PENSION BENEFITS, DESIGN, AND FUNDING TASK FORCE

Interim Report

October 15, 2021

Contents

Creation of the Task Force

The Pension Benefits, Design, and Funding Task Force was created by Act 75 (2021), "An act relating to the membership and duties of the Vermont Pension Investment Commission and the creation of the Pension Benefits, Design, and Funding Task Force."

The purpose of the Task Force is to review and report on the benefits, design, and funding of retirement and retiree health benefit plans for the Vermont State Employees' Retirement System (VSERS) and the Vermont State Teachers' Retirement System (VSTRS).

Specifically, the Task Force shall make recommendations about benefit provisions and appropriate funding sources along with other recommendations it deems appropriate for consideration, consistent with actuarial and governmental accounting standards, as well as demographic and workforce trends and the long-term sustainability of the benefit programs, including the following:

(A) developing and evaluating a range of strategies to lower the actuarially determined employer contributions (ADEC) and unfunded actuarially accrued liability based on actuarial value of assets in the State Employees' Retirement System and the Teachers' Retirement System by between 25 and 100 percent of the size of the increases from fiscal year 2021 to fiscal year 2022, as reported in the respective Actuarial Valuation and Review for each retirement system, dated June 30, 2020, while maintaining the 2038 amortization date;[1]

(B) a five-year review of benefit expenditure levels as well as employer and employee contribution levels and growth rates and a three-, five-, and 10-year projection of these levels and rates;

(C) identifying potential options for limiting the growth in the actuarially determined employer contributions to not more than inflation;

(D) assessing the impacts associated with any modifications to the current amortization schedule;

[1] The VSERS ADEC increased by $36,091,199 (43.0%) and unfunded actuarial accrued liability increased by $225,000,421 (27.6%). Twenty-five percent of these increases translates to $9.0 million of ADEC growth and $56.3 million of unfunded actuarial accrued liability growth. The VSTRS ADEC increased by $64,064,803 (48.5%) and unfunded actuarial accrued liability increased by $378,830,079 (24.4%). Twenty-five percent of these increases translates to $16.1 million of ADEC growth and $94.7 million of unfunded actuarial accrued liability growth. VSERS FY20 actuarial valuation: https://www.vermonttreasurer.gov/sites/treasurer/files/VSERS/PDF/2020/Vermont%20State%20Employees%20Retirement%20System_Actuarial%20Valuation%20June%2030%202020.pdf; VSTRS FY20 actuarial valuation: https://www.vermonttreasurer.gov/sites/treasurer/files/VSTRS/PDF/2020/Vermont%20State%20Teachers%20Retirement%20System_Actuarial%20Valuation%20June%2030%202020.pdf

(E) recommend, based on benefit and funding benchmarks:

(i) proposed benefit structures with the objective of adequate benefits, including an evaluation of a shared-risk model for employer and employee contributions and cost-of-living adjustments, with a focus on reducing any future increases to the unfunded actuarially accrued liability;

(ii) an estimate of the cost of current and any proposed benefit structures on a budgetary and full actuarial accrual basis;

(iii) the State's pension contributions as a percentage of direct general spending and a comparison of other states' pension contributions; and

(iv) how proposed benefit changes for new members may reduce the impact of future actuarial assumption losses;

(F) evaluating any cross-subsidization between all groups within the Vermont State Employees' Retirement System and adjusting contribution amounts to eliminate any cross-subsidization;

(G) examining permanent and temporary revenue streams to fund the Vermont State Employees' Retirement System and the State Teachers' Retirement System;

(H) a plan for prefunding other postemployment benefits, with an evaluation of using federal funds to the extent permissible, including identifying long-term impacts of pay-as-you-go funding;

(I) evaluating the intermediate and long-term impacts to the State and local economies because of any proposed changes to current benefit structures and contribution characteristics and their potential effects on retiree spending power, including retirees who identify as female and retirees who are persons with disabilities; and

(J) an examination of the effects of current benefit structures and contribution characteristics on the recruitment and retention of public school educators and State employees and an evaluation of any proposed changes to current benefit structures and contribution characteristics on the recruitment and retention of public school educators and State employees in the future.

The Task Force shall not make recommendations on adjusting the assumed rates of return.

During the course of its deliberations, and prior to any final recommendations being made, the Task Force shall:

(1) solicit input, including through public hearings, from affected stakeholders, including those impacted by issues of inequities; and

(2) consult with representatives designated by the Supreme Court acting in its constitutional role as the administrator of the Judicial Branch, Group D members of the State Employees' Retirement System, and members of the State Employees' Retirement System who are employees of the Department of Corrections.

The Task Force is required by Act 75 to submit two reports to the Governor and House and Senate Committees on Government Operations:

- An interim written report with an update on the work of the Task Force shall be submitted by October 15, 2021.

- A final report with its findings and any recommendations for legislative action shall be submitted by December 2, 2021. The final report shall also be submitted to the VSERS and VSTRS Boards of Trustees for their consideration and comment to the General Assembly.

Consistent with its legislative mandate, the Task Force hereby submits this interim progress report to provide updates on its work to date.

Statement of the Issue

The State of Vermont values the work and services provided by its public teachers and State employees and is committed to providing secure and equitable retirement benefits. The Vermont State Employees' Retirement System (VSERS) and the Vermont State Teachers' Retirement System (VSTRS) are vital components of recruiting and retaining an excellent public sector workforce, but neither system has enough assets today to cover the projected cost of retirement benefits they must pay out in the future, and the size of the shortfall has grown significantly in recent years. The annual cost for Vermont taxpayers to fund the systems is projected to grow throughout the remainder of the amortization period ending in 2038. Absent any changes, the liabilities could very well exceed the State's future financial capacity to both support the systems in their current form and continue to provide critical public services.

Principles

The Task Force came together and adopted the following principles to guide its work and recommendations.

Any changes to the retirement systems that the Task Force might consider must balance multiple interests:

- **Recruitment, retention, and public benefit**. State employees, teachers, and other public sector employees provide a wide variety of critical services to Vermonters throughout the State. Retirement benefits are among the most important components of total compensation of public sector employees and an important tool for workforce recruitment and retention, particularly in a time when demographic and economic challenges are acute.

- **Commitment**. As an employer, the State should honor its commitment to past, current, and future public sector employees to provide a solid foundation for a secure retirement and to ensure the long-term dignity and economic well-being of its workforce.

- **Sustainability**. The State has a fiduciary responsibility to public sector employees and to other taxpayers to ensure that the retirement plans remain solvent and responsibly managed.

- **Affordability**. The State has a fiduciary responsibility to all taxpayers to balance the cost of services provided with the burden of taxes and fees. The State also has a responsibility to continue providing critical services within the fiscal constraints posed by long-term needs.

- **Net economic and demographic impacts**. Making changes to the pension system—and a failure to make any changes to the system—will impact the State and local economies; the spending power of current employees and of retirees; the financial position of the State, local governments, and local school systems; and the demographic profile of the State.

- **Equity.** Any changes to the public pension system may affect different employees in different ways. To the extent possible, changes should have limited or no adverse impact on lower wage employees, or employees who have historically experienced economic or social disadvantage.

- **Make no changes to retirement benefits for those who are already retired.**

- **Minimize impacts of any changes to retirement benefits for active employees who are at or near retirement eligibility.** Employees who continue to work past their retirement eligibility continue to provide valuable public service and often represent actuarial gains to the pension system as they continue to work. Changes

to the retirement system should not encourage people to retire sooner than they otherwise would, or lead to higher than anticipated attrition rates.

- **Active employees should not have to work longer to qualify for a future pension benefit.** Employees must currently work for a minimum of 5 years to qualify (vest) in the pension system. Extending the vesting requirement does not result in material actuarial savings and may discourage employee retention.

Task Force Membership

Act 75 structured the Task Force to have 13 members (12 have a vote) consisting of 5 legislators, one administration official, and 6 representatives from labor organizations. The Office of the State Treasurer's designee serves as a non-voting member.

Legislative Members:
Rep. Sarah Copeland-Hanzas (co-chair)
Sen. Jeanette White (co-chair)
Rep. Peter Fagan
Rep. John Gannon
Sen. Corey Parent

Administration Official:
Michael Pieciak, Commissioner of Financial Regulation

Labor Representatives:
Eric Davis, Vermont State Employees' Association
Andrew Emrich, Vermont-NEA
Kate McCann, Vermont-NEA
Molly Stoner, Vermont-NEA
Dan Trottier, Vermont Troopers' Association
Leona Watt, Vermont State Employees' Association

Office of the State Treasurer (non-voting member):
Michael Clasen, Deputy Treasurer

The Task Force has fiscal assistance from the Legislative Joint Fiscal Office and the Office of State Treasurer.

The Office of Legislative Operations provides committee support services for the Task Force.

The Office of Legislative Counsel and Joint Fiscal Office are authorized by Act 75 to contract for advisory services for the Task Force from an actuary, benefits expert, and legal expert, as necessary.

Through agreement with the Office of the State Treasurer, the Task Force is utilizing the pension systems' existing actuary, Segal, to perform analysis as needed.

Following a competitive request for proposals process, the Task Force contracted with Ice Miller LLP to provide legal services. Costs for professional services are paid from the Task Force's $200,000 FY22 appropriation – not from the assets of the pension systems.

Hearings and Testimony

The Task Force held hearings and received testimony on July 2, July 7, July 22, July 29, August 4, August 18, August 25, September 9, September 15, September 22, October 6, and October 13. All full Task Force meetings were open to the public and made available online[2].

July 2

- Testimony from Jennifer Carbee, Esq., Deputy Chief Counsel, Office of Legislative Council – providing an overview of Act 75 and the Task Force's charge.
- Testimony from Chris Rupe, Senior Fiscal Analyst, Joint Fiscal Office -"Pension 101" covering a basic overview of pensions; how pensions work; the challenges and numbers; why the numbers changed; and a summary and next steps

July 7

- Testimony from Chris Rupe, Senior Fiscal Analyst, Joint Fiscal Office
    - Providing an Overview of Other Post-Employment Benefits (OPEB)
    - Discussing the impact of one-time funds on the VSERS and VSTRS Systems
- Review of the recommendations made in the 2009 Pension Report submitted to the Governor and General Assembly by the Commission on the Design and Funding of Retirement and Retiree Health Benefits Plans for State Employees and Teachers
- Testimony from Thomas Golonka, Chair, Vermont Pension Investment Committee discussing VPIC and its duties and activities
    - Presenting historical data on the investment rate of return vs. the assumed rate of return in VSTRS
    - Presenting a monthly investment performance analysis for the period ended May 31, 2021

[2] The meeting on September 22, 2021 was disrupted by a power outage at the State House, during which the livestream was temporarily unavailable. Additionally, the small group discussions that occurred during that meeting were not available via livestream.

- Written testimony from Eric Henry, Chief Investment Officer, State of Vermont, addressing capital market assumptions; expected returns; actuarial rates of return; and pension liabilities and contributions

July 22

- Testimony from Beth Pearce, Treasurer, State of Vermont – presentation discussing pension funding status, method, and trends; gains, losses, and drivers of the unfunded liability; experience study data; overview of investments; prefunding OPEB; and conclusions
- Testimony from Beth Fastiggi, Commissioner; Harold Schwartz, Director of Operations; and Doug Pine, Director; Department of Human Resources – presentation providing an overview of State workforce demographics
- Testimony of Mark Hage, Director of Member Benefits, Vermont Education Health Initiative (VEHI) addressing enrollment in VEHI benefit plans

July 29

- Testimony from Stephen Klein, Chief Fiscal Officer, Joint Fiscal Office – presentation on the overall budget context, including Vermont's underlying revenue and fiscal outlook; potential impacts from demographic change, COVID-19 pandemic, and global warming; demands for State services; and other areas of fiscal pressure
- Testimony from Graham Campbell, Senior Fiscal Analyst, Joint Fiscal Office – presentation on the tax and revenue landscape; basic structure of taxes; current and potential sources of tax revenue; and tax expenditures
- Testimony from Chris Rupe, Senior Fiscal Analyst, Joint Fiscal Office concerning further discussion on the impact of one-time funds on the VSERS and VSTRS pension systems
- Testimony from David Hall, Esq., Legislative Counsel, Office of Legislative Council concerning development of a Task Force document articulating guiding principles and statement of the pension and OPEB problems

August 4

- Testimony from Chris Rupe, Senior Fiscal Analyst, Joint Fiscal Office
    - Further discussion concerning Task Force document articulating guiding principles and statement of the pension and OPEB problems
    - Presentation addressing strategies to reduce ADEC pressures and improve funding ratio
    - Presentation addressing the impact of various possible changes to plan design
- Testimony from Stephen Klein, Chief Fiscal Officer, Joint Fiscal Office – providing a preliminary education fund outlook for FY 2022 and addressing the July 2021 consensus economic review and revenue forecast update

August 18

- Testimony from Chris Rupe, Senior Fiscal Analyst, Joint Fiscal Office –

  - Further discussion concerning Task Force document articulating guiding principles and statement of the pension and OPEB problems, including Treasurer comments and updated revisions with comments
  - Presentation addressing pension unfunded liability drivers
  - Updated presentation addressing the impact of various possible changes to plan design
- Written testimony from the National Conference on Public Employee Retirement Systems (NCPERS) – "Unintended Consequence – How Scaling Back Public Pensions Puts Government Revenues at Risk – 2020 Update"

August 25

- Testimony from Keith Brainard, Research Director, and Alex Brown, Research Manager, National Association of State Retirement Administrators (NASRA) providing an overview of public pension issues in Vermont; comparison of Vermont pensions to other state pension systems and other state reform efforts; and COLA arrangements.
  - Overview of Public Pension Issues and Trends
  - Benefit Levels for General State Employees and School Teachers
  - Overview of variations to cost-of-living adjustments among public retirement systems
- Testimony from Doug Hoffer, State Auditor, concerning State expenditures and potential options for realizing cost savings; presentation concerning public safety expenditures
- Testimony from Annie Noonan, Former Commissioner, Vermont Department of Labor concerning State employee demographics, recruitment, and retention

September 9

- Testimony from Chris Rupe, Senior Fiscal Analyst, Joint Fiscal Office –
  - Further discussion concerning past underfunding of retirement liabilities, including VSERS unfunded liability growth by actuarial year
  - Presentation concerning cross-subsidization among groups within the VSERS and VSERS member data
  - Overview of revenue analysis
  - Presentation and analysis concerning actuary reports:
    - Allocation of Liabilities and Costs Between Groups (actuarial request #1)
    - Impact of Additional Funds for VSERS and VSTRS (actuarial requests #2 and #3)
- Testimony from Dan Doonan, Director, National Institute on Retirement Security – presentation concerning economic impacts of pensions in Vermont
- Testimony from Paul Cillo, President and Executive Director, Public Assets Institute concerning Vermont-specific policy and revenue strategies, including raising additional revenues.
- Written testimony from Alex Brown, NASRA, in response to Task Force questions relating to retirement plans that offer participants an option to elect

different contribution rates and benefit levels; plan designs that potentially incentivize participants to work longer and other issues.

September 15

- Task Force discussion concerning potential options for system design changes and concerning modeling scenarios to present for actuarial analysis
- Testimony from Beth Pearce, Treasurer, State of Vermont – memorandum and presentation concerning the impact of treatment of additional revenues on pension funds' unfunded liabilities and ADECs

September 22

- Breakout groups and Task Force discussion concerning modeling scenarios to present for actuarial analysis
- Updated presentation from Chris Rupe, Senior Fiscal Analyst, Joint Fiscal Office, concerning impact of various possible changes to plan design
- Testimony from Beth Pearce, Treasurer, State of Vermont – memorandum and testimony concerning teacher pension underfunding. A memorandum from the State Treasurer concerning OPEB background information, initiatives, and funding requests was subsequently sent to the Task Force but not discussed during the September 22nd meeting.

