

Summary Prospectus

BlackRock Variable Series Funds, Inc.

- **BlackRock Capital Appreciation V.I. Fund (Class I, Class III)**

Before you invest, you may want to review the Fund's prospectus, which contains more information about the Fund and its risks. You can find the Fund's prospectus (including amendments and supplements), reports to shareholders and other information about the Fund, including the Fund's statement of additional information, online at <https://www.blackrock.com/prospectus>. You can also get this information at no cost by calling (800) 537-4942 or by sending an e-mail request to prospectus.request@blackrock.com, or from your financial professional. The Fund's prospectus and statement of additional information, both dated May 1, 2024, as amended and supplemented from time to time, are incorporated by reference into (legally made a part of) this Summary Prospectus.

This Summary Prospectus contains information you should know before investing, including information about risks. Please read it before you invest and keep it for future reference.

The Securities and Exchange Commission has not approved or disapproved these securities or passed upon the adequacy of this Summary Prospectus. Any representation to the contrary is a criminal offense.

Not FDIC Insured • May Lose Value • No Bank Guarantee

Summary Prospectus

Key Facts About BlackRock Capital Appreciation V.I. Fund

Investment Objective

The investment objective of BlackRock Capital Appreciation V.I. Fund (the “Fund”) is to seek long-term growth of capital.

Fees and Expenses of the Fund

This table describes the fees and expenses that you may pay if you buy, hold and sell shares of the Fund. **The table and example below do not include separate account fees and expenses, and expenses would be higher if these fees and expenses were included.** Please refer to your variable annuity or insurance contract (the “Contract”) prospectus for information on the separate account fees and expenses associated with your Contract.

Shareholder Fees (fees paid directly from your investment)

The Fund is not subject to any shareholder fees.

Annual Fund Operating Expenses (expenses that you pay each year as a percentage of the value of your investment)	Class I Shares	Class III Shares
Management Fees ¹	0.65%	0.65%
Distribution and/or Service (12b-1) Fees	None	0.25%
Other Expenses ^{2,3}	0.29%	0.29%
Total Annual Fund Operating Expenses ^{2,3}	0.94%	1.19%
Fee Waivers and/or Expense Reimbursements ^{1,4}	(0.15)%	(0.15)%
Total Annual Fund Operating Expenses After Fee Waivers and/or Expense Reimbursements ^{1,4}	0.79%	1.04%

¹ As described in the “Management of the Funds” section of the Fund’s prospectus, BlackRock Advisors, LLC (“BlackRock”) has contractually agreed to waive the management fee with respect to any portion of the Fund’s assets estimated to be attributable to investments in other equity and fixed-income mutual funds and exchange-traded funds managed by BlackRock or its affiliates that have a contractual management fee, through June 30, 2026. In addition, BlackRock has contractually agreed to waive its management fees by the amount of investment advisory fees the Fund pays to BlackRock indirectly through its investment in money market funds managed by BlackRock or its affiliates, through June 30, 2026. The contractual agreements may be terminated upon 90 days’ notice by a majority of the non-interested directors of BlackRock Variable Series Funds, Inc. (the “Company”) or by a vote of a majority of the outstanding voting securities of the Fund.

² Other Expenses have been restated to reflect current fees.

³ The Total Annual Fund Operating Expenses do not correlate to the ratios of expenses to average net assets given in the Fund’s most recent annual report, due to the restatement of Other Expenses to reflect current fees.

⁴ As described in the “Management of the Funds” section of the Fund’s prospectus, BlackRock has contractually agreed to waive and/or reimburse fees or expenses in order to limit Total Annual Fund Operating Expenses After Fee Waivers and/or Expense Reimbursements (excluding Dividend Expense, Interest Expense, Acquired Fund Fees and Expenses and certain other Fund expenses) to 0.79% (for Class I Shares) and 1.04% (for Class III Shares) of average daily net assets through June 30, 2026. BlackRock has also contractually agreed to reimburse fees in order to limit certain operational and recordkeeping fees to 0.07% (for Class I Shares) and 0.08% (for Class III Shares) of average daily net assets through June 30, 2026. Each of these contractual agreements may be terminated upon 90 days’ notice by a majority of the non-interested directors of the Company or by a vote of a majority of the outstanding voting securities of the Fund.

Example:

This Example is intended to help you compare the cost of investing in the Fund with the cost of investing in other mutual funds. The Example assumes that you invest \$10,000 in the Fund for the time periods indicated and then redeem all of your shares at the end of those periods. The Example also assumes that your investment has a 5% return each year and that the Fund’s operating expenses remain the same. The Example does not reflect charges imposed by the Contract. See the Contract prospectus for information on such charges. Although your actual costs may be higher or lower, based on these assumptions and the net expenses shown in the fee table, your costs would be:

	1 Year	3 Years	5 Years	10 Years
Class I Shares	\$ 81	\$269	\$490	\$1,126
Class III Shares	\$106	\$347	\$625	\$1,416

Portfolio Turnover:

The Fund pays transaction costs, such as commissions, when it buys and sells securities (or “turns over” its portfolio). A higher portfolio turnover rate may indicate higher transaction costs. These costs, which are not reflected in annual fund operating expenses or in the Example, affect the Fund’s performance. During the most recent fiscal year, the Fund’s portfolio turnover rate was 22% of the average value of its portfolio.

