



Defined Contribution Plans Advisory Committee (DCPAC) Meeting

1111 East Main Street, Pavilion Building

Thursday, 9/7/2023

1:00 - 3:00 PM ET

1. Welcome

2. Meeting Minutes

-- Adoption of the Minutes from the June 1, 2023 Meeting

6.1.2023 DCPAC Minutes - Page 2

3. Administration

2023 Q2 Administrative Summary - Page 7

a. Administration Reports & Communications

b. DC Plans Record Keeper Transition Update

4. Investments

-- Annual Investment Review

DCPAC Investments 9-7-23 slide deck - Page 25

5. Discussion of New Ideas

6. 2023 Meetings

a. 2023 Meetings

- November 30, 2023 at 1:00 p.m.

b. ORPHE Annual Employer Update (not a meeting of the DCPAC)

- September 19, 2023 at 10:00 a.m.

Minutes

The Defined Contribution Plans Advisory Committee (DCPAC) of the VRS Board of Trustees convened on June 1, 2023, with the following members present:

Brandon Bell, Chair
Susan T. Gooden, Vice Chair
Ravindra Deo
C. Matt Harris
Shannon Irvin* (in accordance with § 2.2-3708.3(B)(3))
Rick Larson
Brenda Madden
Arun Muralidhar* (in accordance with § 2.2-3708.3(B)(3))
David Winter

VRS Board of Trustees:

John Bennett*

VRS Staff:

Trish Bishop, Ty Bowers*, Jessica Budd*, Jeanne Chenault, Michael Cooper, David Cotter, Valerie Disanto*, Jon Farmer*, Antonio Fisher, Josh Fox*, Kelley Harlow*, Kelly Hiers, KC Howell, Robert Irving, Brian Lackey*, Ryan LaRochelle, Joyce Monroe*, Laura Pugliese, Jennifer Schreck, Jacob Schwartz*, Kristy Scott*, Michael Scott, Ashley Spradley*, Bridgette Watkins, Rachel Webb, Leslie Weldon, Cindy Wilkinson, and Tanya Williams*.

Guests:

Brian McCleave, Empower Retirement; Andrew Ness, SageView Advisors; Jamie Bitz, JLARC; Lauren Albanese*, Financial Investment News.

**Attended remotely*

The meeting convened at 1:00 p.m.

Opening Remarks

Brandon Bell, Chair of the DCPAC, welcomed Committee members, Board members, VRS staff, representatives from other stakeholder groups and members of the public.

Approval of Minutes

Upon a motion by Dr. Gooden, with a second by Mr. Winter, the Committee unanimously voted to approve the minutes of the March 30, 2023, meeting of the Defined Contribution Plans Advisory Committee.

Administrative Reports and Communications

Kelly Hiers, DC Plans Administrator, provided an update on the VRS Defined Contribution Plans for the first quarter, ending March 31, 2023. Ms. Hiers shared the total assets under management across all DC plans over time. Ms. Hiers noted plan assets and accounts were both up since year end. Assets across all plans total approximately \$7.4 billion. Total accounts are close to 600,000. This increase is primarily related to the impact of auto-escalation in the Hybrid Retirement Plan.

Ms. Hiers shared that VRS received the Communicator Award of Distinction from the Academy of Interactive and Visual Arts for the Hybrid Auto-Escalation Campaign. VRS also submitted for a National Association of Government Defined Contribution Administrators (NAGDCA) award and the Pensions & Investments (P&I) award.

Ms. Hiers shared specific details of the SECURE 2.0 federal legislation as it pertains to age-based catch-up contributions. This provision has provided implementation challenges for public retirement plans and cannot be implemented within the allowed timeframe. VRS will be requesting plan document amendments to allow for flexibility with implementation of this provision.

Ms. Hiers provided an update regarding the Hybrid Retirement Plan rate separation legislation implementation. This initiative separates the employer contribution rates into two separate rates: the Defined Benefit rate and the Defined Contribution rate. VRS is beginning outreach related to this change since it will require system updates for employers. This initiative simplifies Defined Contribution plans administration, reduces the need for employer reconciliations, and allows members to make monthly contribution changes. The rate separation becomes effective July 1, 2024.

Ms. Hiers provided an update on total assets and accounts in the COV 457 and Virginia Cash Match plans through March 31, 2023, noting that assets increased 5%. Ms. Hiers also provided a review of total assets and accounts in the Hybrid Retirement Plan for the first quarter of 2023. Assets increased 13% and accounts 17%, largely due to auto-escalation.

Ms. Hiers shared an update on the status of the 2023 auto-escalation in the Hybrid Retirement Plan. Over 100,000 members were auto-escalated on January 1, 2023. About 93% remained at the auto-escalated contribution rate. Over 2% further increased their voluntary contribution and over 1.5% increased their voluntary contribution to the maximum. Less than 1% decreased their voluntary contribution percentage. Mr. Winter asked if this was consistent with past years. Ms. Hiers confirmed these numbers were consistent with past years.

Ms. Hiers provided a brief overview of the Optional Retirement Plan for Higher Education. Assets in this plan are held with MissionSquare and TIAA, with the majority held by TIAA. Assets were up 5%, but accounts were slightly down. Ms. Hiers noted it is not unusual for accounts to be slightly down in the first quarter due to hiring practices and retirement patterns.

Ms. Hiers concluded with a review of upcoming events. The TD Ameritrade-Charles Schwab transition will be occurring in September for participants in the Self-Directed Brokerage Account.

Mr. Bell thanked Ms. Hiers for her presentation.

DC Plans Investments Update

Laura Pugliese, Portfolio Manager of Defined Contribution Plans, began with a follow-up to questions from the last meeting regarding the Retirement Research Center's (RRC) 2022 Profiling Retiree Spending Study. The RRC did not find regional data meaningful enough to segment the data into regions and their sample size was not large enough to review by race. The RRC asked the same questions in multiple ways to determine accuracy with self-reporting. In response to a question regarding the sample size, Ms. Pugliese noted that she believed it was about 2,000.

Ms. Pugliese provided a high-level overview of the markets and reviewed the April 30, 2023, performance reports, including the unbundled DC plans investment options and the bundled TIAA ORPHE Retirement Choice (RC) investment menu options.

Ms. Pugliese provided an update on the TIAA ORPHE investment changes. The transition to lower share classes for the BlackRock LifePath Index Funds and the BlackRock Russell 2500 Index Fund took place on May 31, 2023. Mr. Bell inquired about the DCPAC's role, if any, in overseeing of external managers. Ms. Pugliese responded that according to policy documents, the CIO is responsible for the hiring and termination of managers. Mr. Bell asked if there was any regular timeline for the review of managers. Ms. Bishop responded that investments fall outside the Public Procurement Act so there is more flexibility and staff performs regular due diligence in reviewing performance. Mr. Howell added that VRS is constantly reviewing its investment products and monitoring the market for competitiveness and mentioned staff performs annual due diligence with the investment managers.

Ms. Pugliese provided an overview of the characteristics of VRS' primary pension plans as a background for DCPAC members. Mr. Winter asked if the highest average compensation typically happens at the end of a member's career. Ms. Pugliese said it may not be the case and it must be consecutive which is important for the calculation. Mr. Howell added that education is important for members to understand their benefits. Mr. Deo asked what percentage of participants annuitize their DC plan funds. Ms. Hiers said the rates are low.

Mr. Bell thanked Ms. Pugliese for her presentation.

Other Business

COV 457 Plan Amendments

Cindy Wilkinson, Director of Policy and Planning, informed the Committee of the proposed changes to the Commonwealth of Virginia 457 Deferred Compensation Plan Document. Mr. Winter inquired if the age-based catch-up provisions would be a good policy if the implementation wasn't so difficult. Ms. Bishop responded that it is generally a good policy and VRS would be happy to administer it but cannot given the current circumstances. Mr. Deo noted he agreed that it is a good policy. Ms. Bishop added that the complexities of the policy can cause confusion for participants which can prevent usage. Ms. Hiers added that it is even more complicated for Hybrid Retirement Plan participants due to the structure of supplemental voluntary contributions.

Upon a motion by Dr. Gooden, with a second by Mr. Deo, the Committee unanimously recommended approval of the Request for Board Action regarding the Amended and Restated Commonwealth of Virginia 457 Deferred Compensation Plan:

Request for Board Action: Approve Amended and Restated 457 Deferred Compensation Plan Document

Discussion of New Ideas

There were no new ideas brought before the committee.

Upcoming Defined Contribution Plans Advisory Committee Meetings

Mr. Bell confirmed the remaining DCPAC meeting dates for 2023. The next meeting of the DCPAC will take place on September 7, 2023, with the last meeting on November 30th. All meetings will be held at 1:00 p.m.

Additionally, the ORPHE Annual Employer Update will be scheduled and appear on the agenda as an upcoming event. This is not a DCPAC meeting; however, members may attend if interested.

DC Plans Record Keeper RFP Update (Closed Session)

Dr. Gooden moved, with a second by Mr. Larson, that the Virginia Retirement System Defined Contribution Plans Advisory Committee convene a closed meeting under the Virginia Freedom of Information Act to discuss and consider the award of a public contract involving the expenditure of public funds, including interviews of bidders or offerors, and discussion of the terms or scope of such contract, where discussion in an open session would adversely affect the bargaining position or negotiating strategy of the public body, pursuant to the exemption in *Code of Virginia* § 2.2-3711(A)(29). The committee unanimously voted to enter into closed session.

Reconvene Meeting

Upon return to open meeting, Dr. Gooden offered, with a second by Mr. Deo, the following resolution certifying the closed session:

WHEREAS, the Virginia Retirement System Defined Contribution Plans Advisory Committee convened a closed meeting on this date pursuant to an affirmative recorded vote and in accordance with the provisions of the Virginia Freedom of Information Act; and

WHEREAS, § 2.2-3712 of the Code of Virginia requires a certification by this Committee that such closed meeting was conducted in conformity with Virginia law;

NOW, THEREFORE, BE IT RESOLVED, that the Committee certifies that, to the best of each member's knowledge, (i) only public business matters lawfully exempted from open meeting requirements under this chapter were discussed in the closed meeting to which this certification resolution applies, and (ii) only such public business matters as were identified in the motion by which the closed meeting was convened were heard, discussed or considered by the Committee.

The Committee approved the resolution upon the following roll call vote:

- Mr. Deo – Aye
- Ms. Irvin – Aye
- Mr. Larson – Aye
- Ms. Madden – Aye
- Dr. Muralidhar – Aye
- Mr. Harris – Aye
- Mr. Winter – Aye
- Dr. Gooden – Aye
- Senator Bell – Aye

DC Plans Record Keeper RFP

Upon a motion by Dr. Gooden, with a second by Ms. Madden, the Committee unanimously voted to recommend approval of the Request for Board Action recommending Voya Financial as the DC Plans Third-Party Administrator effective January 1, 2025:

Request for Board Action: *Accept the DCPAC's Recommendation for a DC Plans Third-Party Administrator.*

Adjournment

Upon a motion by Mr. Winter, with a second by Ms. Madden, the Committee unanimously voted to adjourn the meeting at 3:12 p.m.