October 6

- **Task Force discussion with legislative staff and walk through of draft interim report.**
- **Testimony and discussion with Hank Kim, Executive Director and Counsel, National Conference on Public Employee Retirement Systems**

October 13

Background

Impact of the Great Recession

Vermont's pension systems, like those of other states, experienced significant investment losses from the Great Recession. In just one year from FY2008 to FY2009, the unfunded liabilities grew by $239.4 million (275%) for VSERS and $348.3 million (92%) for VSTRS. The funded ratios for each system also declined by approximately 15% during that one-year period.

Change in Pension Funded Status, FY08-09		
	VSERS	**VSTRS**
Unfunded Actuarial Accrued Liability		
As of FY08 Valuation	$87.1 million	$379.5 million
As of FY09 Valuation	$326.5 million	$727.8 million
Funded Ratio		
As of FY08 Valuation	94.1%	80.9%
As of FY09 Valuation	78.9%	65.4%

In 2009, in the aftermath of the Great Recession, the State of Vermont established a Commission on the Design and Funding of Retirement and Retiree Health Benefits Plans for State Employees and Teachers to address the affordability and long-term sustainability of the pension and retirement health care plans serving state employees and teachers.[3]

While the implosion of financial markets in 2008 and the first quarter of 2009 severely impacted the value of plan assets and contributed to a large increase in required employer contributions, the Commission also identified the economic and demographic trends pre-dating the Great Recession that had already set the retirement systems on an unsustainable financial trajectory, including:

- Financial commitments for retirement benefits, including health care, growing much faster than the rate of revenue growth at a time when the state was projecting significant deficits due to the impacts of the Great Recession.
- Steep annual increases in the actuarially determined employer contribution (ADEC) for both pension systems:
    - VSERS ADEC increased 117% from FY2003 to FY2008, with a projected increase from FY2003 to FY2011 of 328%.
    - VSTRS ADEC increased by approximately 100% from FY2003 to FY2006, prior to re-amortization.

The full 2009 Commission report and background materials are available on the State Treasurer's website: https://www.vermonttreasurer.gov/content/retirement-commission

- An aging workforce, a baby boomer retirement bubble, longer life expectancies, and workforce changes impacting retirement were resulting in a rate of growth in retirees outpacing the rate of growth in active members. There were 2,800 more retired teachers and state employees in 2009 than in 2003. As the ratio of active members to annuitants declines, pension costs are often at risk of increasing – particularly in a poorly funded plan.
- The amount of pension benefit payouts were steadily increasing by approximately $15-16 million per year in total across both systems, and projected to increase by approximately 50% over 2009 levels by 2014.
- An assumed rate of return of 8.25% that exceeded the actual rate of return and that was higher than the rate used by a majority of other plans. In 2009, close to 75% of other plans used a return assumption less than 8.25%.[4]
- Failure of the State to fully fund the actuarially determined employer contribution (ADEC) preceding the Great Recession, particularly for the VSTRS system. The actual VSTRS contribution was less than 100% of the recommended amount in all but four years from 1979 to 2006. This caused the VSTRS system to have a lower funded ratio than VSERS and added costs to future VSTRS ADEC payments.
- Funding of VSTRS retiree health benefits from pension assets rather than a dedicated funding source, resulting in an actuarial loss to the VSTRS pension system.[5]
- Multi-million dollar annual increases in the employer cost for providing subsidized retiree health benefits.

The 2009 Commission made several recommendations to place the retirement systems on a sustainable path, some of which were ultimately adopted. The consulting actuary estimated that adoption of all the recommendations made in the 2009 report would reduce the FY2011 ADEC by $29 million. Actual savings from implementation of the plan totaled roughly $20 million. However, the demographic and economic factors that the Commission identified in its report have only been exacerbated since that time, and the financial struggles of the retirement systems have only accelerated.

[4] The assumed rate of return was 8.25% from 2006 to 2010 and was revised downward in 2011. The current rate of return (effective FY21) is 7.0%, which is slightly lower than the average (7.11%) and in line with the median (7.00%) among major pension plans surveyed by NASRA as of August 2021.

[5] The practice of paying for VSTRS OPEB out of the VSTRS pension fund ended in 2015.

Updates Since the 2009 Commission

Several notable changes to the retirement systems have occurred in the years leading up to, and subsequent to, the 2009 Commission:

	Recent Changes to Pension Systems[6]
2005	VSTRS study made changes to Vermont's actuarial methods and put full funding of the actuarially required contribution on track. The Legislature has consistently adopted a budget with full funding of the VSTRS actuarially required contribution since 2007.
2008	Committee restructured VSERS Group F benefits, lengthening the age of retirement, effective in FY2009, in concert with tiered health care changes. For employees hired after July 1, 2008: • Normal retirement eligibility was increased from Age 62 or with 30 years of service to Age 65 or a combination of age plus years of service credit that equals 87 (Rule of 87). • Maximum benefit payable increased from 50% of AFC to 60% of AFC. • Medical coverage subsidies are tiered based on years of service. Formerly, all retirees received an 80% employer subsidy. Employees hired after July 1, 2008 receive a subsidy based on their years of service and must have 20 years of service to qualify for the 80% subsidy.
2009	Pension and Health Care Study completed, providing basis for negotiated savings of the next few years for both VSERS and VSTRS systems.
2010	VSTRS: Lengthened normal retirement age, increased contributions, and other changes: • For members younger than 57 and with less than 25 years of service as of June 30, 2010, normal retirement eligibility was increased from Age 62 or with 30 years of service to Age 65 or a combination of age plus years of service credit that equals 90 (Rule of 90). • Employee contributions increased from 3.4% to 5%. • Maximum benefit payable increased from 50% of AFC to 60% • Benefit multiplier increased from 1.67% per year to 2% per year for years worked beyond attaining 20 years of service.[7] Changes resulted in $15 million in annual pension savings. Additional health care savings also accrued from implementing a tiered health care benefit..

[6] Data from Treasurer's Office 2020 Annual Report. https://www.vermonttreasurer.gov/sites/treasurer/files/Reports/2020/Treasurer%27s%20Office%20Annual%20Report%202020.pdf

[7] Data from the summary of plan provisions included in the FY09 and FY10 VSTRS Actuarial Valuations.

2011	VSERS: Employee contribution rates increased, initially generating $5 million in savings per year and increasing each year.[8] • Group A and D contributions increased from 5.1% to 6.4%. • Group C contributions increased from 6.98% to 8.28%. • Group F contributions increased from 5.1% to 6.4%.
2011-12	Secured one-time revenues in excess of $5 million for VSERS and VSTRS OPEB under the Federal Early Retirement Reinsurance Program
2013	Pension forfeiture statute enacted for both retirement systems. This provision allows for the forfeiture of retirement benefits for members who are convicted of a crime related to public office.[9]
2014	VSTRS: Additional 1% contribution increases (from 5% to 6%) for new and non-vested members, effective for FY2015, which generated $1 million in initial annual savings that increased each year.
2014	VSTRS: Statute change permitting teacher pension costs to be charged to federal grants (effective for FY2016), with projected savings to state tax dollars in excess of $6 million per year.[10]
2015	VSTRS OPEB Reformed: • Created Retired Teachers' Health and Medical Benefits Fund starting FY2015. • Ended practice dating to 1980s of paying for health care premiums from a sub-trust of the VSTRS pension fund, which was costing over $20 million per year in interest costs and adding to the unfunded liability. • A new health care assessment for LEAs was implemented, linking local employment decisions to the benefit costs. • Changes were projected to save taxpayers $480 million in unfunded liability interest costs through FY2038.
2015	VSERS Disability retirement reform enacted to permit wage verification of disability pensioners.
2016	Changes made to the amortization financing schedule for VSERS and VSTRS, saving approximately $165 million in interest through FY2038. Change involved lowering the rate of annual increases in future amortization payments from 5% to 3% beginning in FY2020.[11]
2016	VSERS: Increased employee contributions will result in $1.2 million in annual savings, with savings growing larger in future years. • Group A and D contributions increased from 6.4% to 6.55% • Group C contributions increased from 8.28% to 8.43%. • Group F contributions increased from 6.4% to 6.55%. • All groups' contribution rates increased by an additional 0.10% beginning in FY2017.[12]

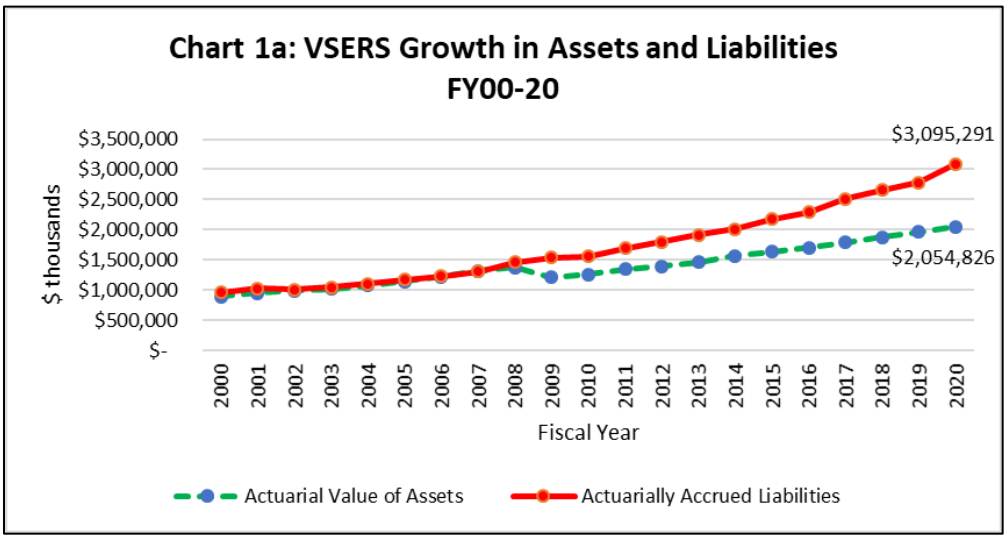
[8] See page 31 of the VSERS FY11 Actuarial Valuation.
[9] See 32 V.S.A. § 623.
[10] See 16 V.S.A. § 1944c.
[11] See Sec. E.133.1 of H.875 (Act 172 of 2016).
[12] See the FY16 and FY17 VSERS Actuarial Valuations.

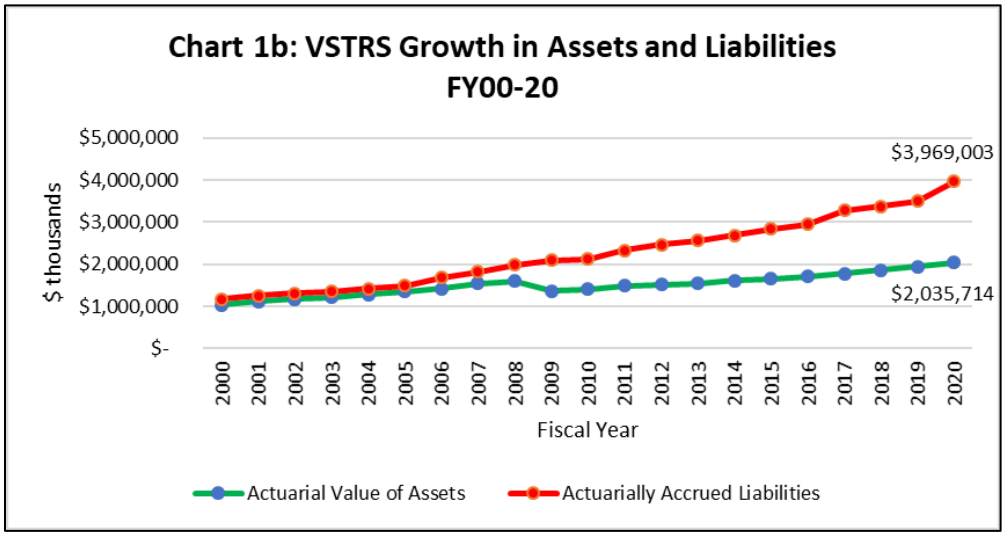
2018	Legislature appropriated an additional $26.2 million above ADEC for VSTRS and $12.5 million for VSERS.
2018	Risk assessment performed for both VSERS and VSTRS pension systems in accordance with Actuarial Standards of Practice No. 51.[13]
2019	Governor and Legislature enact statute to devote 50% of unrestricted General Fund surplus at year end to VSERS OPEB fund to begin prefunding long-term liabilities.[14]
2020	Assumed rate of return lowered from 7.5% to 7.0% by VPIC and system trustees based on independent analysis. Demographic and mortality assumptions revised.
2021	Legislature enacts Act 75 to reform membership of VPIC, require experience studies on a 3-year basis, and solely empower VPIC to adjust the actuarial rate of return. Act 75 also created a Pension Benefits, Design, and Funding Task Force to make recommendations on the VSERS and VSTRS systems and a Joint Public Pension Oversight Committee in the Legislature.[15]

[13] The risk assessment is available at https://www.vermonttreasurer.gov/sites/treasurer/files/VSTRS/VSTRS-reports/other-reports/Vermont%20Retirement%20Systems%27%20Risk%20Assessment%20September%2020%2C%202019%20%281%29.pdf.
ASOP 51 is available here: http://www.actuarialstandardsboard.org/wp-content/uploads/2017/10/asop051_188.pdf
[14] See 32 V.S.A. § 308c.
[15] See H.449 (Act 75 of 2021).

Scope of the Problem

Since the current 30-year closed amortization period began in FY2009, and despite the measures previously described, the accrued liabilities of both pension systems have grown faster than plan assets. As a result, the gap between what the pension systems expect to pay out in future benefits and the assets the systems have available to pay out those benefits (the unfunded liabilities) have grown and the funded ratios of both pension systems have steadily declined (*see Charts 1a and 1b)*. This has occurred even though the actuarially recommended payments (the ADEC) have been fully funded) by the State, and in some cases funded more than 100 percent, during the current amortization period.

