

# 2023 State of the Commonwealth Report





December 2023

Dear Reader:

This is Old Dominion University's ninth annual State of the Commonwealth Report. While it represents the work of many people connected in various ways to the university, the report does not constitute an official viewpoint of Old Dominion, its president, Brian Hemphill, Ph.D., the Board of Visitors, the Strome College of Business or the generous donors who support the activities of the Dragas Center for Economic Analysis and Policy.

Our work seeks to contribute to the conversation about how Virginia can foster growth across the Commonwealth without glossing over the challenges we face. Instead of retreating into partisan enclaves where affirmation is sought over information, we want to encourage difficult conversations to improve economic outcomes for all of Virginia's residents.

The 2023 State of the Commonwealth Report is divided into five parts:

### **Virginia's Economy Grows, but Questions Linger About the Future**

There is good news to report about the economy of the Commonwealth. Economic activity increased in 2022 and 2023. A record number of Virginians were at work or looking for work. Labor force participation increased above pre-pandemic levels. However, this news is tempered by the fact that Virginia grew slower than the nation and Virginians continue to migrate out of the Commonwealth. The Virginia economy should grow in 2024, but work remains to be done to match the economic performance of our peers.

### **A Recovery in Progress: Virginia's GO Virginia Regions**

For some areas of Virginia, the recovery from the economic shock associated with the COVID-19 pandemic has been robust, with evidence emerging of a new expansion in economic activity in 2023. For other areas of the Commonwealth, the recovery would be best characterized as anemic. As we conclude 2023 and look forward to 2024, the economic fate of the Commonwealth looks increasingly bifurcated, with economic activity and population concentrated in a handful of regions. Now, with evidence of a "soft landing" from the turbulence of 2022 increasingly evident, the open question remains: can we spur economic growth across the state?

### **Virginia is for Veterans**

Approximately 1 in 10 Virginian adults ages 18 years and older was a veteran of military service in 2021. The Commonwealth only ranked behind Alaska in the proportion of adults who identified as a veteran of military service in 2021. Virginia ranked first for the share of veterans in the adult population among states with populations greater than 1 million

in 2021. Military veterans in Virginia, on average, are more educated than their civilian counterparts and have higher household incomes. The presence of military veterans and retirees not only provides talents to employers, but also generates billions of dollars of payment transfers and expenditures by the federal government throughout Virginia.

### **Death and Dying in Virginia**

Death and taxes may be inevitable, but where we die is usually not a topic of public policy or discussion. Hospice care is the specialized treatment that provides support and comfort to patients who are terminally ill with a general life expectancy of six months or less. In this chapter, we take a close look at serious disease and hospice care in the United States and Virginia. We examine the demand for hospice care by Medicare beneficiaries as well as the changing nature of hospice care suppliers as now more than two-thirds of hospices nationwide operate as for-profit entities. We ask: what is the state of end-of-life care across Virginia?

### **Virginia's Hotel Industry Grows, but Change is Coming**

This chapter assesses the performance of the hotel industry in the Commonwealth and discusses the challenges facing the hotel industry in 2024 and beyond. To understand the prospects for growth, we examine the recovery from the shock of 2020 and how different areas of the Commonwealth fared with regard to hotel revenue and occupancy. We take stock of the competitive environment and how labor shortages continue to challenge hoteliers. We ask: what does the future hold for the hotel industry in Virginia?

The Strome College of Business and Old Dominion University continue to provide support for the State of the Commonwealth Report. However, it would not appear without the vital backing of the private donors whose names appear below. They believe in Virginia and the power of rational discussion to improve our circumstances but are not responsible for the views expressed in the report. We would like to thank our current and historical donors for their investments in the work of the Dragas Center for Economic Analysis and Policy.

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All nine State of the Commonwealth Reports are available at [www.ceapodu.com](http://www.ceapodu.com).

If you have comments or suggestions, please email us at [rmcnab@odu.edu](mailto:rmcnab@odu.edu).

Sincerely,



Robert M. McNab  
Director, Dragas Center for Economic Analysis and Policy  
Chair and Professor of Economics, Department of Economics  
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# VIRGINIA'S ECONOMY GROWS, BUT QUESTIONS LINGER ABOUT THE FUTURE

*Commerce is a cure for the most destructive prejudices; for it is almost a general rule, that wherever we find agreeable manners, there commerce flourishes; and that wherever there is commerce, there we meet with agreeable manners.*

*– Montesquieu, The Spirit of the Laws*

A close-up photograph of a hand moving a wooden block with the number 3. In the foreground, two other wooden blocks with the numbers 2 and 4 are visible. The background is a soft, out-of-focus light blue.

