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# Virginia Retirement System Political Subdivisions June 30, 2021 Actuarial Valuations

November 15, 2021

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- 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"> <li>▪ State Employees</li> <li>▪ Teachers</li> <li>▪ <b>Political Subdivisions</b></li> </ul>	Retiree Health Insurance Credit (HIC)
Virginia Law Officers (VaLORS)	<ul style="list-style-type: none"> <li>▪ State Employees</li> <li>▪ Teachers</li> <li>▪ <b>Political Subdivisions</b></li> <li>▪ <b>Constitutional Officers</b></li> <li>▪ <b>Social Services Employees</b></li> <li>▪ <b>Registrars</b></li> </ul>
State Police Officers (SPORS)	Virginia Sickness and Disability Program (VSDP)
Judges (JRS)	<b>Virginia Local Disability Program (VLDP)</b>
	<ul style="list-style-type: none"> <li>▪ Teachers</li> <li>▪ <b>Political Subdivisions</b></li> </ul>
	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

# 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

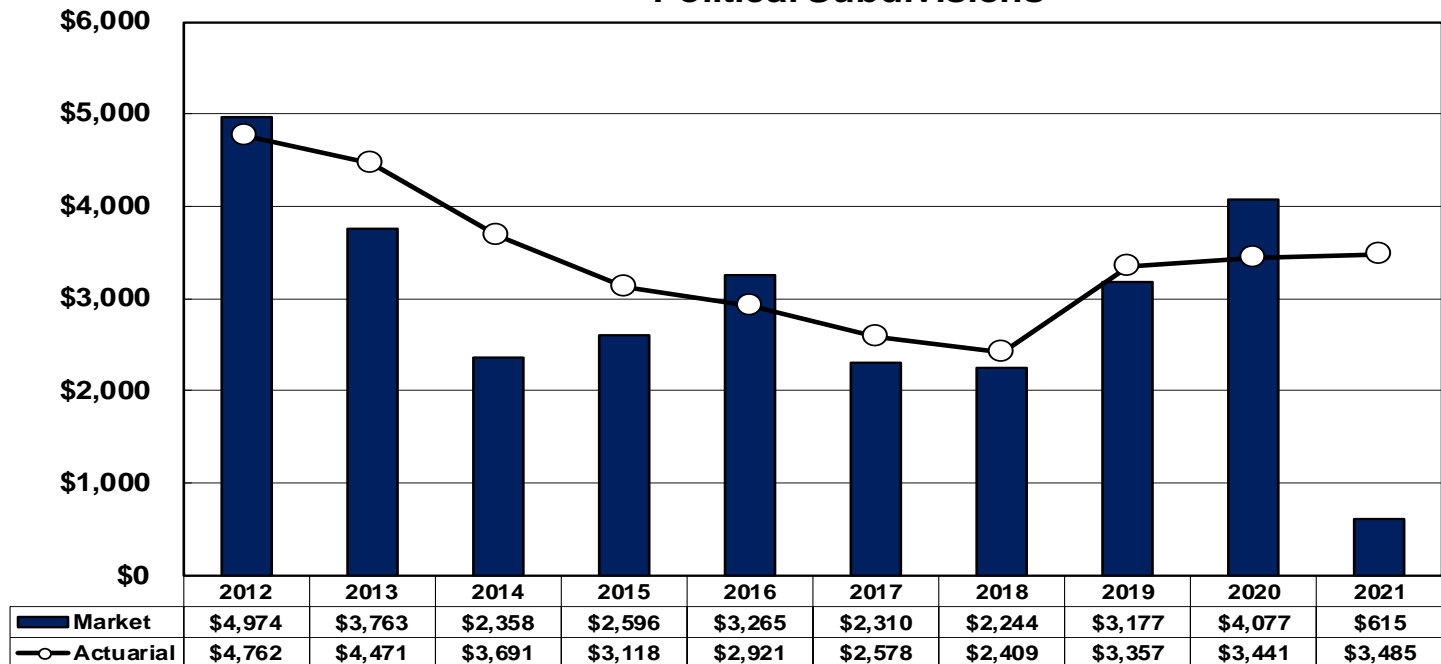
- Fiscal year investment return for 2021 was 27.5%
- Immediate positive impact to funded status on market value of asset basis
- Investment gain is phased in over a five-year period due to actuarial smoothing of assets for funding calculations

# 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

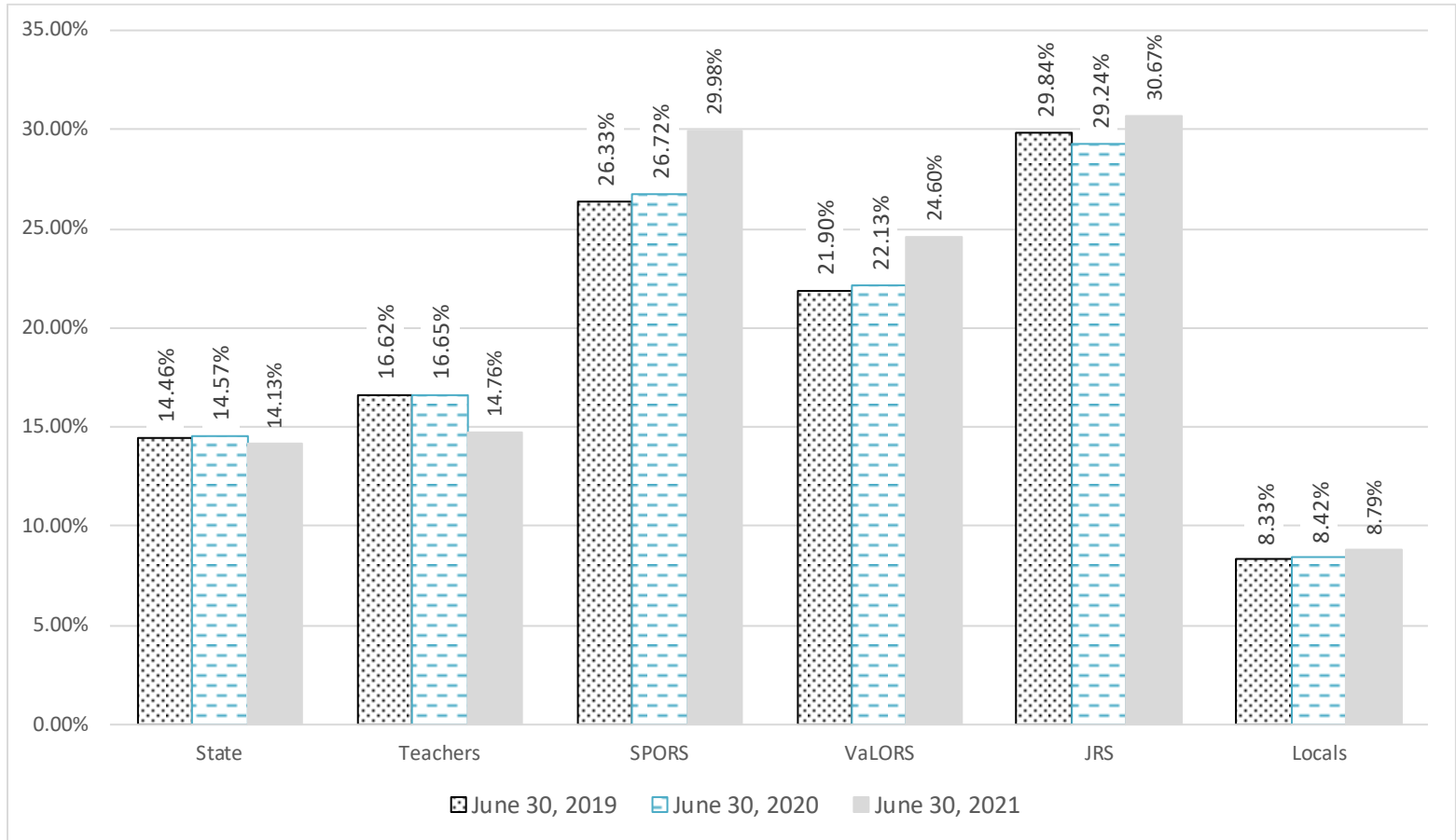
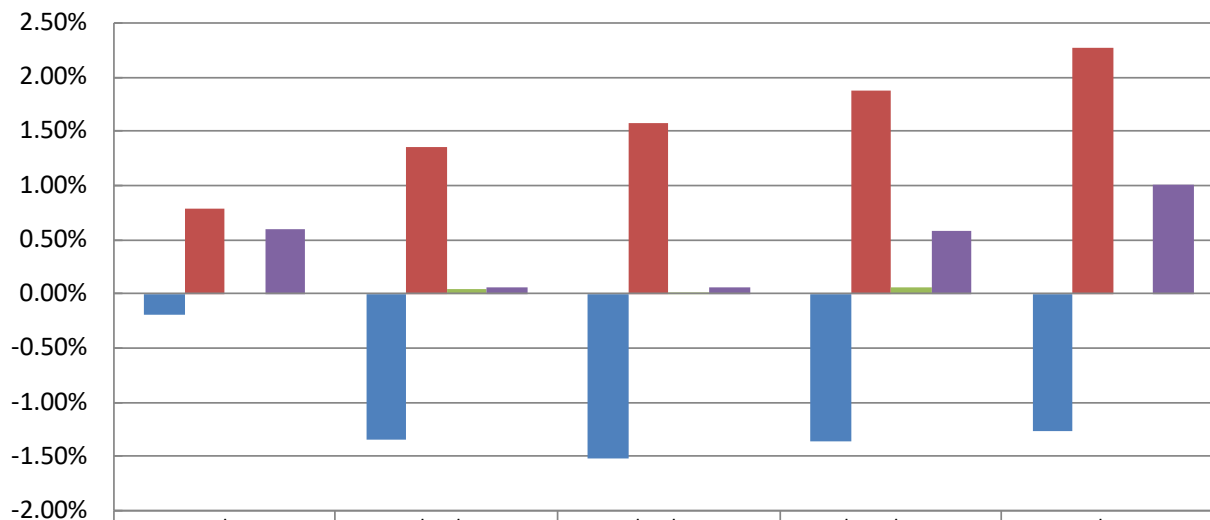


