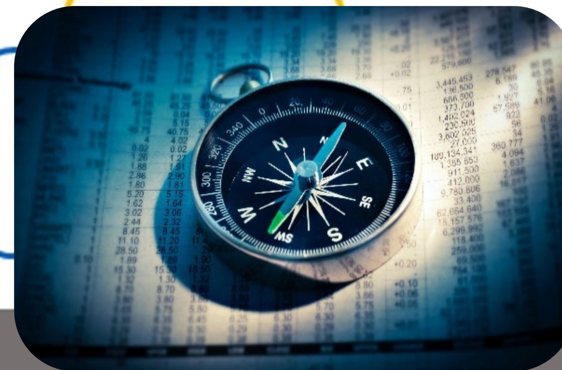
Virginia Retirement System



Status Update on the Virginia Retirement System

October 19, 2021

Presented to: Senate Finance and Appropriations Committee

Patricia Bishop, VRS Director

VRS Total Membership as of June 30, 2021

Virginia Retirement System

	Plan 1	Plan 2	Hybrid	Total
Teachers	63,009	29,284	56,394	**148,687**
Political Subdivision Employees	37,835	30,768	39,247	**107,850**
State Employees	29,007	13,751	30,647	**73,405**
State Police Officers' Retirement System (SPORS)	1,014	916	0	**1,930**
Virginia Law Officers' Retirement System (VaLORS)	2,456	5,296	0	**7,752**
Judicial Retirement System (JRS)	175	46	230	**451**
Total Active Members	**133,496**	**80,061**	**126,518**	**340,075**