Chair

Date



Virginia
Retirement
System

VRS Defined Contribution Plans

2nd Quarter 2023

(April-June)

Administrative Summary

September 7, 2023



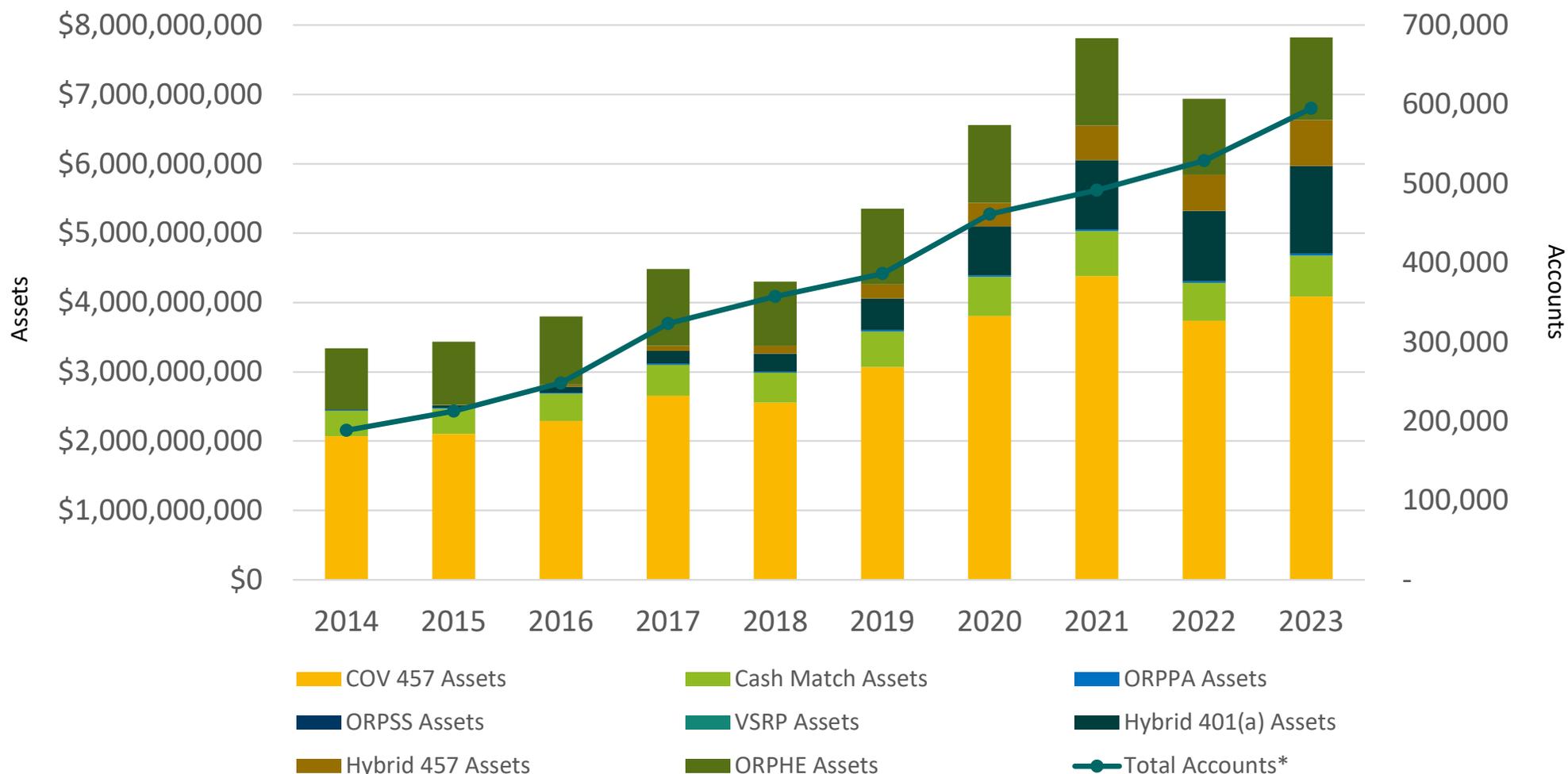
Agenda

Topic	Slide Number(s)
General Updates	3-9
COV 457 & Cash Match Plans	10
Hybrid Retirement Plan	11-12
ORPHE	13-14
Upcoming Events	15
DC Plans Unbundled Record Keeper Contract Update	16-17

Total Assets and Accounts Over Time



Totals as of 06/30/2023	Assets	Accounts	Assets ↑ 6% Accounts ↑ 1% since March 31, 2023
	\$7,824,815,437	594,927	



Note: All data except 2023 reflects totals as of calendar year end and includes ORPHE selected providers and MissionSquare participant, beneficiary, forfeiture & reserve accounts. 2023 is as of 6/30/2023.

*Does not indicate unique participants.

Federal Legislation Update

SECURE 2.0

Effective January 1, 2024

Age-based catch-up contributions must be made as Roth contributions for participants that earned \$145,000 or more in the previous year. Participants with earnings under that amount must be able to choose between Roth and pre-tax for age-based contributions.

- Barring a delayed effective date, VRS made the decision to pause age-based catch-up contributions for 2024 due to implementation challenges.
- Employers were notified in the VRS August Employer Update and by direct email in late July.
- Participants communications were on track for September.

- **Per IRS Notice 2023-62, received on August 25, 2023, plans have been granted an administrative transition period of two years to come into compliance with Section 603.**
- Follow-up communications have been sent to employers.
- Participant communications have been halted.

Optional Provisions under consideration:

Sec. 103 – Saver’s Credit

Modifies the existing Saver’s Credit to make it refundable and turns it into a direct government matching contribution to the taxpayer’s IRA or eligible retirement plan. Effective 2027.

Sec. 109 -Higher catch-up contribution limit to apply at age 60, 61, 62 and 63

Increases the limit on catchup contributions for individuals age 60-63 to the greater of (i) \$10,000 or (ii) 150% of the regular catch-up amount for 2024, indexed for inflation. Effective 2025.

Sec. 306 - Eliminate the “first day of the month” requirement for governmental Section 457(b) plans

Conforms rule for governmental 457(b) plans to rule for 401(k) and 403(b) plans by allowing participants of governmental 457(b) plans to change their deferral rate at any time before the compensation is available to the individual. Effective 2023.

Sec. 604 – Optional treatment of employer matching or non-elective contributions as Roth

Allows a Section 401(a) qualified plan, a Section 403(b) plan, or a governmental 457(b) plan to permit employees to designate employer matching or nonelective contributions as Roth contributions. Effective 2023.

Optional Provisions under consideration:

Sec. 312 - Employer may rely on employee certifying that deemed hardship distribution conditions are met

Allows a plan administrator to rely on an employee's self-certification that they have had a safe harbor event that constitutes a deemed hardship for purposes of taking a hardship withdrawal from a 401(k) plan or a 403(b) plan. The administrator can also rely on the employee's certification that the distribution is not in excess of the amount required to satisfy the financial need and that the employee has no alternative means reasonably available to satisfy the financial need. A similar rule applies for purposes of unforeseeable emergency distributions from governmental Section 457(b) plans. Effective 2023.

Sec. 110 - Treatment of student loan payments as elective deferrals for purposes of matching contributions

Employer contributions made on behalf of employees for "qualified student loan payments" are treated as matching contributions, so long as certain requirements are satisfied. Applies to 401(k), 403(b), SIMPLE IRAs, and governmental 457(b) plans. Employer may rely on employee certification of payment. Effective 2024.

Optional provisions for in-service distributions under consideration:

Sec. 314 - Penalty-free withdrawal from retirement plans for individual in case of domestic abuse

Permits certain penalty-free early withdrawals in the case of domestic abuse in an amount not to exceed the lesser of \$10,000 (indexed) or 50% of the value of the employee's vested account under the plan. Allows for self-certification.

Effective 2024.

Sec. 115 – Withdrawals for certain emergency expenses

Allows one penalty-free withdrawal of up to \$1,000 per year for “unforeseeable or immediate financial needs relating to personal or family emergency expenses.” The withdrawal may be repaid within three years. Only one withdrawal per three-year repayment period is permitted if the first withdrawal has not been repaid.

Effective 2024.

Section 331 - Qualified Federally Declared Disaster Distribution

Provides permanent special rules governing plan distributions and loans in cases of qualified federally declared disasters. Up to \$22,000 may be distributed to a participant per disaster; Amount is exempt from the 10% early withdrawal fee; Inclusion in gross income may be spread over 3-year period; Amounts may be recontributed to a plan or account during the 3-year period beginning on the day after the date of the distribution;

Allows certain home purchase distributions to be recontributed to a plan or account if those funds were to be used to purchase a home in a disaster area and were not so used because of the disaster.

Effective 2023.

Self-Directed Brokerage Transition Update



- Transition was effective September 4.
- Data as of June 30, 2023
 - Accounts: 1,166 funded participant accounts
 - Assets: \$98,352,487
 - Average Balance: \$84,350

Communications Highlights

The FOCUS newsletter is one of our primary mediums to communicate to plan participants and members.

- Included with quarterly statements.
- Multiple versions with varied, timely topics.

DCP Virginia Retirement System

FOCUS

Staying Safe and Secure

In our increasingly online world with cyber criminals becoming savvier, it's more important than ever to keep your retirement accounts and other savings secure. Here are a few simple steps you can take to protect yourself and your finances:

- Take a moment to check your credit report and other alerts from your financial institutions, rather than putting off viewing this information for another time. Regular checks can help you spot fraud quickly.
- When you receive emails about your accounts, open and review the information to make sure it's accurate. Notify a representative if you notice suspicious activity, such as a change you didn't make to your account.
- Be sure your address and contact information is up to date — this helps avoid information about your account getting sent to a stranger's home, phone or email address, and ensures you receive timely updates about your account.

Claim Your Online Accounts

Help avoid identity theft by claiming your myVRS account and DCP accounts.

myVRS:

- Go to myVRS.varetire.org.
- Click "Register Now" and answer several questions to confirm your identity.
- Choose your own security questions, username and password.
- Set up multifactor authentication so that you receive a security code by text or email each time you log in.
- Be aware that VRS locks unclaimed accounts, requiring you to call for access. Be sure to register your account soon after you're hired.

DC Plans:

- Go to varetire.org/dcp
- Select "Account Access" for your plan, then "Set Up Your Online Access."
- Answer the questions to confirm identity, then select your security questions, username and password.

Security Guarantee

VRS and Missco third-party recordkeepers protect your contributions with a Security Guarantee. For losses from fraud or theft, you can be reimbursed for losses from your account. Keep your retirement secure and help safeguard your account.

DCP Virginia Retirement System

COV 457 Plan

Boost Your Retirement: Saver's Credit

You can save even more for your future with the Retirement Savings Contribution Credit, or Saver's Credit, a tax credit for moderate- to low-income people who are making contributions to a retirement account.

Who's eligible?

Anyone 18 or older who is not a student and is not claimed as a dependent on someone else's taxes; and whose household income in 2023 is less than \$73,000 if married and filing jointly, less than \$54,750 if head of a household, or less than \$36,500 for any other filing status.

How much can I receive?

It varies, but the maximum for individuals is \$1,000 (or \$2,000 if you're married and filing jointly).

What do I do to get the credit?

Fill out IRS Form 8880, available on the IRS website.

To learn more and obtain a fillable PDF of Form 8880, visit irs.gov and enter the search term "saver's credit."

Keep Your Savings Rolling With Auto-Escalation

On January 1, the Hybrid Retirement Plan's auto-escalation feature may have boosted your retirement savings. Automatic increases and matching employer contributions keep your savings rolling!

Benefits of Your Boost: Auto-escalation helps you save more by automatically increasing the amount you contribute from each paycheck toward retirement. Eligible participants saw voluntary contributions automatically increase by 0.5% on January 1, even if they weren't previously making contributions to their Hybrid 457 accounts.

Auto-escalation makes it easy to save more with automatic increases over time. Contributions increase by 0.5% every three years until you reach the maximum 4%. Auto-escalation will next occur in 2026.

Visit varetire.org/auto-escalation to learn more.

Maximize Your Match: You don't have to wait three years to save more for your future. Contribute more now to reach your maximum employer match sooner.

- Set your contribution rate at 4% to receive your maximum 2.5% employer match now.
- Or boost contributions each year with SmartStep.

