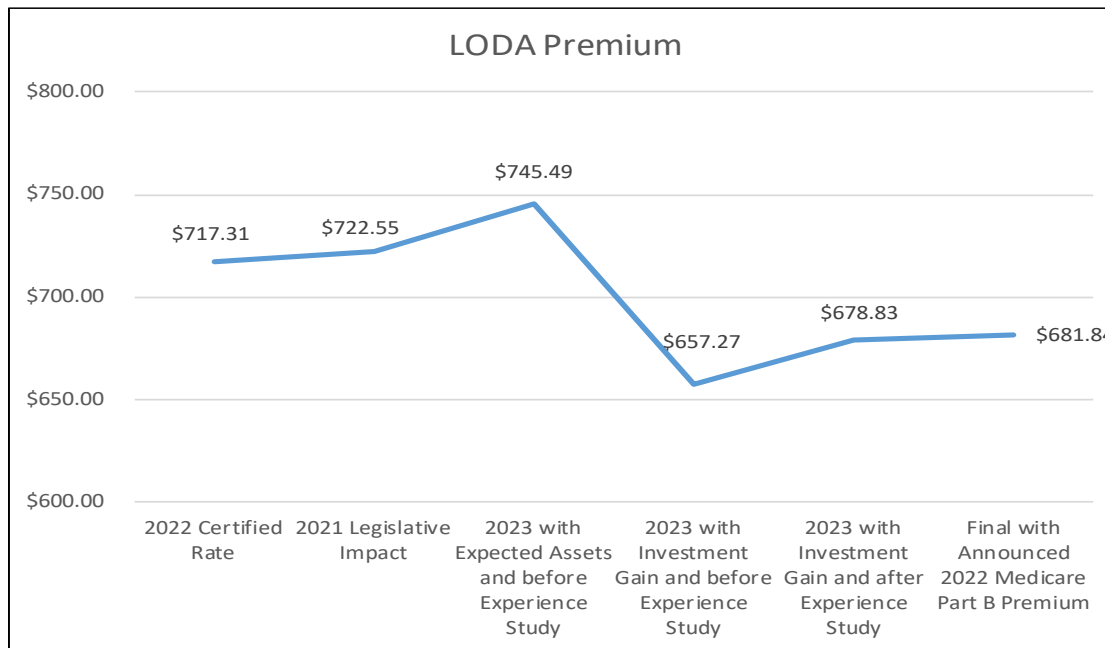


- The June 30, 2021 valuation is used to set contribution rates for fiscal years 2023 and 2024.
- Odd year valuations are for rate setting; even year valuations are for informational purposes
 - FY 2021 and 2022 rate based on June 30, 2019 valuation was \$717.31 per FTE.
 - FY 2022 rate was increased by the general assembly in response to HB 1818 and HB 2207, each of which added additional presumptions:

	Premium per FTE
Results of the June 30, 2019 Valuation Board Certified Rate	\$717.31
Add Hypertension and Heart Disease Presumptions for Eligible EMS Personnel, and Add COVID-19 as Workers' Compensation	<u>5.24</u>
Adjusted LODA Premium Rate	\$722.55

- New rate (FY 2023 and 2024) is \$681.84 per FTE.

Change in Employer Costs per FTE due to FYE June 30, 2021 Experience and Assumption Changes



- Decrease due to large asset value as of June 30, 2021, which will be spent down over the next two years.
- Experience study assumption changes to rates of deaths and disabilities along with an unanticipated increase in Medicare Part B premium slightly raised expected premium rate.

Development of LODA Fund Employer Costs Per FTE



- Pay-As-You-Go Funding
 - Section 9.1-400.1 of the *Code of Virginia* requires participating employer contributions to be determined by the Board on a current disbursement basis.
 - Costs
 - Death and DHRM health care premium payments
 - HIC reimbursements (used to offset claims)
 - Administrative expenses
- Project benefit payments for future years.
 - Covers the cost of health care premiums for current beneficiaries.
 - Needs to cover the cost of any new claims that are expected to occur during the year (new health care premiums & death claims).