Total Active Members
340,075

Retirees/ Beneficiaries
230,951

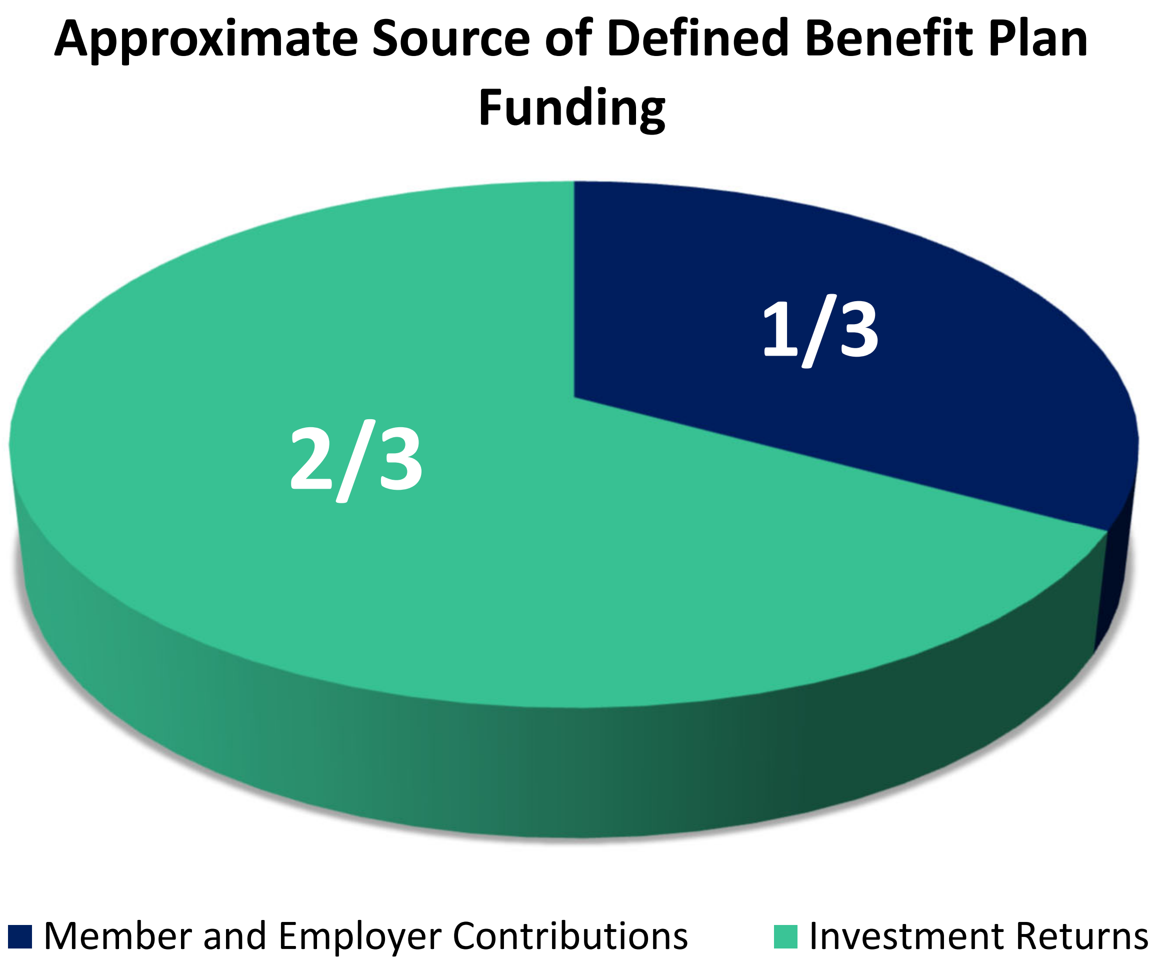
Inactive/Deferred Members
181,085

VRS Total Population
752,111

Virginia
Retirement
System

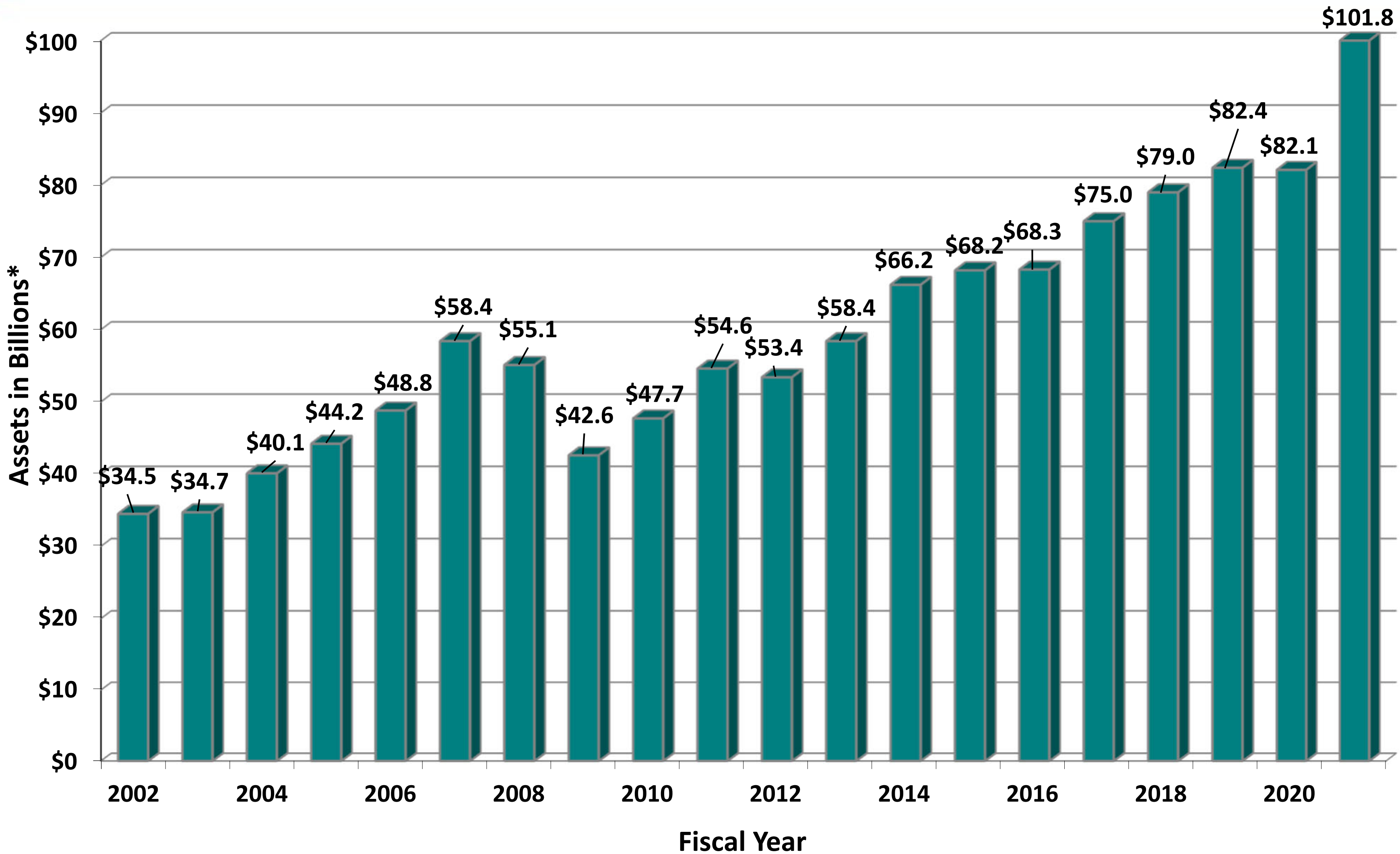
Investments

Source of Pension Funding



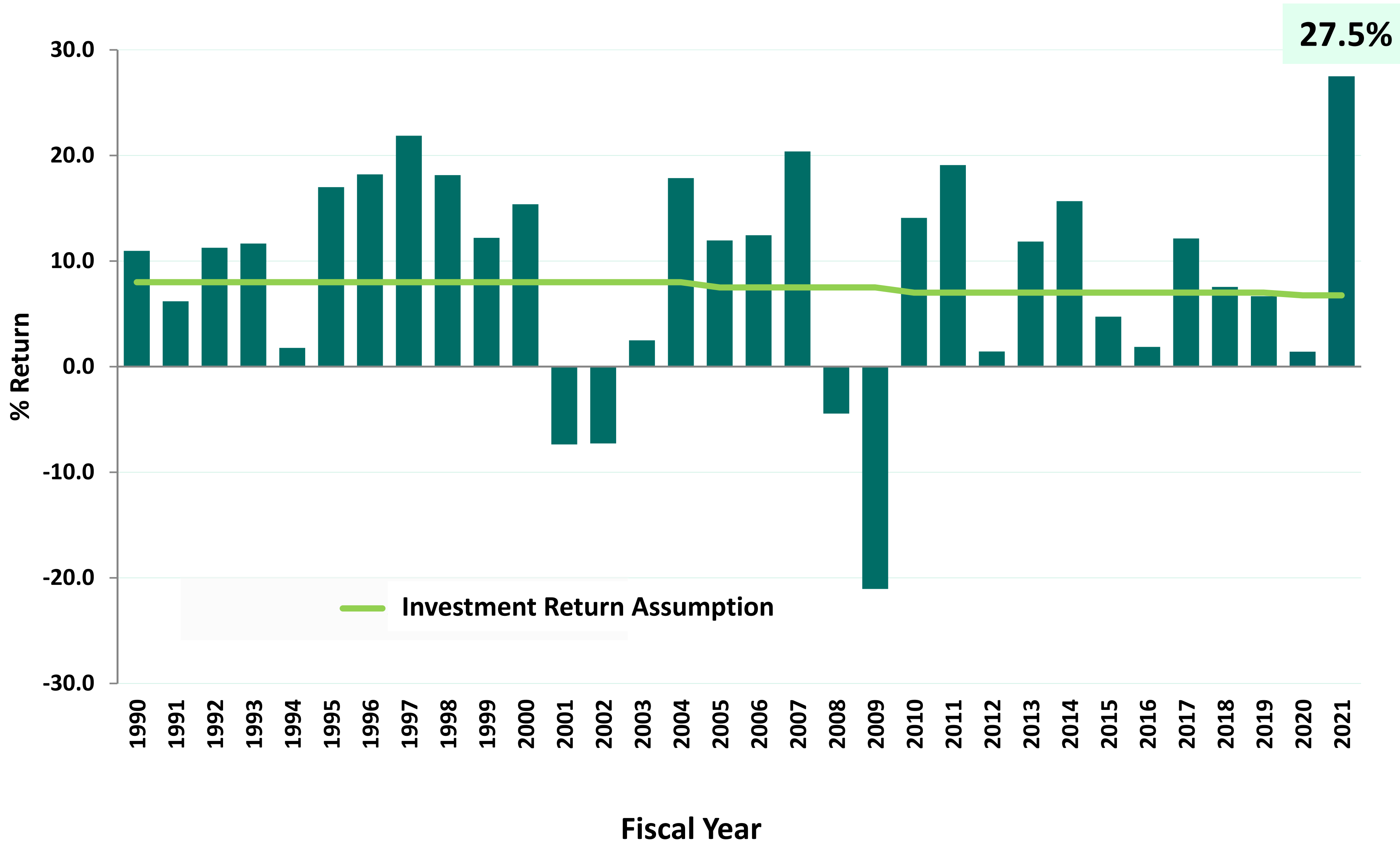
VRS Net Position

Virginia Retirement System



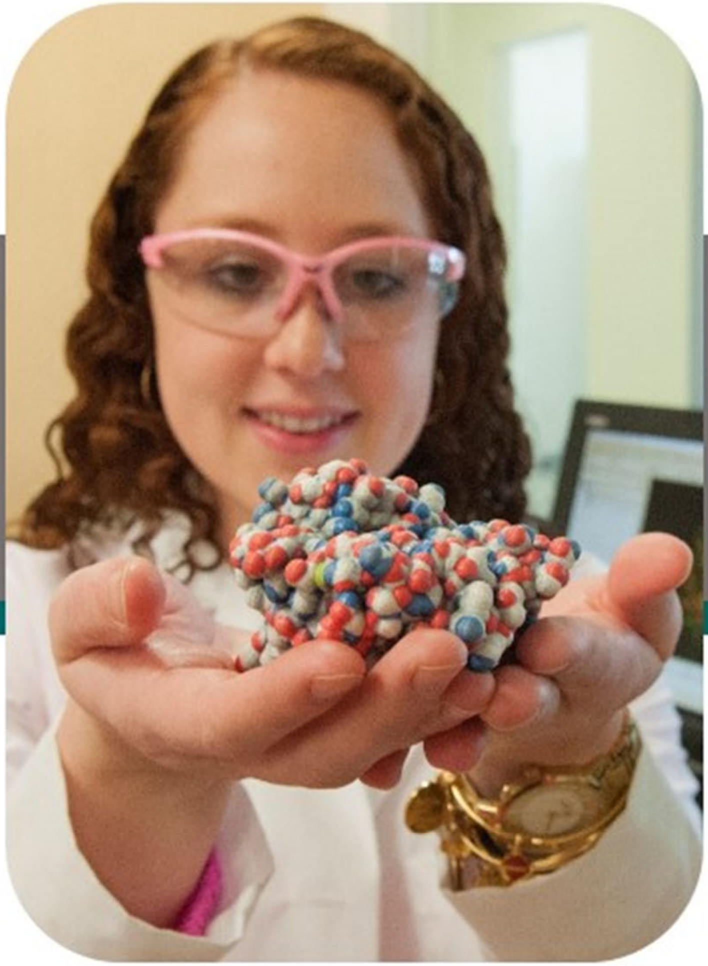
** Values for all years in this table were restated in FY 2020 to reflect the implementation of GASB Statement No. 84.*

VRS Fiscal Year Returns



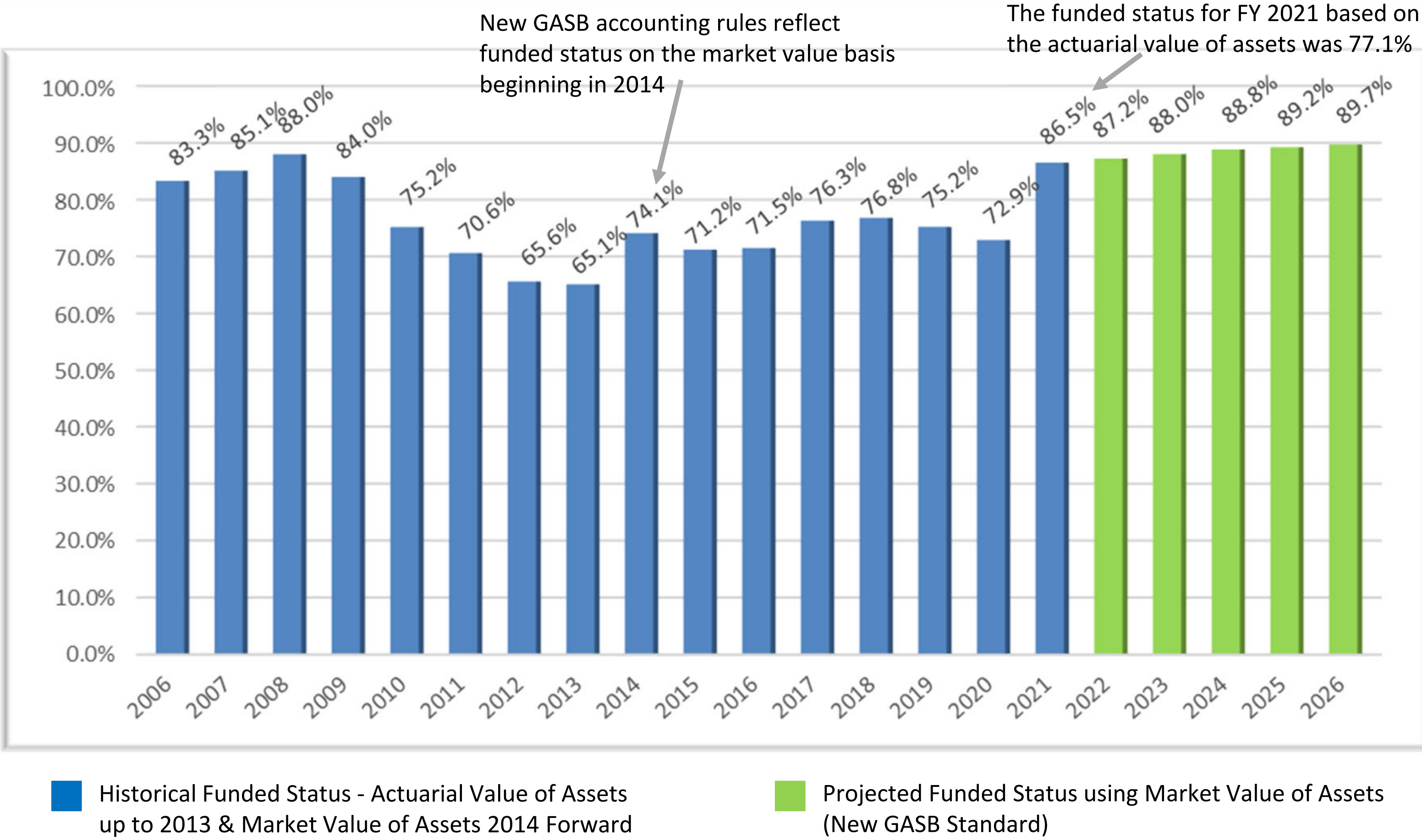
Note: Current investment return assumption is 6.75%.