Chart of employer contribution results is also shown in appendix on slide 45.

# 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%

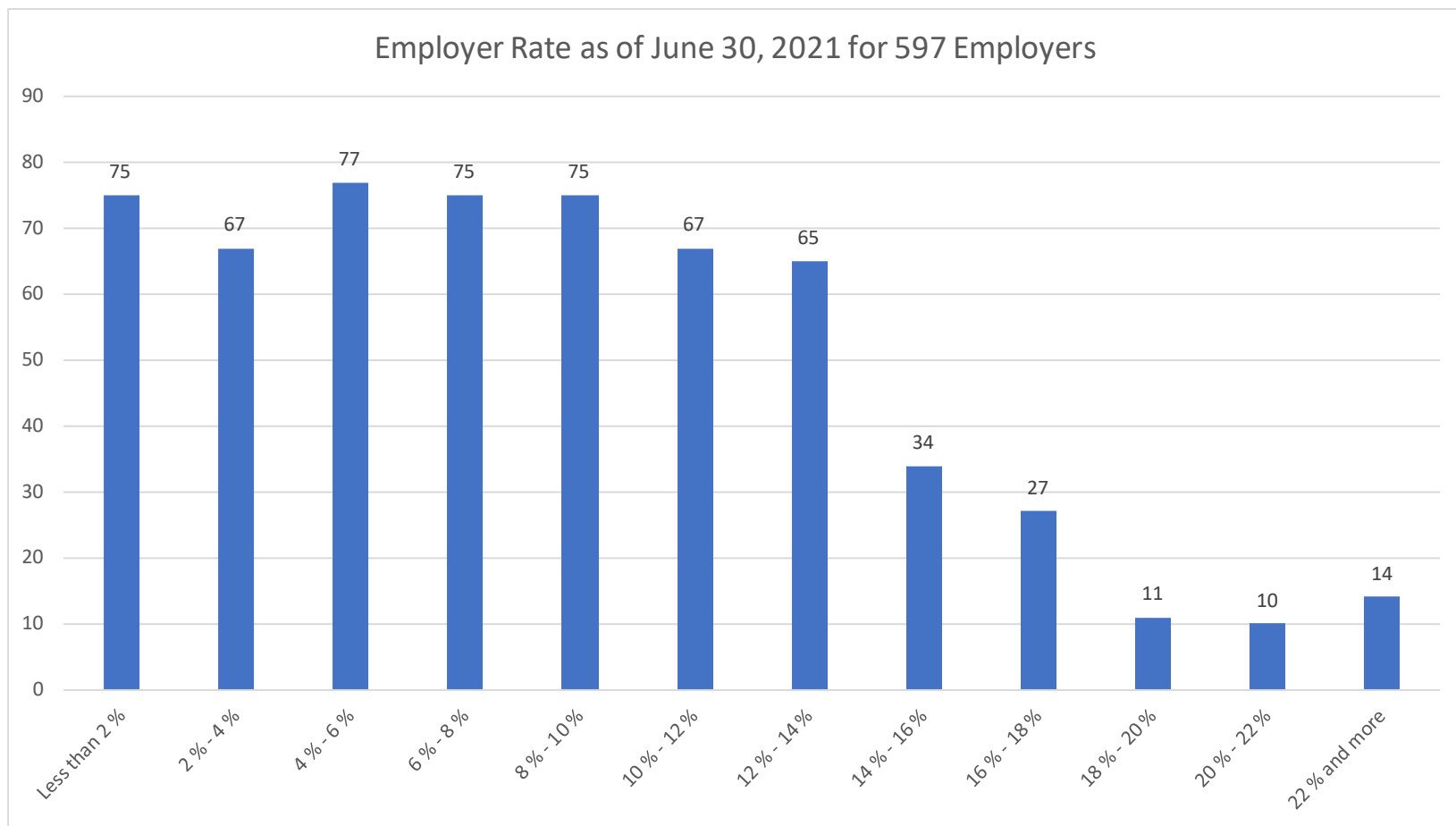
Average change in contribution due to plan experience is -1.24%.

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.

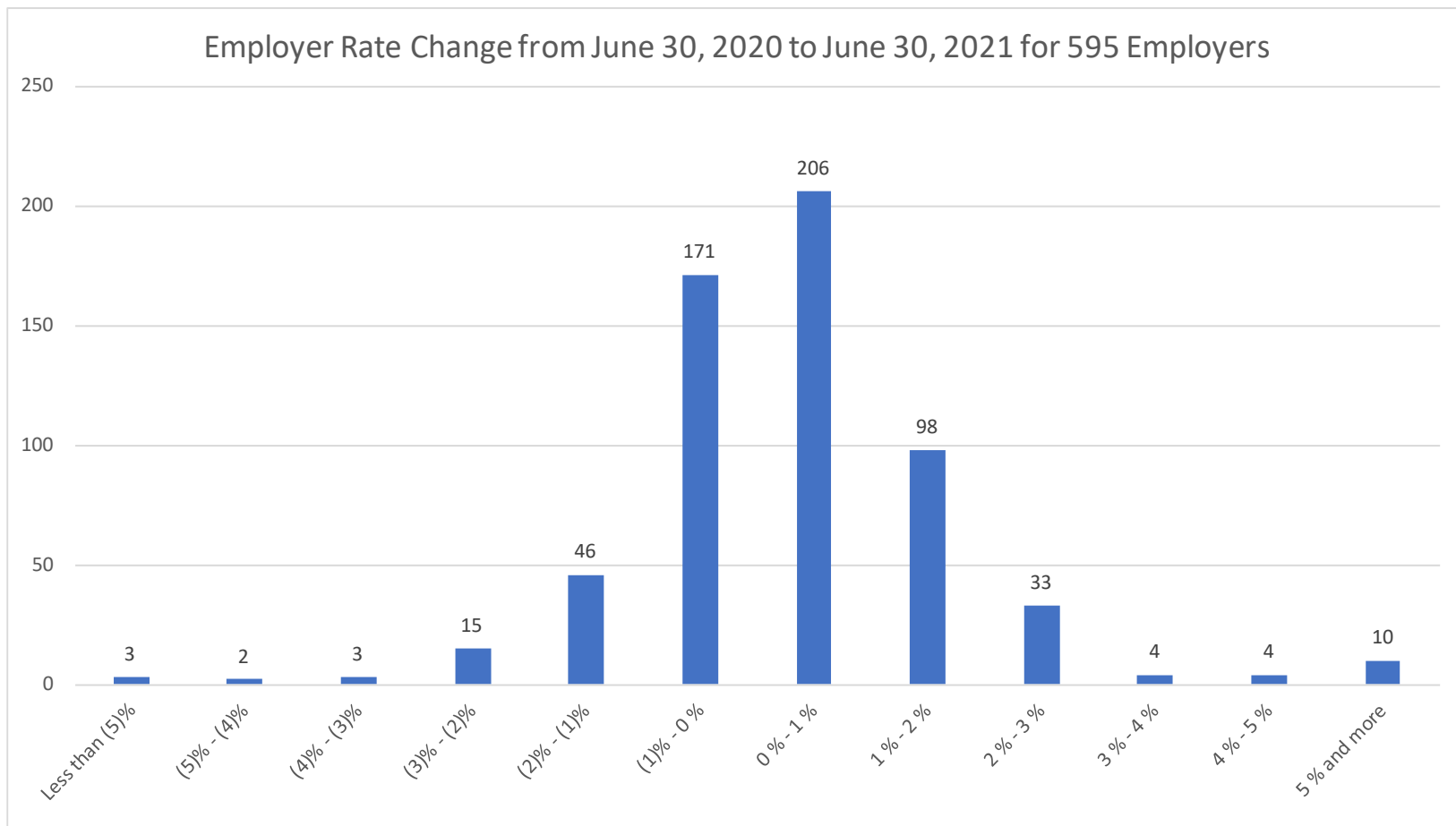
"Plan amendments" generally refer to addition of enhanced hazardous duty coverage.