**T**he future may be uncertain, but we can infer its course by examining the past and surmise the Commonwealth is facing many open questions. For example, can Virginia raise its job creation rate to match that of its neighbors in the south? What actions are needed to increase the attractiveness of the Commonwealth to reverse the outflow of Virginians to other states? Can the Commonwealth take action to improve the distribution of economic growth? Or is it fated to see increased economic gains concentrated along the I-95 corridor between Richmond and Northern Virginia? These are not trivial questions but matters for serious debate, consensus building and action. Now, we opine, is the time for us to engage in discussions to explore what can be done and, more importantly, to build the will to do what is necessary to improve the lot of Virginians.

As Virginia prepares to enter 2024, there is an opportunity to reflect on the state's economic performance over last year, if not over the current decade. Fortunately, much of the economic news regarding Virginia is good. While the population growth has slowed this decade, the overall population has continued to grow, unlike some of our neighbors. Throughout 2023, more Virginians were both in the labor force and at work. The state's economy has also grown, albeit at a sluggish pace compared to our peer states.



From this perspective, the future is mostly bright. Most Virginians who are willing to work found gainful employment in 2023. State tax revenues continued to increase as consumer spending remained strong. Property taxes continued to increase in many localities as housing values continued to climb. Now, with the November 2023 elections in the rear view mirror, there is time to reflect on the results and to chart a bipartisan course forward for the economy of the state.

Yet, given what some would characterize as an abundance of good news, there are warning signs that all is not well with the Virginia economy. Population growth has slowed appreciably, and net domestic migration remained negative as more Virginians left than residents of other states moved to Virginia. Not enough Virginians in their prime working age were in the labor force, limiting the ability of employers to hire. While inflation moderated from its peak, this moderation occurred only because the Federal Reserve significantly tightened monetary policy. Reasonably, one might have expected that higher interest rates would soften the demand for single-family housing and, consequently, lower housing prices. However, this was not the case. Constrained supply meant that single-family and multi-family housing remained significantly more expensive than it was in the past.

This chapter reviews the performance of the Virginia economy over the past 36 months and identifies challenges to growth in 2024 and beyond. In the next section, we examine how Virginia's population has grown this century. We then turn to the question of how Virginia's economy has performed and whether the recovery will continue in 2024. We examine the performance of Virginia's labor market and its relationship with the federal government. Finally, we conclude with thoughts on how the Commonwealth can spark growth in the coming years.



## Population Growth Slows in the Commonwealth

Graph 1 displays the resident population of Virginia from 2000 to 2022. In 2000, there were approximately 7.11 million residents, growing to about 7.93 million residents in 2009, an increase of 10.1%. In 2010, 8.02 million residents called Virginia home, growing to about 8.56 million in 2019, an increase of 6.6% over the decade. In 2020, the U.S. Census estimated Virginia's resident population was about 8.64 million, increasing by 0.5% to about 8.68 million in 2022.

In Graph 2, we present the average annual population growth rates for Virginia, its neighboring states, and the United States for the last four intercensal periods as well as the most recent decade.<sup>1</sup> Virginia's average annual population growth rate slowed from 1.5% a year (1980 – 1989) to 1.1% (1990 – 1999) before increasing to 1.2% a year (2000 – 2009). From 2010 to 2019, the rate dropped to 0.7% and further to 0.3% later in the current decade. Given Virginia's recent slowed average annual population growth, it has fared better than Maryland, where the population declined this decade. West Virginia has observed a more significant decrease in the resident population, with negative population growth from 1980 to 1989 (-0.9% annually), 2010 to 2019 (-0.4% annually), and from 2020 to 2022 (-0.5% annually). North Carolina's resident population, on the other hand, has grown at an average annual rate of at least 1.0% over the last four decades. From 2020 to 2022, North Carolina's resident population increased at an average annual rate of 1.2%, which is four times higher than that of the Commonwealth.

Graph 3 focuses on Virginia's population growth from 2010 to 2022 and compares this growth with selected neighboring states and with the nation.<sup>2</sup> It illustrates that over the same period from 2010 to 2022, Virginia's population grew by 8.2%, while the population of the nation rose by 7.7% and North Carolina's population increased by 11.7%. Delving further, we see that the Commonwealth's population grew steadily every year, whereas Maryland's population declined slightly this decade. Why has North Carolina's population grown faster than that of Virginia? Not surprisingly, there is a positive correlation between economic performance and population growth. States that grow faster tend to attract individuals from states with lower rates of economic growth. Relative to North Carolina, Virginia appears to be a less attractive destination for those seeking to improve their economic lot in life.