Funded Status and Contribution Rates



Funded Status: State

Virginia Retirement System



State Plan Unfunded Liability as of 6/30/2021

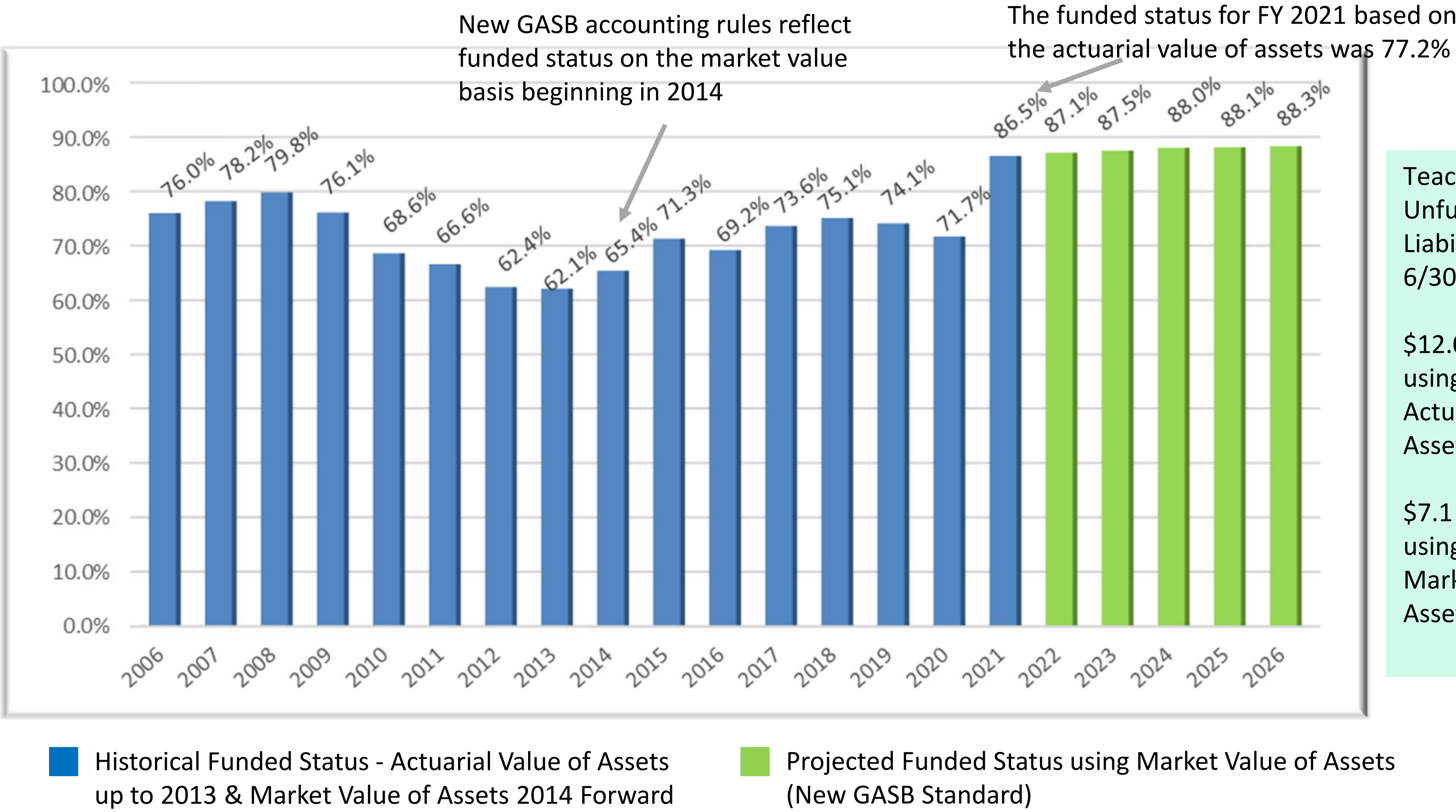
$6.1 Billion using Actuarial Assets

$3.6 Billion using Market Assets

Notes:

- Projected funded status based on assumed investment returns of 6.75% and inflation of 2.5%.
- GASB Accounting rules reflect funded status using Market Value of Assets effective 6/30/14 for Plan Reporting and 6/30/15 for Employer Reporting.

Funded Status: Teachers



Teacher Plan Unfunded Liability as of 6/30/2021

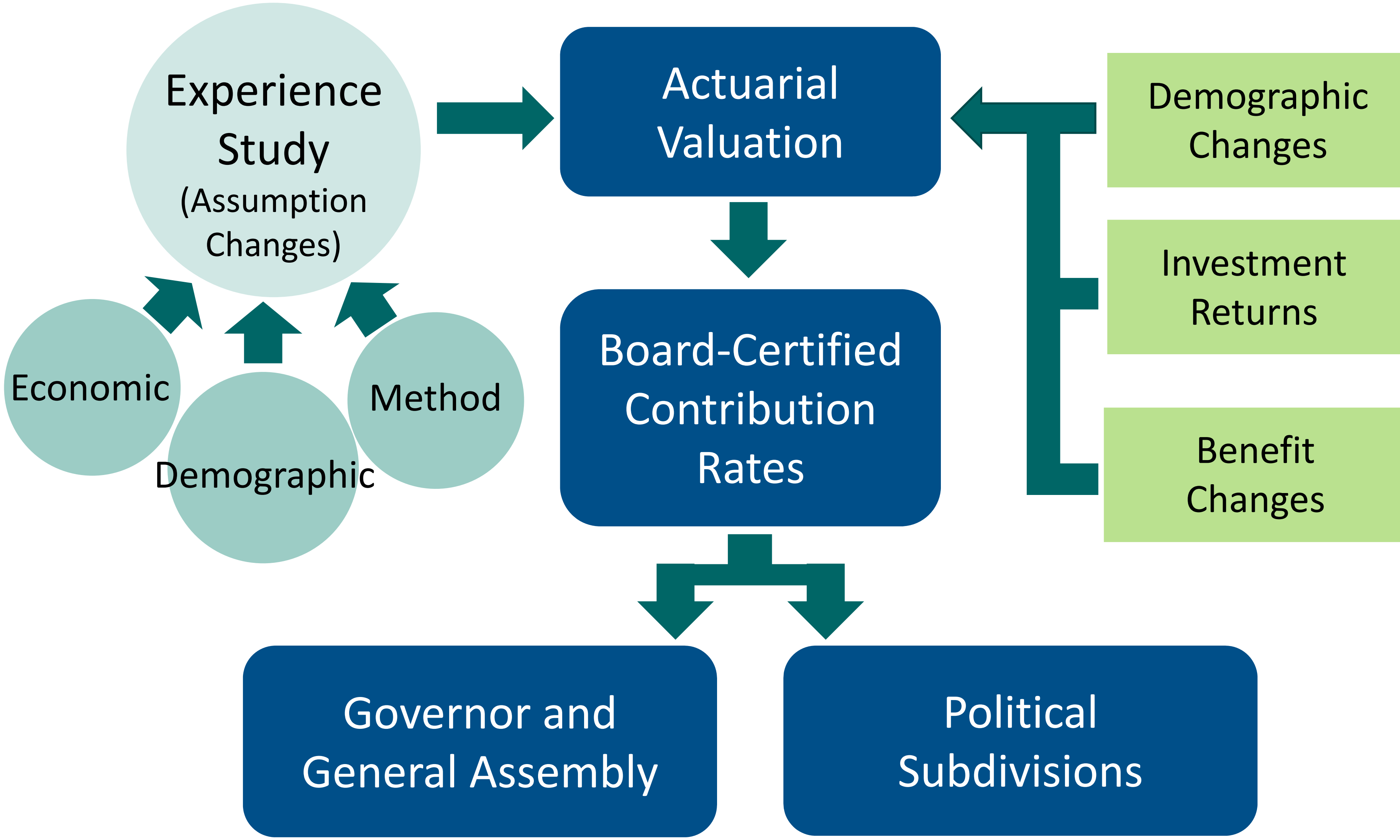
$12.0 Billion using Actuarial Assets

$7.1 Billion using Market Assets

Notes:

- Projected funded status based on assumed investment returns of 6.75% and inflation of 2.5%.
- GASB Accounting rules reflect funded status using Market Value of Assets effective 6/30/14 for Plan Reporting and 6/30/15 for Employer Reporting.