The employer match helps you save more toward retirement. Example: If you earn \$42,299 a year and contribute \$1,892 for the year — your employer will match this with a \$1,182 contribution to your account for that year. SmartStep allows you to set up annual increases to voluntary contributions — you choose the amount and schedule.

Visit varetire.org/hybrid and log in to increase your contributions and maximize your match!

Use the **Hybrid Member Paycheck Calculator** to visualize the impact of contributions and other deductions on your paycheck.

Visit varetire.org/hybrid to use the Hybrid Paycheck Calculator and log into your secure account, where you can review or adjust your contribution amount.

Beyond the Boost: Consider additional ways beyond the Hybrid 457 Plan to reach your retirement goals. See opposite page for more!

DCP Virginia Retirement System

FOCUSING On Your Hybrid Retirement Plan

All Plans

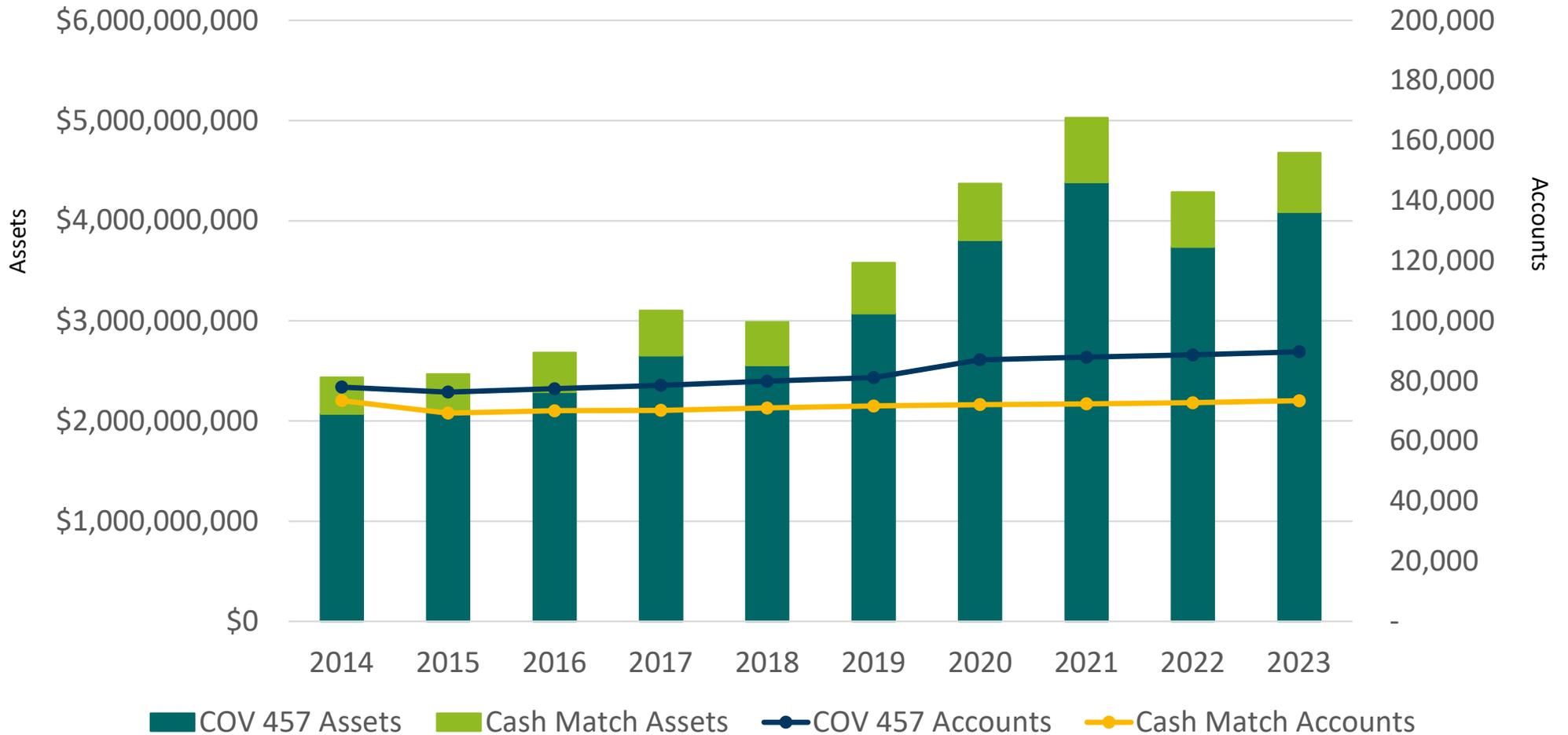
Hybrid Retirement Plan

COV 457/Cash Match Plan Assets and Accounts



Totals as of 06/30/2023	Assets	Accounts
COV 457	\$4,087,759,089	89,672
Cash Match	\$591,468,574	73,408

Assets ↑ 4% since March 31, 2023



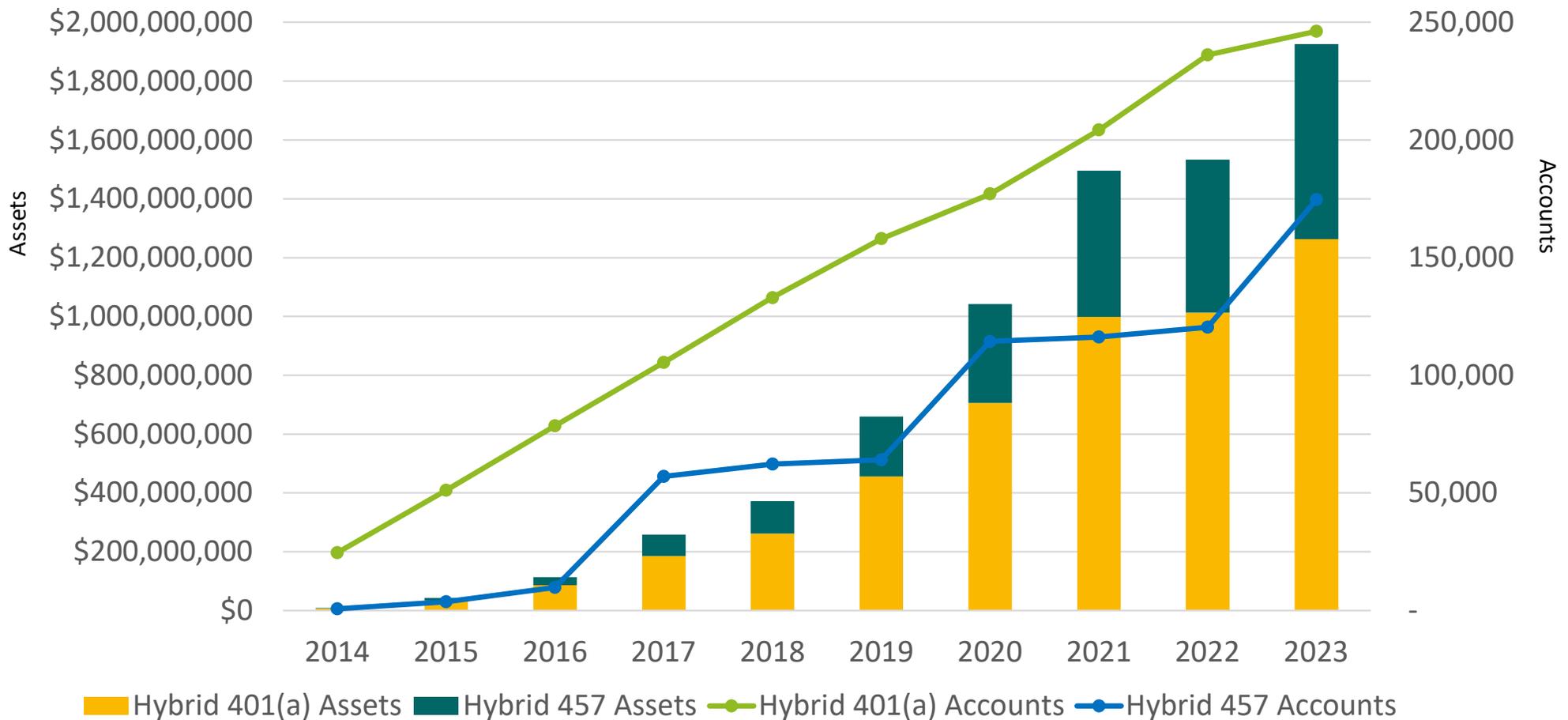
Note: All data except 2023 reflects totals as of calendar year end and includes MissionSquare participant, beneficiary & reserve accounts. 2023 data is as of 6/30/2023.

Hybrid Retirement Plan Assets and Accounts (DC only)



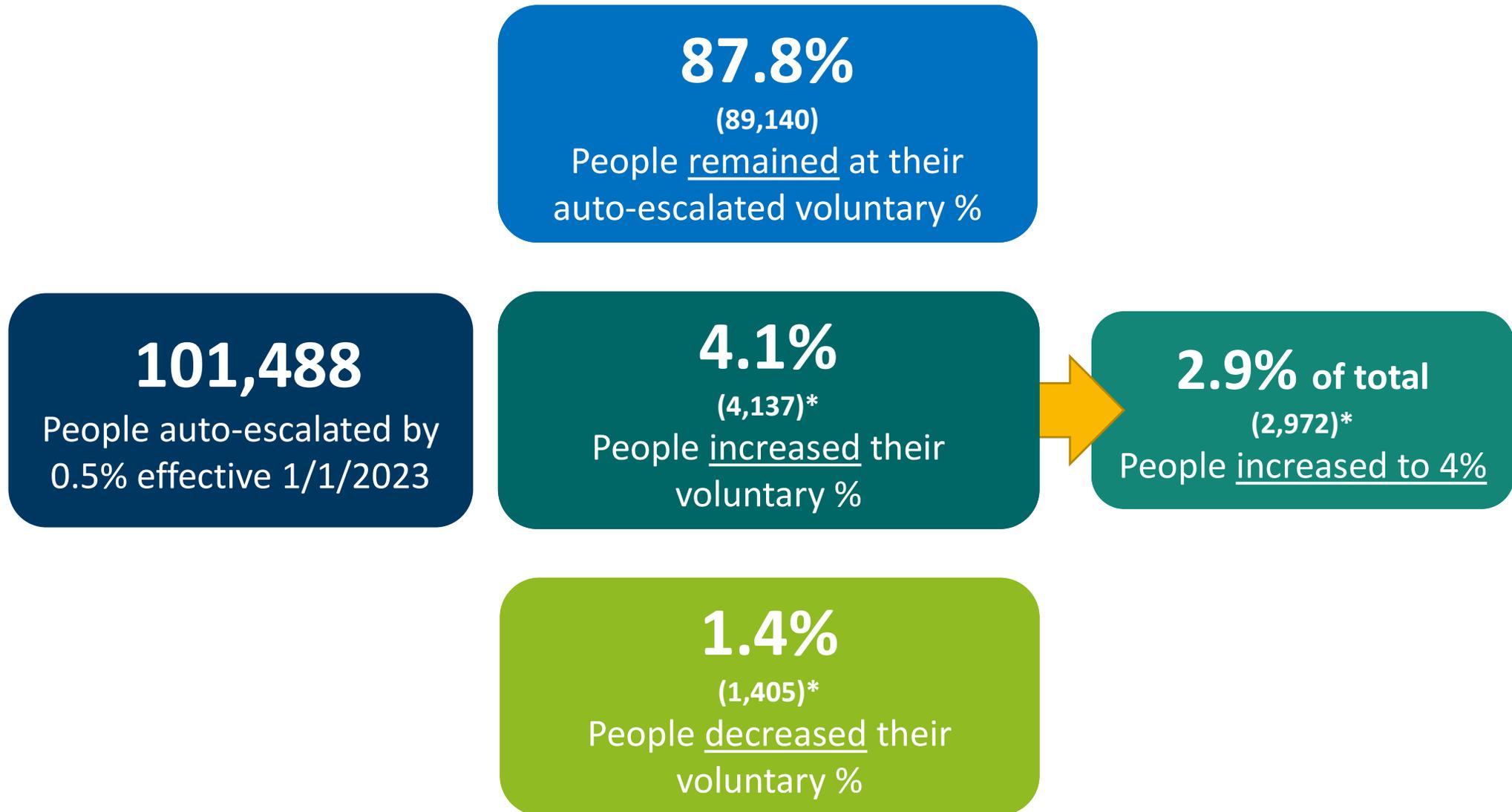
Totals as of 06/30/2023	Assets	Accounts
Hybrid 401(a)	\$1,263,719,795	246,175
Hybrid 457	\$662,545,101	174,659

Assets ↑ 11%
Accounts ↑ 1%
since March 31, 2023



Note: All data except 2023 reflects totals as of calendar year end and includes MissionSquare participant, beneficiary & forfeiture accounts. 2023 data is as of 6/30/2023.