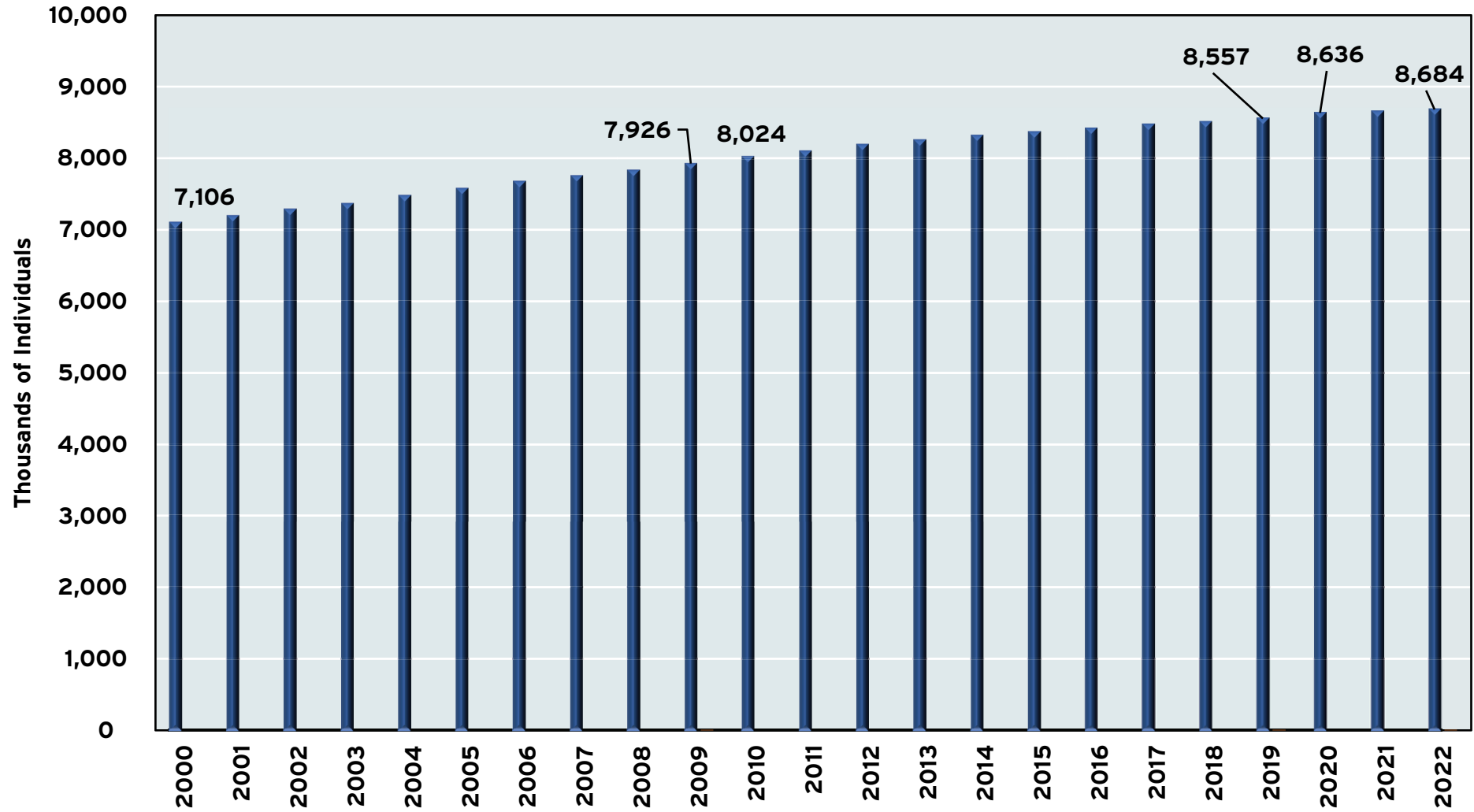
Slowing population growth (or an outright decline in the resident population) may be a warning sign about a state's future economic prospects as residents may be "voting with their feet" and seeking improved economic opportunities elsewhere in the country. As the population declines, invariably, tax bases erode, and tax revenues fall. States, faced with lower revenues, must then grapple with how to reduce expenditures, leading to declines in public services and the quality of public infrastructure. These declines, in turn, increase the incentives to migrate to other, more prosperous, states, which reinforces the cycle of decline.