Contribution Rate Development



Experience Study

Mortality Assumption Updates

- Includes explicit assumption that future generations live longer than current generation
- Uses public-sector specific mortality experience
- Assumes members with larger benefits tend to live longer, so includes benefits-weighted rather than age-weighted factors
- Future adjustments related to mortality improvement should be minimized using generational mortality

Employer Contribution Rates and Funding Requirements for Statewide Plans

Virginia Retirement System

Plan	Fiscal Year 2021	Fiscal Year 2022	Fiscal Year 2023
State	14.46%	14.46%	14.13%
SPORS	26.33%	26.33%	29.98%
VaLORS	21.90%	21.90%	24.60%
JRS	29.84%	29.84%	30.67%
Teachers	16.62%	16.62%	14.76%
Total Estimated Employer Contributions	$2,238,472,000	$2,351,408,000	$2,233,507,000
General Fund	$977,577,000	$1,027,328,000	$990,033,000
Non-General Fund	$1,260,895,000	$1,324,080,000	$1,243,474,000

- Estimated funding for FY 2022 is based on actual FY 2021 payroll with increases as outlined in the Governor's budget.
- Estimated funding for FY 2023 is based on estimated FY 2022 payroll projected forward with plan assumptions.
- Actual funding will be based on payrolls in effect at time of billing.

Virginia Retirement System Unfunded Pension Liabilities by Plan (Dollars in Thousands)

System	UAAL based on AVA (Dollars in thousands)	
	2020	2021
State	$ 6,417,661	$ 6,112,670
Teachers	$ 13,278,662	$ 12,021,814
SPORS	$ 325,590	$ 389,314
VaLORS	$ 712,025	$ 738,351
Judicial	$ 111,633	$ 132,738
Total State-wide systems	$ 20,845,571	$ 19,394,887
Political Subdivisions	$ 3,441,151	Will be available in November.
Total Fund	$ 24,286,722	

System	UAAL based on MVA (Dollars in thousands)	
	2020	2021
State	$ 6,981,267	$ 3,615,554
Teachers	$ 14,385,554	$ 7,129,718
SPORS	$ 351,662	$ 276,498
VaLORS	$ 758,084	$ 538,229
Judicial	$ 128,417	$ 60,256
Total State-wide systems	$ 22,604,984	$ 11,620,255
Political Subdivisions	$ 4,076,749	Will be available in November.
Total Fund	$ 26,681,733	

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

OPEB Rates

System	2019 Actuarial Valuation Fiscal Years 2021/2022	2021 Actuarial Valuation Fiscal Years 2023/2024
Group Life	1.34%	1.19%
HIC State	1.12%	1.04%
HIC Teachers	1.21%	1.21%
VSDP	0.61%	0.56%
HIC Locals in Aggregate	0.59%	Will be available in November.
HIC Constitutional Officers	0.36%	
HIC Social Services	0.38%	
HIC Registrars	0.39%	
VLDP Teachers	0.47%	
VLDP Political Subdivisions	0.83%	

Unfunded OPEB Liabilities and Funded Status by Plan (Dollars in Thousands)

Virginia Retirement System

System	2020		2021	
	UAAL based on MVA (Dollars in Thousands)	Funded Status	UAAL based on MVA (Dollars in Thousands)	Funded Status
Group Life	$ 1,728,029	51.8%	$ 1,111,390	68.5%
HIC State	$ 899,066	12.2%	$ 835,514	20.0%
HIC Teachers	$ 1,286,380	10.1%	$ 1,277,095	13.2%
VSDP	$ (241,350)	197.0%	$ (361,816)	244.7%
HIC Locals in Aggregate	$ 52,204	31.9%	Will be available in November.	
HIC Constitutional Officers	$ 27,069	15.9%		
HIC Social Services	$ 12,646	13.3%		
HIC Registrars	$ 450	21.9%		
VLDP Teachers	$ 447	86.6%		
VLDP Political Subdivisions	$ 433	88.5%		

Unfunded liabilities and funded status using market value of plan assets.

Hybrid Retirement Plan

Hybrid Retirement Plan

Virginia Retirement System

Defined Benefit (DB) Component

Provides a lifetime monthly benefit based on a formula

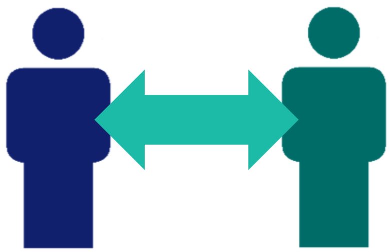
- **Mandatory *Employee* Contribution 4%**
- ***Employer* Contribution Varies based on contributions to the DC component**

Defined Contribution (DC) Component

Provides a balance to draw from in retirement based on contributions and investment performance

- **Mandatory *Employee* 401(a) Contribution 1%**
  - **Mandatory *Employer* 401(a) Contribution 1%**
- **Voluntary *Employee* 457 Contribution 0–4%**
  - ***Employer* Matching 401(a) Contribution 0–2.5%**