Development of LODA Fund Employer Costs Per FTE



- Projected benefit payments based on:
 - Demographics of group as of June 30, 2021.
 - Health care premium rates as of June 30, 2021.
 - Health care trend assumption.
 - Actuarial assumptions for:
 - Future death and disabilities
 - Medicare eligibility, Social Security Disability Eligibility
 - Dependent Coverage
 - Mortality
- Health Insurance Credit (HIC) Program Reimbursements
 - Health Insurance Credits that would have been payable to eligible LODA beneficiaries are transferred to the LODA Fund to offset health care costs provided under the Line of Duty Act.
- Administrative Expenses
 - Assumed to be \$565,000 for fiscal year 2022 with 3% increases in the future.

Development of LODA Fund Employer Costs Per FTE



- Employer contributions per FTE are set such that assets are expected to be sufficient to cover costs for a two-year period but will be depleted at the end of the two-year period.
- Funding on a “pay-as-you-go” basis, rather than pre-funding of benefits. LODA fund assets are expected to earn 6.75%.
- FTE counts are expected to remain level over two-year period.
- LODA Fund contributions are likely to increase annually.
 - Current disbursement basis (no advance-funding).
 - Dollar per FTE employee contribution basis.
 - Health care inflation (increasing cost basis).
 - Increasing number of beneficiaries/static FTE employee count.

Costs – Health Care



FY 2022				
Membership Level	LODA Plan Current LODA Employment	LODA Plan Former LODA Employment	Medicare Primary	Medicare Part B Premium
Single	\$1,016	\$1,049	\$293	\$170.10
Two Person	\$1,733	\$1,764	N/A	N/A
Family (3 or more family members)	\$2,458	\$2,486	N/A	N/A

FY 2021				
Membership Level	LODA Plan Current LODA Employment	LODA Plan Former LODA Employment	Medicare Primary	Medicare Part B Premium
Single	\$948	\$979	\$283	\$148.50
Two Person	\$1,618	\$1,647	N/A	N/A
Family (3 or more family members)	\$2,295	\$2,321	N/A	N/A

- For pre-Medicare members premiums increased roughly 7% as expected
- For Medicare eligible members premiums increased 3.5% vs. 5.375% expected
- Projected 2022 Medicare Part B premium increased roughly 14.5% from \$148.50 to \$170.10. This was more than expected.

- No explicit changes were incorporated at this time for COVID-19 due to the level of uncertainty regarding the impact on both plan costs and contribution levels going forward

- Potential Impacts:
 - Routine and elective care being deferred
 - Deferrals offset COVID-19 costs for 2020 but could increase costs in 2021 and 2022 due to pent up demand.
 - Direct COVID-19 treatment and prevention costs – still an ongoing situation
 - Addition of COVID-19 to Workers' Compensation presumptions
 - Potential for long term effects on both health costs and disabilities

FY 2021 Financial Activity



		Amount
1	Accrued Assets as of June 30, 2020	\$ 4,333,000
2	Benefit Payments	\$ 13,094,000
3	Administrative Expenses (includes opt-out members)	979,000
4	<i>Total Expenses (2 + 3)</i>	<u>\$ 14,073,000</u>
5	Employer Contributions	\$ 13,633,000
6	Miscellaneous Revenue (includes reimbursement for opt-out members)	629,000
7	Investment Income	3,031,000
8	<i>Total Revenue (5 + 6 + 7)</i>	<u>\$ 17,293,000</u>
9	Revenue Less Expenses (8 - 4)	\$ 3,220,000
10	Accrued Assets as of June 30, 2021 (1 + 9)	\$ 7,553,000

- Asset balance has been growing over the last two years.
- \$3 million in investment income during FY 2021.
- Since the plan is pay-as-you go, the funding mechanism is to spend down the \$7.5 million balance over the next two years, causing a drop in the proposed FTE rate.
- The FTE rate is projected to start increasing again after the two-year period since the assets are projected to go to \$0.