2023 Auto-Escalation Status



Note: Data as of 7/1/23. Percentages do not equal 100% due to employee separations and job changes.

* Counts are cumulative since 12/15/2022.

Administrative Summary

ORPHE



ORPHE Totals*			
	3/31/2023	06/30/2023	% Change
Assets	\$1,146,794,037	\$1,192,447,624	4%
Participants	10,585	10,528	-1%
Average Balance	\$108,341	\$113,264	5%



DCP	
	6/30/2023
Assets	\$154,517,577
Participants	2,297
Average Balance	\$67,269

33% of new hires Q2 2023 elected DCP as their provider.

TIAA**	
	6/30/2023
Assets	\$1,037,930,047
Participants	8,231
Average Balance	\$126,100

67% of new hires Q2 2023 elected TIAA as their provider.

*Excludes deselected providers.

**Includes assets in GRA/RA and RC contracts.

Annual Employer Update

- Scheduled for September 19, 2023.
- Provides an opportunity to share administrative updates and plan overview with employers.
- Not a formal meeting of the DCPAC but includes DCPAC representation.

Open Enrollment

- Held every October.
- Allows participants to change their provider election, effective the following January.
- Does not require a transfer of assets to new provider.

Annual Fee Disclosure

- Distributed to active and separated ORPHE participants annually.
- Differs from fee disclosure for other plans due to:
 - Multi-provider ORPHE structure.
 - Inclusion of deselected providers.

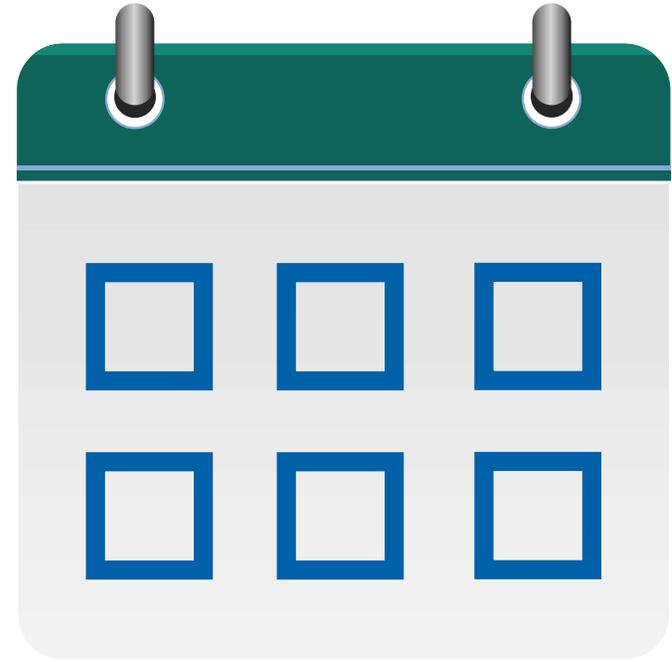
Upcoming Events

Ongoing

- Voya discovery meetings.

September 2023

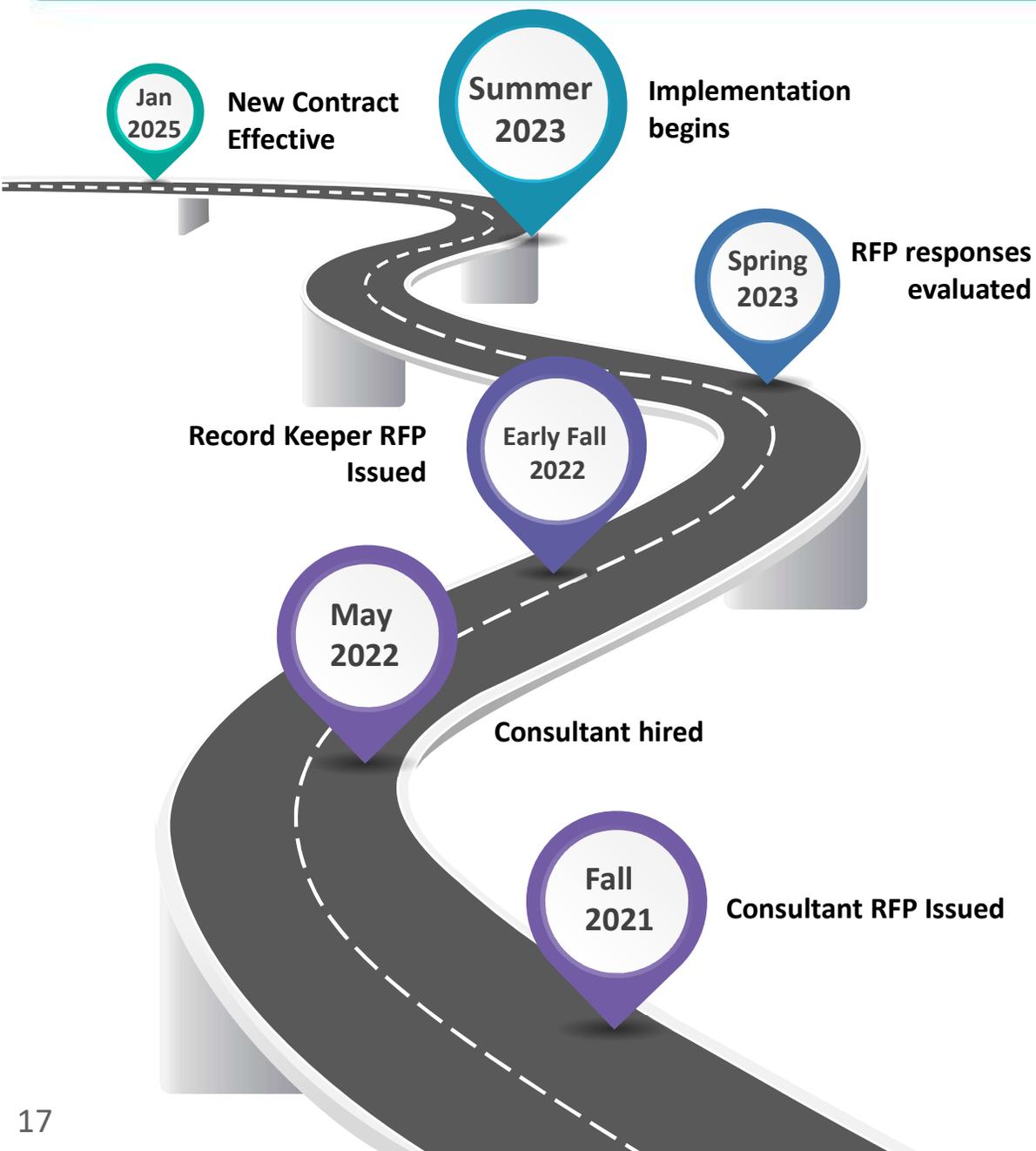
- TD Ameritrade/Schwab transition.
- MissionSquare Annual Service Review.
- TIAA Annual Service Review.



Participant Reminders and Notifications

- Beneficiary designation reminders – all plans.
- Keep your information up to date reminders – all plans.
- Auto Enroll notification – COV 457 Plan only.
- SECURE 2.0 Reminders.
 - RMD updates – all plans.
 - Age 50+ catch-up reminder – COV 457 Plan only.
- Small balance distribution reminders – all plans.

Unbundled Record Keeper Contract



Project Status

- ✓ **RFP issued:** September 23, 2022
- ✓ **Responses due:** December 2, 2022
- ✓ **Initial evaluation & finalists determined:** April 2023
- ✓ **Finalists interviewed:** May 15-16, 2023
- ✓ **Intent to Award to Voya approved by the VRS Board of Trustees:** June 15, 2023
- ✓ **Implementation Kickoff:** Meeting held on July 26, 2023
- **Discovery:** In progress

Thank you!

DC Plans Investments

September 7, 2023



Annual Investments Review Highlights



DCPAC Investment Duties and Responsibilities

- Review trends and identify best practices.
- Assist staff in identifying potential asset classes and investment strategies.
- Perform annual comprehensive review of the investment program with emphasis on three-year and five-year periods.
- Periodically review the VRS Defined Contribution Plans Investment Belief Statements.
- Periodically review the DC Investment Policy Statements.
- Provide recommendations to the Board as needed.

- The complete annual investments review package is found in the Appendix.
- As of June 30, 2023 DC plans assets overseen by investment staff totaled \$7.2 billion (\$6.8 billion unbundled DC plans; \$370.4 million TIAA ORPHE).
- An unbundled DC plan structure provides investment staff with maximum flexibility whereas a bundled plan structure does not provide the same flexibility.
 - TIAA operates as a bundled plan provider for the ORPHE.

Fee Reductions

- Target date funds (default option): Moved to a lower share class from 8 bps to 6 bps (unbundled plans & TIAA).
 - Unbundled plans: Initial savings of about \$590,000 for fund series.
- Small-Mid Cap Fund: Investment management fee reduced from 1.50 bps to 1.25 bps (unbundled plans).
- BlackRock Russell 2500 Index Fund: Moved to a lower share class from 3 bps to 2 bps (TIAA).

Governing Documents

- The VRS Defined Contribution Plans Investment Belief Statements document is under review by staff.
- The two DC investment policy statement documents (unbundled structure and bundled structure) are under review by staff.