Hybrid Retirement Plan



Shares risk between employer/employee

Increases portability

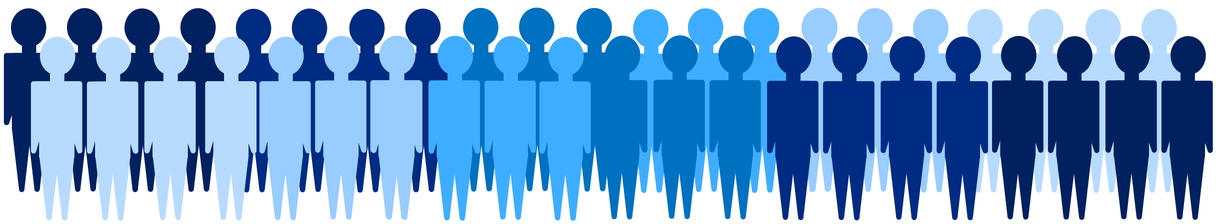
Reduces employer investment risk

Reduces employer longevity risk

Lowers future costs of the plan

Hybrid Retirement Plan

Hybrid Retirement Plan Member Profile as of July 1, 2021



126,386

Active Hybrid Retirement Plan members

Largest Member Group

Teachers

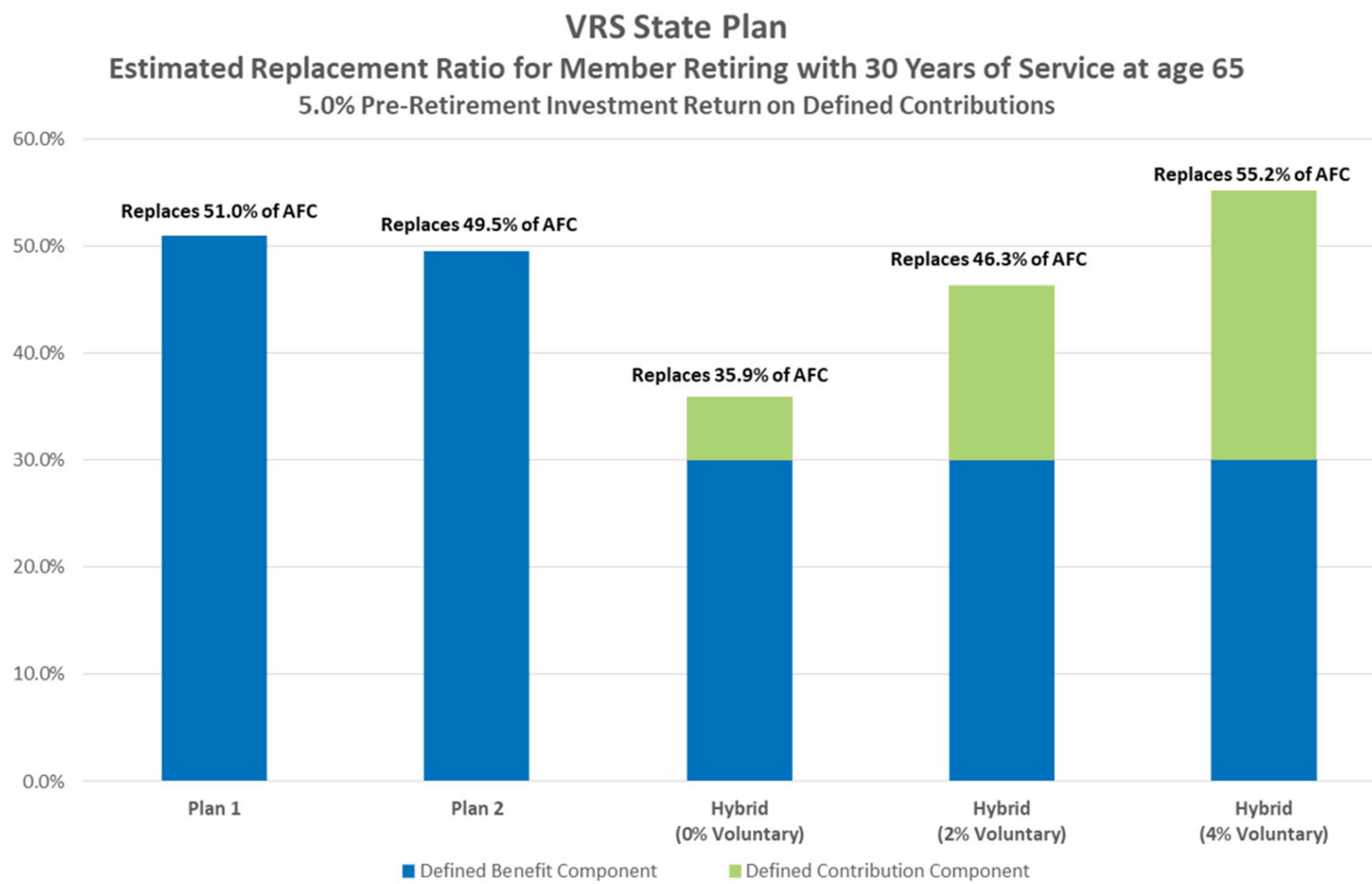
57,020 members

(45%)

Median Salary	Median Age	Average Years in the Plan
$45,230	**38 years old**	**2.86**

All data is as of 7/1/21 unless otherwise noted. 'Active' is defined as being actively employed in the Hybrid Retirement Plan with a balance in the Hybrid 401(a).

Estimated Replacement Ratios
State Plan by Benefit Tier



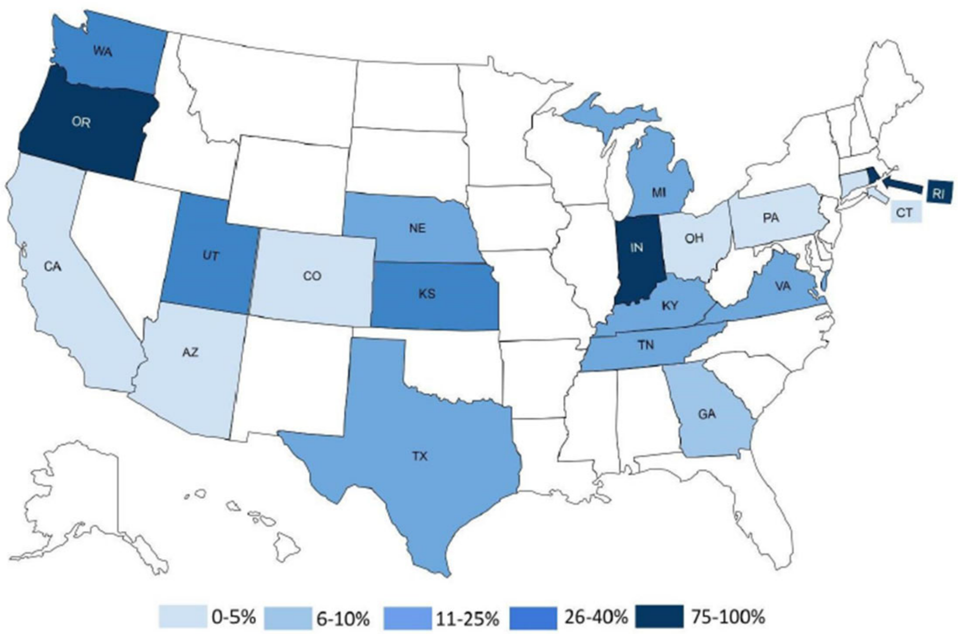
- Plan 1 and Plan 2 require a 5% total member contribution
- Hybrid 0% voluntary requires a 5% total member contribution.
- Hybrid 2% voluntary requires a 7% total member contribution.
- Hybrid 4% voluntary requires a 9% total member contribution.

- Investment return for defined contribution investments is assumed to be 5.0% per year and converted to annuity assuming 4% post-retirement discount rate and 2.25% COLA.
- Income replacement percentage, based on final average final compensation (AFC).

Percentage of Public Employees who Participate in a Hybrid Plan (Cash Balance or DB-DC)

States with Cash Balance Plans: 5 (CA, KS, KY, NE, TX)

States with DB-DC Plans: 14 (AZ, CO, CT, GA, IN, MI, OH, OR, PA, RI, TN, UT, VA, WA)



Source: National Association of State Retirement Administrators. (2021, June). *Issue Brief: State Hybrid Retirement Plans*.

Hybrid Plan Contributions in Other States

Most state hybrid retirement plans provide greater employer contributions than Virginia to the defined contribution portion of their plans:

- One-third of the hybrid retirement plans:
  - Employer fully funds the defined benefit portion of the plan
  - Employee makes no contribution to the defined benefit plan
- One-third of hybrid retirement plans require:
  - Employee contributes 4% or less to the defined benefit plan
- One-third of hybrid retirement plans require:
  - Employee contributes 4% or more to the defined benefit portion of the plan

Prior Proposals – Hybrid Plan Modifications

- Accelerate auto-escalation to 0.5% increase in voluntary contributions every two years for members not at the maximum voluntary level.

- Auto-enroll with voluntary contribution at 0.5% upon date of hire, with ability to opt-out.

- Change allocation of member contribution.
  - Current 4% DB and 1% DC.
  - Proposed 3% DB and 2% DC.