Population – Participating Employee Headcount



Employer Group	Fiscal Year Ending 2020		Fiscal Year Ending 2021			
	Employees	FTE Employees	Employees	Weight	FTE Employees	FY 2022 Contributions*
State/VaLORS/SPORS	9,707	9,707.00	9,577	100%	9,577	\$ 6,919,861
National Guard						
Full-Time	1,873	1,873.00	1,044	100%	1,044.00	\$ 1,297,845
Part-Time	6,333	633.30	7,522	10%	752.20	
<i>Total State & National Guard Employees</i>	<i>17,913</i>	<i>12,213.30</i>	<i>18,143</i>		<i>11,373.20</i>	<i>\$ 8,217,706</i>
Participating Political Subdivisions						
Full-Time	7,171	7,171.00	7,106	100%	7,106.00	\$ 5,134,440
Volunteers	2,419	604.75	2,432	25%	608.00	\$ 439,310
<i>Total Political Subdivision Employees</i>	<i>9,590</i>	<i>7,775.75</i>	<i>9,538</i>		<i>7,714.00</i>	<i>\$ 5,573,750</i>
<i>Aggregated Total</i>	<i>27,503</i>	<i>19,989.05</i>	<i>27,681</i>		<i>19,087.20</i>	<i>\$ 13,791,456</i>

* FY 2022 contribution rate of \$722.55 per FTE employee based upon June 30, 2019 valuation including increases due to legislation

Population – Number of Current Health Care Beneficiaries

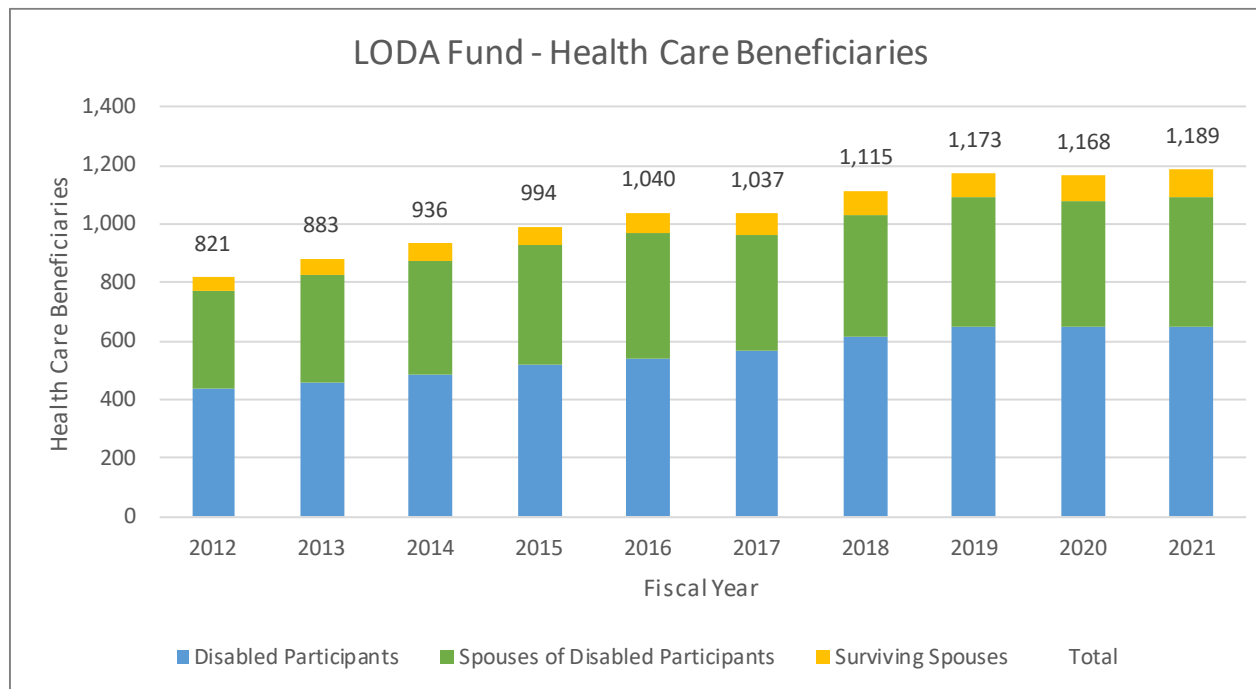


Participating Employer Groups as of June 30, 2021			
Beneficiary Type	State	Political Subdivisions	Aggregated Total
Disabled Participants	250	403	653
Spouses of Currently Disabled Participants	162	278	440
<u>Surviving Spouses</u>	<u>39</u>	<u>57</u>	<u>96</u>
Total	451	738	1,189