Benchmark Correlations

Correlations: 5 Years Ending 6/30/2023

	FTSE 3-Month Treasury Bill	Bloomberg U.S. Aggregate	Bloomberg U.S. TIPS	ICE BofA U.S. HY Constrained	S&P 500	Russell 2500	MSCI ACWI ex-USA IMI	MSCI ACWI IMI	FTSE EPRA/Nareit Developed
FTSE 3-Month Treasury Bill	1.00								
Bloomberg U.S. Aggregate	0.19	1.00							
Bloomberg U.S. TIPS	(0.01)	0.84	1.00						
ICE BofA U.S. HY Constrained	0.05	0.53	0.65	1.00					
S&P 500	0.00	0.39	0.57	0.84	1.00				
Russell 2500	(0.06)	0.29	0.47	0.85	0.92	1.00			
MSCI ACWI ex U.S. IMI	0.02	0.43	0.52	0.83	0.89	0.89	1.00		
MSCI ACWI IMI	0.00	0.41	0.56	0.86	0.98	0.95	0.96	1.00	
FTSE EPRA/Nareit Developed	(0.06)	0.45	0.60	0.82	0.85	0.85	0.86	0.88	1.00

Source: Zephyr StyleAdvisor

Unbundled DC Plans



Unbundled DC Plans

Data for period ending June 30, 2023

Fund	Type	Fund Expense Ratio	Returns			3 Year Statistics				5 Year Statistics				
			1 Year	3 Years*	5 Years*	Standard Deviation	Sharpe Ratio	Tracking Error	Information Ratio	Standard Deviation	Sharpe Ratio	Tracking Error	Information Ratio	
		%	%	%	%	%		%	%	%	%	%	%	%
Money Market Fund	Capital Preservation	0.08	4.11	1.54	1.75	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
FTSE 3 Month Treasury Bill Index			3.75	1.33	1.57	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Excess Return			0.36	0.21	0.18									
Stable Value Fund¹	Capital Preservation	0.23	2.07	1.81	2.05	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Custom Benchmark ²			4.26	2.09	2.09	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Excess Return	(Book Value)		-2.19	-0.28	-0.04									
<i>eVestment Alliance Median: Stable Value Universe³</i>														
			2.39	2.02	2.18									
Bond Fund	Passive	0.03	-0.90	-3.92	0.81	6.20	-0.85	0.16	n/a	5.49	-0.14	0.13	n/a	
Bloomberg U.S. Aggregate Bond Index			-0.94	-3.96	0.77	6.17	-0.86			5.48	-0.15			
Excess Return			0.04	0.04	0.04									
<i>MSTAR Ave: Intermediate Term Bond</i>														
			-0.89	-3.77	0.63									
Inflation-Protected Bond Fund	Passive	0.03	-1.33	-0.08	2.56	6.98	-0.20	0.16	n/a	6.04	0.17	0.13	n/a	
Bloomberg U.S. TIPS Index			-1.40	-0.12	2.49	6.94	-0.21			6.00	0.15			
Excess Return			0.07	0.04	0.07									
<i>MSTAR Ave: Inflation-Protected Bond</i>														
			-1.30	0.11	2.17									
High-Yield Bond Fund	Active	0.39	7.13	3.78	3.56	7.78	0.32	1.73	0.66	8.93	0.22	1.56	0.12	
ICE BofA U.S. HY BB-B Constrained Index			8.57	2.64	3.38	8.48	0.16			9.08	0.20			
Excess Return			-1.44	1.14	0.18									
<i>MSTAR Ave: High-Yield Bond</i>														
			8.00	3.09	2.76									
Stock Fund	Passive	0.01	19.58	14.61	12.34	18.19	0.73	0.02	n/a	18.80	0.57	0.03	n/a	
S&P 500 Index			19.59	14.60	12.31	18.19	0.73			18.79	0.57			
Excess Return			-0.01	0.01	0.03									
<i>MSTAR Ave: Large Blend</i>														
			16.88	13.43	10.72									
Small/Mid-Cap Stock Fund	Passive	0.02	13.70	12.37	6.60	20.67	0.53	0.05	n/a	23.20	0.22	0.07	n/a	
Russell 2500 Index			13.58	12.29	6.55	20.67	0.53			23.19	0.21			
Excess Return			0.12	0.08	0.05									
<i>MSTAR Ave: Mid-Cap Blend</i>														
			13.96	13.42	7.44									
International Stock Fund	Passive	0.06	12.68	7.65	3.69	17.81	0.36	1.97	n/a	18.11	0.12	1.69	n/a	
MSCI ACWI ex-U.S. IMI Index (linked to MSCI World ex-U.S. Index July 2012 - July 2016)			12.47	7.33	3.38									
Excess Return			0.21	0.32	0.31	17.12	0.35			17.72	0.10			
<i>MSTAR Ave: Foreign Large Blend</i>														
			15.72	7.96	3.89									
Global Real Estate Fund	Passive	0.08	-3.47	4.24	0.80	19.11	0.15	0.69	n/a	19.75	-0.04	0.58	n/a	
FTSE EPRA/NAREIT Developed Index			-4.56	3.33	-0.10	19.08	0.11			19.79	-0.08			
Excess Return			1.09	0.91	0.90									
<i>MSTAR Ave: Global Real Estate</i>														
			-4.49	2.76	0.44									

*Annualized.

¹ Stable value funds typically track the general movements of interest rates with a lag. It is expected that when interest rates are falling stable value yields do not fall as quickly and when interest rates are rising stable value yields do not rise as quickly.

² Effective August 2016, the benchmark represents a hypothetical return generated by the monthly yields of actively traded U.S. Treasuries based on [50% 2-year maturity + 50% 3-year maturity] plus an annualized spread of 0.25% and is representative of the Fund's expected return profile, given how the Fund is managed and book value accounting treatment.

³ eVestment Alliance universe returns are gross of investment management fees and net of wrap fees. The Stable Value Fund returns are net of all fees.

Results within reasonable expectations due to rising interest rate environment and the nature of book value accounting treatment.

Underperformance

Data provided by BlackRock, Galliard, MissionSquare and Zephyr StyleADVISOR.

Unbundled DC Plans

Data for period ending June 30, 2023

Fund	Type	Fund Expense Ratio	Returns			3 Year Statistics				5 Year Statistics			
			1 Year	3 Years*	5 Years*	Standard Deviation	Sharpe Ratio	Tracking Error	Information Ratio	Standard Deviation	Sharpe Ratio	Tracking Error	Information Ratio
		%	%	%	%	%		%		%	%	%	
Retirement Portfolio	Passive	0.06	5.04	2.41	3.97								
Custom Benchmark ⁴			5.06	2.41	3.95	9.81	0.11	0.32	n/a	9.19	0.26	0.27	n/a
Excess Return			-0.02	0.00	0.02	9.70	0.11			9.12	0.26		
Target Date 2025 Portfolio	Passive	0.06	5.96	3.83	4.57								
Custom Benchmark ⁴			5.94	3.81	4.52	10.96	0.23	0.37	n/a	10.88	0.28	0.32	n/a
Excess Return			0.02	0.02	0.05	10.83	0.23			10.81	0.27		
Target Date 2030 Portfolio	Passive	0.06	8.16	5.62	5.44								
Custom Benchmark ⁴			8.15	5.59	5.39	12.57	0.34	0.45	n/a	12.69	0.31	0.39	n/a
Excess Return			0.01	0.03	0.05	12.42	0.34			12.61	0.30		
Target Date 2035 Portfolio	Passive	0.06	10.21	7.32	6.26								
Custom Benchmark ⁴			10.18	7.26	6.18	14.08	0.43	0.54	n/a	14.40	0.33	0.47	n/a
Excess Return			0.03	0.06	0.08	13.91	0.43			14.32	0.32		
Target Date 2040 Portfolio	Passive	0.06	12.23	8.87	6.98								
Custom Benchmark ⁴			12.16	8.78	6.88	15.53	0.49	0.62	n/a	16.01	0.34	0.54	n/a
Excess Return			0.07	0.09	0.10	15.33	0.49			15.92	0.33		
Target Date 2045 Portfolio	Passive	0.06	14.06	10.13	7.58								
Custom Benchmark ⁴			13.99	10.02	7.46	16.72	0.53	0.69	n/a	17.27	0.35	0.60	n/a
Excess Return			0.07	0.11	0.12	16.51	0.53			17.17	0.34		
Target Date 2050 Portfolio	Passive	0.06	15.21	10.81	7.91								
Custom Benchmark ⁴			15.11	10.67	7.77	17.33	0.55	0.73	n/a	17.87	0.36	0.64	n/a
Excess Return			0.10	0.14	0.14	17.11	0.55			17.77	0.35		
Target Date 2055 Portfolio	Passive	0.06	15.54	10.94	8.00								
Custom Benchmark ⁴			15.46	10.82	7.86	17.45	0.55	0.74	n/a	17.96	0.36	0.64	n/a
Excess Return			0.08	0.12	0.14	17.25	0.55			17.88	0.35		
Target Date 2060 Portfolio	Passive	0.06	15.55	10.93	7.99								
Custom Benchmark ⁴			15.47	10.81	7.85	17.45	0.55	0.74	n/a	17.97	0.36	0.64	n/a
Excess Return			0.08	0.12	0.14	17.25	0.55			17.88	0.35		
Target Date 2065 Portfolio	Passive	0.06	15.58	10.90	N/A								
Custom Benchmark ⁴			15.48	10.81	N/A	17.43	0.55	0.74	n/a	n/a	n/a	n/a	n/a
Excess Return			0.10	0.09	N/A	17.25	0.55			n/a	n/a	n/a	n/a

*Annualized.

⁴ The Custom Benchmark is calculated using blended returns of third party indices that proportionally reflect the respective weightings of the Fund's asset classes. Weightings are adjusted quarterly to reflect the Fund's changing asset allocations over time. As of May 11, 2022 the indices used to calculate the Custom Benchmark are the: Russell 1000 Index, Russell 2000 Index, MSCI ACWI ex-U.S. IMI Net Dividend Return Index, Bloomberg U.S. Long Credit Bond Index, Bloomberg U.S. Intermediate Credit Bond Index, Bloomberg U.S. Long Government Bond Index, Bloomberg U.S. Intermediate Government Bond Index, Bloomberg U.S. Securitized MBS,ABS and CMBS Index, Bloomberg U.S. Treasury Inflation Protected Securities Index, FTSE EPRA NAREIT Developed Index and the Bloomberg Commodity Total Return Index.

Data provided by BlackRock, Galliard, MissionSquare and Zephyr StyleADVISOR.

Unbundled DC Plans - Fund Annual Operating Expenses
Information as of June 30, 2023

Investment Option ¹	Investment Manager	Type	Investment Management Costs	Wrap & Acquired Fund ² Costs	Fund Embedded Costs ²	State Street Cost to Strike Net NAV	Total Annual Expense Ratio	Expense Ratio YOY Change
Money Market Fund	BlackRock	Capital Preservation	0.080000%	n/a	0.000600%	n/a	0.08%	0.00%
Stable Value Fund	Galliard	Capital Preservation (Book Value)	0.065000%	0.163000%	n/a	n/a	0.23%	0.00%
Bond Fund	BlackRock	Passive	0.030000%	n/a	0.003600%	n/a	0.03%	0.00%
Inflation-Protected Bond Fund	BlackRock	Passive	0.020000%	n/a	0.006600%	n/a	0.03%	0.00%
High-Yield Bond Fund	JPMorgan	Active	0.380000%	n/a	0.010000%	0.004708%	0.39%	0.00%
Stock Fund	BlackRock	Passive	0.007500%	n/a	0.001000%	0.004214%	0.01%	0.00%
Small/Mid-Cap Stock Fund	BlackRock	Passive	0.012500%	n/a	0.003200%	0.004171%	0.02%	0.00%
International Stock Fund	BlackRock	Passive	0.040000%	n/a	0.020000%	0.004137%	0.06%	0.00%
Global Real Estate Fund	BlackRock	Passive	0.070000%	n/a	0.008900%	0.004236%	0.08%	0.00%
Retirement Portfolio	BlackRock	Passive	0.050000%	n/a	0.005500%	n/a	0.06%	-0.02%
Target Date 2025 Portfolio	BlackRock	Passive	0.050000%	n/a	0.006100%	n/a	0.06%	-0.02%
Target Date 2030 Portfolio	BlackRock	Passive	0.050000%	n/a	0.006500%	n/a	0.06%	-0.02%
Target Date 2035 Portfolio	BlackRock	Passive	0.050000%	n/a	0.007600%	n/a	0.06%	-0.02%
Target Date 2040 Portfolio	BlackRock	Passive	0.050000%	n/a	0.008000%	n/a	0.06%	-0.02%
Target Date 2045 Portfolio	BlackRock	Passive	0.050000%	n/a	0.009100%	n/a	0.06%	-0.02%
Target Date 2050 Portfolio	BlackRock	Passive	0.050000%	n/a	0.009100%	n/a	0.06%	-0.02%
Target Date 2055 Portfolio	BlackRock	Passive	0.050000%	n/a	0.009800%	n/a	0.06%	-0.02%
Target Date 2060 Portfolio	BlackRock	Passive	0.050000%	n/a	0.010000%	n/a	0.06%	-0.02%
Target Date 2065 Portfolio	BlackRock	Passive	0.050000%	n/a	0.010000%	n/a	0.06%	-0.02%
VRSIP	VRS	Active	n/a	n/a	n/a	n/a	0.59%	0.00%

¹ There are no short-term trading redemption costs associated with any of the investment options.