Principal Investment Strategies of the Fund

The Fund will seek to achieve its investment objective by investing primarily in a diversified portfolio consisting primarily of common stock of U.S. companies that Fund management believes have exhibited above-average growth rates in earnings over the long term. In other words, Fund management tries to choose investments that will increase in value over the long term. The Fund will generally invest at least 65% of its total assets in the following equity securities:

- Common stock;
- Convertible preferred stock;
- Securities convertible into common stock; and
- Rights to subscribe to common stock.

Of these securities, the Fund generally seeks to invest primarily in common stock.

The Fund may invest in companies of any size but emphasizes investments in companies that have medium to large stock market capitalizations (currently, approximately \$2 billion or more).

Convertible securities generally are debt securities or preferred stock that may be converted into common stock. Convertible securities typically pay current income as either interest (debt security convertibles) or dividends (preferred stock). A convertible's value usually reflects both the stream of current income payments and the market value of the underlying common stock. The Fund may purchase securities pursuant to the exercise of subscription rights, which allow an issuer's existing shareholders to purchase additional common stock at a price substantially below the market price of the shares.

Principal Risks of Investing in the Fund

Risk is inherent in all investing. The value of your investment in the Fund, as well as the amount of return you receive on your investment, may fluctuate significantly from day to day and over time. You may lose part or all of your investment in the Fund or your investment may not perform as well as other similar investments. The following is a summary description of principal risks of investing in the Fund. The relative significance of each risk factor below may change over time and you should review each risk factor carefully.

- **Equity Securities Risk** — Stock markets are volatile. The price of equity securities fluctuates based on changes in a company's financial condition and overall market and economic conditions.
- **Investment Style Risk** — Under certain market conditions, growth investments have performed better during the later stages of economic expansion. Therefore, this investment style may over time go in and out of favor. At times when the investment style used by the Fund is out of favor, the Fund may underperform other equity funds that use different investment styles.
- **Market Risk and Selection Risk** — Market risk is the risk that one or more markets in which the Fund invests will go down in value, including the possibility that the markets will go down sharply and unpredictably. The value of a security or other asset may decline due to changes in general market conditions, economic trends or events that are not specifically related to the issuer of the security or other asset, or factors that affect a particular issuer or issuers, exchange, country, group of countries, region, market, industry, group of industries, sector or asset class. Local, regional or global events such as war, acts of terrorism, the spread of infectious illness or other public health issues like pandemics or epidemics, recessions, or other events could have a significant impact on the Fund and its investments. Selection risk is the risk that the securities selected by Fund management will underperform the markets, the relevant indices or the securities selected by other funds with similar investment objectives and investment strategies. This means you may lose money.

An outbreak of an infectious coronavirus (COVID-19) that was first detected in December 2019 developed into a global pandemic that has resulted in numerous disruptions in the market and has had significant economic impact leaving general concern and uncertainty. Although vaccines have been developed and approved for use by various governments, the duration of the pandemic and its effects cannot be predicted with certainty. The impact of this coronavirus, and other epidemics and pandemics that may arise in the future, could affect the economies of many nations, individual companies and the market in general ways that cannot necessarily be foreseen at the present time.

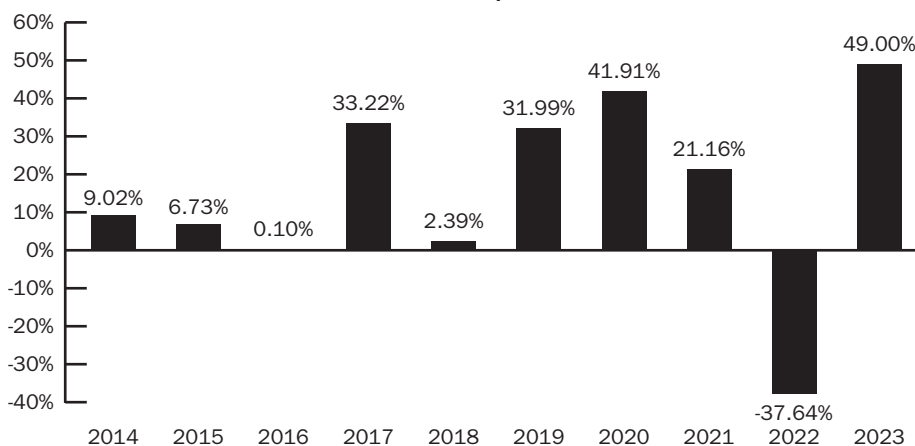
- **Convertible Securities Risk** — The market value of a convertible security performs like that of a regular debt security; that is, if market interest rates rise, the value of a convertible security usually falls. In addition, convertible securities are subject to the risk that the issuer will not be able to pay interest, principal or dividends when due, and their market value may change based on changes in the issuer's credit rating or the market's perception of the issuer's creditworthiness. Since it derives a portion of its value from the common stock into which it may be converted, a convertible security is also subject to the same types of market and issuer risks that apply to the underlying common stock, including the potential for increased volatility in the price of the convertible security.