"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

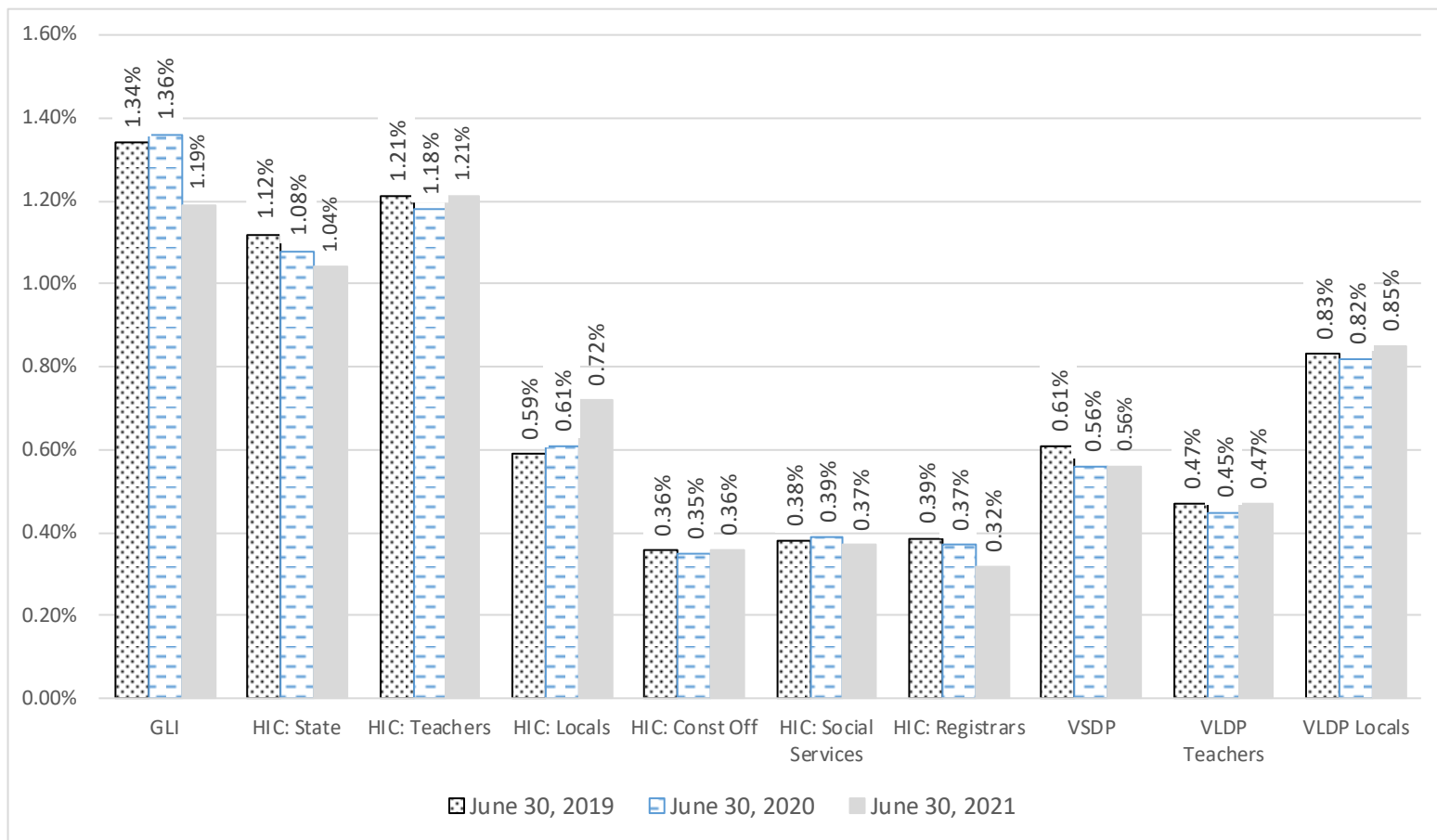
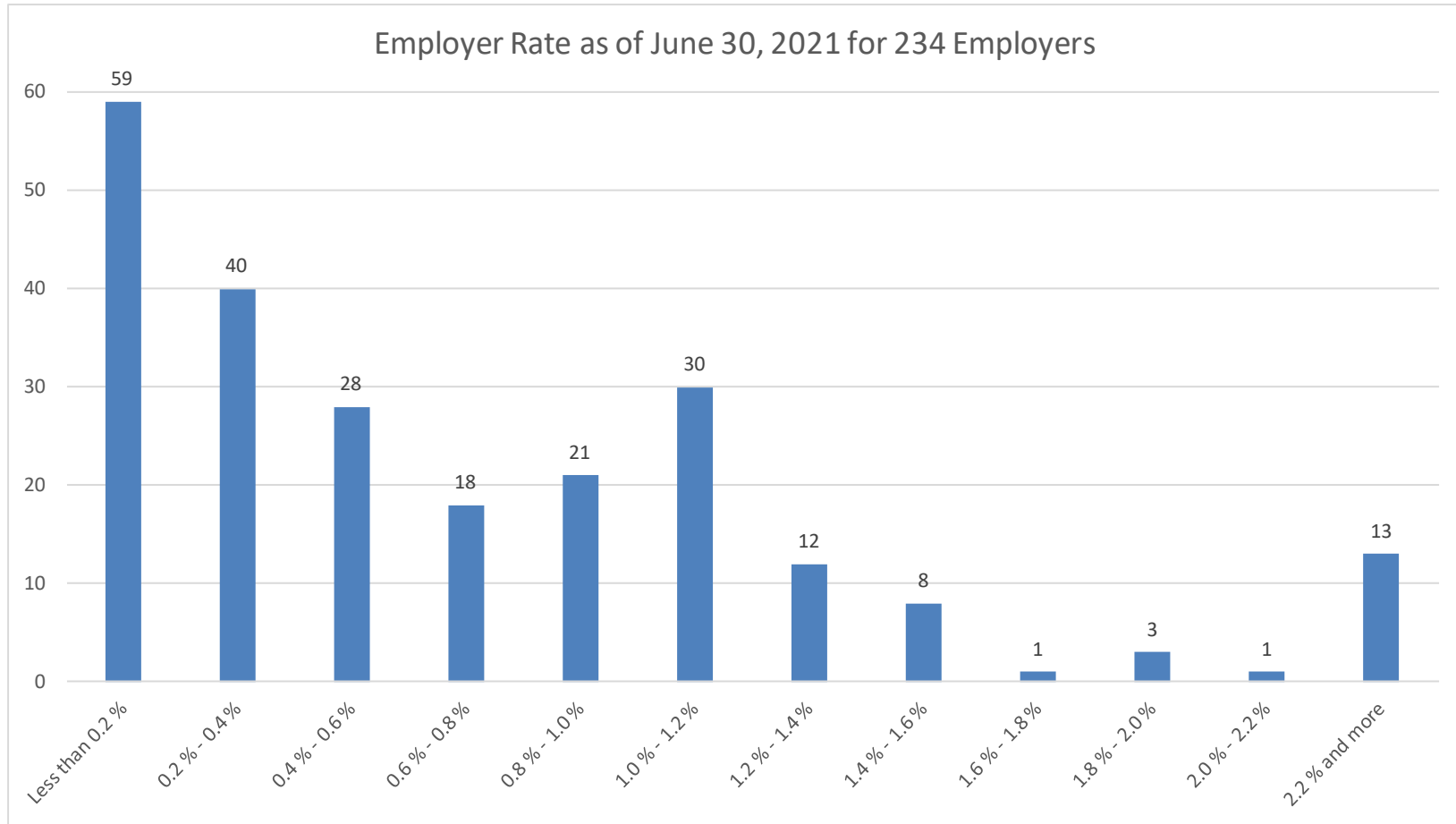
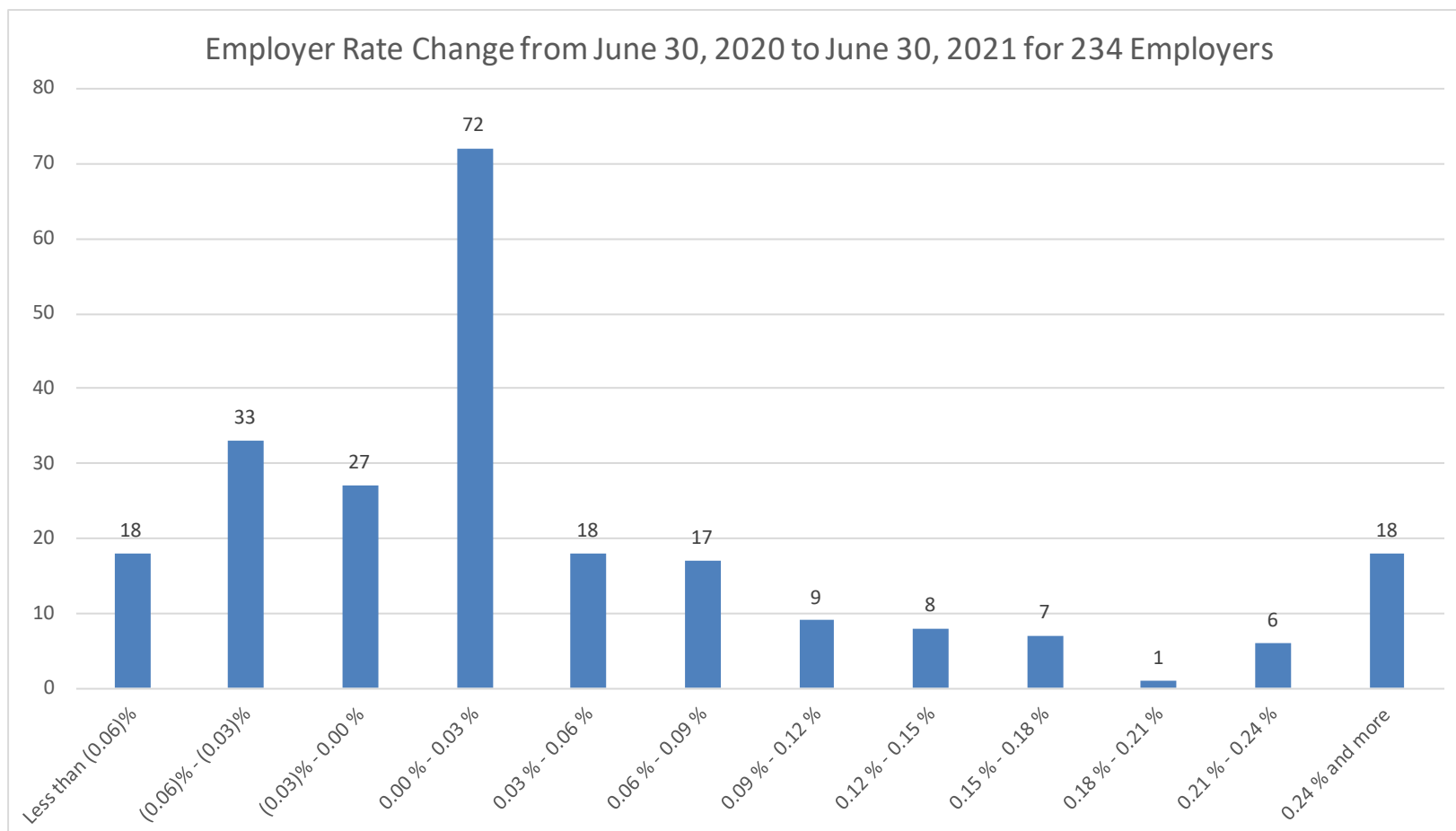