² Includes custody, audit and other specific investment option related administrative costs.

Defined Contribution Plans Advisory Committee Report
Unbundled Plans Investment Performance

Below are the totals for the period ending June 30, 2023. Returns greater than one year are annualized.

Investment Options	1 Month	3 Months	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs / Since Inception ¹	Fund Expense Ratio ²	Inception Date	Market Value	% of Market Value ²⁵	% of Participants Selecting an Option ²⁶
	%	%	%	%	%	%	%	%		\$	%	%
Do-It-For-Me: Target Date Portfolios^{3,4}												
Retirement Portfolio	2.12	1.70	6.20	5.04	2.41	3.97	4.54	0.06	8/1/05	370,063,511	5.5	4.4
Custom Benchmark	2.10	1.68	6.03	5.06	2.41	3.95	4.51					
Target Date 2025 Portfolio	2.45	2.06	6.87	5.96	3.83	4.57	5.63	0.06	7/5/06	345,689,562	5.1	5.6
Custom Benchmark	2.43	2.02	6.67	5.94	3.81	4.52	5.57					
Target Date 2030 Portfolio	3.26	2.95	8.37	8.16	5.62	5.44	6.42	0.06	8/1/05	384,908,392	5.7	7.7
Custom Benchmark	3.24	2.90	8.18	8.15	5.59	5.39	6.33					
Target Date 2035 Portfolio	3.97	3.78	9.74	10.21	7.32	6.26	7.14	0.06	7/5/06	412,504,199 ²²	6.1	9.0
Custom Benchmark	3.94	3.71	9.55	10.18	7.26	6.18	7.04					
Target Date 2040 Portfolio	4.66	4.57	11.08	12.23	8.87	6.98	7.78	0.06	8/1/05	362,599,713	5.3	9.2
Custom Benchmark	4.62	4.50	10.87	12.16	8.78	6.88	7.66					
Target Date 2045 Portfolio	5.27	5.30	12.25	14.06	10.13	7.58	8.28	0.06	7/5/06	355,278,539	5.2	10.5
Custom Benchmark	5.23	5.21	12.05	13.99	10.02	7.46	8.14					
Target Date 2050 Portfolio	5.63	5.76	12.96	15.21	10.81	7.91	8.56	0.06	9/30/07	362,415,021	5.3	12.0
Custom Benchmark	5.58	5.67	12.75	15.11	10.67	7.77	8.42					
Target Date 2055 Portfolio	5.73	5.92	13.18	15.54	10.94	8.00	8.66	0.06	5/19/10	428,933,919	6.3	15.6
Custom Benchmark	5.69	5.83	12.97	15.46	10.82	7.86	8.52					
Target Date 2060 Portfolio	5.73	5.92	13.19	15.55	10.93	7.99	7.74	0.06	11/17/14	230,683,407	3.4	13.5
Custom Benchmark	5.69	5.83	12.98	15.47	10.81	7.85	7.58					
Target Date 2065 Portfolio	5.73	5.92	13.23	15.58	10.90	n/a	8.61	0.06	9/23/19	32,919,652	0.5	5.2
Custom Benchmark	5.70	5.84	12.99	15.48	10.81	n/a	8.56					
Help-Me-Do-It: Individual Options												
Money Market Fund ^{5,6}	0.44	1.30	2.49	4.11	1.54	1.75	1.14	0.08	11/1/99	119,410,352	1.8	1.7
FTSE 3 Month Treasury Bill Index	0.43	1.25	2.39	3.75	1.33	1.57	0.98					
Yield as of 06/30/23: 5.31% ⁷												
Stable Value Fund ^{8,9}	0.25	0.71	1.31	2.07	1.81	2.05	1.86	0.23	2/1/95	646,175,322	9.5	5.8
Custom Benchmark ¹⁰	0.38	1.07	2.19	4.26	2.09	2.09	1.84					
Yield as of 06/30/23: 2.72% ¹¹												
Bond Fund ¹²	-0.34	-0.83	2.30	-0.90	-3.92	0.81	1.57	0.03	11/1/99	152,229,203	2.2	2.8
Bloomberg U.S. Aggregate Bond Index	-0.36	-0.84	2.09	-0.94	-3.96	0.77	1.52					
Inflation-Protected Bond Fund ¹³	-0.34	-1.40	2.08	-1.33	-0.08	2.56	2.17	0.03	7/30/02	54,155,716	0.8	1.3
Bloomberg U.S. TIPS Index	-0.34	-1.42	1.87	-1.40	-0.12	2.49	2.08					
High-Yield Bond Fund ¹⁴	1.58	0.88	3.92	7.13	3.78	3.56	4.57	0.39	5/31/04	47,411,109	0.7	1.5
ICE BofA U.S. High-Yield BB-B Constrained Index	1.40	1.26	4.86	8.57	2.64	3.38	4.35					
Stock Fund ¹⁵	6.61	8.74	16.89	19.58	14.61	12.34	12.89	0.01	11/1/99	1,603,056,536	23.6	8.6
S&P 500 Index	6.61	8.74	16.89	19.59	14.60	12.31	12.86					
Small/Mid-Cap Stock Fund ¹⁶	8.52	5.25	8.89	13.70	12.37	6.60	9.46	0.02	11/1/99	419,060,592	6.2	4.8
Russell 2500 Index	8.52	5.22	8.79	13.58	12.29	6.55	9.38					
International Stock Fund ¹⁷	4.42	2.58	9.53	12.68	7.65	3.69	5.23	0.06	11/1/99	210,493,958	3.1	3.9
MSCI ACWI ex-U.S. IMI Index ¹⁸	4.34	2.38	9.10	12.47	7.33	3.38	4.93					
Global Real Estate Fund ¹⁹	3.23	0.53	1.67	-3.47	4.24	0.80	3.73	0.08	10/1/02	89,799,900	1.3	2.5
FTSE EPRA/NAREIT Developed Index	3.00	0.24	1.02	-4.56	3.33	-0.10	2.89					
VR SIP ²⁰	-0.79	0.88	2.59	0.67	9.66	7.53	7.74	0.59	7/1/08	61,636,555 ²³	0.9	0.4
VRS Custom Benchmark ²¹	-1.16	1.28	5.47	-0.26	6.88	5.69	6.61					
VR SIP and benchmark returns are reported with a one month lag. [Return information shown is as of May 31, 2023.] [Market value as of May 31, 2023 was \$58,140,733.]												
Do-It-Myself: Self-Directed Brokerage Account												
TD Ameritrade	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	97,460,232	1.4	0.2
Total										\$6,786,885,390²⁴		

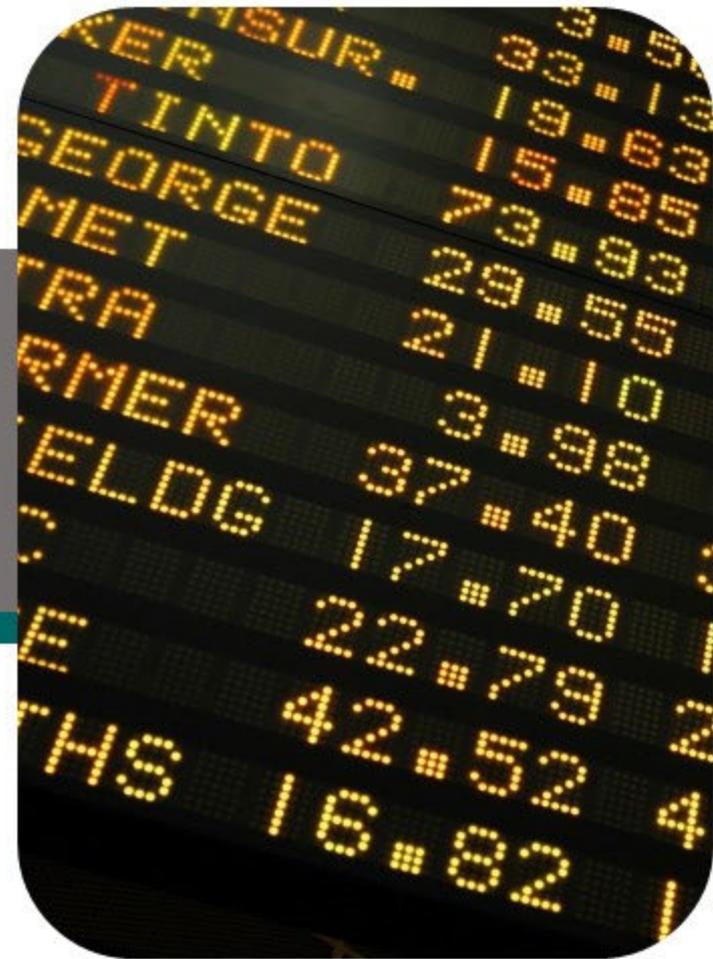
- 1 If the fund was not in existence for 10 years, fund and corresponding benchmark returns shown represent performance from the since inception date.
- 2 Fund investment advisers may voluntarily agree to waive expenses. Expense waivers may be terminated at any time.
- 3 Effective February 2023, the Target Date Portfolios invest in units of BlackRock's LifePath Index Funds N. The LifePath Index Funds N invest in the master LifePath Index Funds F. The inception dates shown reflect that of the master LifePath Index Funds F. Prior to February 2023, the Target Date Portfolios invested in BlackRock's LifePath Index Funds O which also invested in the master LifePath Index Funds F. All performance returns are linked.
- 4 Benchmarks are calculated using blended returns of third-party indices that proportionately reflect the respective weightings of the Portfolios' asset classes. Weightings are adjusted quarterly to reflect the Portfolios' asset allocation shifts over time. Indices currently used to calculate the custom benchmarks are: Russell 1000 Index, Russell 2000 Index, MSCI ACWI ex-U.S. IMI Net Dividend Return Index, Bloomberg U.S. Long Credit Bond Index, Bloomberg U.S. Intermediate Credit Bond Index, Bloomberg U.S. Long Government Bond Index, Bloomberg U.S. Intermediate Government Bond Index, Bloomberg U.S. Securitized: MBS, ABS, and CMBS Index, Bloomberg U.S. TIPS Index, FTSE EPRA/NAREIT Developed Index and the Bloomberg Commodity Index Total Return.
- 5 The Money Market Fund invests in units of BlackRock's Short-Term Investment Fund W. The inception data shown reflects the VRS Defined Contribution Plan's investment strategy inception date. Returns of the Fund from July 2012 through July 2016 represent performance of other BlackRock funds. Performance returns are linked.
- 6 An investment in a money market fund is not insured or guaranteed by the Federal Deposit Insurance Corporation or any other government agency. Although the Fund seeks to preserve the value of your investment it is possible to lose money by investing in the Fund.
- 7 The current yield more closely reflects the earnings of the Fund than the total net return information. There is no guarantee that the Fund will earn the current yield in the future.
- 8 The inception date shown reflects the VRS Defined Contribution Plans investment strategy inception date.
- 9 Direct transfers from the Stable Value Fund to the Money Market Fund (considered a "competing fund") are not permitted. Before transferring to the Money Market Fund, participants must first transfer to a "non-competing" fund for 90 days. Optional Retirement Plan for Higher Education (ORPHE) participants who want to make a direct exchange to another ORPHE provider, must first exchange to a "non-competing" fund on the MissionSquare Retirement investment platform for 90 days.
- 10 Effective August 2016, the benchmark represents a hypothetical return generated by the monthly yields of actively traded U.S. Treasuries based on [50% 2- year maturity + 50% 3- year maturity] plus an annualized spread of 0.25% and is representative of the Fund's expected return profile, given how the Fund is managed and book value accounting treatment. Prior to August 2016 the custom benchmark was based on the monthly yield of actively traded U.S Treasuries with a 3-year maturity plus an annualized spread of 0.50%. The benchmark returns are linked.
- 11 The current yield more closely reflects the earnings of the Fund than the total net return information. There is no guarantee that the Fund will earn the current yield in the future.
- 12 The Bond Fund invests in units of BlackRock's U.S. Debt Index Fund M. The U.S. Debt Index Fund M invests in the master Fund F. The inception date shown reflects the VRS Defined Contribution Plans strategy inception date.
- 13 The Inflation-Protected Bond Fund invests in units of BlackRock's U.S. Treasury-Inflation Protected Securities Fund M. The U.S. Treasury Inflation-Protected Securities Fund M invests in the master Fund F. The inception date shown reflects the inception date of the master Fund F.
- 14 The High-Yield Bond Fund invests in units of JPMorgan's Corporate High-Yield Fund-Investment Class. The inception date shown reflects the date the current investment team at JPMorgan commenced management responsibility of the Fund.
- 15 The Stock Fund invests in units of BlackRock's Equity Index Fund F. Performance represents BlackRock's returns for the master Fund F with deductions taken for management fees negotiated by VRS and fund administrative expenses. The inception date shown reflects the VRS Defined Contribution Plans investment strategy inception date.
- 16 The Small/Mid-Cap Stock Fund invests in units of BlackRock's Russell 2500 Index Fund F. Performance represents BlackRock's returns for the master Fund F with deductions taken for investment management fees negotiated by VRS and fund administrative expenses. The inception date shown reflects the VRS Defined Contribution Plans investment strategy date.
- 17 The International Stock Fund invests in units of BlackRock's MSCI ACWI ex-U.S. IMI Index Fund F. Performance represents BlackRock's returns for the master Fund F with deductions taken for investment management fees negotiated by VRS and fund administrative expenses. The inception date shown reflects the VRS Defined Contribution Plan's investment strategy inception date. Returns from July 2012 through July 2016 represent performance of another BlackRock Fund. Performance returns are linked.
- 18 Effective August 2016, the performance benchmark is the MSCI ACWI ex.-U.S. IMI Index. It was the MSCI World ex-U.S Index from July 2012 through July 2016. The benchmark returns are linked.
- 19 The Global Real Estate Fund invests in units of BlackRock's Developed Real Estate Index Fund F. Performance represents BlackRock's returns for the master Fund F with deductions taken for investment management fees negotiated by VRS and fund administrative expenses. The inception date shown reflects the VRS Defined Contribution Plans investment strategy inception date.
- 20 The inception date shown reflects the date the VRS Investment Portfolio (VRSIP) was unitized.
- 21 The VRS Custom Benchmark is a blend of the asset class benchmarks at policy weights.
- 22 Includes Pending Account VRSIP amount of \$0.
- 23 Includes Preliminary Investment Portfolio Account - PIP amount of \$1,998,123.
- 24 Includes \$6,748,501 held in the administrative Special Accounts.
- 25 May not equal 100% due to rounding.
- 26 The data reflects the percentage of participants who selected a particular investment option as of June 30, 2023. There were 580,592 participant accounts as of March 31, 2023 across all unbundled DC plans.