Participating Employer Groups as of June 30, 2020			
Beneficiary Type	State	Political Subdivisions	Aggregated Total
Disabled Participants	255	395	650
Spouses of Currently Disabled Participants	164	265	429
<u>Surviving Spouses</u>	<u>40</u>	<u>49</u>	<u>89</u>
Total	459	709	1,168

As some beneficiaries elect to cover dependents, assumed adult costs include the additional costs for the coverage of dependent children.

Population – Number of Current Health Care Beneficiaries



- Disabled participants increased by an average of 26 each fiscal year from 2013 – 2020. Fiscal year 2021 had a net increase of 3 disabled participants.
- Total beneficiaries increased by an average of 43 each fiscal year from 2013 – 2020. Fiscal year 2021 had a net increase of 21 beneficiaries.

Summary of Results

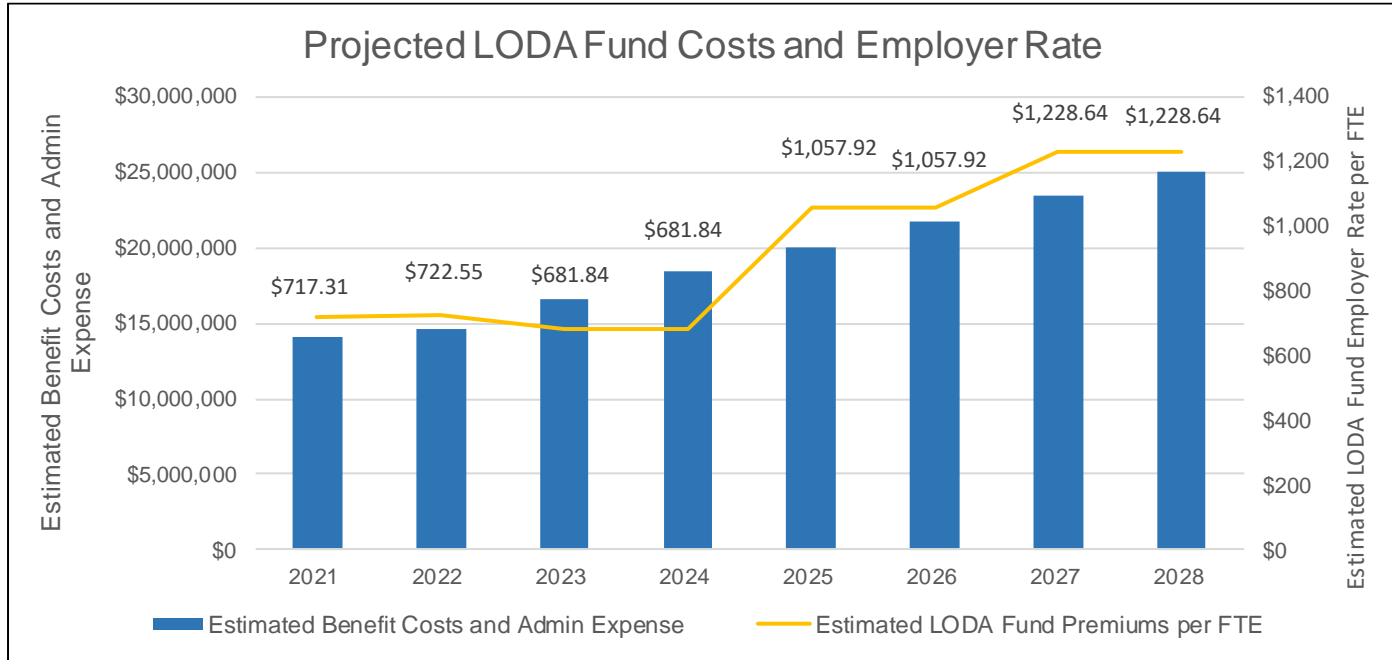
Estimated per FTE Employee Rates - Pay-As-You-Go Funding