Chart of employer contribution results is also shown in appendix on slide 46.

# Employer Rate OPEB HIC Political Subdivisions

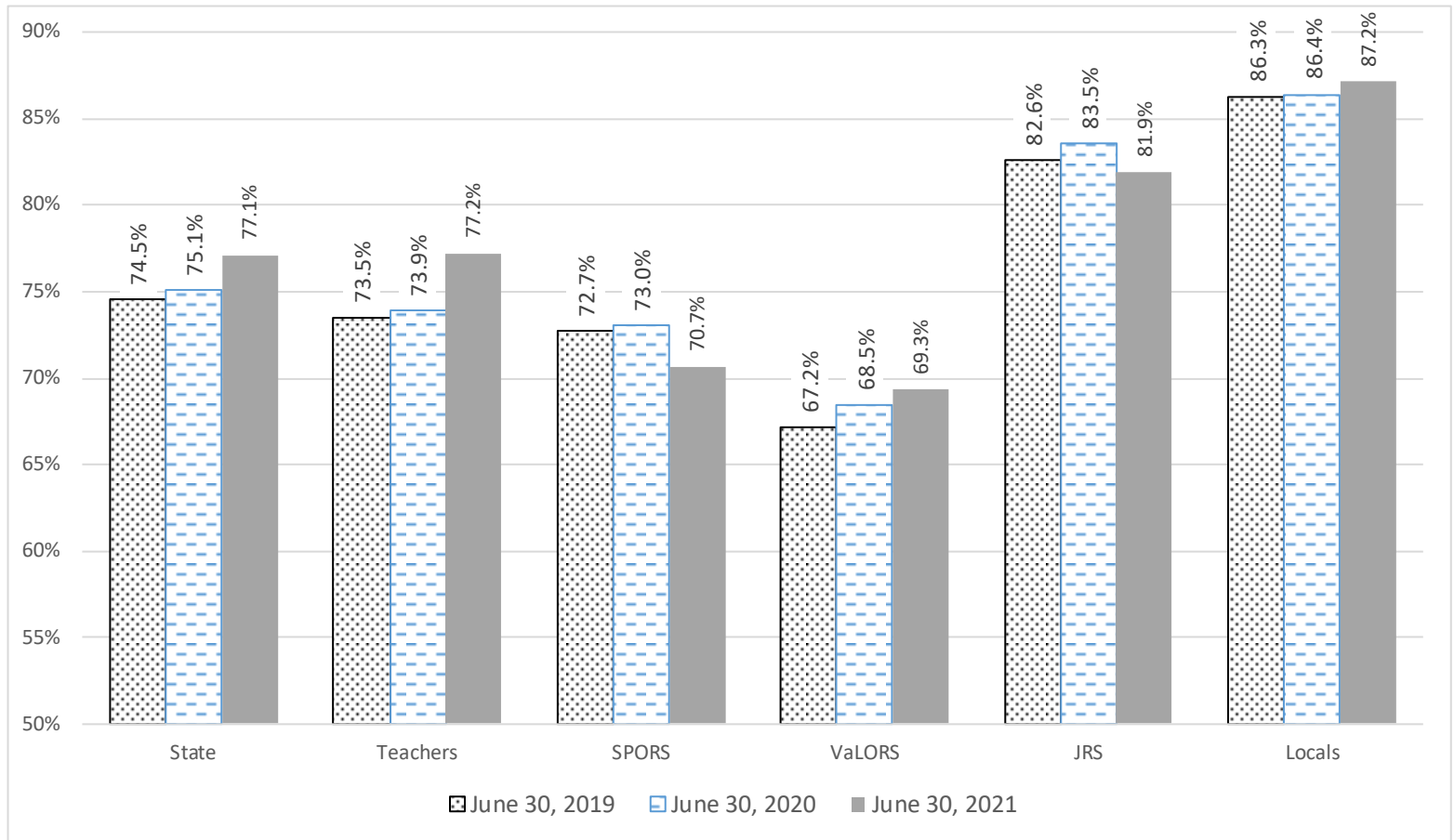


# Employer Rate Change OPEB HIC Political Subdivisions





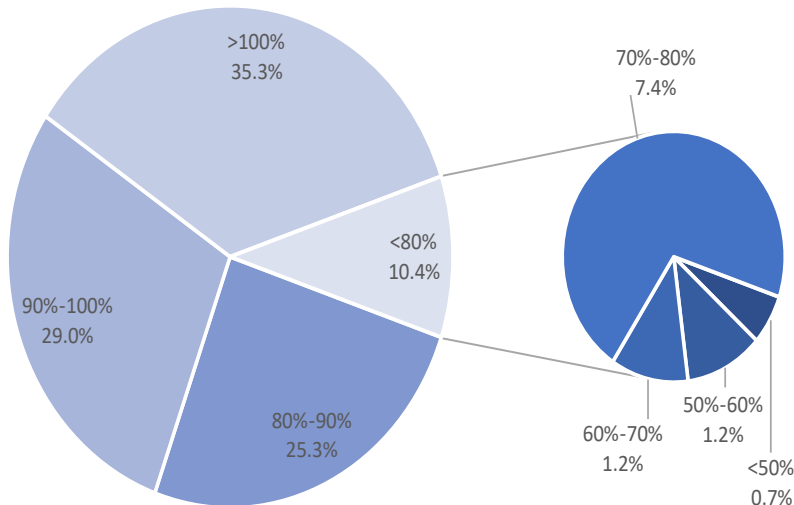
# Funded Ratio on Actuarial Value Pension Plans