All fund performance returns shown reflect all fund management fees and expenses, but do not reflect the Plan administrative fee charged by MissionSquare Retirement which would further reduce the returns shown.

All calculations assume reinvestment of dividends and capital gains. All returns are calculated in U.S. dollars. Performance returns are provided by BlackRock, Galliard Capital Management, JPMorgan, Bank of New York Mellon, and MissionSquare Retirement. Benchmark returns are provided by BlackRock, Russell/Mellon Analytical Services, Galliard, and MissionSquare Retirement. Although data is gathered from sources believed to be reliable, we cannot guarantee completeness or accuracy.

Plan Administrative Fee: An annual record keeping and communication services fee of \$30.50 is deducted from participant accounts on a monthly basis (approximately \$2.54 per month). Only one annual fee of \$30.50 is deducted from participant accounts for those participants participating in more than one Commonwealth of Virginia defined contribution plan.

Bundled TIAA ORPHE



Bundled ORP for Higher Education - TIAA RC Contract^{1,2}

Data for period ending June 30, 2023

Fund	Type	Fund Expense Ratio	Returns			3 Year Statistics				5 Year Statistics				
			1 Year	3 Years*	5 Years*	Standard Deviation (%)	Sharpe Ratio	Tracking Error	Information Ratio	Standard Deviation (%)	Sharpe Ratio	Tracking Error	Information Ratio	
BlackRock Equity Index Fund J	Passive	0.02	%	%	%	%					%			
S&P 500 Index			19.58	14.61	12.34	18.19	0.73	0.02	n/a	18.80	0.57	0.03	n/a	
Excess Return			19.59	14.60	12.31	18.19	0.73			18.79	0.57			
<i>MSTAR Ave: Large Blend</i>			-0.01	0.01	0.03									
			16.88	13.43	10.72									
BlackRock Russell 2500 Index Fund M	Passive	0.03	13.70	12.37	6.60	20.67	0.53	0.05	n/a	23.20	0.22	0.07	n/a	
Russell 2500 Index			13.58	12.29	6.55	20.67	0.53			23.19	0.21			
Excess Return			0.12	0.08	0.05									
<i>MSTAR Ave: Mid-Cap Blend</i>			13.96	13.42	7.44									
			15.72	7.96	3.89									
BlackRock MSCI ACWI ex-U.S. IMI Index Fund M	Passive	0.11	12.63	7.60	3.64	17.82	0.35	1.98	n/a	18.11	0.11	1.69	n/a	
MSCI ACWI ex-U.S. IMI Index			12.47	7.33	3.38	17.12	0.35			17.72	0.10			
Excess Return			0.16	0.27	0.26									
<i>MSTAR Ave: Foreign Large Blend</i>			15.72	7.96	3.89									
			14.98	10.56	7.26									
BlackRock MSCI ACWI IMI Index Non-Lendable Fund M	Passive	0.05	16.40	11.25	7.96	17.57	0.56	0.77	n/a	18.31	0.35	0.68	n/a	
MSCI ACWI IMI Index			16.14	10.97	7.65	17.36	0.56			18.23	0.33			
Excess Return			0.26	0.28	0.31									
<i>MSTAR Ave: World Stock</i>			14.98	10.56	7.26									
			14.98	10.56	7.26									
TIAA Real Estate Account	Active		-9.10	6.08	4.88	7.28	0.64	3.46	-0.07	5.73	0.56	2.96	0.04	
Custom Benchmark ³			-6.77	6.31	4.76	6.10	0.80			5.06	0.62			
Excess Return			-2.33	-0.23	0.12									

*Annualized.

¹ Refer to the unbundled DC plans for information regarding BlackRock's LifePath Index Funds N, Short-Term Investment Fund W, U.S. Debt Index Fund M and U.S. TIPs Fund M. Although the unbundled DC plans use white lable fund names and TIAA does not these funds are the same exact funds.

² The TIAA Traditional Annuity is not included in this exercise due to the fact there is no performance benchmark associated with TIAA's fixed annuity product offering.

³ Effective January 2014, the Custom Benchmark is 70% NCREIF Open End Diversified Core Equity (ODCE) Net Index, 20% Bloomberg 3-Month Treasury Bill Index and 10% Dow Jones U.S. Select REIT Index. TIAA's investment management team does not manage its real estate account to a published index benchmark. The Custom Benchmark represents a reasonable proxy of how TIAA allocates among real property, short-term investments and REITS over time. VRS anticipates that the TIAA Real Estate Account's returns may vary greatly from those of the custom benchmark.

Underperformance

Data provided by TIAA, BlackRock, MissionSquare, VRS and Zephyr StyleADVISOR.

Bundled ORP for Higher Education - TIAA RC Contract Fund Annual Operating Expenses^{1,2,3}
Information as of June 30, 2023

Investment Option	Investment Manager	Type	Investment Management Costs	Record-Keeping & Plan Administration Costs	[12(b)-1] Distribution Costs	Other Costs	Total Annual Expense Ratio	Expense Ratio YOY Change
TIAA Real Estate Account	TIAA	Active (variable annuity)	0.295000%	0.250000%	0.045000%	0.280000%	0.87%	+0.10%
BlackRock Equity Index Fund J	BlackRock	Passive	0.010000%	n/a	n/a	0.006600%	0.02%	+0.01%
BlackRock Russell 2500 Index Fund J	BlackRock	Passive	0.012500%	n/a	n/a	0.009900%	0.02%	-0.01%
BlackRock MSCI ACWI ex-U.S. IMI Index Fund M	BlackRock	Passive	0.090000%	n/a	n/a	0.020000%	0.11%	0.00%
BlackRock MSCI ACWI IMI Index Non-Lendable Fund M	BlackRock	Passive	0.040000%	n/a	n/a	0.010000%	0.05%	0.00%

¹ There are no short-term trading redemption costs associated with any of the investment options.

² Refer to the unbundled DC plans for information regarding BlackRock's LifePath Index Funds N, Short-Term Investment Fund W, U.S. Debt Index Fund M and U.S. TIPs Fund M. The unbundled DC plans use white label fund names for the aforementioned funds. However, TIAA does not have the capability to use white label fund names.

³ Effective July 2022, TIAA no longer provides an estimated expense ratio for its TIAA Traditional Annuity product.

Defined Contribution Plans Advisory Committee Report

TIAA RC Contract Investment Performance

Below are the totals for the period ending June 30, 2023. Returns greater than one year are annualized.