<sup>1</sup> The Compound Annual Growth Rate (CAGR) is equal to  $((\text{End Period}/\text{Beginning Period})^{1/(\text{number of periods})})-1$  and measures the constant rate of return over the time period.

<sup>2</sup> We exclude West Virginia from Graph 3 as its resident population has declined by approximately 4.3% from 2010 to 2022.

GRAPH 1

RESIDENT POPULATION, VIRGINIA, 2000 - 2022

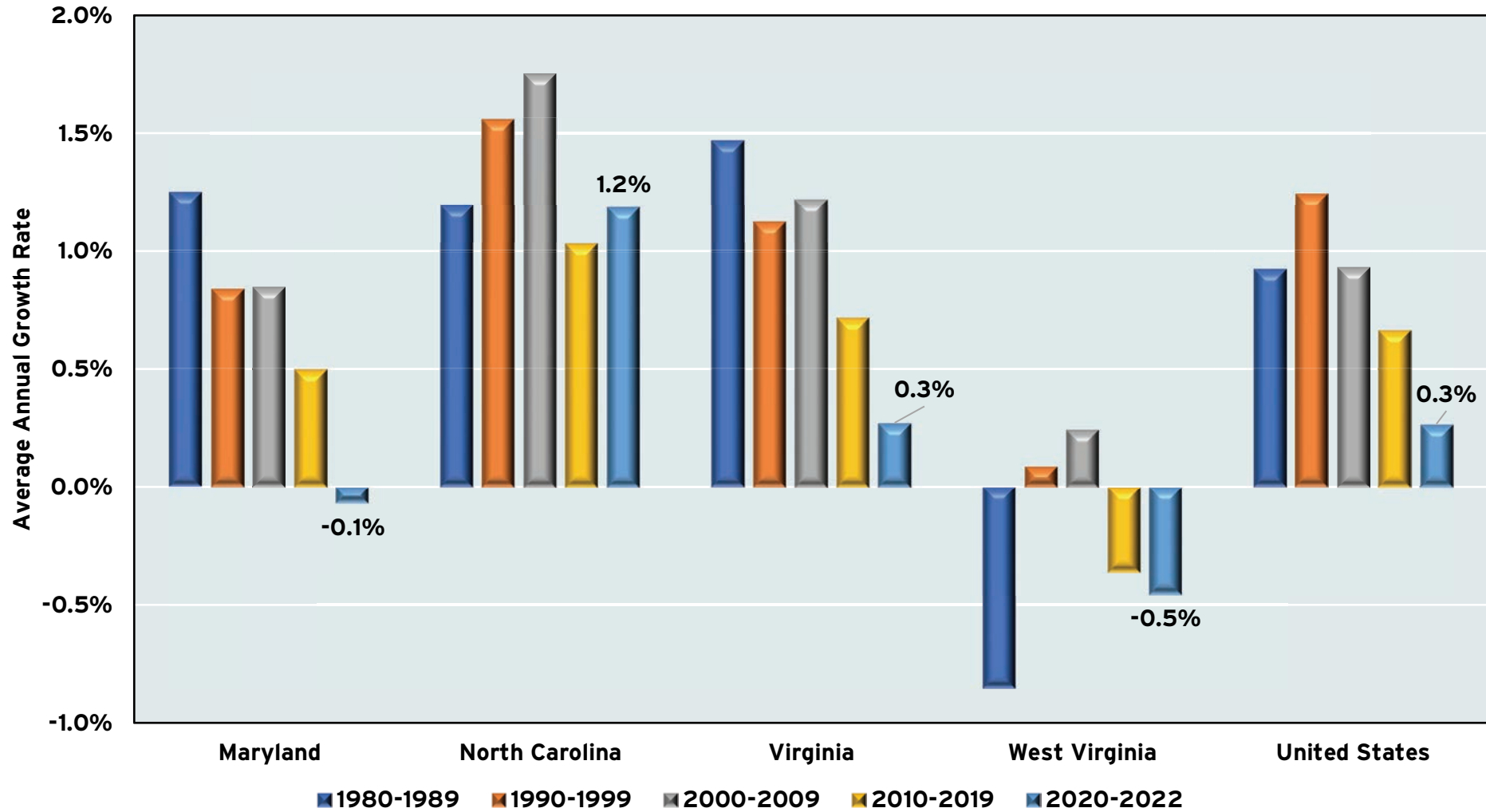


Source: United States Census, Annual Estimates of the Population for the U.S. and States, and for Puerto Rico, various years.