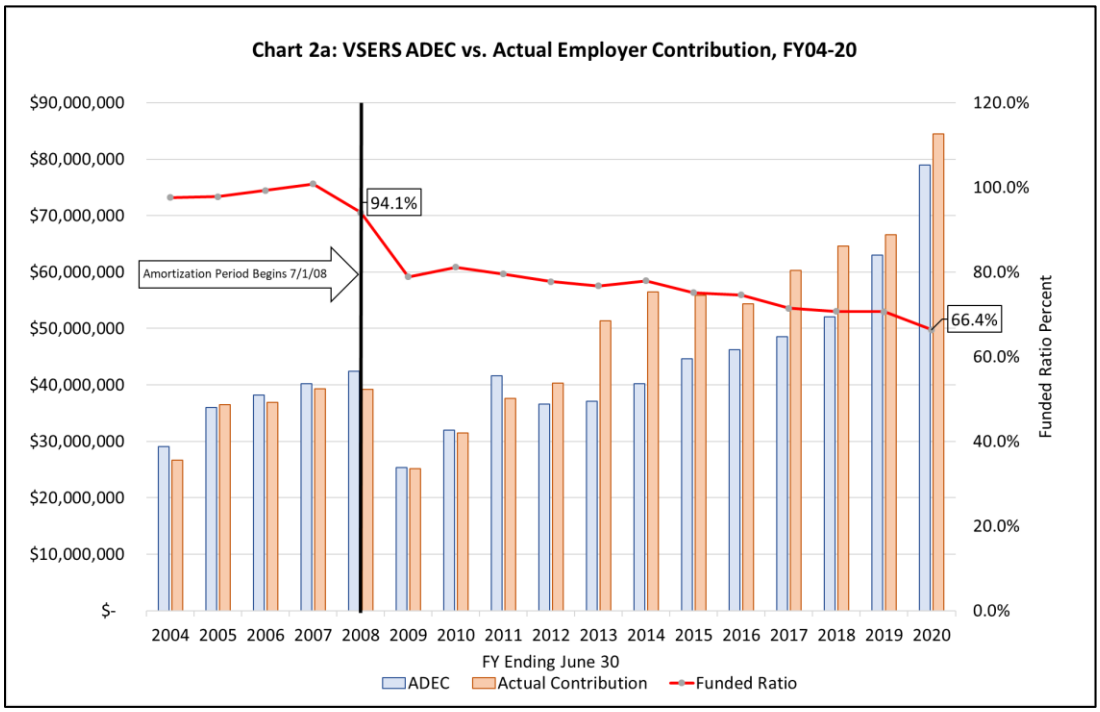




History of Employer Payments:

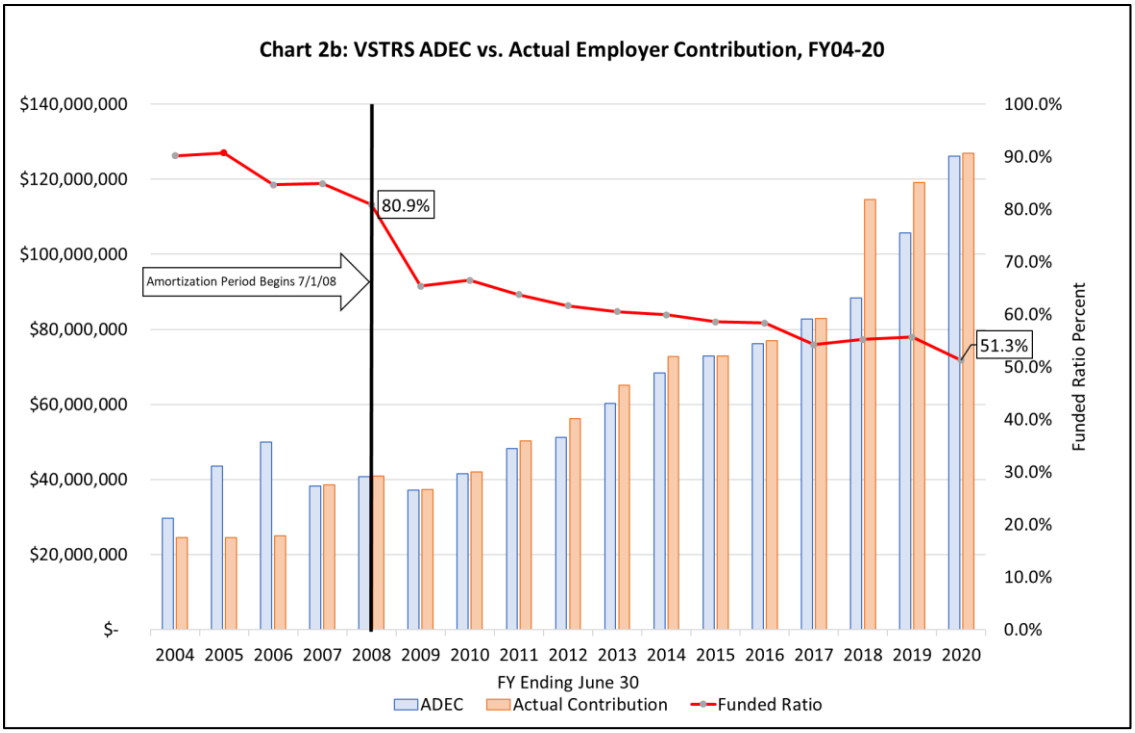
- **VSERS**: The VSERS system began the amortization period with a 94.1% funded ratio, which was down slightly from 100.8% (fully funded) in FY2007. Although

the actual employer contribution was slightly less than the ADEC in several years proximate to the Great Recession, the employer has made contributions in excess of the ADEC every year since FY2012 that have more than offset these comparatively minor shortfalls.[16] Cumulatively, the ADEC has been over-funded by $82.25 million from FY2009-2020. However, despite this over-funding of a steadily rising ADEC, the funded ratio of the system has declined from 94.1% at the end of FY2008 to 66.4% by the end of FY2020. *(see Chart 2a).*

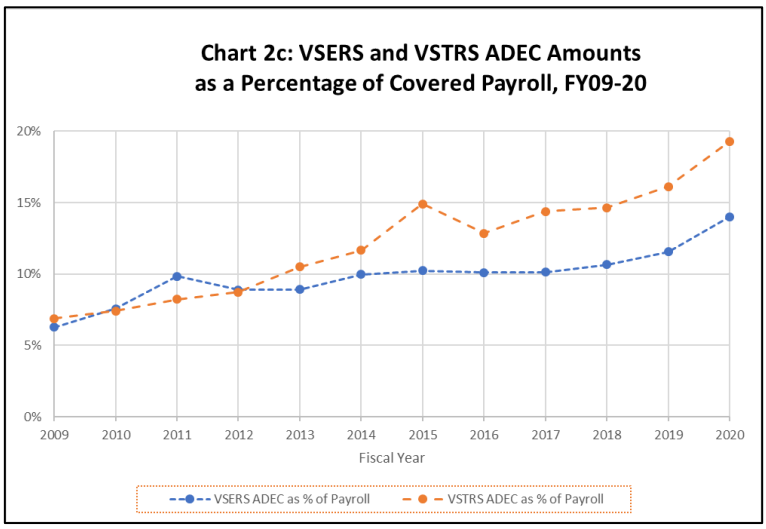


- **VSTRS**: The teacher retirement system began the amortization period with an 80.9% funded ratio. VSTRS had a lower funded ratio than VSERS due, in part, to the fact that the VSTRS ADEC was underfunded all but four years between FY1979 and FY2006. The employer has subsequently fully funded the ADEC every year since FY2007, including in every year of the current amortization period. Cumulatively, the ADEC has been over-funded by $58.45 million from FY2009-2020. However, despite this over-funding of a steadily rising ADEC, the funded ratio of the system has declined from 80.9% at the end of FY2008 to 51.3% by the end of FY2020. *(see Chart 2b).*

[16] In the current amortization period, the VSERS ADEC funding shortfall occurred for three years (FY09-11) with a cumulative impact of $4.75 million. In the nine years from FY12-20, the ADEC was over-funded by $87 million.



The employer's actuarially determined cost of paying for pension benefits has increased significantly for both systems – both in dollars and in relation to the size of the active payroll. From FY2009 to FY2020, the recommended employer pension cost has more than doubled as a percentage of payroll for each retirement system. In other words, pension costs have been growing much faster than the size of the overall workforce (*See Chart 2c)*.



How Pension Costs are Funded:

While certain federal and local sources contribute funding to the retirement plans, State government bears most of the responsibility for paying the employer share of pension costs.

The employer pension costs are composed of two components – a contribution to fully fund the **normal cost** and an **amortization payment** toward the unfunded liability. The Actuarially Determined Employer contribution **(ADEC)**, which is calculated annually, reflects the total recommended amount the employer should pay to fully fund both of these costs in the upcoming fiscal year.[17]

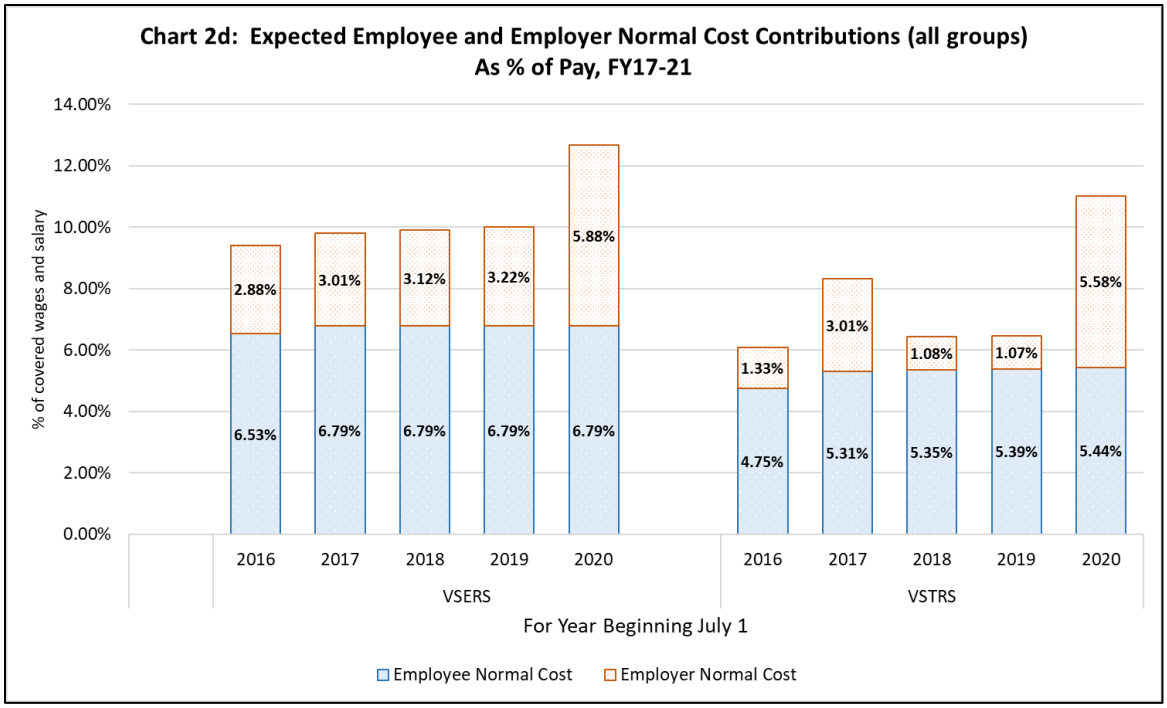
The **normal cost** represents the present value of future retirement benefits accrued during the current year and, in practice, is the amount that should be paid into the pension fund every year to pay for the year's worth of future retirement benefits earned by the active workforce. The normal cost is typically expressed as a percentage of pay that, if contributed every year over the course of an active member's employment, is expected to be sufficient to fund their future retirement benefits.

The normal cost is calculated based on the pension system's economic and demographic assumptions in place at the time. Active members pay pension contributions on a pre-tax basis through payroll deductions at a fixed rate set in statute, and these contributions fund a portion of the normal cost. The rate each active member pays varies based on which pension plan group they are enrolled in.[18]

The normal cost has grown over time as plan assumptions have changed. Employee contributions, however, have not grown at the rate the normal costs have grown, and as a result, employee contributions now pay approximately half of the total aggregate normal costs across all employee groups *(see Chart 2d).* The remaining portion of the normal cost is paid by the employer through the ADEC.

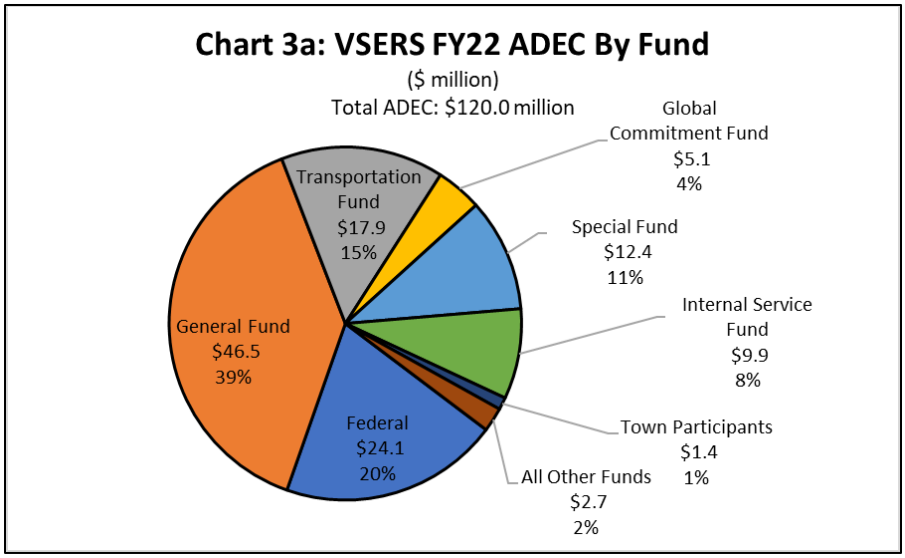
[17] Due to timing reasons, there is a lag between the actuarial valuation and the budgeting of the ADEC. Annual actuarial valuations, which measure the status of the pension fund each fiscal year to calculate the ADEC, are not completed until approximately midway through the subsequent fiscal year. The status of the pension fund at the beginning of a fiscal year determines the ADEC for the following fiscal year. For example, the unfunded liability and normal costs at the beginning of FY21 (which are reflected in the FY20 actuarial valuation) determine the ADEC to be paid from the FY22 budget.

[18] The vast majority of VSERS active members (Groups D and F) currently pay contributions of 6.65% of wages and salary, and Group C (law enforcement and public safety) members pay 8.53%. Most VSTRS active members pay either 5% or 6% (for members with less than 5 years of service as of June 30, 2014).

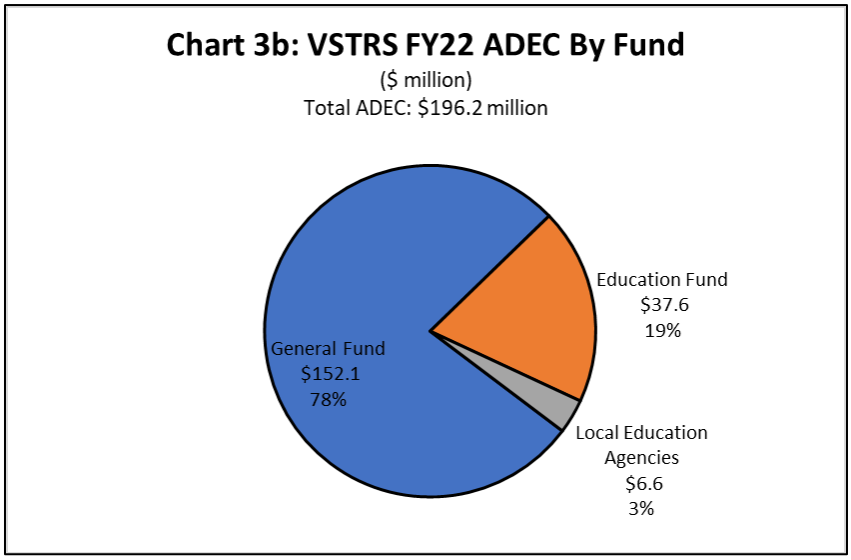


In addition to the normal costs, each retirement system has an **unfunded liability**—a gap between the costs of future benefits and the assets available to pay for them. The unfunded liability arises from prior years of underperformance relative to assumptions, legacy underfunding of the employer contribution in prior years, and increased costs from changes to assumptions, such as adopting lower assumed rates of investment return or changes to demographic projections. The unfunded liability is amortized, with interest, over a closed 30-year amortization period that ends in 2038. Although the payoff schedule is fixed in statute, the amount of the unfunded liability changes annually based on the performance of the pension funds. When the size of the unfunded liability changes from year to year, so does the amount of future amortization payments.

The VSERS employer pension costs (both the normal cost and unfunded liability amortization payment) are paid out of the various funds of state government in proportion to those funds' share of the active payroll *(see Chart 3a)*. The state annually calculates a payroll charge as a percentage of wages and salaries that is expected to be sufficient to meet the projected funding requirement, and remits those funds to the respective benefit trust funds. For FY22, the VSERS employer retirement charge totals 25.5% of wages and salary, with 19.5% dedicated to pension costs and 6% dedicated to OPEB. This 25.5% rate is a substantial year-over-year increase from the FY21 rate of 21.4%. Approximately 35-40% of these costs are paid out of the General Fund, with the remainder charged to federal and special funds that pay the salaries of the active workforce.