Estimated Costs of Proposed Changes to the Hybrid Retirement Plan

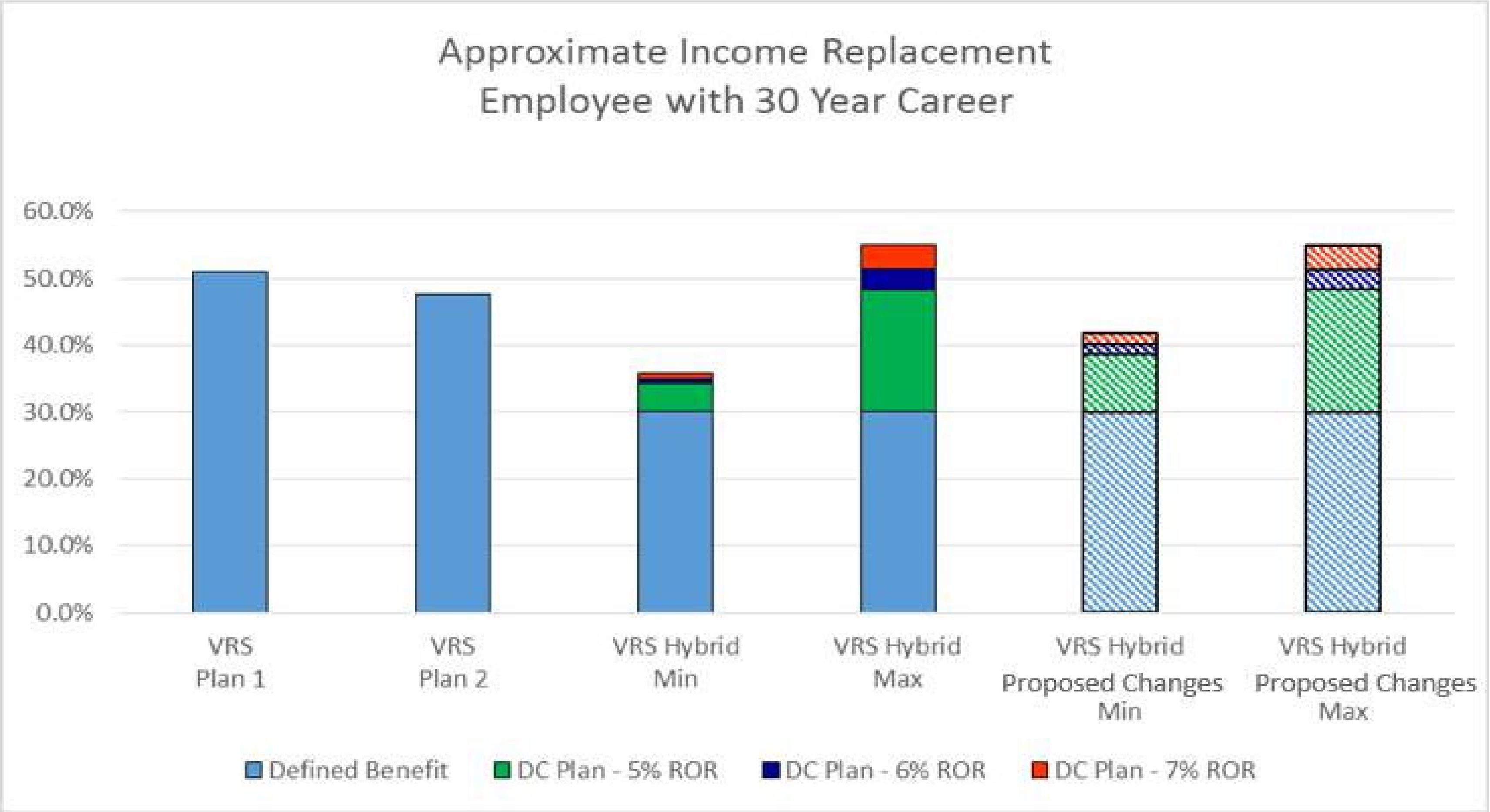
Virginia Retirement System

Prior Proposed Hybrid Plan Modifications Estimated Cost Impacts - State Plan	FY 2023	FY2033	FY 2043
Auto Escalation Every Two-Years - 50% Retention			
- Estimated Impact as % of Covered Payroll	0.02%	0.10%	0.22%
- Estimated Covered Payroll	$4,730,277,000	$6,150,104,000	$8,135,134,000
- Estimated Cost Impact - 50% Retention	$946,100	$6,150,100	$17,897,300
Auto Enrollment at 0.5% - 50% Retention			
- Estimated Impact as % of Covered Payroll	0.02%	0.15%	0.16%
- Estimated Covered Payroll	$4,730,277,000	$6,150,104,000	$8,135,134,000
- Estimated Cost Impact - 50% Retention	$946,100	$9,225,200	$13,016,200
Change Member Contributions from 4% DB / 1% DC to 3% DB / 2% DC			
- Estimated Impact as % of Covered Payroll	0.97%	1.62%	1.91%
- Estimated Cost Impact	$45,883,700	$99,631,700	$155,381,100

The estimated cost impacts of modifying the auto-escalation and auto enrollment features would depend heavily on the opt-out rate of members.

Please note, that it is difficult to predict the opt-out patterns of voluntary contributions for current and future employees. Our analysis of opt-out activity assumes 50% of members will continuously elect to opt-out at the different rates over their entire career. However, some members may be comfortable in auto-escalating to a certain voluntary contribution level, but may opt-out in future years.

Estimated Income Replacement Ratios
30-Year Career Employee



- Modeled above are the estimated replacement ratios for a 30-year employee hired at age 35. The hybrid plan is modeled assuming three sets of long-term rates of return on DC fund balances, 5%, 6% and 7%.

Virginia Retirement System

Strategies to Enhance Funding

Strategies to Enhance Funding

VRS continues to support strategies to lower the legacy unfunded liabilities of the plans.

Reducing unfunded liabilities reduces plan costs by avoiding compounded interest that is charged when amortizing over long periods of time.

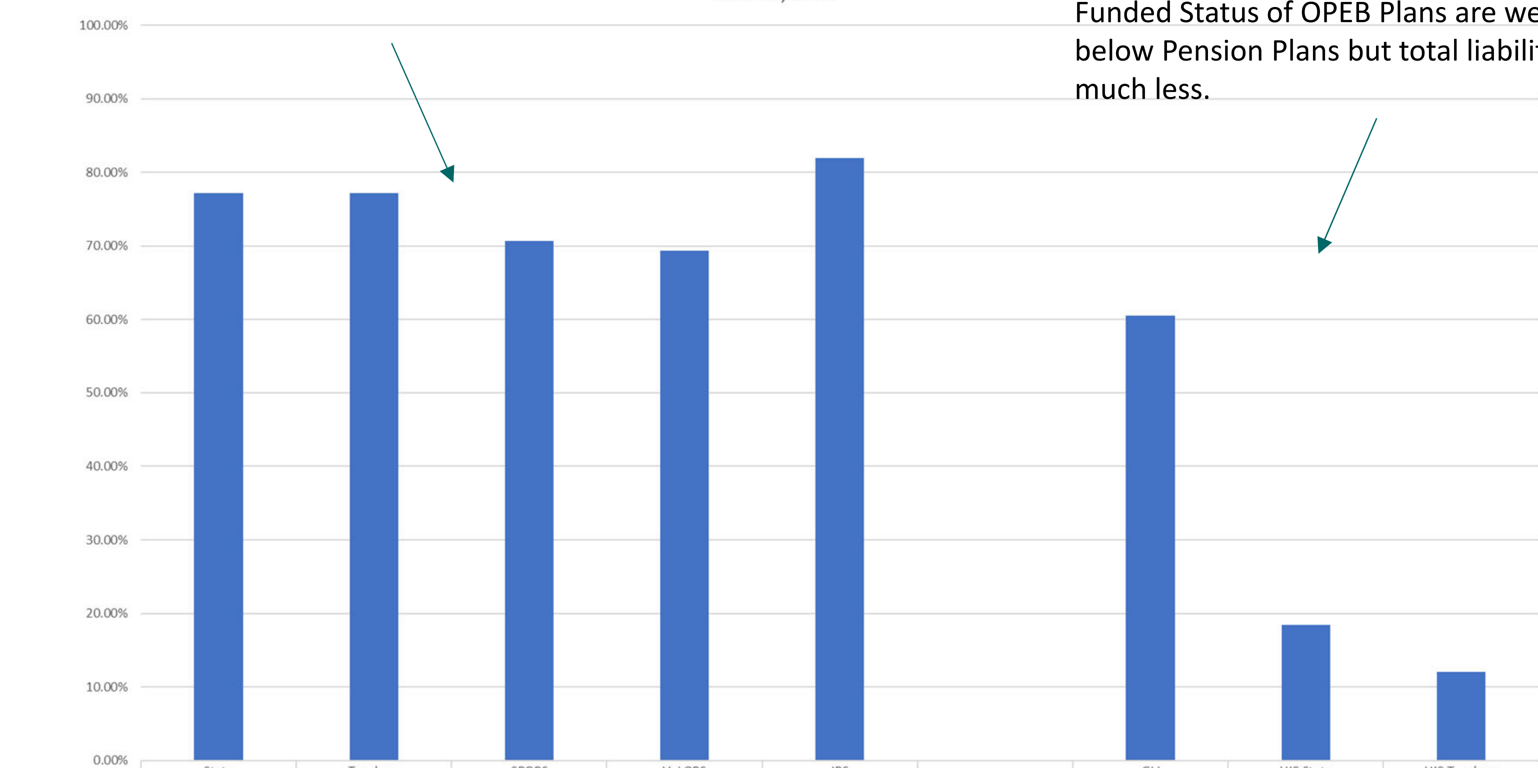
Paying down unfunded liabilities on a more accelerated basis may also help to cushion any potential uncertainty that could occur with future market downturns.

Funded Status for Statewide Plans

Virginia Retirement System

Funded Status of Pension Plans are improving but significant unfunded liabilities exist in State and Teacher Plans.

Funded Status of OPEB Plans are well below Pension Plans but total liability is much less.



	State	Teachers	SPORS	VaLORS	JRS		GLI	HIC State	HIC Teachers
Funded Status	77.13%	77.21%	70.65%	69.33%	81.90%		60.58%	18.39%	12.06%
Unfunded Liabilty	$6,112,670,000	$12,021,814,000	$389,314,000	$738,351,000	$132,738,000		$1,389,277,000	$852,591,000	$1,293,999,000

Unfunded liabilities and funded status based on actuarial value of assets.

Funding Strategies

Virginia Retirement System

Shorten amortization period for legacy unfunded liabilities

Consider level dollar amortization method rather than level percent of pay:

- Front loads payments
- Reduces risk
- Protects against potential shrinking payroll

Maintain current contribution rates even if experience lowers employer rate:

- Budget neutral
- Reduces risk
- Accelerates funding
- Improves funded status
- Lowers liabilities

Provide one-time infusions into the plan

Analyze short- and long-term cost implications for any benefit enhancements and fully fund associated liabilities

Shorten Amortization Period

Virginia Retirement System

Accelerates the pay-back of unfunded liabilities.

As an example, reducing the amortization period from 22 to 20 years for the State pension plan would increase costs by approximately 0.73% of pay, or initially $30 million.

Interest savings on outstanding balances could amount to approximately $915 million over the 20-year period.

Note: Detailed projections can be found in the appendix on slides 40 and 41.

Level Dollar Amortization

May be more favorable method if headcounts or payrolls are not expected to increase as anticipated into the future.

For example, moving to level dollar for the State HIC plan could save $106 million in interest payments, or $221 million when combined with shortening period to 20 years.

Would require an increase in rate of approximately 0.27% of covered payroll but would decrease each year as percent of payroll and would become less expensive than current method after 10 years. Initial increase in funding would be approximately $21 million.