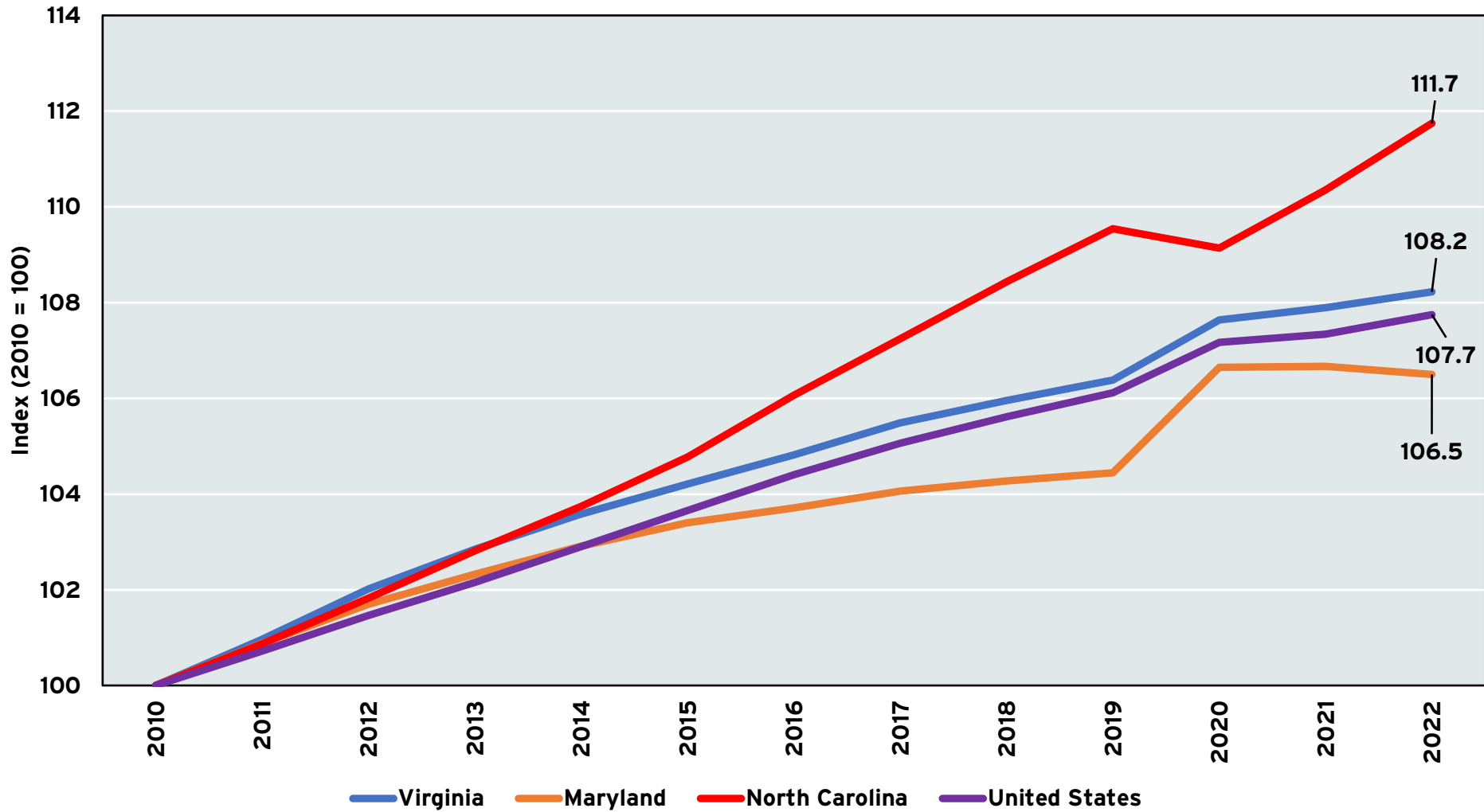
**GRAPH 2**

**AVERAGE ANNUAL POPULATION GROWTH BY DECADE  
VIRGINIA, SELECTED STATES, AND THE UNITED STATES, 2000 - 2022**



Source: United States Census, Annual Estimates of the Population for the U.S. and States, and for Puerto Rico, various years.