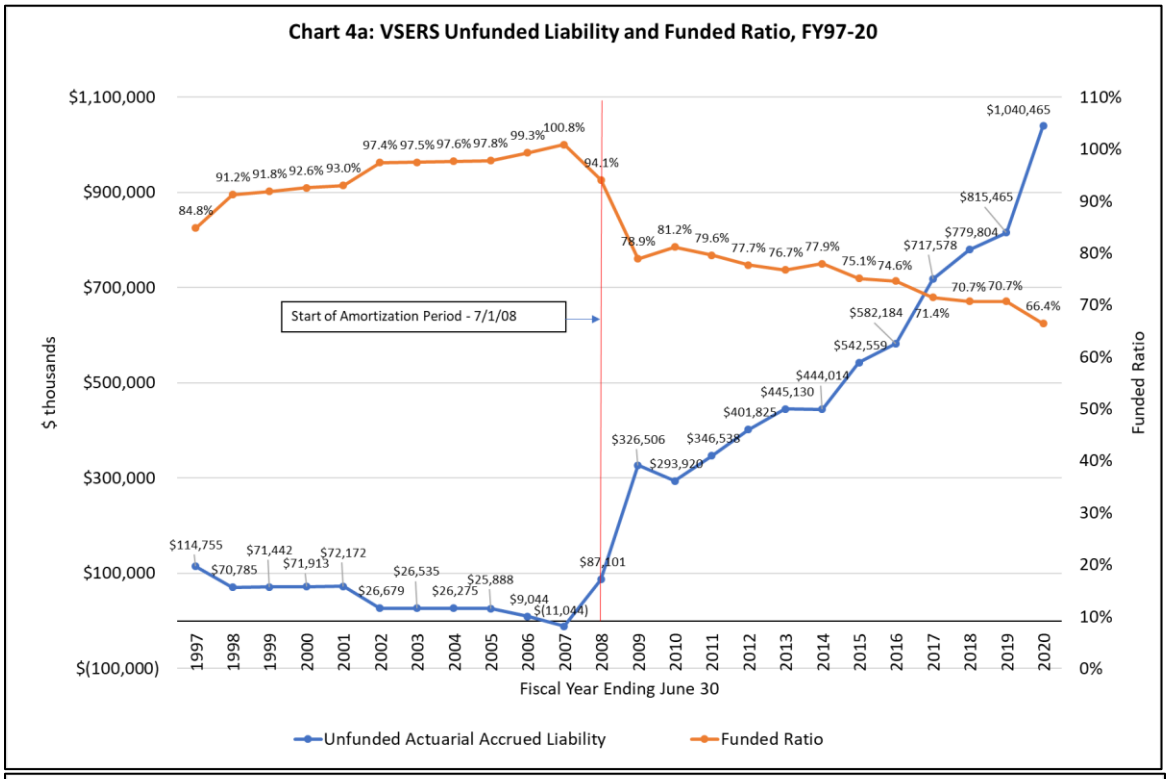
The VSTRS employer pension costs are treated differently than VSERS. The VSTRS employer normal cost is charged to the Education Fund and the unfunded liability amortization payment is paid from the General Fund. A smaller portion of these costs are also paid by Local Education Agencies for their employees who are federally funded *(see Chart 3b).*

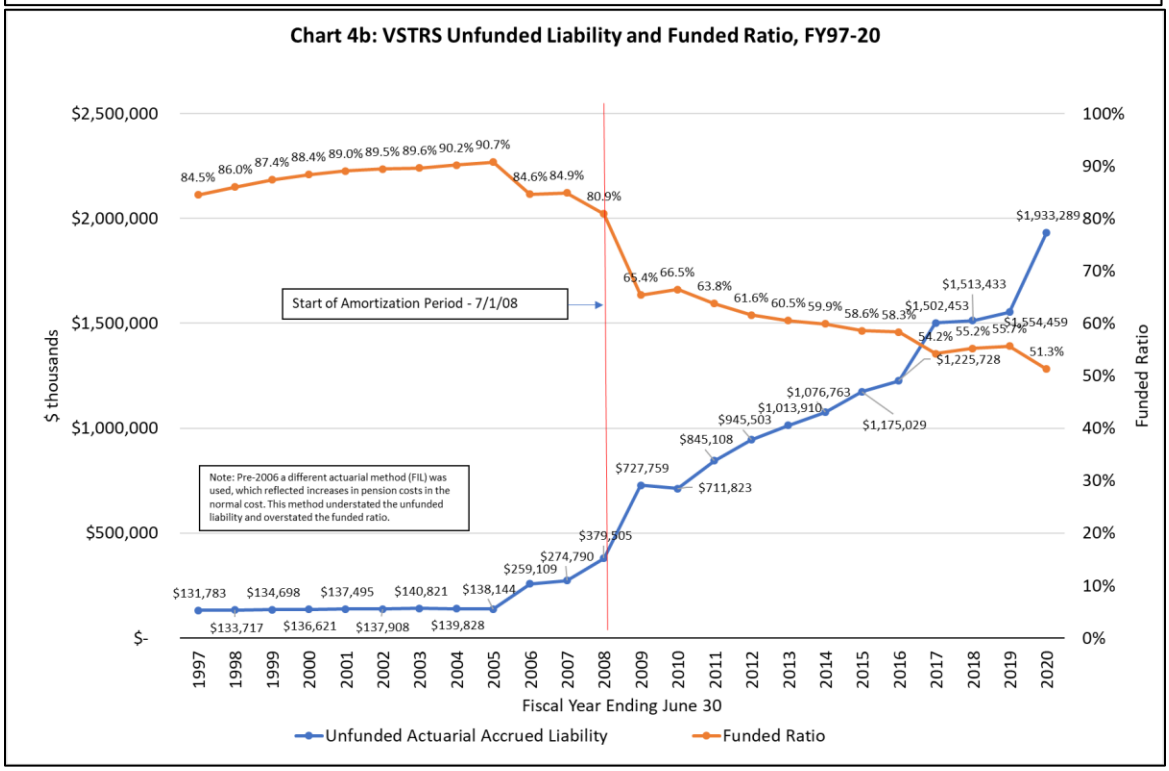


Growth in Unfunded Liabilities and Budgetary Pressures:
Despite the employer fully funding—and in most years more than fully funding—the actuarially required amounts during the current amortization period, the unfunded liabilities for each system have grown significantly since the 2009 Commission report:

- The VSERS unfunded liability has increased from $87.1 million at the end of FY08 to $1.040 billion at the end of FY20 *(see Chart 4a).*

- The VSTRS unfunded liability has increased from $379.5 million at the end of FY08 to $1.933 billion at the end of FY20 *(see Chart 4b).*



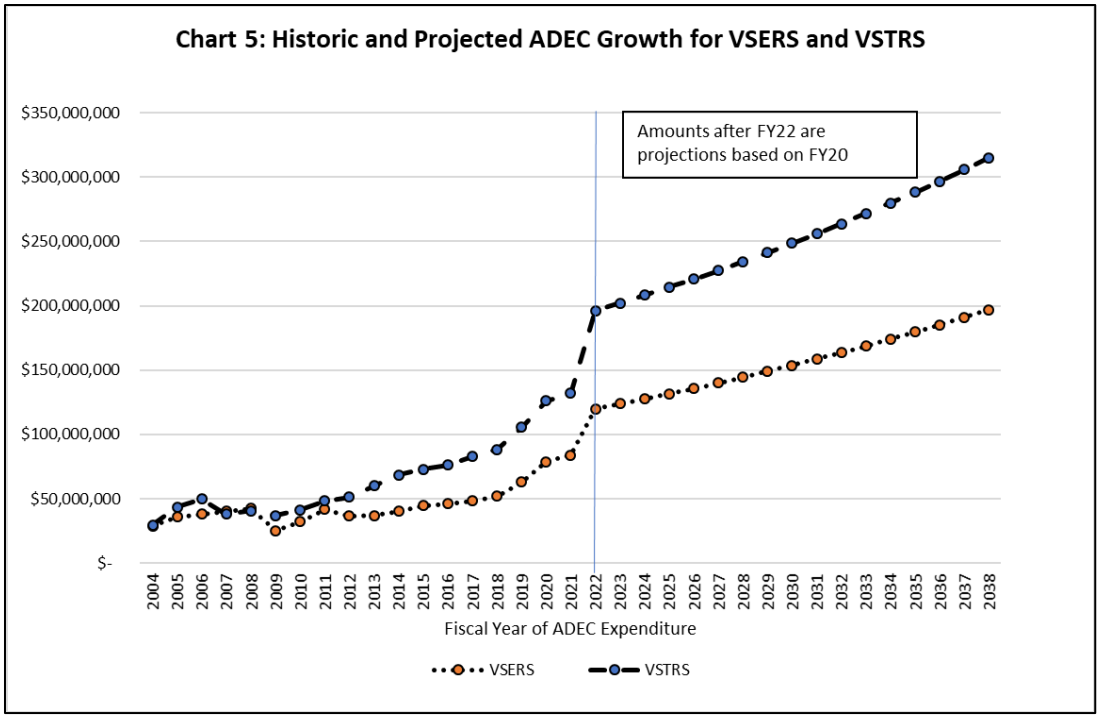


The amount that the employer must annually contribute to fully fund the normal costs of the plans and to pay down the unfunded liability—which together comprise the "ADEC," or actuarial determined employer contribution—has also grown significantly and in the future could very well exceed the State's fiscal capacity to pay:

- In FY 2008, the combined ADECs for both systems totaled approximately $82 million.
- By FY 2022, the combined ADECs for both systems grew to approximately $316 million.

Under current assumptions, the normal costs are expected to grow in future years at a rate of approximately 3.5% (VSERS) and 3% (VSTRS) annually, in line with projected payroll growth. Additionally, the unfunded liability amortization payments are calculated, per statute, to increase in 3% annual increments for both systems until FY2038. In a status quo situation with all actuarial assumptions met, therefore, the total ADECs are projected to grow by approximately 3% annually (slightly higher than 3% annually for VSERS due to the higher rate of assumed payroll growth). At that growth rate, the two ADECs, combined, will exceed $500 million by FY2038 *(see Chart 5).*[19]

[19] Once the unfunded liability is fully amortized and the funds reach 100% funded, only the employer share of the normal cost would be required to be paid into the pension systems on an ongoing basis. It is common, however, for unfunded liabilities to arise from year to year due to plan experience deviating from assumptions. Therefore, it is unrealistic to assume that the pension systems would remain fully funded in perpetuity or that there would be no future amortization payments required beyond FY2038.



Informed by the most recent experience studies and economic forecasts, economic and demographic assumptions for both pension systems were revised in 2020. These assumption changes included lowering the assumed rate of return from 7.5% to 7.0%, revising inflation assumptions, and adopting new mortality and other demographic projections. These changes were intended to ensure that assumptions are met more consistently in future years; however, the assumption changes themselves led to significant increases in the unfunded liabilities, normal costs, and ADEC payments for both systems from FY21 to FY22.

As reflected in the FY20 actuarial valuations, from FY21 to FY22:

- The VSERS unfunded liability grew by $225.0 million and the ADEC by $36.1 million.
- The VSTRS unfunded liability grew by $378.8 million and the ADEC by $64.1 million.[20]

[20] Act 75 charged this Task Force with recommending options to lower the unfunded liabilities and ADECs based on the numbers expressed in the June 30, 2020 actuarial valuations of each system. These numbers are from those valuations. Note that on October 31, 2018, the VSTRS Board of trustees adopted Alternative Amortization Schedule 3 of the Addendum to the June 30, 2018 actuarial valuation. This action increased the VSTRS ADEC for FY21 in the 2019 valuation by $3.5 million as part of a plan to maximize a $26.2 million additional employer contribution by holding it harmless and adding it to the statutory amortization schedule. As a result, the ADEC was higher in FY21, lowering the delta to $60.6 million instead of the $64.1 million reflected in the FY20 valuations. Ultimately the Governor and General Assembly reverted to the previous amortization schedule without the add-on.

If nothing changes, and if all actuarial assumptions are met moving forward, the ADEC payments will continue to grow and will exceed $500 million by FY2038.

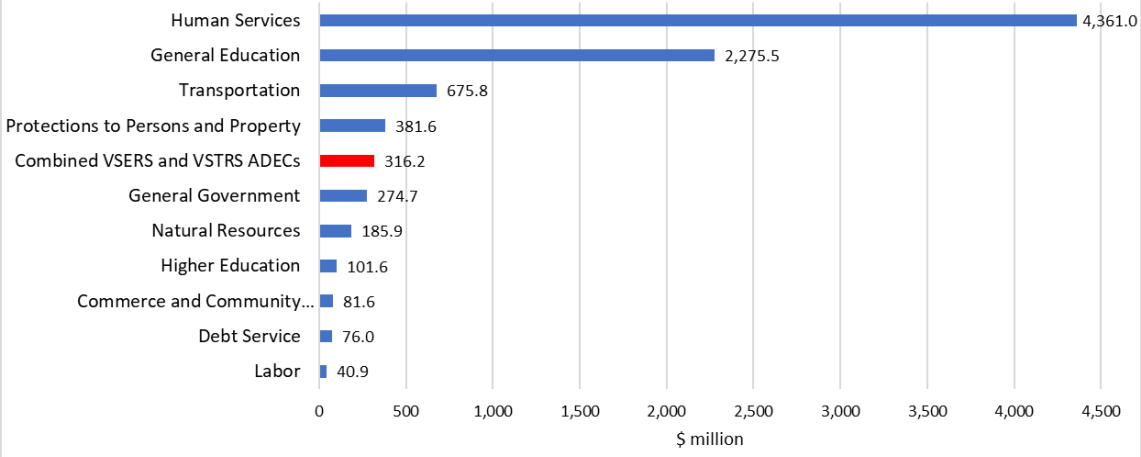
Although some elements of VSERS pension costs are charged to different funds of state government, the increasing cost for retirement liabilities continues to consume an ever-larger share of the General Fund.

- In FY2019, the total General Fund employer contribution to retiree pensions and OPEB (other post-employment benefits) for both VSERS and VSTRS was $167.8 million, or 10.51% of the General Fund.
- For FY2022, the total General Fund employer contribution has increased to $249.5 million, accounting for approximately 13.8% of the General Fund.

Across all funds, the FY22 pension ADEC expenditure is now larger than total appropriations for entire categories of state government functions. For a sense of scale, the $316.2 million of combined VSERS and VSTRS ADEC is more than state government spends on Labor, Debt Service, Commerce and Community Development, and Higher Education combined *(see Chart 6)*.