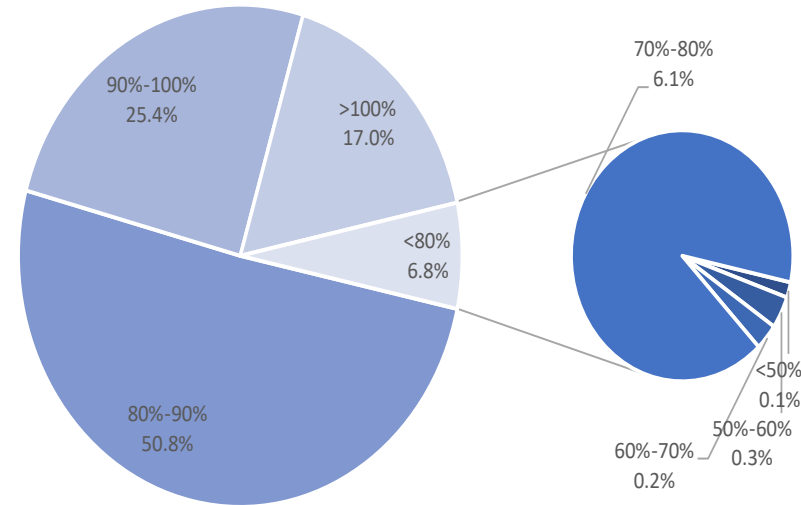
# Funded Ratio Breakdowns Political Subdivisions



AVA Funded Ratio by Political Subdivision



AVA Funded Ratio by Active Member

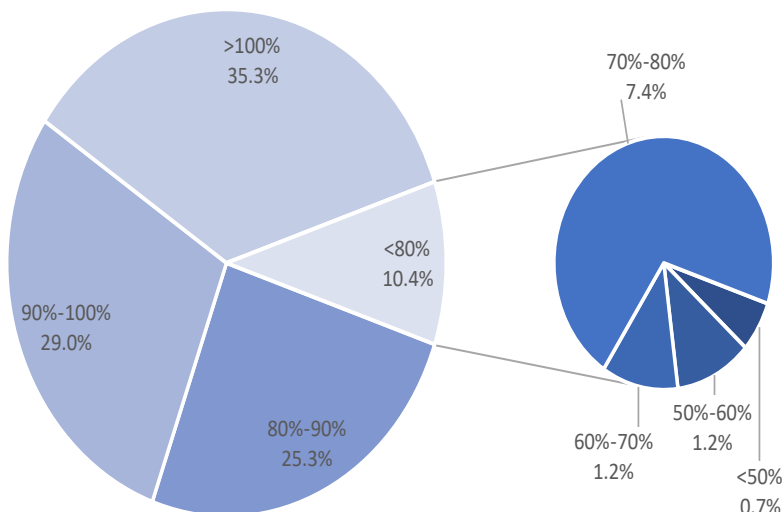


- While the overall funded ratio on actuarial value is 87.2%, the funded ratio varies significantly across the 597 political subdivisions and 108,613 active members as illustrated in the charts above
- Over a third - 35.3% - of political subdivisions are over 100% funded; these tend to be smaller and 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.

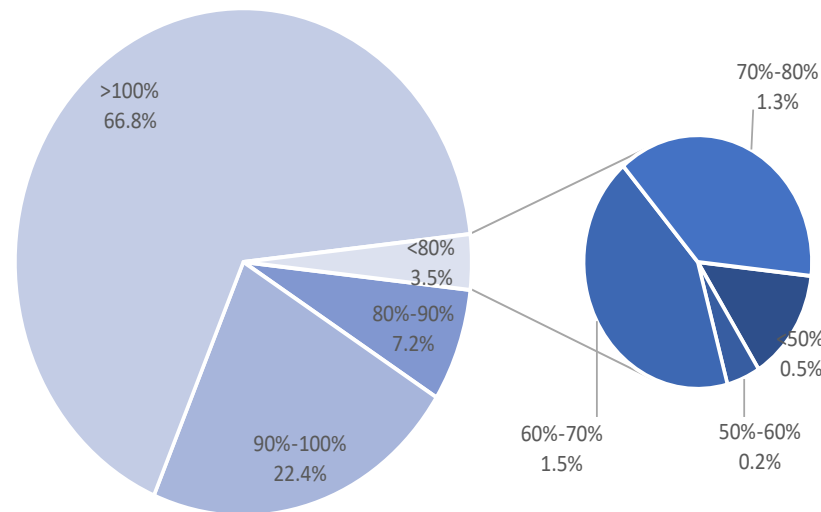
# Funded Ratio Breakdowns Political Subdivisions