**GRAPH 3**  
**INDEX OF TOTAL POPULATION**  
**VIRGINIA, SELECTED STATES, AND THE UNITED STATES, 2010 - 2022**



Source: United States Census, Annual Estimates of the Population for the U.S. and States, and for Puerto Rico, various years.

## What are the Components of Virginia's Population Change?

Population change is driven by three components: natural increase in the population (births minus deaths), net domestic migration (domestic arrivals minus domestic departures), and net international migration (international arrivals minus international departures). States that are growing typically have more births than deaths and greater inflows of new residents than outflows of current residents. Because the decennial Census “resets” the population estimates, we compare the components of population change within each decade.

Table 1 presents the estimated components of population change for Virginia from April 1, 2010 to June 30, 2019. From 2010 to 2019, the natural increase in the state’s population was 343,322 individuals. Net international migration was also positive, with 265,541 more international arrivals to Virginia than foreign departures. Net domestic migration, however, turned negative after 2013 with 71,103 more Virginians leaving for other states than people moving from other locations across the nation. In other words, the uptick in the Commonwealth’s total population last decade was driven by the positive natural increase and positive net international migration in the population.

From April 1, 2020 to June 30, 2022, the natural increase in the resident population of the Commonwealth was positive, with a total of 27,930 more births than deaths. Net international migration, which was positive most of the previous decade, declined significantly in 2018 and did not fully recover until 2022. Moreover, from April 1, 2020 to June 30, 2022, there were 52,672 more international arrivals to Virginia than departures from Virginia. Net domestic migration in 2022, on the other hand, remained negative and dropped to a level last observed during the previous mid-decade. From April 1, 2020, to June 30, 2022, 29,775 more Virginians left for other places in the United States than arrived from other locations in the nation.

**TABLE 1**  
**COMPONENTS OF POPULATION CHANGE, VIRGINIA**  
**APRIL 1, 2010 - JUNE 30, 2019**

Year	Natural Change	Net Domestic Migration	Net International Migration	Change in the Resident Population
2010*	11,052	5,551	5,713	22,316
2011	41,891	13,026	22,423	77,340
2012	42,549	4,466	36,694	83,709
2013	39,056	3,113	25,291	67,460
2014	39,971	-15,987	34,274	58,258
2015	37,987	-25,367	38,051	50,671
2016	37,581	-24,979	35,662	48,264
2017	33,480	-12,473	32,574	53,581
2018	31,081	-9,317	15,990	37,754
2019	28,674	-9,136	14,869	34,407
<b>Total</b>	<b>343,322</b>	<b>-71,103</b>	<b>265,541</b>	<b>533,760</b>

Sources: U.S. Census Bureau, 2019 Population Estimates Program and Dragas Center for Economic Analysis and Policy. \*Except for 2010, the data represent the change from July 1 of the preceding year to June 30 of the current year. Population residual estimates not included.

**TABLE 2**  
**COMPONENTS OF POPULATION CHANGE, VIRGINIA**  
**APRIL 1, 2020 - JUNE 30, 2022**

Year	Natural Change	Net Domestic Migration	Net International Migration	Change in the Resident Population
2020*	3,763	-358	760	4,165
2021	11,242	-5,465	14,310	20,087
2022	12,925	-23,952	37,692	26,665
<b>Total</b>	<b>27,930</b>	<b>-29,775</b>	<b>52,762</b>	<b>50,917</b>

Sources: U.S. Census Bureau, 2019 and 2022 Components of Change Estimates and Dragas Center for Economic Analysis and Policy. \*For 2020, the data represent the change from April 1, 2020, to June 30, 2020. Population residual estimates not included.



How do Virginia's components of population change compare to neighboring states this decade? In Table 3, even though Maryland saw a positive increase in the population as births were larger than deaths, and net international migration was positive, net domestic migration was negative and greater than the sum of the positive natural change and net international migration. On the other hand, net domestic migration and net international migration were positive for West Virginia but, even when put together, were not large enough to offset the negative natural change in the population, as deaths outnumbered births by 23,902 this decade. North Carolina's natural change in the population and net international migration were positive (but still smaller than Virginia's). Unlike Maryland and Virginia, however, 211,867 more people moved to North Carolina this decade from other domestic locations than left North Carolina for other domestic destinations.

The 2021 American Community Survey (ACS) from the U.S. Census Bureau provides estimates of state-to-state migration flows. Table 4 contains the top 10 states with respect to positive net in-migration to Virginia in 2021, meaning states where more residents came to Virginia than Virginians left for those states. The top three states included New Jersey, Massachusetts, and New York, followed by the District of Columbia, California, and Arizona.