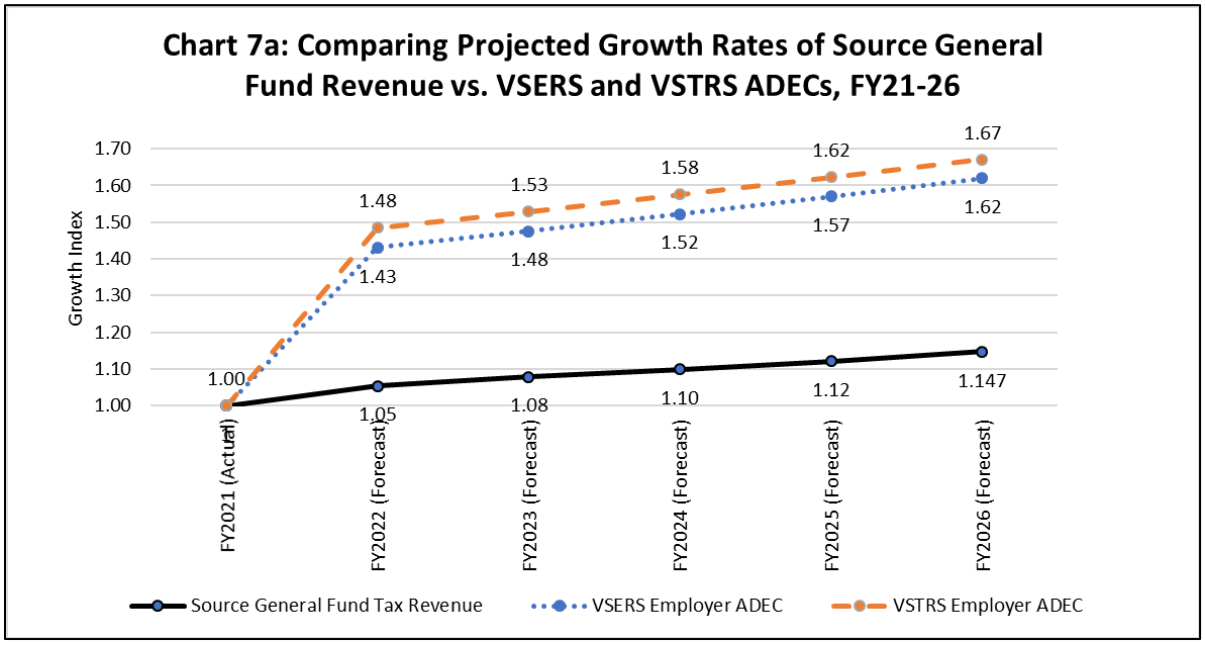
Chart 6: FY22 Employer Pension Costs In Comparison to Total Appropriations by Government Function

(All Funds, Excluding ARPA and One-Time Appropriations)



Note: Data is intended to illustrate comparative scale and does not reflect unduplicated appropriations. The VSERS ADEC expense is embedded in the appropriations to all other categories in relation to the size of the covered payroll. The VSTRS ADEC is included in the appropriations for General Education.

In a status quo situation when all assumptions are met moving forward, employer pension costs are expected to continue growing faster than General Fund revenues. According to the July 2021 consensus revenue forecast, source General Fund revenues in FY2026 are expected to be 14.7% higher than FY2021 levels.[21] Employer pension costs in FY2026, however, are expected to be 62% (VSERS) to 67% (VSTRS) greater than FY2021 levels *(see Chart 7a).* Source General Fund revenues are expected to grow at a compounded annual rate of 2.8% from FY2021 to FY2026, while pension costs have a compound annual growth rate of 10.1% (VSERS) to 10.8% (VSTRS).[22]



Vermont's General Fund revenues received a significant boost during FY2021 due in large part to federal stimulus dollars flowing through the economy in response to the COVID-19 pandemic. However, revenue growth rates are expected to flatten out in the years beyond FY2022. By FY2026, source General Fund revenues are expected to be 8.9% higher than FY2022 levels. Over this same period of time, VSERS employer pension costs are expected to increase by 13.2% and VSTRS costs are expected to grow by 12.6% *(see Chart 7b).* Source General Fund revenues are expected to grow at a compounded annual rate of 2.1%, whereas employer pension costs are expected to grow by 3.0% (VSTRS) to 3.15% (VSERS) annually. Employer pension costs, therefore, are expected to grow faster than the state revenues available to pay them when assuming all actuarial assumptions will be consistently met moving forward.

[21] The July 2021 Consensus Revenue Forecast is available at https://ljfo.vermont.gov/assets/Subjects/Consensus-Revenue-Forecasts-Legislative-Economic-Outlook/577acac1ec/July-2021-Economic-Review-and-Revenue-Forecast-Update.pdf

[22] Using FY2021 as a baseline is instructive because it ties into the fiscal targets outlined in Act 75. FY2022 is the first year that the ADEC reflects the fiscal impact of the significant changes to plan assumptions that were made during 2020.

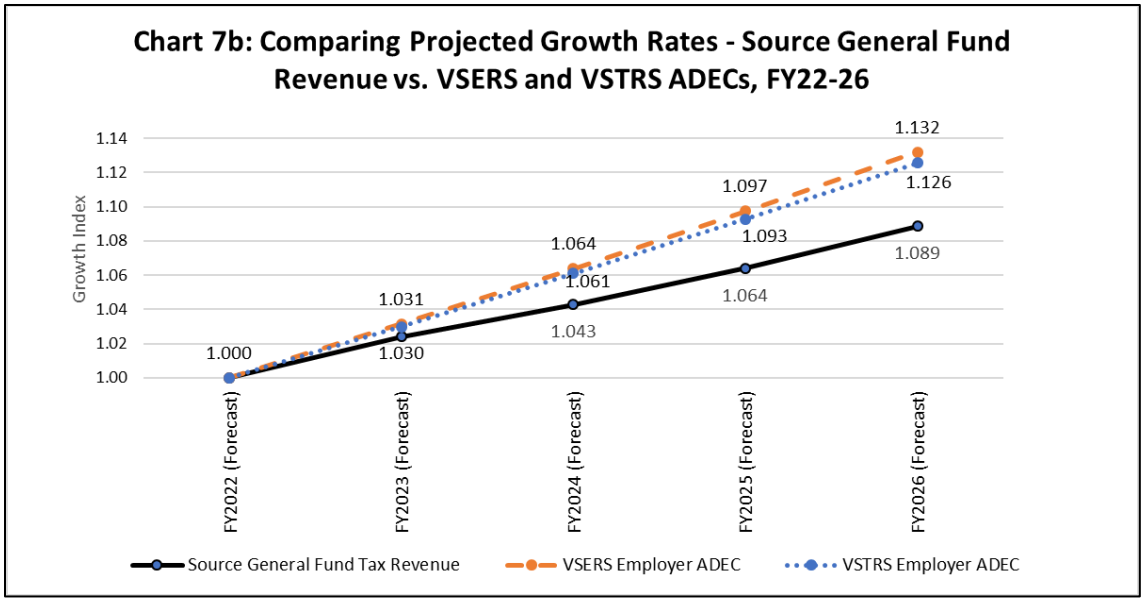


Chart 7b: Comparing Projected Growth Rates - Source General Fund Revenue vs. VSERS and VSTRS ADECs, FY22-26
Growth Index
1.14
1.12
1.10
1.08
1.06
1.04
1.02
1.00
1.000
1.030
1.031
1.043
1.061
1.064
1.064
1.093
1.097
1.089
1.126
1.132
FY2022 (Forecast)
FY2023 (Forecast)
FY2024 (Forecast)
FY2025 (Forecast)
FY2026 (Forecast)
Source General Fund Tax Revenue
VSERS Employer ADEC
VSTRS Employer ADEC

Causes of Significant Growth in Liabilities

Vermont's pension and OPEB liabilities have both grown significantly since 2009 and at a faster rate than state revenues. See Tables 1 and 2 in the appendix for more details about the various growth factors.

Pension Liabilities

Annual increases in the amount of the total unfunded liability, the ADEC, and the State's total cost for retirement contributionsare rooted in a variety of experience, economic, and demographic factors, including:

- **Legacy underfunding.** The State underfunded the VSTRS employer contribution in all but four years from 1979 to 2006. Although this historic underfunding occurred prior to the current closed 30-year amortization period and is not responsible for the significant increases in liabilities subsequent to 2008, it added cost to the ADEC to make up for lost investment opportunities in the past and contributed to why VSTRS has a lower funded ratio than VSERS. Analysis from the State Treasurer estimates that legacy ADEC underfunding, combined with the former practice of paying VSTRS OPEB expenses from pension plan assets (see below), contributed approximately $353 million to the VSTRS unfunded liability (equivalent to approximately 18.3% of the $1,933.3 million unfunded liability) and $28 million to the ADEC (equivalent to approximately 14.3% of the $196.2 million ADEC) by FY2020. The State Treasurer estimates that had these practices not occurred, the VSTRS system would have been approximately 60.2% funded at the end of FY2020 instead of 51.3% funded. Although there were also occasions in the past when the VSERS ADEC was not fully funded, the VSERS system did not experience the degree of chronic underfunding or OPEB-related contribution shortfalls that VSTRS did, and any legacy under-funding of VSERS was made up for by other actuarial gains as evidenced by the fact that the VSERS system was 100.8% funded by the end of FY2007.[23]

- **Great Recession**. The dramatic economic downturn in 2008-2009 created a hole in each pension fund that remains unfilled as of the end of FY2020. Actuaries in 2009 estimated that it would take more than 20 years at the then- actuarial investment rate of return of 8.25% to get back to the FY2008 funding level. From the beginning of FY2009 to the end of FY2020, investment performance falling

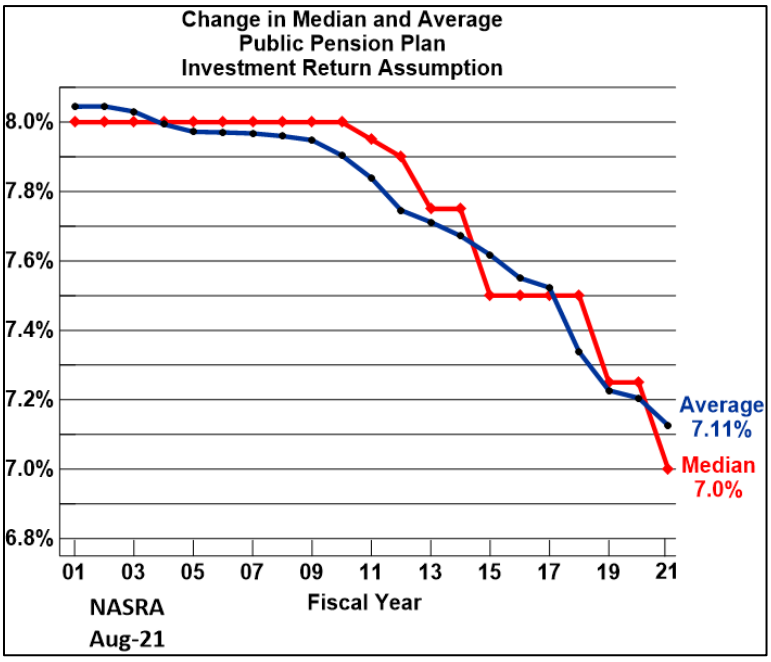
[23] The ADEC is typically calculated with the objective of the pension system reaching 100% funded by the amortization date. In cases where the pension system is funded at levels higher than 100%, less money is required to be contributed into the fund because the impact of the over-funding is amortized to reduce the normal cost that would otherwise need to be paid. Therefore, it is not realistic to assume that the pension systems would have funded ratios higher than 100% today had there been no underfunding in decades past.

short of assumptions increased the VSERS unfunded liability by $317.2 million and the VSTRS unfunded liability by $391.0 million. The actuarial losses related to investment performance are mainly driven by the impact of the Great Recession. When looking at the period from FY2011 to FY2020 and excluding most of the Great Recession, investment performance falling short of assumptions had a much smaller impact and contributed $56.2 million to the VSERS unfunded liability and $52.0 million to the VSTRS unfunded liability.[24]

Actuarial rate of return. The systems previously adopted actuarial rates of return that proved over time to be overly optimistic. When a higher rate of return is assumed, the actuarial math expects that assets will grow over time at a higher rate, leading to lower recommended employer contributions into the pension funds. It is important to note that the rate of return does not affect the performance or outcomes of the fund or dictate asset allocation or investment policy; however, the assumed rate of return (and the extent to which experience meets that assumption over time) influences the size of the projected future liabilities and assets, which inform shorter-term funding recommendations and decisions.

In 2008, the two pension systems used an 8.25% rate of return. However, in the years since, actual investment experience has fallen short of this assumption due to the Great Recession and a changing global financial landscape.

Most states, including Vermont, have lowered their assumed rates of return since then due to changing global investment expectations. Vermont lowered its rate of return from 7.5% to 7.0% in 2020, which is the rate used by the median of major pension systems surveyed by NASRA as of August 2021. [25]



While a lower assumed rate of return is more likely to be consistently achieved through investment experience over time, it also leads to larger projected liabilities and higher employer ADEC costs to make up for

[24] The data appendix at the end of this report contains year-by-year details about the various contributing factors to ADEC growth.

[25] Chart from NASRA: https://www.nasra.org/latestreturnassumptions

the fact that less of the money required to pay benefits is expected to come from investment gains in the future.[26]

Average Investment Returns on an Actuarial Basis (as of FY20)		
	VSERS	**VSTRS**
5-Year Average	6.78%	6.94%
10-Year Average	7.04%	7.15%
15-Year Average	6.16%	6.15%
20-Year Average	6.39%	6.47%
Source: FY20 Actuarial Valuations		

Retired teacher health benefits paid from pension fund. The State paid VSTRS retiree health benefits (OPEB) from pension assets at an actuarial loss until 2015. This practice added approximately $138.5 million to the VSTRS unfunded liability since the beginning of FY2009, which must ultimately be paid back with interest through future ADECs or actuarial gains. Subsequent to 2015, the employer share of these expenses have been paid on a pay-as-you-go basis out of the state's General Fund. The impact of this practice is included in the estimates of legacy underfunding noted above.

Demographic and Experience Factors. Differences between the actual experience of plan participants compared to assumptions have significantly contributed to the increase in the unfunded liability and ADEC. Every pension plan has actuarial gains or losses each year as actual events during the year do not exactly match the long-term assumptions previously made. The State's actuary, Segal, categorizes them as follows:

- Economic:
  - Inflation (which is an underlying component in all other economic assumptions)
  - Investment return
  - Salary increases
  - Payroll growth
  - Cost of Living Adjustments (COLA)
- Demographic:
  - Mortality rates in active service and/or retirement
  - Retirement rates
  - Member termination/turnover rates for reasons other than retirement

[26] Pension funds invest in fundamentally different ways than individuals. Whereas an individual may have a higher tolerance for investment risk and short-term volatility in the market, pension funds (particularly mature pension funds like VSERS and VSTRS that pay out increasing amounts of benefits to retirees) intentionally invest with a long-term, diversified strategy that aims to earn the maximum return within acceptable standards of risk and volatility while protecting its assets from downside risk. Pension funds, therefore, often earn lower annual returns than an individual investor might.

- Disability

As noted above, investment performance falling short of assumptions was a significant cause of prior actuarial losses, particularly when including the Great Recession years – although this factor has had less of an impact after 2010. Member turnover and retirement experience were major causes of actuarial loss (particularly for VSTRS) that have continued to grow over the course of the amortization period.

Other experience factors, however, have led to actuarial gains. Cost of Living Adjustments, for example, have been less than assumed in both systems. However, these assumptions can be significant risk factors going forward depending on inflation trends, as higher rates of inflation will likely lead to higher than expected salary increases and COLAs. While reviewing past experience is critical for understanding the change in liabilities to date, a review of all assumptions through periodic experience studies and risk assessments is important for ensuring that assumptions and funding policies are reasonable and realistic moving forward.