AVA Funded Ratio by Political Subdivision

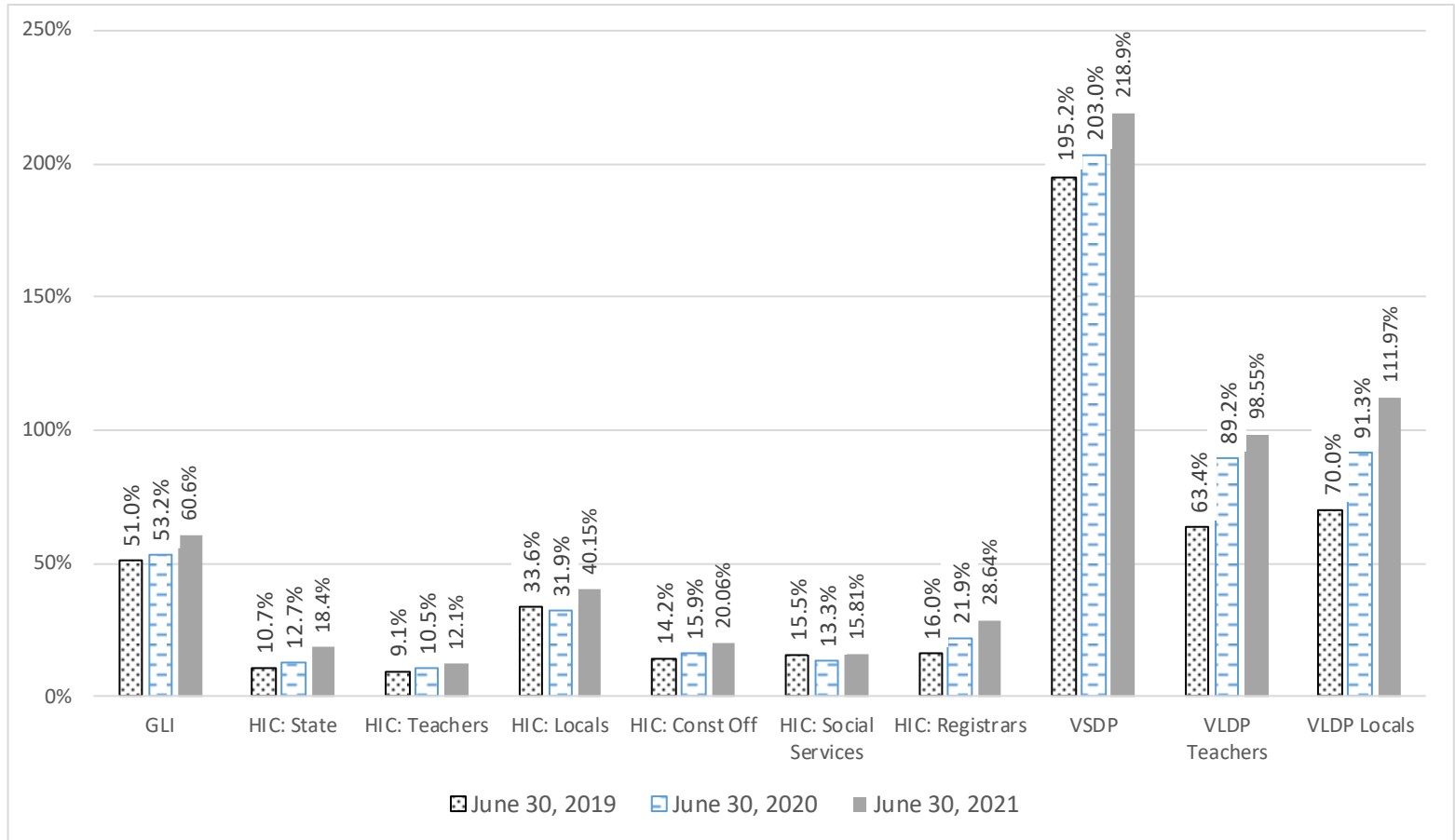


MVA Funded Ratio by Political Subdivision



- 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

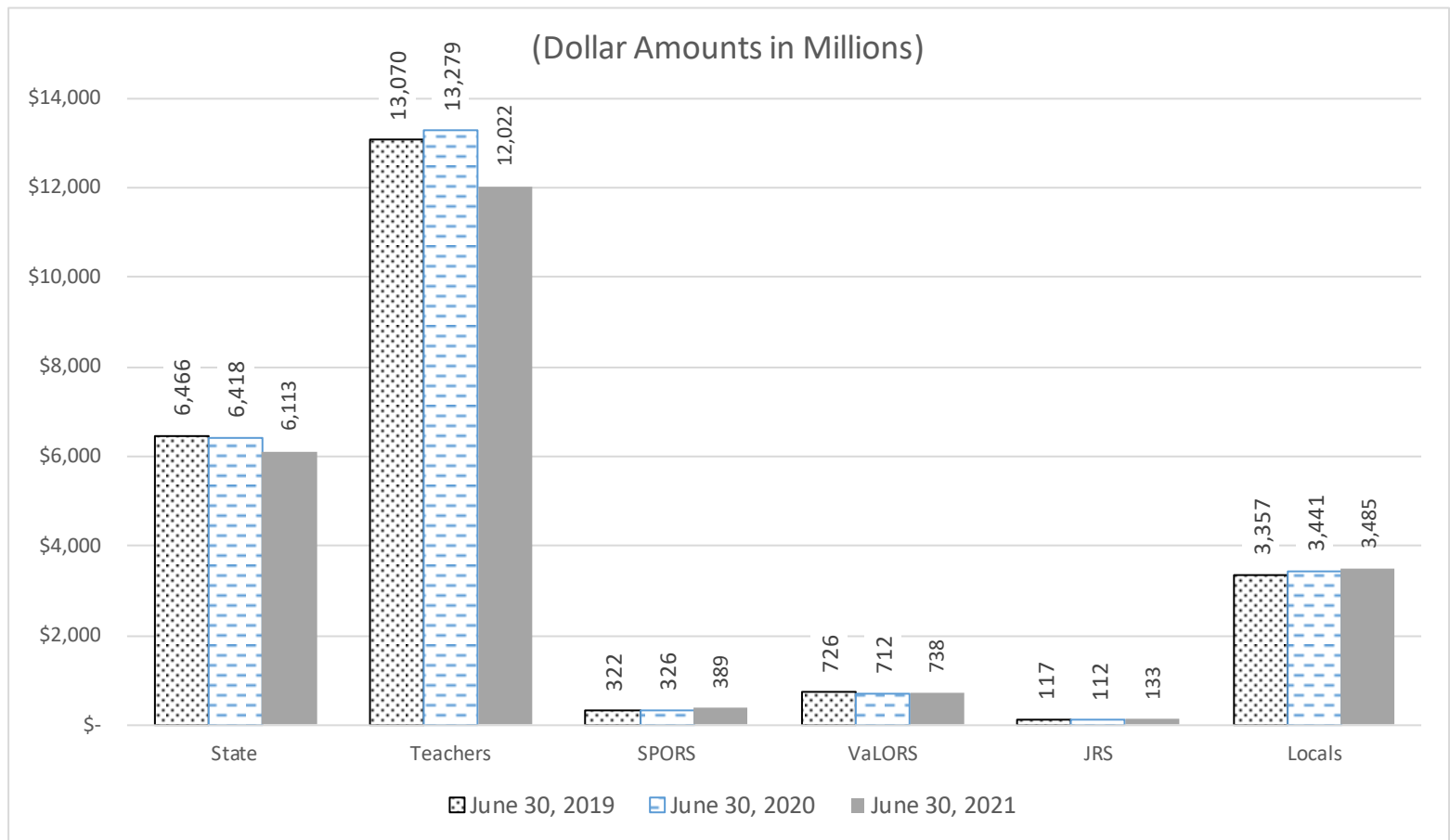


Chart of unfunded liabilities is also shown in appendix on slide 47.

# Unfunded Actuarial Accrued Liability on Actuarial Value Basis OPEB Plans

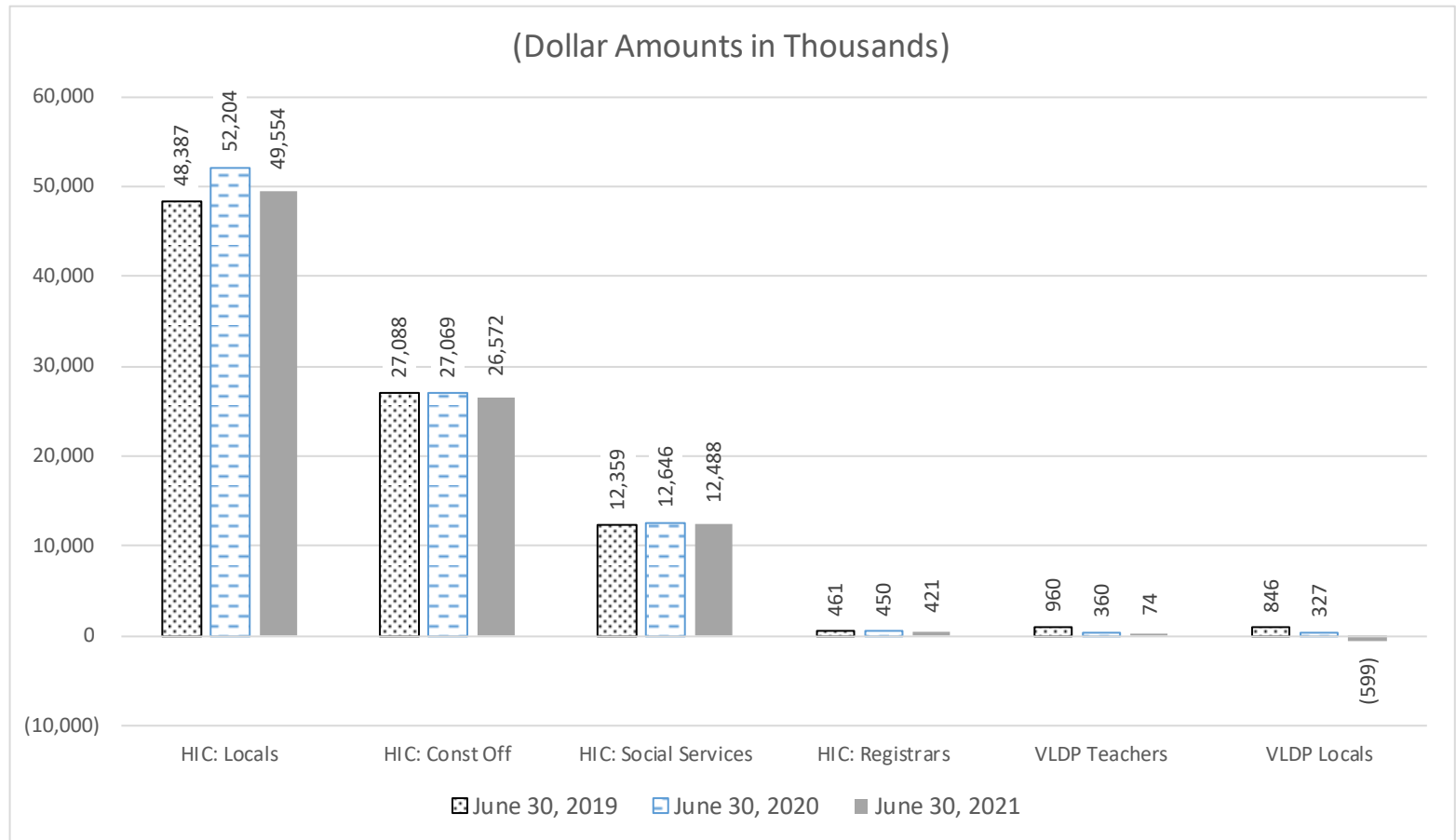
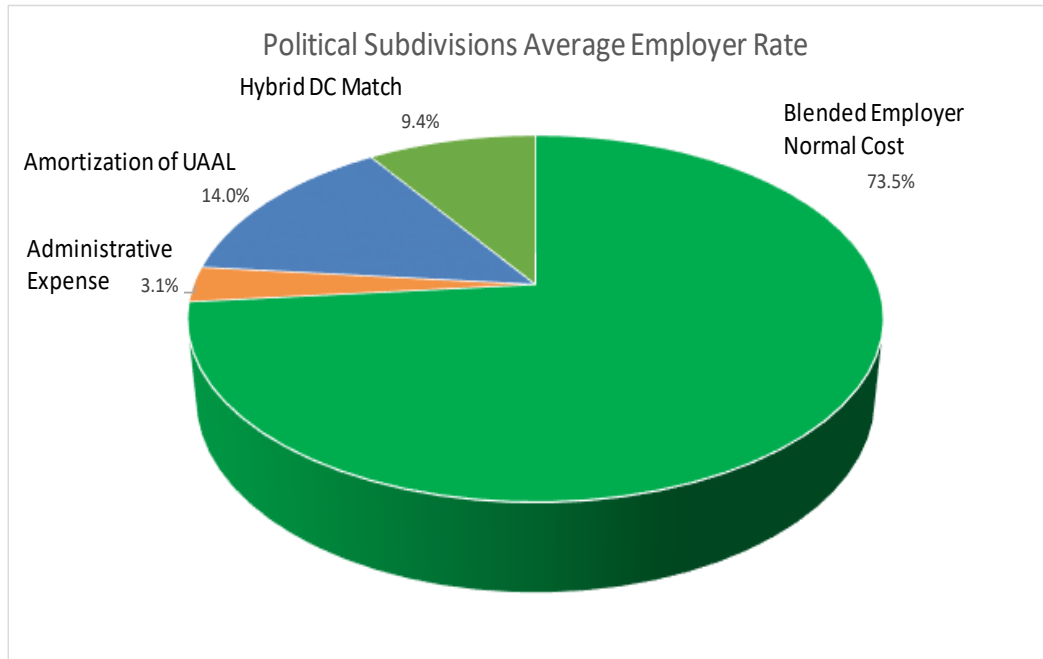


Chart of unfunded liabilities is also shown in appendix on slide 49.