Note: Detailed projections can be found in the appendix on slides 42 and 43.

One-time Infusions

One-time infusions can be used to accelerate the pay down of unfunded liabilities.

As an example, the $38.7 million provided to the State HIC plan increased the funded status from 14.7% to 18.4% as of June 30, 2021.

The additional contribution also lowered the employer rate by 0.04% of payroll or initially approximately $3 million in 2022.

Maintain Higher Rates

Maintain higher rates following years of favorable actuarial experience in which the rates would otherwise decrease.

As an example, the Teacher plan had favorable experience following the 2021 actuarial valuation and rates dropped from 16.62% to 14.76%.

Maintaining higher rates would collect an additional $345 million in contributions over the biennium which could increase funded status by nearly 70 basis points and lower unfunded liabilities by nearly $382 million without increasing budget.

Virginia Retirement System

Separating DB and DC Contribution Rates

Overview

- VRS Board plans to request legislation to streamline the administration of each component of the Hybrid Retirement Plan by separating the defined benefit (DB) and defined contribution (DC) rates.

- The proposed legislation would separate the DC component of the Hybrid Retirement Plan from the total employer rate, which is currently a blend of DB and DC rates.

Separating DB and DC Contribution Rates – Proposed Legislation

Virginia Retirement System

Reduce the administrative burden of reconciliation efforts as the hybrid plan becomes the dominant plan.

Potentially allow members the flexibility to change their voluntary contributions more often (currently limited to quarterly).

Allow member contributions to be invested more quickly.

- Allows employers to administer the defined contribution component in similar way they administer other supplemental plans.
- Proposed legislation would be introduced in the 2022 session, with a delayed implementation date of July 1, 2024.

Virginia Retirement System

Serving those who serve others.
Helping members plan for tomorrow, today.

Virginia Retirement System

Appendix

One-Time Infusions

Virginia Retirement System

Pension Plans

	State	Teachers	SPORS	VaLORS	JRS
Estimated Funded Status FY 2022	80.4%	79.8%	75.7%	73.4%	83.3%
Cash Infusion Amount	**Impact of One-Time Cash Infusions Prior to June 30, 2022**				
$50,000,000	80.6%	79.8%	79.4%	75.4%	89.8%
$100,000,000	80.8%	79.9%	83.2%	77.5%	96.3%
$150,000,000	81.0%	80.0%	86.9%	79.5%	102.9%
$200,000,000	81.2%	80.1%	90.6%	81.5%	109.4%
$250,000,000	81.3%	80.2%	94.4%	83.6%	115.9%

OPEB Plans

	GLI	HIC State	HIC Teachers	Constitutional Officers	Social Services	Registrars
Estimated Funded Status FY 2022	64.0%	19.0%	13.8%	21.4%	16.2%	26.0%
Cash Infusion Amount	**Impact of One-Time Cash Infusions Prior to June 30, 2022**					
$50,000,000	65.4%	23.7%	17.2%	100%*	100%*	100%*
$100,000,000	66.7%	28.5%	20.6%			
$150,000,000	68.1%	33.3%	24.0%			
$200,000,000	69.4%	38.1%	27.4%			
$250,000,000	70.7%	42.8%	30.7%			

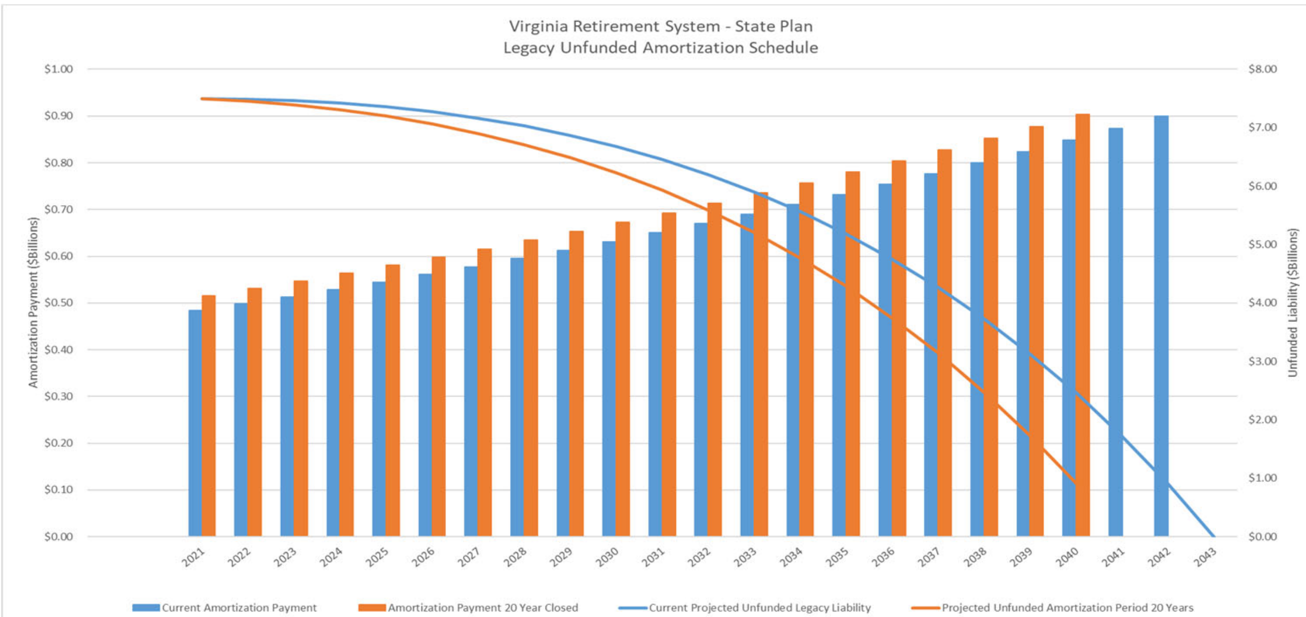
* Contribution of $40 million will move State funded HIC for Constitutional Officers, Social Services, and Registrars to 100% funded.

Funded status based on actuarial value of assets.

Examples of Strategies to Enhance Funding

Shorten Amortization Period of Legacy Unfunded Liability

- As of June 30, 2020, the State plan legacy unfunded liability has 23 years of the original 30 years remaining to be paid with an outstanding balance of $7.5 billion.
- Under the current amortization schedule, $7.3 billion of interest will be paid over the next 22 years on the outstanding balance.
- Adjusting the remaining period for the legacy unfunded liability down to 20 years beginning with the 2021 valuation would avoid any additional negative amortization and save the State $915 million in interest payments.

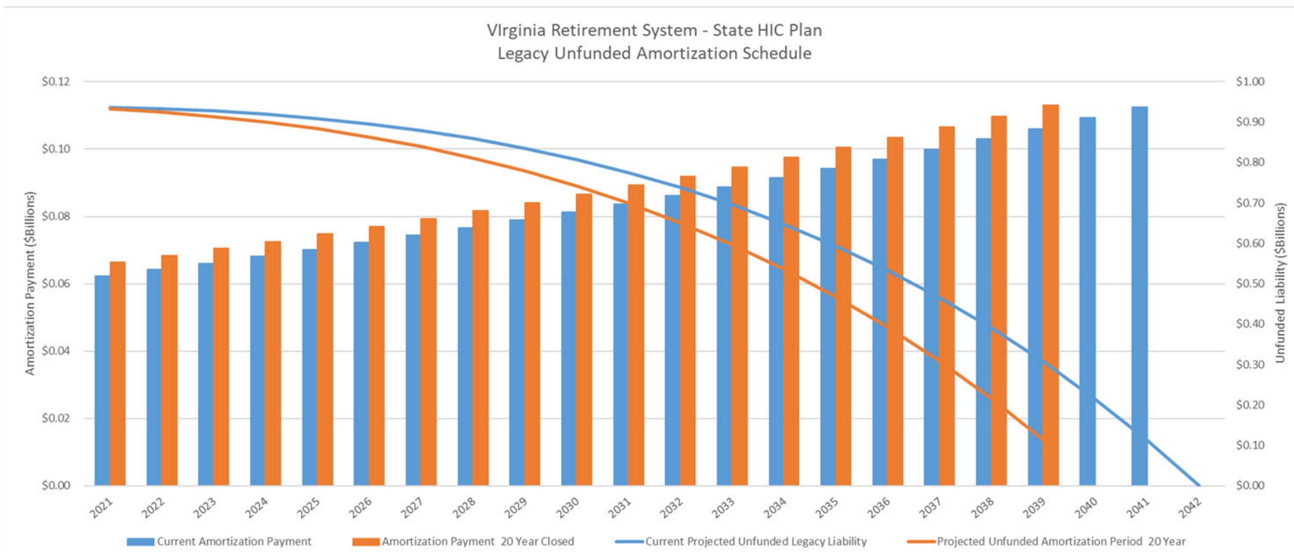


- The shorter amortization period would increase employer rates by approximately 0.73% of covered payroll each year of the amortization period which initially would be approximately $30 million in additional funding for the State plan.