Investment Options	1 Month	3 Months	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs / Since Inception ¹	Fund Expense Ratio ²	Inception Date	Market Value	% of Market Value ¹⁹	% of Participants Selecting an Option ²⁰
	%	%	%	%	%	%	%	%		\$	%	%
Target Date Portfolios^{3,4}												
BlackRock LifePath Index Retirement Fund N	2.12	1.70	6.20	5.05	2.43	3.99	4.56	0.06	8/1/05	23,159,490	6.3	7.7
Custom Benchmark	2.10	1.68	6.03	5.06	2.41	3.95	4.51					
BlackRock LifePath Index 2025 Fund N	2.45	2.06	6.87	5.97	3.85	4.59	5.65	0.06	7/5/06	20,263,818	5.5	6.8
Custom Benchmark	2.43	2.02	6.67	5.94	3.81	4.52	5.57					
BlackRock LifePath Index 2030 Fund N	3.26	2.95	8.37	8.17	5.64	5.46	6.44	0.06	8/1/05	31,372,584	8.5	8.5
Custom Benchmark	3.24	2.90	8.18	8.15	5.59	5.39	6.33					
BlackRock LifePath Index 2035 Fund N	3.97	3.78	9.74	10.22	7.33	6.28	7.16	0.06	7/5/06	25,520,972	6.9	9.0
Custom Benchmark	3.94	3.71	9.55	10.18	7.26	6.18	7.04					
BlackRock LifePath Index 2040 Fund N	4.66	4.57	11.08	12.24	8.89	7.00	7.80	0.06	8/1/05	29,061,491	7.9	9.8
Custom Benchmark	4.62	4.50	10.87	12.16	8.78	6.88	7.66					
BlackRock LifePath Index 2045 Fund N	5.27	5.30	12.25	14.07	10.15	7.60	8.31	0.06	7/5/06	24,918,004	6.7	10.3
Custom Benchmark	5.23	5.21	12.05	13.99	10.02	7.46	8.14					
BlackRock LifePath Index 2050 Fund N	5.63	5.76	12.96	15.22	10.82	7.93	8.58	0.06	9/30/07	15,543,833	4.2	8.2
Custom Benchmark	5.58	5.67	12.75	15.11	10.67	7.77	8.42					
BlackRock LifePath Index 2055 Fund N	5.73	5.92	13.18	15.56	10.95	8.01	8.68	0.06	5/19/10	7,898,549	2.1	6.4
Custom Benchmark	5.69	5.83	12.97	15.46	10.82	7.86	8.52					
BlackRock LifePath Index 2060 Fund N	5.73	5.92	13.19	15.57	10.95	8.01	7.75	0.06	11/17/14	2,041,662	0.6	3.2
Custom Benchmark	5.69	5.83	12.98	15.47	10.81	7.85	7.58					
BlackRock LifePath Index 2065 Fund N	5.73	5.92	13.23	15.60	10.92	n/a	8.63	0.06	9/23/19	4,228,921	1.1	1.9
Custom Benchmark	5.70	5.84	12.99	15.48	10.81	n/a	8.56					
Individual Options												
BlackRock Short-Term Investment Fund W ⁵	0.44	1.30	2.49	4.11	1.54	1.75	1.19	0.08	7/1/03	6,625,472	1.8	7.5
FTSE 3 Month Treasury Bill Index	0.43	1.25	2.39	3.75	1.33	1.57	0.98					
Yield as of 06/30/23: 5.31% ⁶												
BlackRock U.S. Debt Index Fund M ⁷	-0.34	-0.83	2.30	-0.90	-3.92	0.81	1.57	0.03	6/6/96	9,690,575	2.6	17.8
Bloomberg U.S. Aggregate Bond Index	-0.36	-0.84	2.09	-0.94	-3.96	0.77	1.52					
BlackRock U.S. TIPS Fund M ⁸	-0.34	-1.40	2.08	-1.33	-0.08	2.56	2.17	0.03	7/30/02	5,235,397	1.4	12.2
Bloomberg U.S. TIPS Index	-0.34	-1.42	1.87	-1.40	-0.12	2.49	2.08					
BlackRock Equity Index Fund J ⁹	6.61	8.74	16.89	19.58	14.61	12.34	12.90	0.02	3/5/97	42,845,391	11.6	24.3
S&P 500 Index	6.61	8.74	16.89	19.59	14.60	12.31	12.86					
BlackRock Russell 2500 Index Fund J ¹⁰	8.52	5.25	8.89	13.70	12.37	6.60	9.48	0.02	9/30/08	8,762,926	2.4	5.0
Russell 2500 Index	8.52	5.22	8.79	13.58	12.29	6.55	9.38					
BlackRock MSCI ACWI ex-U.S. IMI Index Fund M ¹¹	4.42	2.57	9.51	12.63	7.60	3.64	5.11	0.11	2/28/11	16,415,692	4.4	17.5
MSCI ACWI ex-U.S. IMI Index	4.34	2.38	9.10	12.47	7.33	3.38	4.88					
BlackRock MSCI ACWI IMI Index Non-Lendable Fund M ¹²	5.87	6.02	13.47	16.40	11.25	7.96	8.97	0.05	4/12/13	49,386,602	13.3	30.9
MSCI ACWI IMI Index	5.83	5.89	13.25	16.14	10.97	7.65	8.62					
TIAA Real Estate Account ¹³	-1.36	-4.60	-6.89	-9.10	6.08	4.88	6.18	0.87	10/2/95	11,608,663	3.1	26.2
Custom Composite Benchmark ¹⁴	-0.08	-1.48	-3.28	-6.77	6.31	4.76	6.31					
TIAA Traditional Annuity RC ^{15,16,17,18}	0.39	1.19	2.30	4.51	4.01	4.03	4.16	--- ²¹	8/1/05	30,490,666	8.2	28.1
Self-Directed Brokerage Account												
TIAA - Self-Directed Account	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	5,311,552	1.4	0.9
Total										\$370,382,260		

Footnotes >

- 1 If the fund was not in existence for 10 years, fund and corresponding benchmark returns shown represent performance from the since inception date.
- 2 Fund investment advisers may voluntarily agree to waive expenses. Expense waivers may be terminated at any time.
- 3 The BlackRock LifePath Index Funds N invest in the master LifePath Index Funds F. The inception dates shown reflect the inception date of the master LifePath Funds F. The inception dates for most LifePath Funds N were 8/15/17. The 2065 Fund's N inception date was 11/15/19. Returns prior to Funds' N inception dates are those of Funds F with deductions taken for Funds N investment management fees.
- 4 Benchmarks are calculated using blended returns of third-party indices that proportionately reflect the respective weightings of the Portfolios' asset classes. Weightings are adjusted quarterly to reflect the Portfolios' asset allocation shifts over time. Indices currently used to calculate the custom benchmarks are: Russell 1000 Index, Russell 2000 Index, MSCI ACWI Ex-U.S. IMI Net Dividend Return Index, Bloomberg U.S. Long Credit Bond Index, Bloomberg U.S. Intermediate Credit Bond Index, Bloomberg U.S. Long Government Bond Index, Bloomberg U.S. Intermediate Government Bond Index, Bloomberg U.S. Securitized: MBS, ABS, and CMBS Index, Bloomberg U.S. TIPS Index, FTSE EPRA/NAREIT Developed Index and the Bloomberg Commodity Index Total Return.
- 5 An investment in a money market fund is not insured or guaranteed by the Federal Deposit Insurance Corporation or any other government agency. Although the Fund seeks to preserve the value of your investment it is possible to lose money by investing in the Fund.
- 6 The current yield more closely reflects the earnings of the Fund than the total net return information.
- 7 The BlackRock U.S. Debt Fund M invests in the master Fund F. The inception date shown reflects the inception of the master Fund F. The inception date of Fund M was 7/20/12. Returns prior to Fund M's inception date are those of Fund F with deductions taken for Fund M's investment management fees.
- 8 The BlackRock U.S. Treasury Inflation-Protected Securities Fund M invests in the master Fund F. The inception date shown reflects the inception of the master Fund F. The inception date of Fund M was 7/20/12. Returns prior to Fund M's inception date are those of Fund F with deductions taken for Fund M' investment management fees.
- 9 The BlackRock Equity Index Fund J invests in the master Fund F. The inception date shown reflects the inception of the master Fund F. The inception date of Fund J was 3/20/17. Returns prior to Fund J's inception date are those of Fund F with deductions taken for Fund J's investment management fees.
- 10 The BlackRock Russell 2500 Fund J invests in the master Fund F. The inception date shown reflects the inception of the master Fund F. The inception date of Fund J was 10/15/21. Returns prior to Fund J's inception date are those of Fund F with deductions taken for Fund J's investment management fees.
- 11 The BlackRock MSCI ACWI ex-U.S. IMI Index Fund M invests in the master Fund F. The inception date shown reflects the inception of the master Fund F. The inception date of Fund M was 12/31/12. Returns prior to Fund M's inception date are those of Fund F with deductions taken for Fund M's investment management fees.
- 12 The BlackRock MSCI ACWI IMI Index Non-Lendable Fund M invests in the master Fund F. Inception dates for the master Fund F and Fund M are both 4/12/13.
- 13 Transfers out of the TIAA Real Estate Account (REA) are limited to one per quarter. Currently, these transfers do not require a minimum transaction amount; however, in the future TIAA reserves the right, in its sole discretion, to impose minimum transaction levels, which levels will generally be at least \$1,000 (except for systematic transfers, which must be at least \$100) or your entire accumulation, if less. Participants may not make a lump-sum transfer into the REA if their aggregated balances across all contracts is greater than \$150,000. Systematic transfers and recurring contributions are not subject to this limitation.
- 14 Effective January 2014, the Custom Composite Index is 70% NCREIF Open End Diversified Core Equity (ODCE) Net Index, 20% Bloomberg 3-Month Treasury Bill Index, and 10% Dow Jones U.S. Select REIT Index. Prior periods include other representative indices. TIAA's investment management team does not manage its real estate portfolio to a specific published index benchmark. The Custom Composite Index represents a reasonable proxy of how TIAA allocates assets among real property, short-term investments, and REITs over time. The Virginia Retirement System anticipates that Fund returns may vary greatly from those of the Custom Composite Index. Benchmark returns are not available for months that do not end on a calendar quarter due to the fact that NCREIF ODCE Index returns are only published each calendar quarter.
- 15 Upon separation from service or retirement participants can convert their TIAA Traditional accumulation dollars amount to a lifetime income option or withdraw funds through a fixed period annuity ranging from five to 30 years or a Transfer Payout Annuity, which enables participants to move funds out of the TIAA Traditional Annuity in 7 annual installments for the Retirement Choice (RC) contract. Each installment includes a portion of principal and interest, based on the rate in effect when transfer or withdrawal funds are made. However, there are two exceptions to the payout installment. First, if the TIAA Traditional account balance is less than \$5,000, participants can transfer the total amount at any time following termination of employment, but only once during the life of the contract. Second, TIAA Traditional can be withdrawn or transferred to another company up to the full balance within 120 days following termination of employment, subject to 2.5% surrender charge. After the 120-day period, participants can withdraw funds only through a fixed period annuity ranging from five to 30 years or the Transfer Payout Annuity.
- 16 The TIAA Traditional Annuity RC contract has minimum guaranteed rate during the accumulation phase of 1% to 3% . The current minimum rate for the RC contract is 1%. Further, the TIAA Traditional Annuity RC contract applies to premiums deposited during the applicable calendar year and is guaranteed for 10 years, at which point the minimum rate for these premiums will be reset.
- 17 TIAA's annual credited rate on new money for the RC contract for the month of June was 6.50%.
- 18 The TIAA Traditional Annuity is not an investment for purposes of federal securities laws; it is a guaranteed insurance contract. Therefore, unlike a variable annuity or mutual fund, the TIAA Traditional Annuity does not include an identifiable expense ratio. Each premium allocated to the TIAA Traditional Annuity buys a definite amount of lifetime income for participants based on the rate schedule in effect at the time the premium is paid. In addition, the TIAA Traditional Annuity provides a guarantee of principle, a guaranteed minimum rate of interest and the potential for additional amounts of interest when declared by TIAA's Board of Trustees. Additional amounts, when declared, remain in effect for the "declaration year" that begins each March for the accumulating annuities and January for lifetime payout annuities. Additional amounts are not guaranteed for future years.
- 19 May not equal 100% due to rounding
- 20 The data reflects the percentage of participants who selected a particular investment option as of June 30, 2023. There were 5,308 (RC contract) participants as of June 30, 2023.
- 21 Effective July 2022, TIAA no longer provides an estimated expense ratio for its TIAA Traditional Annuity product.

Performance returns shown reflect all fund management fees and other investment related expenses, but do not reflect the TIAA annual administrative fee of \$28 (deducted at \$7.00 per quarter) which would further reduce the returns shown. Performance returns do not reflect redemption fees and/or surrender charges, if applicable.

All calculations assume reinvestment of dividends and capital gains. All returns are calculated in U.S dollars. Fund and benchmark returns are provided by TIAA and BlackRock. Although data is gathered from sources to be reliable, the Virginia Retirement System cannot guarantee completeness or accuracy.

Ongoing monitoring of DC topics include but not limited to:

- Retirement Income.
- Default investment options - target date funds most widely used.
- Investment menu offerings.
- Behavioral finance.
- Investment advice and managed accounts.