# Source of Change in UAAL

# Breakdown of Employer Costs

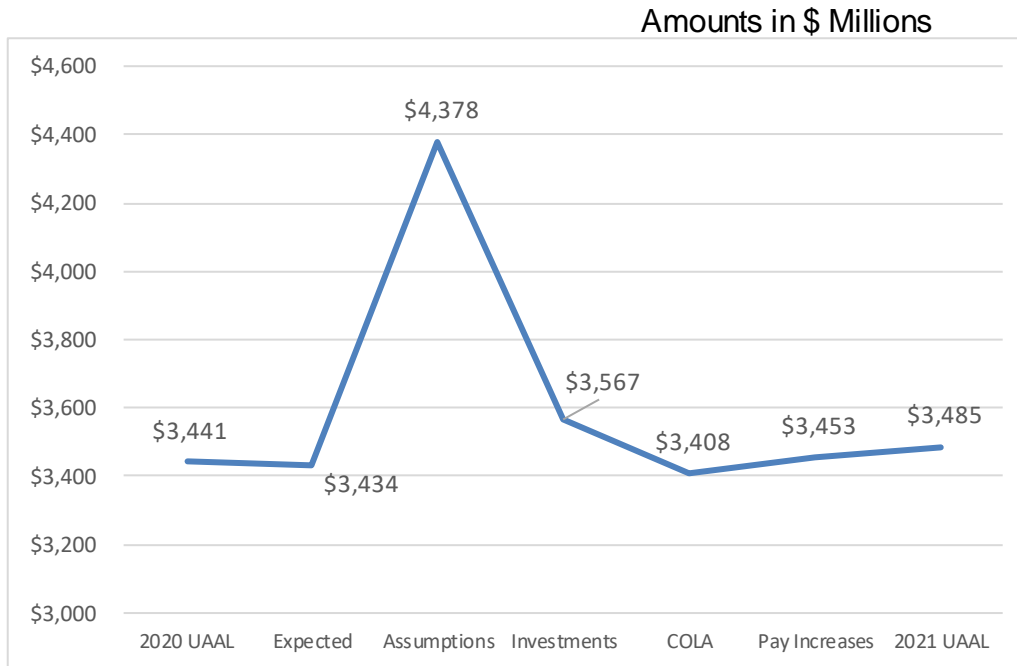


- Normal cost rate remains relatively stable and continues to trend downward in plans that have hybrid membership.
- While over 50% of the employer rate for most of the statewide plans is dedicated to paying down unfunded liabilities, only 14% is dedicated to paying down liabilities for the locals in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

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



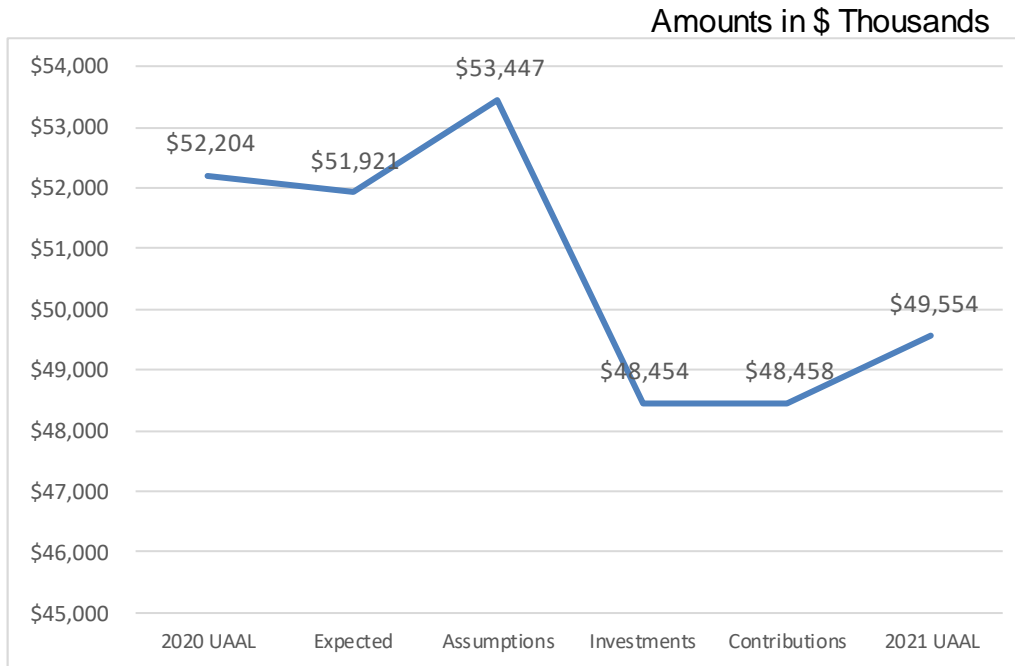
# Change in UAAL due to FYE June 30, 2021 Plan Experience Political Subdivisions



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

- 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.

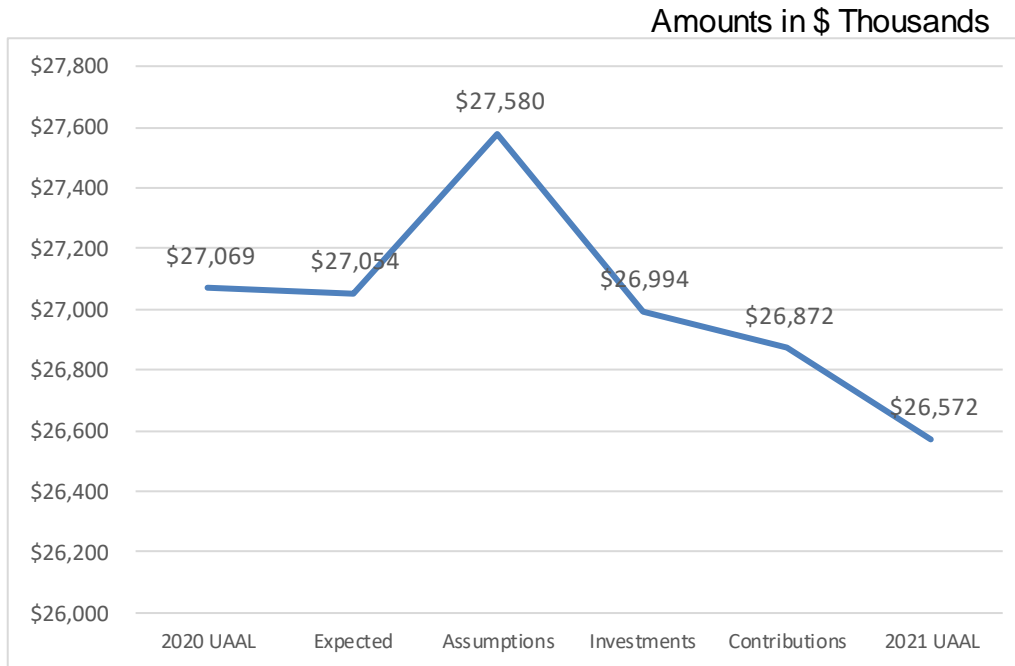
# Change in UAAL due to FYE June 30, 2021 Plan Experience Health Insurance Credit - Political Subdivisions