- The June 30, 2021 valuation is used to set contribution rates for fiscal years 2023 and 2024.
- Comparison of valuation results:

Valuation Date	June 30, 2019 (Board Approved)	June 30, 2020	June 30, 2021
Fiscal Year(s)	2021 and 2022	Informational	2023 and 2024
Number of FTE Employees	19,243	19,989	19,087
Contribution per FTE Employee	\$717.31 and \$722.55	\$758.03	\$681.84

Projected Cost Estimates



Thank You



Questions?

Appendix

Projected Cost Estimates

Actual Employer Contribution Rates



All Participating Employer Groups - June 30, 2021 Valuation Basis								
	Actual	Projected						
	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
FTE Employees	19,989.05	19,087.20	19,087.20	19,087.20	19,087.20	19,087.20	19,087.20	19,087.20
Cash Flow (Per FTE Employee)								
Employer Contribution Rate	\$717.31	\$722.55	\$681.84	\$681.84	\$1,057.92	\$1,057.92	\$1,228.64	\$1,228.64
Benefit Costs	(655.11)	(738.42)	(840.46)	(935.31)	(1,018.65)	(1,103.43)	(1,194.65)	(1,275.85)
Administrative Expenses	(49.00)	(29.60)	(30.49)	(31.38)	(32.33)	(33.32)	(34.32)	(35.36)
Investment Income and Misc. Rev	<u>183.14</u>	<u>49.56</u>	<u>43.62</u>	<u>30.56</u>	<u>35.94</u>	<u>35.94</u>	<u>41.46</u>	<u>41.46</u>
Net Cash Flow	196.34	4.09	(145.49)	(254.29)	42.88	(42.89)	41.13	(41.11)
Cash Flow								
Employer Contributions	\$13,632,927	\$13,791,456	\$13,014,453	\$13,014,453	\$20,192,792	\$20,192,792	\$23,451,235	\$23,451,235
Benefit Costs	(13,094,992)	(14,094,421)	(16,041,981)	(17,852,481)	(19,443,202)	(21,061,347)	(22,802,536)	(24,352,467)
Administrative Expenses	(979,427)	(565,000)	(582,000)	(599,000)	(617,000)	(636,000)	(655,000)	(675,000)
Investment Income and Misc. Rev	<u>3,660,865</u>	<u>945,975</u>	<u>832,489</u>	<u>583,361</u>	<u>685,982</u>	<u>685,982</u>	<u>791,267</u>	<u>791,267</u>
Net Cash Flow	\$3,219,373	\$78,010	(\$2,777,040)	(\$4,853,668)	\$818,572	(\$818,573)	\$784,965	(\$784,965)
End of Year Net Position	\$7,552,697	\$7,630,707	\$4,853,667	\$0	\$818,572	\$0	\$784,965	\$0

*Reflects estimated reduction in costs from HIC receipts.

Note: this chart details the computation of the projected future rates as show the chart on slide 13.

- The Virginia Line of Duty Act (LODA), established in Title 9.1 of the Code of Virginia and enacted in 1972, provides benefits to eligible family members of eligible employees and volunteers killed in the line of duty and to those eligible employees and volunteers disabled in the line of duty and their eligible family members.
- Funding of LODA benefits is provided by employers in one of two ways:
 - Participation in the Line of Duty Death and Health Benefits Trust Fund (LODA Fund), administered by the Virginia Retirement System (VRS).
 - Self-funding by the employer or through an insurance company.
 - Employers were given the opportunity to opt-out of the State administered LODA fund by way of a resolution on two occasions with the last opportunity in July 2012.