Table 5 displays the 10 states with highest negative net out-migration flows with respect to Virginia in 2021. Of note, 10,202 Virginians left for West Virginia, while 5,564 residents of West Virginia moved to Virginia, yielding a net domestic migration of -4,638. These flows were likely due to lower housing costs in West Virginia, with residents in search of cheaper housing (as evidenced by county-to-county migration flows in 2021). Some flows are possibly due to the large military presence in each state. Hawaii, for example, saw 3,498 more people from Virginia migrate to the state than departures from Hawaii to Virginia in 2021. Absent from Tables 4 and 5 is North Carolina. In 2021, 1,452 more Virginians moved to North Carolina than North Carolinians moved to Virginia. In 2021, the inflow of 27,640 persons from North Carolina to Virginia did not offset the outflow of 29,092 from Virginia to North Carolina. Negative net domestic migration

made North Carolina the 11th highest state in terms of out-migration for Virginia.

Virginia's resident population continues to grow; however, this population growth is, in part, dependent on international migrants. The continued inflow of international migrants is sensitive to political conditions. A significant downturn in these inflows, akin to what occurred at the end of the previous decade, could jeopardize Virginia's continued population growth, especially if more Virginians exit the state for other locations in the United States. Reversing negative net domestic migration will not only require job growth; it will also need a concerted effort to address housing costs in the areas with robust job growth. Otherwise, it is likely that the Commonwealth will continue to experience net negative domestic migration flows for the foreseeable future.



**TABLE 3**

**COMPONENTS OF POPULATION CHANGE  
VIRGINIA AND SELECTED NEIGHBORING STATES  
APRIL 1, 2020 - JUNE 30, 2022**

State	Natural Change	Net Domestic Migration	Net International Migration	Change in the Resident Population
Maryland	20,341	-68,287	33,300	-14,646
North Carolina	10,940	211,867	37,031	259,838
Virginia	27,930	-29,775	52,762	50,917
West Virginia	-23,902	2,460	2,536	-18,906

Source: U.S. Census Bureau, 2022 Components of Change Estimates and Dragas Center for Economic Analysis and Policy. Population residual estimates not included. Sum of the components of population change may not equal population level estimates.

**TABLE 4**

**STATES WITH LARGEST POSITIVE NET MIGRATION  
TO VIRGINIA, 2021**

State	Residence was Virginia 1 Year Ago	Other State of Residence 1 Year Ago	Net Migration to Virginia
New Jersey	2,854	8,963	6,109
Massachusetts	3,508	9,553	6,045
New York	9,132	13,416	4,284
District of Columbia	9,003	13,211	4,208
California	16,881	21,052	4,171
Arizona	1,835	5,698	3,863
Pennsylvania	11,637	14,436	2,799
Maryland	25,305	27,855	2,550
Washington	4,452	6,749	2,297
Connecticut	1,536	3,396	1,860

Source: U.S. Census Bureau, 2021 American Community Survey. For more information on the ACS, see <https://www.census.gov/programs-surveys/acs/>

**TABLE 5**

**STATES WITH LARGEST NEGATIVE NET MIGRATION  
TO VIRGINIA, 2021**

State	Residence was Virginia 1 Year Ago	Other State of Residence 1 Year Ago	Net Migration to Virginia
Utah	2,775	1,261	-1,514
Texas	15,079	13,305	-1,774
Mississippi	3,114	1,051	-2,063
Kansas	2,991	711	-2,280
Tennessee	9,806	6,574	-3,232
Hawaii	5,691	2,193	-3,498
Alabama	5,382	1,878	-3,504
South Carolina	12,978	9,212	-3,766
West Virginia	10,202	5,564	-4,638
Florida	29,153	20,603	-8,550

Source: U.S. Census Bureau, 2021 American Community Survey. For more information on the ACS, see <https://www.census.gov/programs-surveys/acs/>.

## Inflation Slows but Persists

Before turning to the overall performance of the Virginia economy, we examine how the rise (and fall) of inflation-shaped discussions and perceptions of the economy in 2023. Whether in the grocery store or at the pump, Virginians faced higher prices for goods and services in 2023. Even though several economic indicators pointed towards a robust job market and favorable conditions for business, inflation was still a persistent topic of conversation and undoubtedly impacted perceptions of the overall performance of Virginia's economy. We first look at how inflation is measured and then how it is a lagging indicator of economic performance.