- **Mid Cap Securities Risk** — The securities of mid cap companies generally trade in lower volumes and are generally subject to greater and less predictable price changes than the securities of larger capitalization companies.
- **Preferred Securities Risk** — Preferred securities may pay fixed or adjustable rates of return. Preferred securities are subject to issuer-specific and market risks applicable generally to equity securities. In addition, a company's preferred securities generally pay dividends only after the company makes required payments to holders of its bonds and other debt. For this reason, the value of preferred securities will usually react more strongly than bonds and other debt to actual or perceived changes in the company's financial condition or prospects. Preferred securities of smaller companies may be more vulnerable to adverse developments than preferred securities of larger companies.
- **Rights Risk** — The failure to exercise subscription rights to purchase common stock would result in the dilution of the Fund's interest in the issuing company. The market for such rights is not well developed, and, accordingly, the Fund may not always realize full value on the sale of rights.
- **Risk of Investing in the United States** — Certain changes in the U.S. economy, such as when the U.S. economy weakens or when its financial markets decline, may have an adverse effect on the securities to which the Fund has exposure.

Performance Information

The information shows you how the Fund's performance has varied year by year and provides some indication of the risks of investing in the Fund. The table compares the Fund's performance to that of the S&P 500® Index and the Russell 1000® Growth Index, which are relevant to the Fund because they have characteristics similar to the Fund's investment strategies. As with all such investments, past performance is not an indication of future results. The bar chart and table do not reflect separate account fees and expenses. If they did, returns would be less than those shown. To the extent that dividends and distributions have been paid by the Fund, the performance information for the Fund in the chart and table assumes reinvestment of the dividends and distributions. If the Fund's investment manager and its affiliates had not waived or reimbursed certain Fund expenses during these periods, the Fund's returns would have been lower.

**Class I Shares
ANNUAL TOTAL RETURNS
BlackRock Capital Appreciation V.I. Fund
As of 12/31**



During the ten-year period shown in the bar chart, the highest return for a quarter was 28.84% (quarter ended June 30, 2020) and the lowest return for a quarter was -22.95% (quarter ended June 30, 2022).

**For the periods ended 12/31/23
Average Annual Total Returns**

	1 Year	5 Years	10 Years
BlackRock Capital Appreciation V.I. Fund: Class I Shares	49.00%	16.09%	12.85%
BlackRock Capital Appreciation V.I. Fund: Class III Shares	48.59%	15.77%	12.56%
S&P 500® Index (Reflects no deduction for fees, expenses or taxes)	26.29%	15.69%	12.03%
Russell 1000® Growth Index (Reflects no deduction for fees, expenses or taxes)	42.68%	19.50%	14.86%

Investment Manager

The Fund's investment manager is BlackRock Advisors, LLC (previously defined as "BlackRock").

Portfolio Managers

Portfolio Manager	Portfolio Manager of the Fund Since	Title
Phil Ruvinsky	2020	Managing Director of BlackRock, Inc.
Caroline Bottinelli	2022	Managing Director of BlackRock, Inc.

Purchase and Sale of Fund Shares

Shares of the Fund currently are sold either directly or indirectly (through other variable insurance funds) to separate accounts of insurance companies (the “Insurance Companies”) and certain accounts administered by the Insurance Companies (the “Accounts”) to fund benefits under the Contracts issued by the Insurance Companies. Shares of the Fund may be purchased or sold each day the New York Stock Exchange is open.

The Fund does not have any initial or subsequent investment minimums. However, your Contract may require certain investment minimums. See your Contract prospectus for more information.

Tax Information

Distributions made by the Fund to an Account, and exchanges and redemptions of Fund shares made by an Account, ordinarily do not cause the corresponding Contract holder to recognize income or gain for U.S. federal income tax purposes. See the Contract prospectus for information regarding the U.S. federal income tax treatment of the distributions to Accounts and the holders of the Contracts.

Payments to Broker/Dealers and Other Financial Intermediaries

BlackRock and its affiliates may make payments relating to distribution and sales support activities to the Insurance Companies and other financial intermediaries for the sale of Fund shares and related services. These payments may create a conflict of interest by influencing the Insurance Company or other financial intermediary and your individual financial professional to recommend the Fund over another investment. Visit your Insurance Company’s website, which may have more information.

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BlackRock

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