Examples of Strategies to Enhance Funding

Shorten Amortization Period of Legacy Unfunded Liability

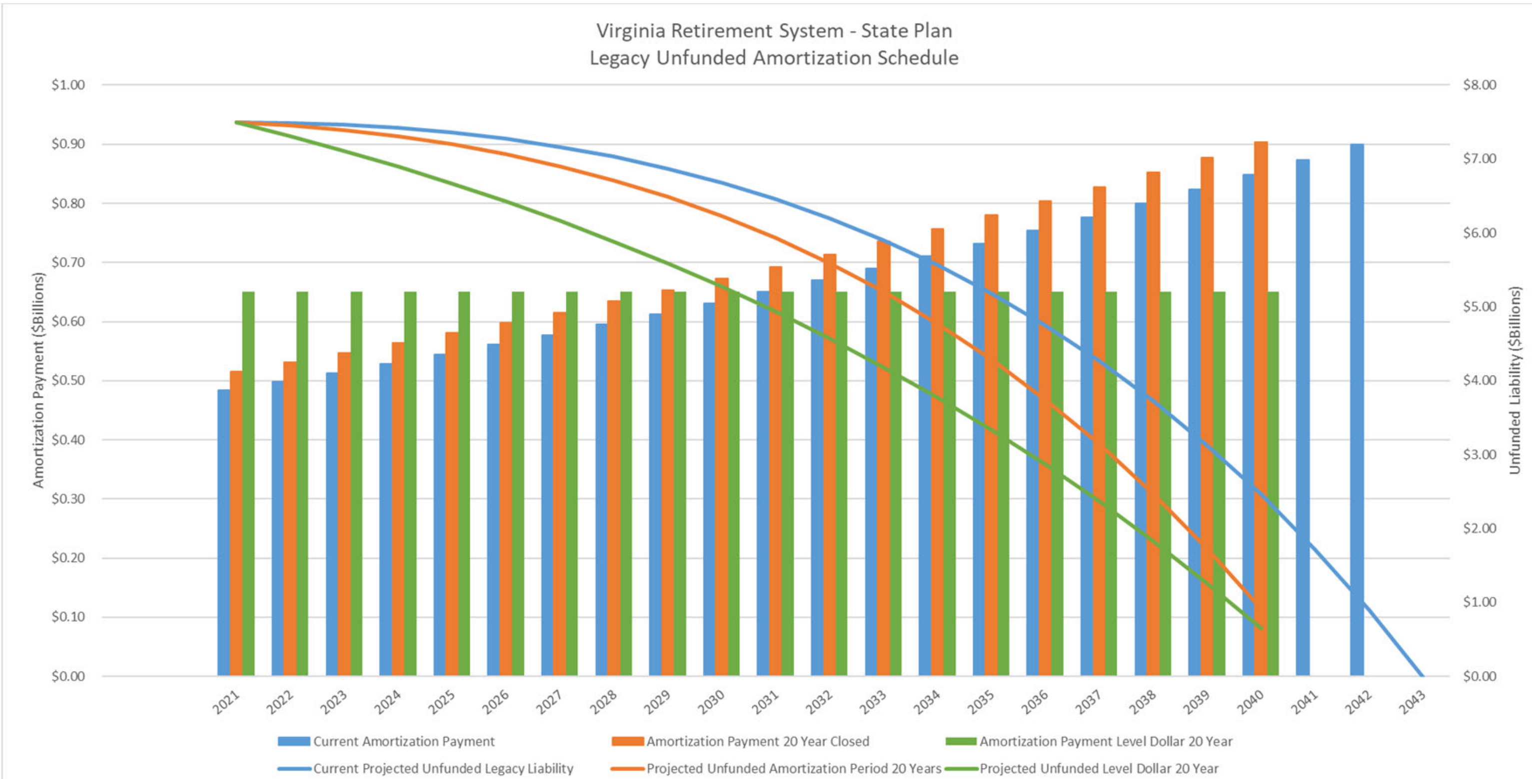
- As of June 30, 2020, the State HIC plan legacy unfunded liability has 23 years of the original 30 years remaining to be paid with an outstanding balance of $937 million.
- Under the current amortization schedule, $909 million of interest will be paid over the next 22 years on the outstanding balance.
- Adjusting the remaining period for the legacy unfunded liability down to 20 years beginning with the 2021 valuation would avoid any additional negative amortization and save the State $114 million in interest payments.



- The shorter amortization period would increase employer rates by approximately 0.05% of covered payroll each year of the amortization period which initially would be approximately $4 million in additional funding for the State HIC plan.

Examples of Strategies to Enhance Funding

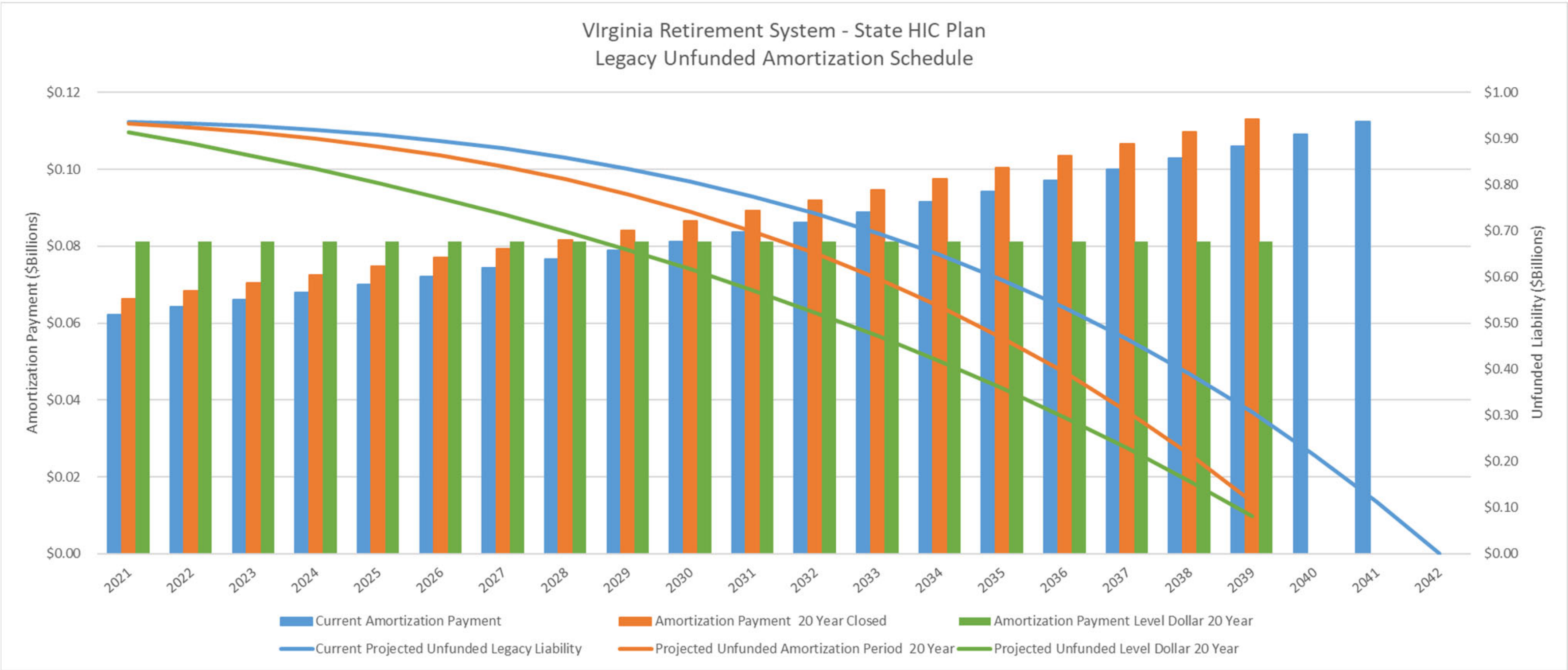
Move to Level Dollar Amortization of Legacy Unfunded Liability



- Adjusting the amortization method for the legacy unfunded liability to level dollar beginning with the 2021 valuation could save the State an additional $849 million in interest payments, or approximately $1.7 billion when combined with shortening the amortization period to 20 years.
- The shorter amortization period when combined with the change in amortization method would initially increase employer rates by approximately 3.69% of covered payroll but would decrease each year of the amortization period and would become less expensive after 10 years. The initial increase would be approximately $167 million in additional funding for the State plan.

Examples of Strategies to Enhance Funding

Move to Level Dollar Amortization of Legacy Unfunded Liability



- Adjusting the amortization method for the legacy unfunded liability to level dollar beginning with the 2021 valuation could save the State an additional $106 million in interest payments, or approximately $221 million when combined with shortening the amortization period to 20 years.
- The shorter amortization period when combined with adjusting amortization method to level dollar would initially increase employer rates by approximately 0.27% of covered payroll but would decrease each year of the amortization period and would become less expensive after 10 years. The initial increase would be approximately $21 million in additional funding for the State plan.