- Governed by §9.1-400 et seq. of the Virginia Code.
 - HB 1345 (2016) and HB 2243 (2017) changes were effective July 1, 2017.
- Provides benefits to eligible first responders who die or become disabled in the line of duty.
- Benefits
 - Death benefit
 - \$100,000 for death occurring as a direct or proximate result of duties.
 - \$25,000 for death by presumptive clause or within five years of retirement.
 - Continued health insurance coverage
 - Disabled employee
 - (Surviving) Spouse
 - Dependent children

LODA Eligibility - Benefits

➤ Death benefit

- Death occurring as the direct or proximate result of the performance of duty.
 - Includes death by presumptive cause within five years of retirement.
 - Direct: \$100,000 (as of January 1, 2006)
 - Presumptive: \$25,000 (as of January 1, 1990)
 - Effective April 8, 1972

➤ Disability benefit

- Disability occurring as the direct or proximate result of the performance of duty.
 - Mentally or physically incapacitated
 - Incapacity is likely to be permanent
 - Effective January 1, 1966
 - Only State employees are covered back to 1966

LODA Eligibility – Health Care

- Disabled employee
 - Health care benefit terminates upon the disabled person's death, recovery, or return to full duty.
 - Includes spouse and dependent coverage
 - Coverage continues upon disabled employee's death.
- Surviving spouse
 - Health care benefit terminates upon the spouse's death or election of alternate coverage (opt-out).
- Dependents
 - Health care benefit terminates upon the earlier of the dependent's death, marriage, election of alternate coverage, or 26th birthday.

LODA Eligibility - Other



- Statute of limitations
 - 5 years under §8.01-255.
- Claim must be filed and approved
 - Submitted to VRS
 - Investigated by the Department of State Police.
 - Approved by VRS.

LODA Eligibility – Covered Employees



- Law-enforcement officers of the Commonwealth or any of its political subdivisions
- Correctional officers
- Jail officers
- Regional jail or jail farm superintendents
- Sheriff, deputy sheriff, city sergeant, or deputy city sergeant of the City of Richmond
- Police chaplains
- Members of fire companies or departments or rescue squads recognized by any county, city, or town of the Commonwealth as an integral part of an official safety program
- Virginia National Guard or Virginia State Defense Force, including fire companies or departments providing their fire protection services
- Special agents of the Virginia Alcoholic Beverage Control Board
- Full-time sworn members of the enforcement division of the Department of Motor Vehicles
- Regular or special conservation police officers
- Commissioned forest wardens
- Members or employees of the Virginia Marine Resources Commission granted the power of arrest
- Department of Emergency Management hazardous materials officers
- Other employees of the Department of Emergency Management if performing duties related to a major disaster or emergency
- Employees of any county, city, or town performing official emergency management or emergency services duties in cooperation with the Department of Emergency Management
- Non-firefighter regional hazardous materials emergency response team members
- Conservation officers of the Department of Conservation and Recreation

Population – FY 2021 Participating Employer Groups



- Virginia Law Enforcement Officers Retirement System (VaLORS) (independent from VRS)
- State Police Officers Retirement System (SPORS) ➤ Fire companies or departments that provide fire protection services to Virginia National Guard or Virginia Air National Guard facilities
- Virginia State Lottery
- Virginia Department of Conservation and Recreation ➤ VRS Local Employers' Law Enforcement Officers of participating political subdivisions
- Virginia Department of Forestry ➤ VRS Local Employers' members performing hazardous duties for participating political subdivisions
- Virginia Department of Motor Vehicles ➤ Law Enforcement, Firefighters, and EMTs of associated participating political subdivisions
- Virginia Department of Emergency Management ➤ Firefighter trainees enrolled in a Fire Service Training course offered by the Virginia Department of Fire Programs
- Virginia Air National Guard
- Virginia Army National Guard
- Virginia Port Authority
- Arlington County, Town of Appalachia, Town of Boones Mill, and Town of Pocahontas

- Virginia Retirement System (VRS)
 - Maintain Line of Duty Death and Health Benefits Trust Fund (the Fund) for payment of program benefits of participating employers.
 - Fund Administration
 - Fund Management
 - Fund Investment
 - Collect required data from participating employers.
 - Determine costs of providing benefit payments to participating employers.
 - Develop funding policies and procedures.
 - Invoice and collect required contributions from the State and participating localities.