From the beginning of the amortization period in FY09 through the end of FY20:

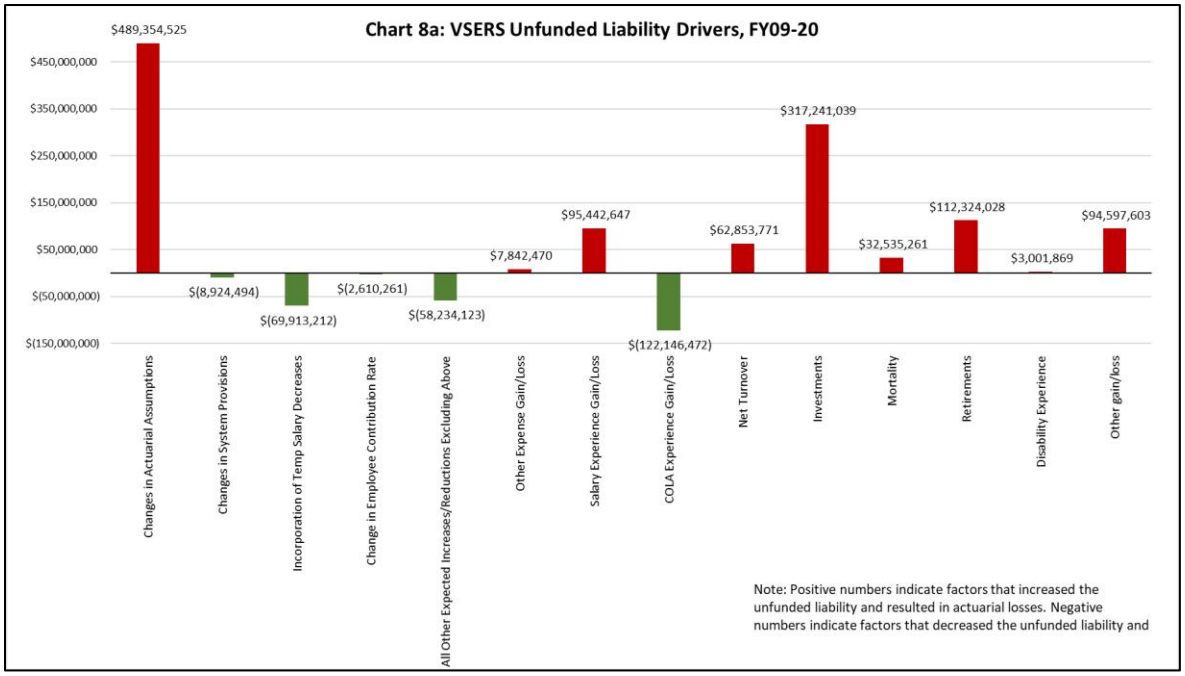
- Demographic experience (mortality, retirement, termination, disability) deviating from assumptions *increased* the VSERS unfunded liability by $210.7 million and the VSTRS unfunded liability by $482.9 million.

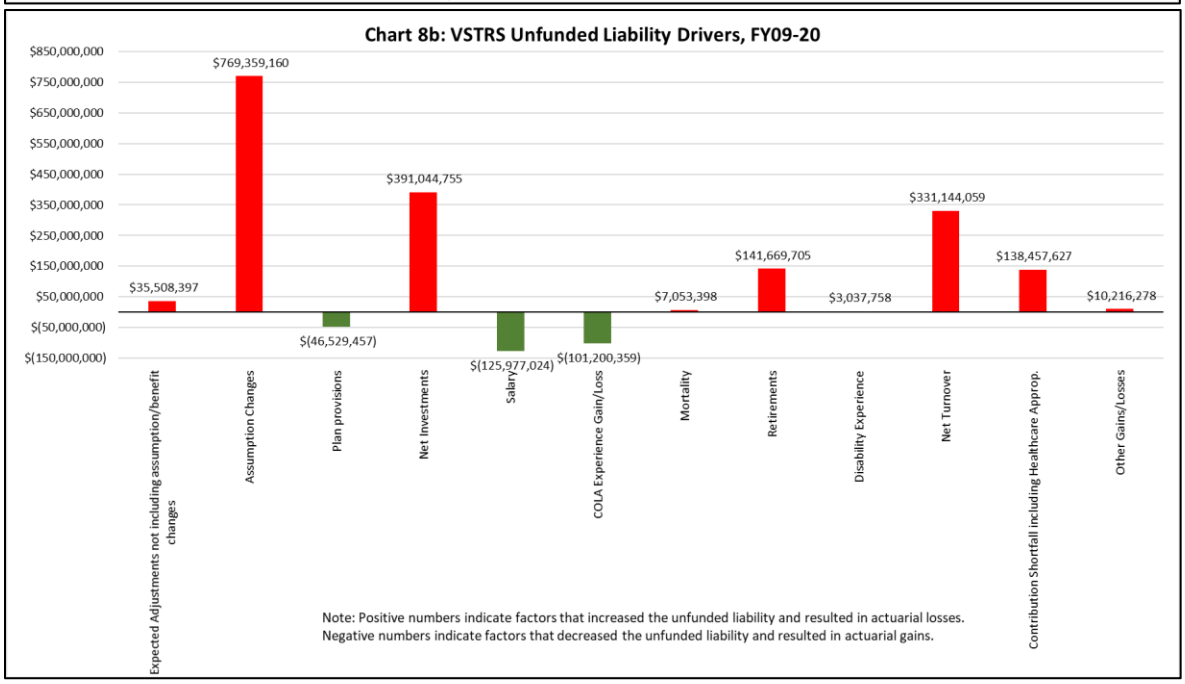
- Investment performance deviating from assumptions *increased* the VSERS unfunded liability by $317.2 million and the VSTRS unfunded liability by $391.0 million when including the peak of the Great Recession. When looking at the period of time from FY2011-2020 and excluding the Great Recession peak, this factor had a much smaller impact – it increased the VSERS unfunded liability by $56.2 million and VSTRS unfunded liability by $52.0 million.

- Other economic experience factors (COLA, salary growth) deviating from assumptions *decreased* the VSERS unfunded liability by $26.7 million and the VSTRS unfunded liability by $227.2 million and offset some of the increases noted above.

Changes to Assumptions Actuarial assumptions, including the rate of return, have also been revised over time to more realistically mirror anticipated demographic and investment experience. These assumption changes, however, have also added to the unfunded liabilities. From the beginning of FY2009 through the end of FY2020, changes in actuarial assumptions increased the VSERS unfunded liability by $489.4 million and the VSTRS unfunded liability by $769.4 million.

- Other miscellaneous factors, including system provision changes, expected adjustments, and other gains and losses accounted for the remaining pressures on the unfunded liability.





Charts 8a and 8b above depict the cumulative impact of each factor on the growth of the unfunded liabilities since FY2009. However, each of these factors contributes a different degree of actuarial gain or loss to the systems on an annual basis. Charts 9a and 9b below depict the degree to which the unfunded liabilities grew or got lower on an annual basis throughout the amortization period, with the pre-2009 block representing "legacy" unfunded liability that pre-dated the start of the current amortization period. For further details about how much each specific economic or demographic factor contributed to each year's growth or reduction in the unfunded liabilities, please see Tables x and x in the appendix.

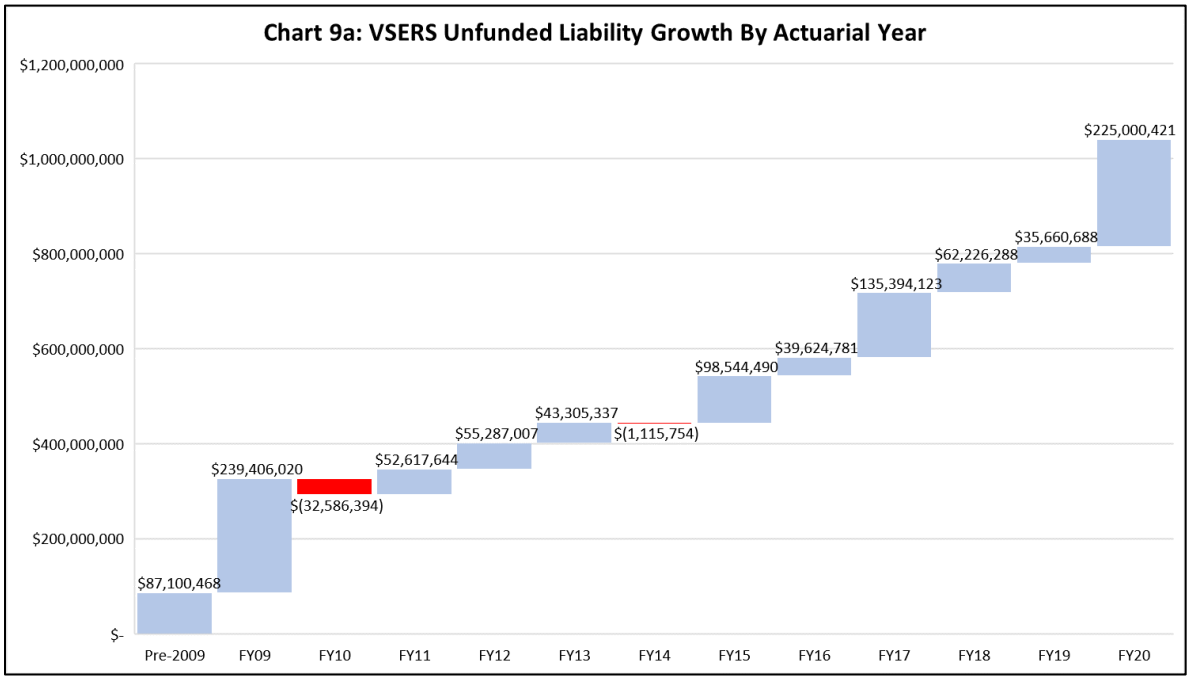


Chart 9a: VSERS Unfunded Liability Growth By Actuarial Year
$1,200,000,000
$1,000,000,000
$800,000,000
$600,000,000
$400,000,000
$200,000,000
$-
$87,100,468
$239,406,020
$(32,586,394)
$52,617,644
$55,287,007
$43,305,337
$(1,115,754)
$98,544,490
$39,624,781
$135,394,123
$62,226,288
$35,660,688
$225,000,421
Pre-2009
FY09
FY10
FY11
FY12
FY13
FY14
FY15
FY16
FY17
FY18
FY19
FY20

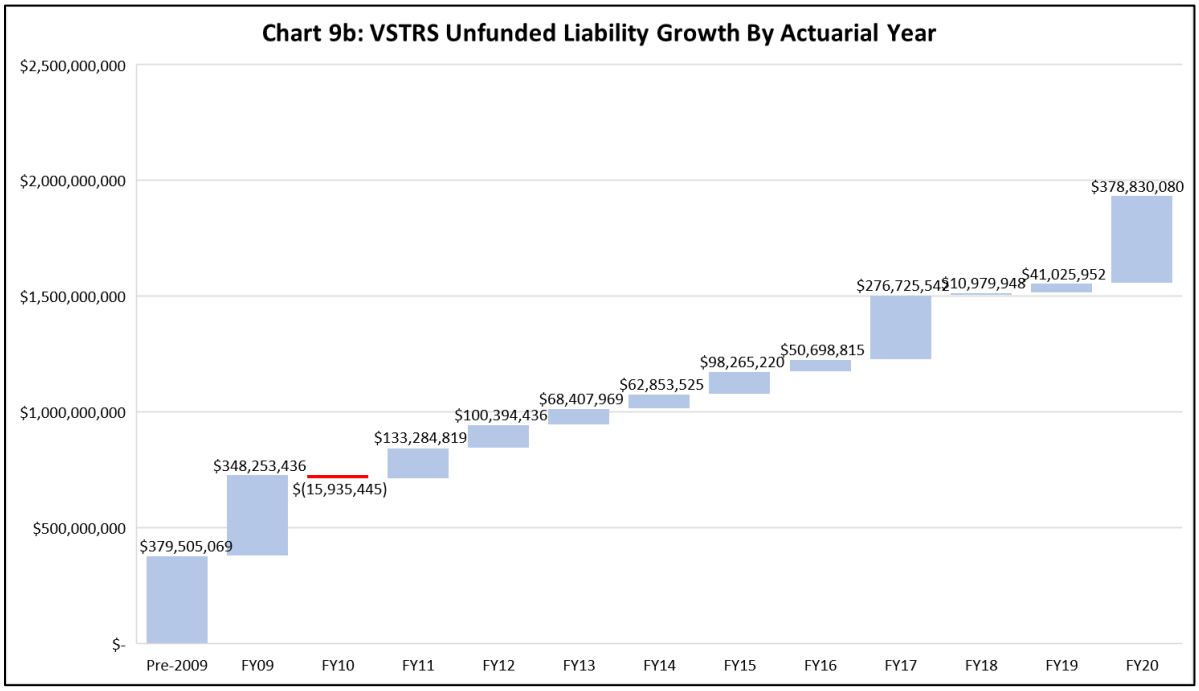


Chart 9b: VSTRS Unfunded Liability Growth By Actuarial Year
$2,500,000,000
$2,000,000,000
$1,500,000,000
$1,000,000,000
$500,000,000
$-
$379,505,069
$348,253,436
$(15,935,445)
$133,284,819
$100,394,436
$68,407,969
$62,853,525
$98,265,220
$50,698,815
$276,725,542
$10,979,948
$41,025,952
$378,830,080
Pre-2009
FY09
FY10
FY11
FY12
FY13
FY14
FY15
FY16
FY17
FY18
FY19
FY20

Other Post-Employment Benefits (OPEB)

OPEB refers to "other post-employment benefits," primarily subsidized health care offered to retirees through the VSERS and VSTRS health plans. Like pensions, OPEB is a significant component of Vermont's long-term retirement liabilities.

Significant steps have been taken over time to contain OPEB costs, including by moving to tiered benefit structures for most VSERS and VSTRS employees and capturing rebates from Employee Group Waiver Plans. Most recently in 2021, the State Treasurer worked with benefit providers to reduce premium costs significantly for VSTRS OPEB benefits moving forward. While OPEB costs have not exerted the same degree of pressures on the state budget as pension benefits in recent years, they are a major source of the state's long-term liabilities which impact the state's balance sheet and bond ratings – largely due to the way these benefits are funded.

Unlike pre-funded pension benefits, which are funded in part from investment gains earned on contributions made over the course of a member's employment, OPEB benefits are currently almost entirely funded on a pay-as-you-go (or "paygo") basis—the State appropriates funds annually from current revenues to pay for benefits and premiums for today's retirees as they become due for payment. The annual General Fund expense has remained relatively consistent since FY 2019 for state employees at approximately $14.9 million, but has increased for teachers from $31.6 million in FY2019 to $35.1 million in FY 2022. While contributions and subsidy rates are codified in statute, potential recipients are not vested in the same way as pension benefits and these benefits are not as secure for future retirees.

There is general recognition that prefunding OPEB benefits would yield long-term savings for the State and more stability and predictability for retirees in the future. The lack of a formal and codified system of prefunding OPEB liabilities is responsible for $1.68 billion of Vermont's long-term liabilities as of the end of FY2020.

With prefunding, Vermont can calculate its unfunded liabilities by applying the assumed rate of return based on anticipated investment performance of the plan assets over time. The pension systems currently use a 7.0% rate of return. Without prefunding, GASB government accounting rules require Vermont to use a standardized discount rate tied to the 20-year AA municipal bond rate, which is heavily influenced by federal monetary policy and interest rates. At the end of FY2020, this rate was approximately 2.2%. If Vermont was prefunding its OPEB benefits, it could have used the 7% rate instead of the 2.2% rate, which would result in Vermont's combined OPEB liabilities decreasing by $1.68 billion.

However, prefunding OPEB benefits would require a long-term commitment of additional appropriations above the pay-as-you-go amount to build up a pool of assets that can be invested to grow over time. Further, OPEB costs can be heavily influenced by both federal health care policy and pensions policies that influence the age at which

employees retire, as the per-member premium cost of providing benefits is higher in the years prior to the member being eligible for Medicare.

Vermont does not need to fully prefund its OPEB obligations in order to realize the benefits of using the 7% rate. Rather, Vermont just needs to codify a prefunding policy into statute and begin the process of building up a pool of assets in an actuarially sound manner. Payments can be structured in various ways, including through an ADEC system used by the pension funds or through a more gradual increase of contributions above the pay-go amount. However, generally speaking prefunding OPEB would require approximately $20 million in additional funds above the paygo amounts each year for each of the two systems, and a long-term commitment by the State to continue making these higher contributions until the two OPEB trust funds are sufficiently funded .[27] The VSERS OPEB trust received approximately $52 million in additional one-time funds in FY21 based on statutory provisions regarding year-end General Fund surpluses. This is a significant influx of dollars that almost doubled the net assets of the VSERS OPEB fund and may lower the up-front funding requirements to initiate prefunding. However, even with this one-time infusion of funds, a prefunding plan will still require an incremental increase of funding above the paygo amount, and a sustained commitment over time to continue making those increased payments.