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

- 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



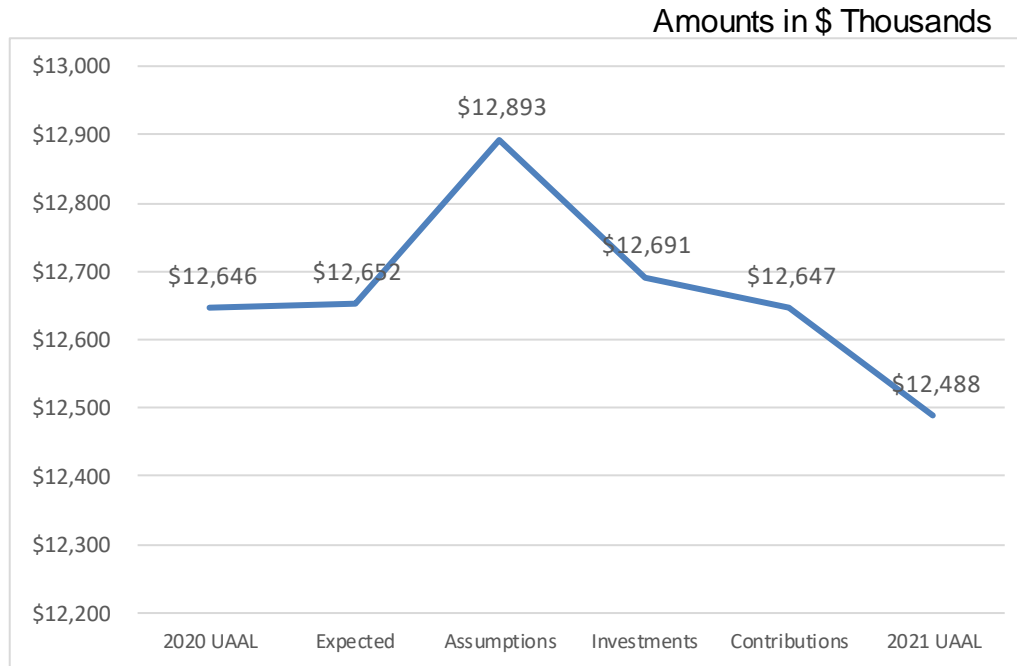
Change in UAAL by Source	
Expected	\$ (15)
Assumptions	526
Investments	(586)
Contributions	(122)
All Else	(300)
<b>Total</b>	<b>(497)</b>

- 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



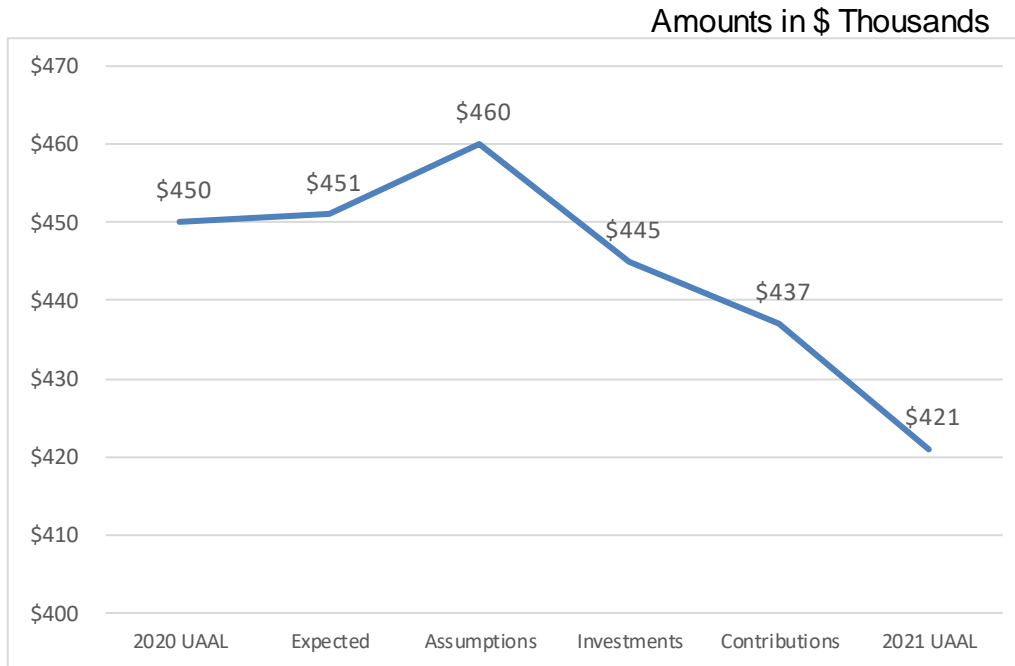
## Health Insurance Credit - Social Services Employees



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

- 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.

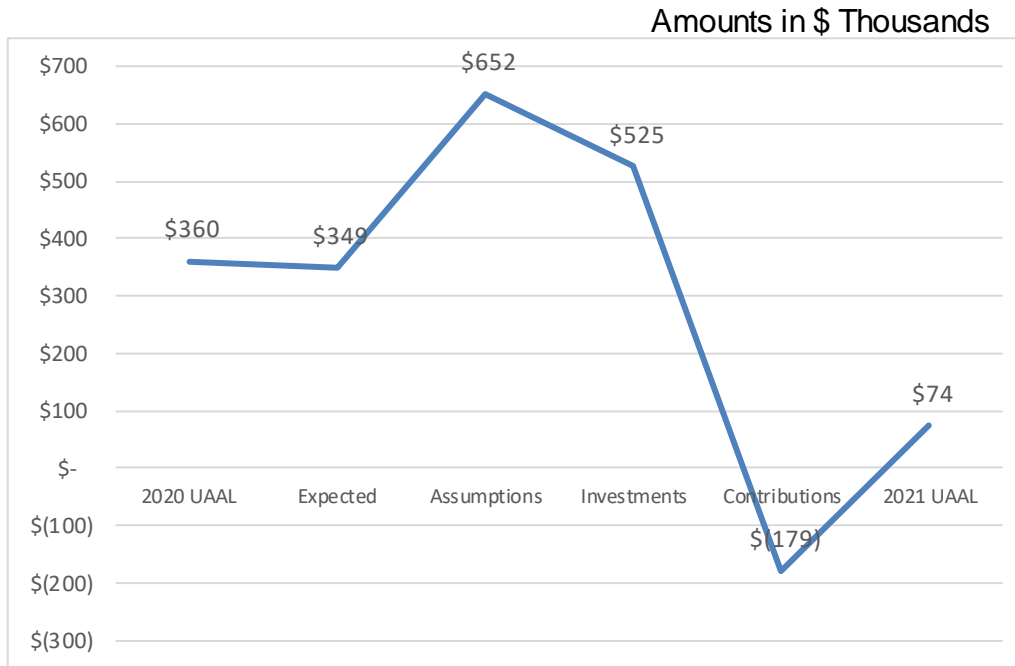
# Change in UAAL due to FYE June 30, 2021 Plan Experience Health Insurance Credit - Registrars



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

- 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.

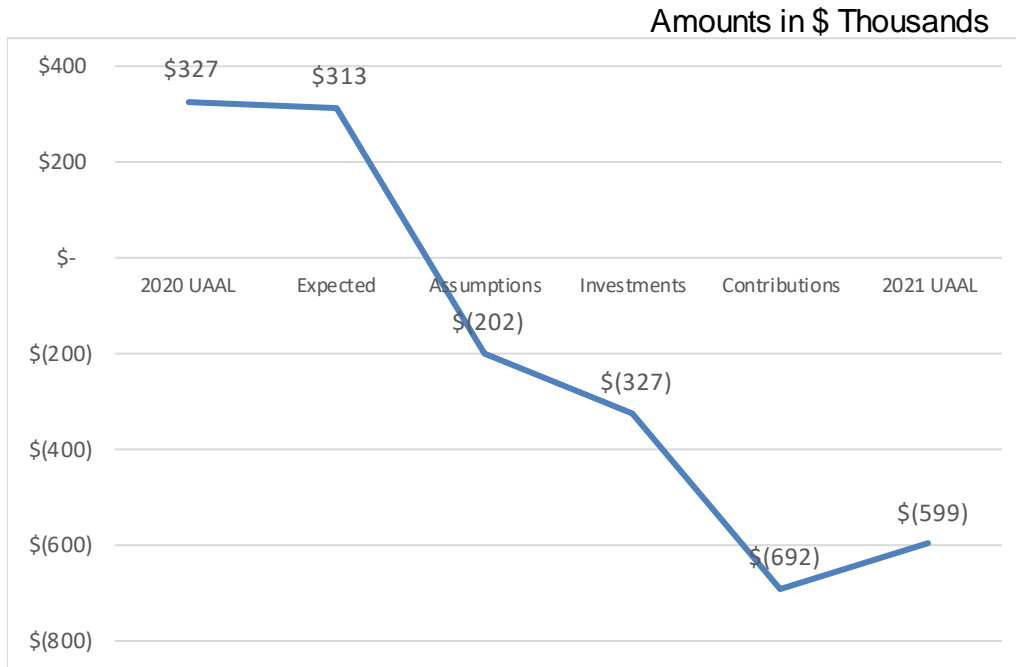
# Change in UAAL due to FYE June 30, 2021 Plan Experience VLDP - Teachers



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

- 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
<b>Total</b>	<b>(926)</b>

- 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.