- Department of Human Resource Management (DHRM).
 - Develop health insurance claims policies and procedures.
 - Review health insurance claims submissions.
 - Verify on-going eligibility.
 - Means testing.
 - Spouse eligibility.
 - Dependent eligibility.

2021 Legislation Impacting LODA



2021 VRS-Related Bills – Workers’ Compensation

House Bill 1818
Senate Bill 1275

Adds Hypertension and Heart Disease Presumptions for Eligible EMS Personnel

Makes salaried or volunteer emergency medical services (EMS) personnel eligible for the hypertension and heart disease presumptions.

- Covers salaried or volunteer EMS personnel, as defined in §32.1-111.1, employed by any locality that has legally adopted a resolution declaring it will provide one or more presumptions under the subsection.
- The legislation is prospective only, effective July 1, 2021.

House Bill 2207
Senate Bill 1375

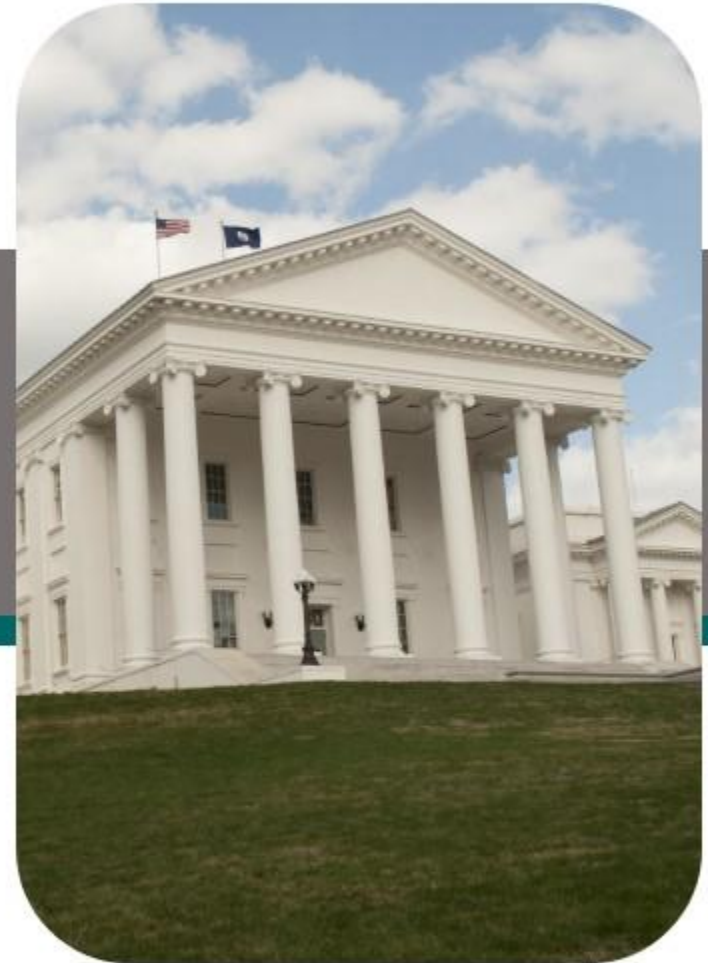
Adds COVID-19 as Workers’ Compensation Presumption

COVID-19 will be considered a presumption for the following:

- Firefighters
- Emergency medical services personnel
- Law enforcement officers
- Correctional officers
- Regional jail officers

The presumption covers death or disability on or after July 1, 2020 (extending through December 31, 2021).

Approved Budget



Budget Changes to LODA Premium

- General Assembly provided funding for increased premium of \$722.55 in the final budget

	Premium per FTE
Results of the June 30, 2019 Valuation Board Certified Rate	\$717.31
Add Hypertension and Heart Disease Presumptions for Eligible EMS Personnel, and Add COVID-19 as Workers' Compensation	<u>5.24</u>
Adjusted LODA Premium Rate	\$722.55