The Task Force is charged with making recommendations for plans to prefund OPEB and identify long-term impacts of pay-as-you-go funding. Although testimony has been received from the State Treasurer and others on this issue, the Task Force has not yet made a recommendation on a path forward to prefunding these obligations. Prefunding OPEB will reduce Vermont's liabilities and save taxpayer dollars in the *long term* due to the compounded investment gains that would be earned over time on the prefunded assets. However, any path forward on prefunding OPEB will require identifying cost reductions in other areas of the budget, or other revenue sources, to offset its *near term* fiscal impact.

[27] A more precise estimate requires actuarial modeling and depends on factors like the amortization method employed, funding policy. payroll growth and demographic assumptions, and health care cost growth assumptions. Changes to federal Medicare policy may also significantly impact future cost projections.

Actuarial Issues and Analysis

The Task Force is grateful for the assistance of the Office of the State Treasurer for facilitating actuarial analysis with Segal. As the Task Force continues to work toward recommendations, it has requested actuarial modeling to evaluate the impact of possible options and scenarios under consideration. To date, the Task Force has received or requested actuarial analysis on the following issues:

1) Cross-subsidization of pension costs between VSERS employee groups.
2) Projected impacts of one-time revenue on the ADEC and funded ratios for each of the two pension systems.
3) Projected impacts of recurring revenue on the ADEC and funded ratios for each of the two pension systems. No specific recurring revenue source has been identified by the Task Force. Rather, modeling was performed using generic timing and annual growth assumptions on different sums of base-year revenue.
4) Projected impacts of various changes to contribution rates, contribution rate structures, the COLA formula, and incentives to encourage employees to work longer.
5) Estimated required contributions for certain VSERS Group F members employed by the Department of Corrections to receive a retirement benefit similar to VSERS Group C members without adversely impacting the VSERS system overall.
6) Possible funding schedules to prefund OPEB benefits.

Next Steps

The Task Force will continue its work in the weeks ahead by focusing on the following topics:

1) Planning and holding public hearings to receive stakeholder feedback pursuant to Act 75.
2) Reviewing actuarial analysis, and potentially requesting additional analysis, to inform the recommendations that will be made in the final report.
3) Issuing a final report in December containing recommendations. Report will be sent to the Governor, Legislature, and trustees of the respective pension systems pursuant to Act 75.

Glossary

	Financial Terms
Actuary	A person (or firm) who compiles and analyzes statistics to calculate financial risks and uncertainties.
Amortization	The process of reducing or paying off a debt, with interest, through regular payments over a period of time.
Amortization Schedule	The time period and method by which payments are calculated in order to pay off a debt and interest.
Asset	Cash and investments bought with the contributions to a pension system for the purpose of financing benefit payments.
Fiduciary	A person or organization that acts on behalf of another person or persons and is bound to put their clients' best interests ahead of their own.
Liability	The cost of future payouts that a pension system is obligated to make.
Rate of return	The gain or loss of an investment over a period of time compared to the initial cost of the investment.

	Pension-Related Terms
Actuarial Rate of Return	The annual rate of return that pension assets are assumed will earn through investment gains in the future.
Actuarial Value of Assets (AVA)	A measure of the value of the pension assets that recognizes investment gains and losses over a period of time to smooth out volatility from year to year. The AVA is typically used for funding calculation purposes. By smoothing market gains and losses over a five-year period, risk of sudden increases or decreases in funding requirements in response to year-to-year market fluctuations is minimized.
Actuarial Valuation	An annual analysis performed by the actuary to measure the assets and liabilities of a pension plan at a given point in time. The actuarial valuation is used to calculate the normal cost, unfunded liability, amortization payments, and ADEC.
ADEC	Actuarially Determined Employer Contribution. Formerly called the ARC, the ADEC represents the annual employer payment into the pension fund needed to fully fund the normal cost plus the amortization payment toward the unfunded liability.
Annuitant	A person who is entitled to receive benefits from the pension system.
Benefits	Pension benefits are cash payments from the pension fund to an annuitant, which typically occur monthly for life upon retirement. Examples of Other Post-Employment Benefits include subsidized health care and insurance coverage.
Defined Benefits (DB) Plan	A retirement system that calculates an annuitant's future benefit level by an established formula. Typically the formula is based on a member's years of service and average final compensation.
Defined Contribution (DC) Plan	A retirement system that uses an established formula to calculate an employer's contribution level to a member's retirement account. Unlike in a DB plan, the amount an annuitant has available for benefits is determined by their account balance, investment history, and retirement date/expected longevity rather than their years of service and average final compensation.
Demographic Factors	Characteristics of the plan membership that influence the expected and actual cost of benefits. Demographic factors include mortality rates, retirement rates, member termination or turnover rates for reasons other than retirement, and disability rates.

Experience Study	A periodic analysis (often every 3-5 years) that looks back at the actual experience of the pension system compared to demographic and economic assumptions. The experience study monitors recent trends and informs the development of forward-looking assumptions.
Market Value of Assets (MVA)	The fair value that the pension assets would be expected to fetch in the marketplace at a given point in time.
Normal Cost	The present value of the cost of future benefits accrued by the workforce each year. The normal cost represents the amount that must be paid into the pension system on an annual basis to ensure that enough assets will be available to pay for the benefits earned by the workforce that year.
Risk Sharing	An arrangement between members and retirement systems to share the impact of financial or actuarial gain or loss with members.
Unfunded Liability	The shortfall between a pension plan's accrued liabilities and assets. The unfunded liability represents the "gap" between the cost of all accrued future benefits and the assets available to pay for them.

	Acronyms
ADEC	Actuarially Determined Employer Contribution. Formerly called the ARC. the ADEC represents the annual employer payment into the pension fund needed to fully fund the normal cost plus the amortization payment toward the unfunded liability.
AFC	Average Final Compensation. For most members, the AFC is an average of the 2 or 3 highest consecutive years of salary. The AFC is used to calculate a member's retirement benefit.
COLA	Cost of Living Adjustment. COLAs are post-retirement adjustments to pension benefits that are tied to the Consumer Price Index (a measure of inflationary impacts on spending power). COLAs increase pension benefits over time to keep pace with growth in prices and maintain purchasing power.
CPI	Consumer Price Index. The CPI is a statistical measure reported by the federal government that tracks the price of a basket of consumer goods and is used to evaluate inflationary impacts on consumer purchasing power over time.
FY	Fiscal Year. An annual time period used by governments for accounting and budgeting purposes. Vermont's fiscal years run from July 1 through June 30 and are named for the calendar year in which they end.
OPEB	Other Post-Employment Benefits. The term OPEB includes retirement benefits other than pension benefits. Subsidized health care for retirees is the primary OPEB benefit.
VPIC	Vermont Pension Investment Commission. VPIC is a 9-member body responsible for investing the collective assets of Vermont's statewide pension systems and setting the rate of return and other actuarial assumptions for the pension systems.
VSERS	Vermont State Employees Retirement System. VSERS is the pension system that covers most state employees.
VSTRS	Vermont State Teachers Retirement System. VSTRS is the pension system that covers most Vermont teachers.

Appendix

Pension Funds at a Glance (as of FY20 valuation):

	VSERS	VSTRS
Active Members	8,539	9,996
Retired Members and Beneficiaries	7,424	9,843
Terminated Vested Members	767	887
Ratio of Non-Active to Active	0.96	1.07
Average Payroll	$64,642	$64,616
Average Monthly Benefit (Retirees Only)	$1,755	$1,830
Average Annual Benefit (Retirees Only)	$21,060	$21,960
Actuarial Value of Assets	$2,054,825,853	$2,035,713,611
Actuarial Accrued Liability	$3,095,290,972	$3,969,002,977
Unfunded Actuarial Accrued Liability	$1,040,465,119	$1,933,289,366
Funded Ratio	66.4%	51.3%

Plan Descriptions:

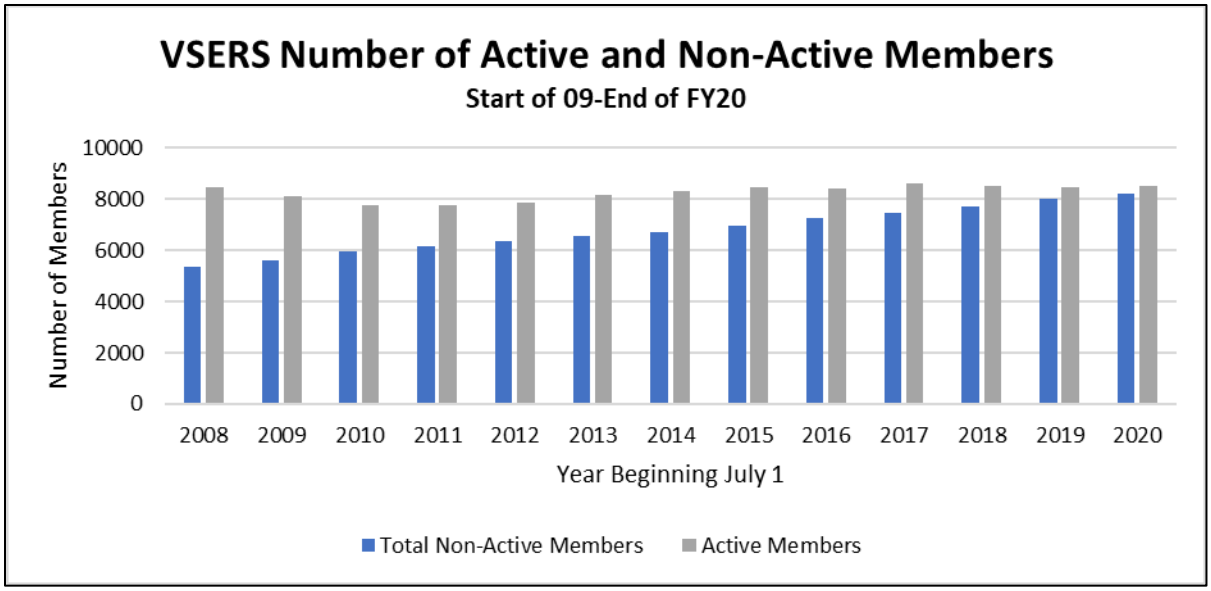
VSERS Group Comparisons	Group A	Group C (law enforcement/public safety)	Group D (judicial)	Group F (hired before 7/1/08)	Group F* (hired after 7/1/08)	
Employee Contributions	6.65%	8.53%	6.65%	6.65%	6.65%	
Average Final Compensation	3 Highest Consecutive (including unused annual leave payoff)	2 Highest Consecutive (including unused annual leave payoff)	Final salary at retirement	3 Highest Consecutive (excluding unused annual leave payoff)	3 Highest Consecutive (excluding unused annual leave payoff)	
Benefit Formula	1.67% x service credit	2.5% x service credit	3.33% x service credit (after 12 years in Group D)	1.25% x service credit prior to 12/31/90 + 1.67% x service credit after 1/1/91	1.25% x service credit prior to 12/31/90 + 1.67% x service credit after 1/1/91	
Maximum Benefit Payable	100% of AFC	50% of AFC	100% of final salary	50% of AFC	60% of AFC	
Normal Retirement (no reduction)	Age 65 or 62 with 20 years of service	Age 55 (mandatory)	Age 62	Age 62 or with 30 years of service	Age 65 or combination of age plus service that equals 87 (Rule of 87)	
Post-Retirement COLA	Full CPI, from a minimum of 1% to max of 5%, after 12 months of retirement	Full CPI, from a minimum of 1% to max of 5%, after 12 months of retirement	Full CPI, from a minimum of 1% to max of 5%, after 12 months of retirement	Full CPI, from a minimum of 1% to max of 5%, after reaching age 62 or 30 years of service.	Full CPI, from a minimum of 1% to max of 5%, after reaching age 65 or Rule of 87	
Early Retirement Eligibility	Age 55 with 5 years of service, or any age with 30 years of service	Age 50 with 20 years of service	Age 55 with 5 years of service	Age 55 with 5 years of service	Age 55 with 5 years of service	
Early Retirement Reduction	Actuarially reduced benefit if under 30 years of service	No reduction	3% per year from age 62	6% per year from age 62	Service Yrs 35+ 30-34 25-29 20-24 <20	Monthly Red. 1/8 of 1% 1/4 of 1% 1/3 of 1% 5/12 of 1% 5/9 of 1%
Medical Benefits	80% of premium	80% of premium	80% of premium	80% of premium	Service Yrs 5-9 10-14 15-20 20+	Monthly Red. Buy-in 40% state pays 60% state pays 80% state pays

VSTRS Group Comparisons	Group A	Group C-1 (at least 57 yrs old or at least 25 years of service on 6/30/10)	Group C-2 (less than 57 yrs old or less than 25 years of service on 6/30/10)
Employee Contributions	5.5%, contributions cease after 25 years of service	5.0%	5.0% (members with less than 5 yrs of srvice as of 6/20/14 pay 6.0%)
Average Final Compensation	3 Highest Consecutive (including unused annual leave payoff)	3 Highest Consecutive (excluding payments for anything other than service actually performed)	3 Highest Consecutive (excluding payments for anything other than service actually performed)
Benefit Formula	1.67% x service credit	1.25% x service credit prior to 6/30/90 + 1.67% x service credit after 7/1/90	1.25% x service credit prior to 6/30/90 + 1.67% x service credit after 7/1/91; 2.0% x years of service after attaining 20.0 years.
Maximum Benefit Payable	100% of AFC	53.34% of AFC	60% of AFC
Normal Retirement (no reduction)	Age 60 or with 30 years of service	Age 62 or with 30 years of service	Age 65 or combination of age plus service that equals 90 (Rule of 90)
Post-Retirement COLA	Full CPI, from a minimum of 1% to max of 5%, after 12 months of retirement	50% CPI, from a minimum of 1% to max of 5%, after 12 months of retirement	50% CPI, up to max of 5%, after 12 months of retirement
Early Retirement Eligibility	Age 55 with 5 years of service	Age 55 with 5 years of service	Age 55 with 5 years of service
Early Retirement Reduction	Actuarially reduced	6% per year from age 62	Actuarially reduced
Medical Benefits	Health subsidy based on member's service credit		

Demographic Overview

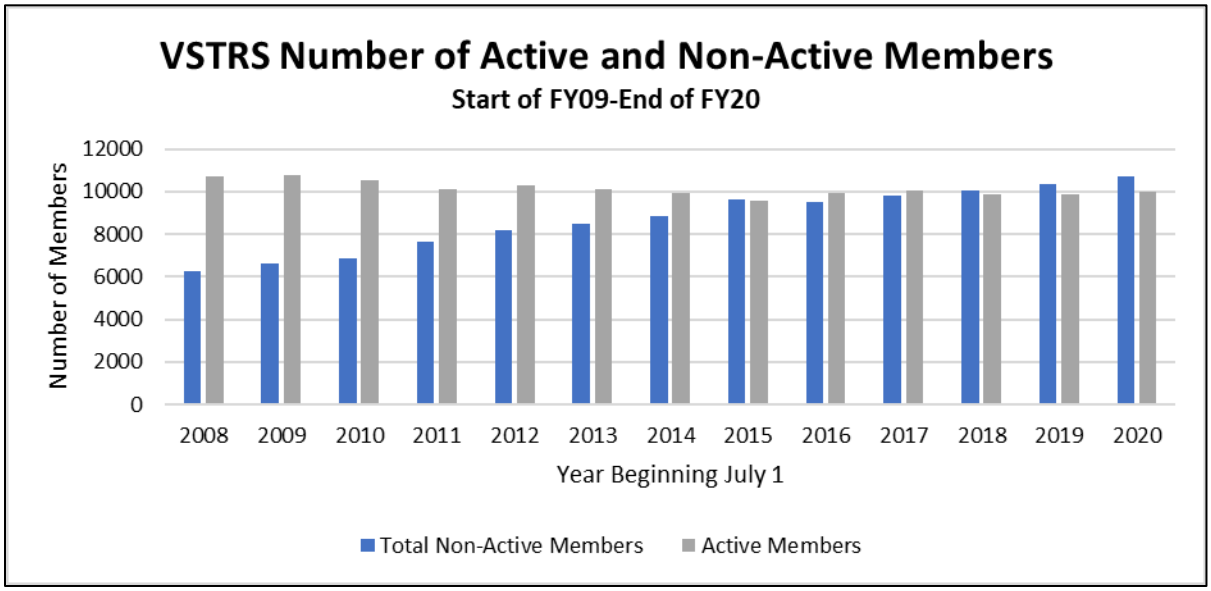
VSERS Member Data (FY20 Valuation)	Group A	Group C (law enforcement/public safety)	Group D (judicial)	Group F (combined)	All Employee Groups
Active Members	1	458	52	8028	8539
Average Payroll	$59,507	$89,061	$136,152	$62,787	$64,642
Service Pensioners	103	358	61	5765	6295
Annual Allowance	$2,759,242	$17,449,747	$4,295,154	$110,298,155	$134,957,964
Average Annual Allowance	$26,789	$48,742	$70,412	$19,132	$21,439
Disability Pensioners	6	34	0	367	409
Annual Allowance	$68,408	$1,324,444	$0	$4,817,269	$6,254,932
Average Annual Allowance	$11,401	$38,954	$0	$13,126	$15,293
Beneficiaries	33	76	10	597	720
Annual Allowance	$425,994	$1,704,262	$541,828	$7,022,453	$9,761,208
Average Annual Allowance	$12,909	$22,425	$54,183	$11,763	$13,557

VSERS Overview of Membership	Retired Members	Beneficiaries	Deferred Members	Total Non-Active Members	Active Members	Ratio of Non-Active to Active
Year Beginning July 1						
2008	4035	520	789	5344	8442	0.63
2009	4262	535	798	5595	8095	0.69
2010	4678	523	765	5966	7782	0.77
2011	4851	524	774	6149	7768	0.79
2012	5060	540	767	6367	7878	0.81
2013	5248	547	741	6536	8158	0.80
2014	5421	559	732	6712	8325	0.81
2015	5554	650	735	6939	8446	0.82
2016	5858	684	728	7270	8436	0.86
2017	6092	635	742	7469	8620	0.87
2018	6302	672	753	7727	8530	0.91
2019	6567	701	747	8015	8443	0.95
2020	6704	720	767	8191	8539	0.96



VSTRS Member Data (FY20 Valuation)	**All Employee Groups**
Active Members	9996
Average Payroll	$64,616
Service Pensioners	9164
Annual Allowance	$202,067,735
Average Annual Allowance	$22,050
Disability Pensioners	176
Annual Allowance	$3,047,774
Average Annual Allowance	$17,317
Beneficiaries	503
Annual Allowance	$7,171,756
Average Annual Allowance	$14,258

VSTRS Overview of Membership	Retired Members	Beneficiaries	Deferred Members	Total Non-Active Members	Active Members	Ratio of Non-Active to Active
Year Beginning July 1						
2008	5247	308	705	6260	10685	0.59
2009	5586	324	721	6631	10799	0.61
2010	5831	315	718	6864	10509	0.65
2011	6667	338	647	7652	10123	0.76
2012	7014	362	793	8169	10262	0.80
2013	7356	387	751	8494	10101	0.84
2014	7674	412	740	8826	9952	0.89
2015	8006	478	1163	9647	9585	1.01
2016	8259	504	747	9510	9919	0.96
2017	8581	440	763	9784	10028	0.98
2018	8809	460	787	10056	9892	1.02
2019	9040	474	819	10333	9862	1.05
2020	9340	503	887	10730	9996	1.07



Unfunded Liability Drivers

VSERS Drivers of Unfunded Liability Growth, FY2007-2020																
	Fiscal Year		*Amortization Period Begins 2009*													
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Beginning FY Unfunded Liability	**$ 9,044,004**	**$ (11,043,959)**	**$ 87,100,468**	**$ 326,506,488**	**$ 293,920,094**	**$ 346,537,738**	**$ 401,824,745**	**$ 445,130,082**	**$ 444,014,328**	**$ 542,558,818**	**$ 582,183,599**	**$ 717,577,722**	**$ 779,804,010**	**$ 815,464,698**
Changes in Actuarial Assumptions	$ (15,744,285)	$ 7,231,106	$ -	$ -	$ 26,425,205	$ 31,587,726	$ 33,541,162	$ 35,135,438	$ 84,606,837	$ 6,099,167	$ 49,130,291	$ -	$ -	$ 222,828,699
Changes in System Provisions	$ -	$ 56,389,496	$ (8,946,746)	$ -	$ 22,252	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Incorporation of Temp Salary Decreases	$ -	$ -	$ -	$ (69,913,212)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Change in Employee Contribution Rate	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ (2,610,261)	$ -	$ -	$ -	$ -
All Other Expected Increases/Reductions Excluding Above	$ 2,523,380	$ (1,887,100)	$ 5,158,736	$ 16,450,711	$ 3,408,119	$ (4,722,236)	$ (17,592,939)	$ (18,717,376)	$ (17,086,501)	$ (4,699,308)	$ (8,507,716)	$ (2,213,895)	$ 2,639,467	$ (12,351,185)
Normal Cost	*$ 36,113,361*	*$ 39,091,226*	*$ 44,574,324*	*$ 42,730,487*	*$ 38,979,778*	*$ 41,517,079*	*$ 39,217,558*	*$ 42,234,214*	*$ 44,725,724*	*$ 41,057,178*	*$ 42,703,770*	*$ 49,737,692*	*$ 52,027,002*	*$ 53,151,094*
Contributions In	*$ (35,798,190)*	*$ (41,609,832)*	*$ (48,324,859)*	*$ (54,536,763)*	*$ (60,584,812)*	*$ (68,388,004)*	*$ (81,856,395)*	*$ (88,682,529)*	*$ (89,600,885)*	*$ (88,695,721)*	*$ (97,032,971)*	*$ (105,542,404)*	*$ (107,734,805)*	*$ (125,926,229)*
Interest	*$ 2,208,209*	*$ 631,506*	*$ 8,909,271*	*$ 28,256,987*	*$ 25,013,153*	*$ 22,148,689*	*$ 25,045,898*	*$ 27,730,939*	*$ 27,788,660*	*$ 42,939,235*	*$ 45,821,485*	*$ 53,590,817*	*$ 58,347,270*	*$ 60,423,950*
Experience (Gain)/Losses														
Other Expense Gain/Loss	$ -	$ 955,848	$ (2,531,248)	$ 891,478	$ 1,487,355	$ 1,369,818	$ 1,416,950	$ 1,193,828	$ 2,169,411	$ 1,844,878	$ -	$ -	$ -	$ -
Salary Experience Gain/Loss	$ (7,261,077)	$ (30,350)	$ (79,064)	$ (105,795)	$ 35,867,925	$ 10,916,553	$ 23,416,670	$ 4,183,550	$ (8,216,692)	$ 4,731,224	$ 14,254,036	$ 7,120,663	$ (344,400)	$ 3,697,977
COLA Experience Gain/Loss	$ (252,995)	$ (1,184,450)	$ 8,272,076	$ (19,948,790)	$ (7,391,265)	$ 2,278,408	$ (7,319,398)	$ (6,030,176)	$ (11,711,910)	$ (29,591,395)	$ (15,467,145)	$ 726,790	$ (11,993,826)	$ (23,969,841)
Net Turnover	$ 1,638,107	$ 13,017,851	$ (819,098)	$ 2,042,729	$ 1,963,014	$ 5,652,331	$ 6,472,581	$ 7,304,431	$ 6,521,689	$ 8,317,659	$ 13,064,871	$ 7,931,592	$ 1,588,998	$ 2,812,974
Investments	$ (23,408,590)	$ 23,651,900	$ 242,482,443	$ 18,552,665	$ (13,637,923)	$ 5,767,759	$ (130,930)	$ (22,572,946)	$ 3,052,108	$ 24,616,058	$ 11,338,110	$ 10,076,141	$ 13,757,751	$ 23,939,803
Mortality	$ 10,151,465	$ (1,704,255)	$ (1,459,717)	$ (6,662,067)	$ 4,824,200	$ 4,809,926	$ 4,487,254	$ 5,949,161	$ 4,016,775	$ 4,361,697	$ 9,160,867	$ 4,854,533	$ 1,885,105	$ (3,692,473)
Retirements	$ 13,164,074	$ 3,106,026	$ (5,165,508)	$ 19,969,509	$ 7,040,422	$ 8,036,027	$ 1,549,045	$ 2,414,112	$ 3,543,687	$ 23,347,399	$ 12,223,344	$ 17,048,638	$ 13,424,864	$ 8,892,489
Disability Experience	$ (898,042)	$ 486,572	$ (710,461)	$ 1,355,018	$ (487,913)	$ (312,627)	$ 172,204	$ (735,311)	$ 755,213	$ 1,207,277	$ 1,124,342	$ 491,425	$ (291,792)	$ 434,494
Other gain/loss	$ -	$ (1,888,217)	$ 3,204,607	$ 4,781,360	$ (6,903,747)	$ (10,096,678)	$ (2,707,262)	$ (9,240,465)	$ 30,893,873	$ 2,000,386	$ 49,073,123	$ 16,190,401	$ 14,994,521	$ 2,407,484
Ending FY Unfunded Liability	**$ (11,043,959)**	**$ 87,100,468**	**$ 326,506,488**	**$ 293,920,094**	**$ 346,537,738**	**$ 401,824,745**	**$ 445,130,082**	**$ 444,014,328**	**$ 542,558,818**	**$ 582,183,599**	**$ 717,577,722**	**$ 779,804,010**	**$ 815,464,698**	**$ 1,040,465,119**

VSTRS Drivers of Unfunded Liability Growth, FY2007-2020															
	Fiscal Year		*Amortization Period Begins 2009*												
	2007	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**
Beginning FY Unfunded Liability	**$ 259,108,435**	**$ 274,790,333**	**$ 379,505,069**	**$ 727,758,505**	**$ 711,823,060**	**$ 845,107,879**	**$ 945,502,315**	**$ 1,013,910,284**	**$ 1,076,763,809**	**$ 1,175,029,029**	**$ 1,225,727,844**	**$ 1,502,453,386**	**$ 1,513,433,334**	**$ 1,554,459,286**
Expected Adjustments not including assumption/benefit changes	$ 1,550,581	$ 2,390,471	$ 6,838,673	$ 32,206,808	$ 11,653,535	$ (550,458)	$ (2,670,835)	$ (7,108,974)	$ (5,728,960)	$ 12,768,859	$ 11,629,574	$ (1,769,543)	$ (7,906,560)	$ (13,853,722)
Normal Cost	*$ 41,245,249*	*$ 42,871,112*	*$ 35,690,059*	*$ 39,336,165*	*$ 35,846,531*	*$ 35,205,405*	*$ 36,673,377*	*$ 36,150,845*	*$ 36,629,593*	*$ 33,880,724*	*$ 35,383,370*	*$ 40,127,656*	*$ 39,773,702*	*$ 40,751,637*
Contributions In	*$ (61,968,307)*	*$ (64,096,137)*	*$ (60,652,640)*	*$ (67,678,259)*	*$ (82,538,491)*	*$ (88,065,116)*	*$ (97,722,641)*	*$ (105,637,497)*	*$ (108,603,224)*	*$ (112,821,300)*	*$ (119,271,111)*	*$ (152,955,987)*	*$ (158,598,351)*	*$ (167,948,124)*
Interest	*$ 22,273,639*	*$ 23,615,496*	*$ 31,801,254*	*$ 60,548,902*	*$ 58,345,495*	*$ 52,309,253*	*$ 58,378,429*	*$ 62,377,678*	*$ 66,244,671*	*$ 91,709,435*	*$ 95,517,315*	*$ 111,058,788*	*$ 110,918,089*	*$ 113,342,765*
Assumption Changes	$ -	$ 45,302,660	$ -	$ -	$ 54,067,732	$ 43,012,727	$ 44,499,276	$ 46,354,354	$ 94,966,380	$ -	$ 190,792,964	$ (38,599,369)	$ -	$ 334,265,096
Plan provisions	$ -	$ 120,335	$ -	$ (46,529,457)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Net Investments	$ (32,083,462)	$ 26,035,387	$ 312,726,392	$ 26,279,596	$ (8,517,121)	$ 6,447,642	$ (356,798)	$ (23,737,319)	$ 2,526,059	$ 24,080,857	$ 10,258,663	$ 8,436,965	$ 11,592,854	$ 21,306,965
Salary	$ (3,581,940)	$ 167,082	$ 16,569	$ (213,758)	$ (24,546,383)	$ (18,940,673)	$ (26,621,253)	$ (2,246,986)	$ (8,024)	$ (11,832,939)	$ (10,257,198)	$ (10,510,812)	$ (10,407,130)	$ (10,408,437)
COLA Experience Gain/Loss	$ (217,412)	$ (1,312,463)	$ 9,112,436	$ (22,127,398)	$ (5,771,530)	$ 2,591,239	$ (18,895,595)	$ (7,796,599)	$ (8,375,695)	$ (25,808,649)	$ (8,993,747)	$ 1,386,560	$ (7,683,366)	$ (8,838,015)
Mortality	$ 11,249,513	$ 47,304	$ (751,028)	$ (12,196,378)	$ 2,167,726	$ 4,238,443	$ 4,851,424	$ 2,503,288	$ (12,663,974)	$ 8,795,806	$ 4,776,996	$ (747,793)	$ 2,743,845	$ 3,335,043
Retirements	$ 50,324,971	$ (7,984,293)	$ (7,834,716)	$ (13,027,972)	$ 16,297,444	$ 16,962,996	$ 10,034,162	$ 7,255,861	$ 20,398,024	$ 16,650,803	$ 14,888,756	$ 15,053,147	$ 20,019,165	$ 24,972,035
Disability Experience	$ -	$ 723,288	$ 819,381	$ (452,396)	$ 517,915	$ 1,034,926	$ 698,282	$ 128,073	$ (83,400)	$ 138,601	$ 18,161	$ 36,314	$ 128,020	$ 53,881
Net Turnover	$ (32,133,353)	$ 21,437,443	$ 12,736,566	$ (1,493,927)	$ 32,780,627	$ 56,985,971	$ 40,978,113	$ 34,812,142	$ 20,849,237	$ 27,649,895	$ 33,675,285	$ 29,368,302	$ 21,031,002	$ 21,770,846
Contribution Shortfall including Healthcare Approp.	$ 20,573,000	$ 16,876,994	$ 17,670,950	$ 19,287,498	$ 21,240,905	$ 23,121,145	$ 25,101,767	$ 27,156,759	$ 2,630,383	$ 2,248,220	$ -	$ -	$ -	$ -
Other Gains/Losses	$ -	$ 910,528	$ (3,081,787)	$ 2,331,939	$ 33,393,969	$ (34,509,522)	$ (9,210,574)	$ (14,467,074)	$ (16,244,810)	$ (3,992,638)	$ 29,936,088	$ 8,326,177	$ 11,508,122	$ 6,226,388
Ending FY Unfunded Liability	**$ 274,790,333**	**$ 379,505,069**	**$ 727,758,505**	**$ 711,823,060**	**$ 845,107,879**	**$ 945,502,315**	**$ 1,013,910,284**	**$ 1,076,763,809**	**$ 1,175,029,029**	**$ 1,225,727,844**	**$ 1,502,453,386**	**$ 1,513,433,334**	**$ 1,554,459,286**	**$ 1,933,289,366**