The Bureau of Labor Statistics (BLS) produces the Consumer Price Index (CPI) by surveying consumer prices across the nation. Each month, the BLS surveys more than 20,000 retail establishments as well as about 50,000 rental housing units to gather price data. The BLS uses housing rent data to form estimates of the cost of owner-occupied housing. The calculation of the CPI captures substitution effects (the tendency of consumers to shift away from relatively more expensive goods and services to cheaper alternatives) and changes in quality. More importantly, the weighting of specific categories in the CPI is dependent upon recent consumer spending patterns.<sup>3</sup> In other words, weights are proportional to consumer spending on goods and services.

In Graph 4, we present the monthly rates of inflation and core inflation for the United States from January 2010 to September 2023. From February 2010 to February 2020, the longest peacetime economic expansion in the nation's history, the average and median monthly rates of inflation and core inflation were 1.8% (highest 3.8%) and 1.9% (highest 2.4%), respectively. In other words, prices were remarkably stable over the previous decade, and when prices did increase above the average for the period, these small bursts of inflation were relatively short-lived. It should have been no surprise, given price stability, that the Federal Reserve chose to take an accommodative monetary policy path to stimulate job creation and economic growth over the expansion.

<sup>3</sup> In 2023, the BLS announced that it would update the weights for expenditure categories in the CPI annually.

The rapid rise of inflation in the second half of 2021 was challenging to policymakers. In January, the monthly rate of inflation for all items in the CPI basket was 1.4%, rising to 5.3% in June, and reaching 7.2% in December. In the same year, core inflation averaged 3.9%. Monthly inflation peaked at 8.9% in June 2022 and declined to 6.4% in December 2022. While monthly inflation continued to decline in the first half of 2023, core inflation remained sticky, reflecting the volatility of food and fuel prices. In 2022, monthly inflation and core inflation averaged 8.0% and 6.2%, and through August 2023, the averages were 4.5% and 5.1%, respectively. Inflation has slowed in 2023 but persisted above levels observed prior to the onset of the COVID-19 pandemic.

The rise of inflation in 2022 and its persistence in 2023 led the Federal Reserve to aggressively shift away from its accommodative monetary policy stance. The Federal Reserve lends to depository institutions through the "discount window." This lending facility helps depository institutions manage liquidity by providing ready access to funding. This credit program is the primary tool for ensuring liquidity, and the primary credit rate is set relative to the Federal Open Market Committee's (FOMC) target range for the federal funds rate. Table 6 shows the primary credit rate or "discount rate" to depository institutions from December 16, 2008, to the most recent increase on July 27, 2023.

On December 16, 2008, at the onset of the Great Recession, the Federal Reserve lowered the discount rate to 0.50%. It would take almost 10 years for the discount rate to rise by 250 basis points to 3.0% on December 20, 2018. On March 16, 2020, at the onset of the pandemic, the Federal Reserve cut the discount rate to 0.25%. Two years later, the Federal Reserve slightly increased the discount rate by 25 basis points to 0.50%. From May 5, 2022 to December 15, 2022, the Federal Reserve raised the discount rate again by 400 basis points, which means the Federal Reserve has raised the discount rate more in 2022 than it did in the decades during and after the Great Recession. As of July 2023, the Federal Reserve continued to spread the discount rate even further, resulting in another hike by 75 basis points.

Why did the Federal Reserve quickly increase the discount rate in 2022 and continue to make the discount rate higher into 2023? One explanation is that inflation has continued to remain above the target rate set by the Federal Reserve. Another complementary explanation is that inflationary expectations are hard to break once formed, and the Federal Reserve does not want a repeat of the late 1970s. When consumers (and businesses) expect future price increases, such as increasing wage demands, shifting consumption, and, in the case of businesses, increasing the prices of goods and services, they can act as if the future prices will certainly increase. If there is some good news to report, it is that the Federal Reserve has been moderately successful in preventing a hardening of inflationary expectations (Graph 5).

In 2023, according to the University of Michigan's Survey of Consumers, respondents expected inflation to average 3.8% over the next 12 months, almost 0.9 percentage points less than the average rate of inflation for 2023. In other words, consumers expect lower inflation in the coming year, and this can contribute to the lowering of inflation. If housing prices soften in the second half of 2023 and into 2024, we would reasonably expect that inflationary expectations will fall accordingly, further reducing inflationary pressures in 2024.

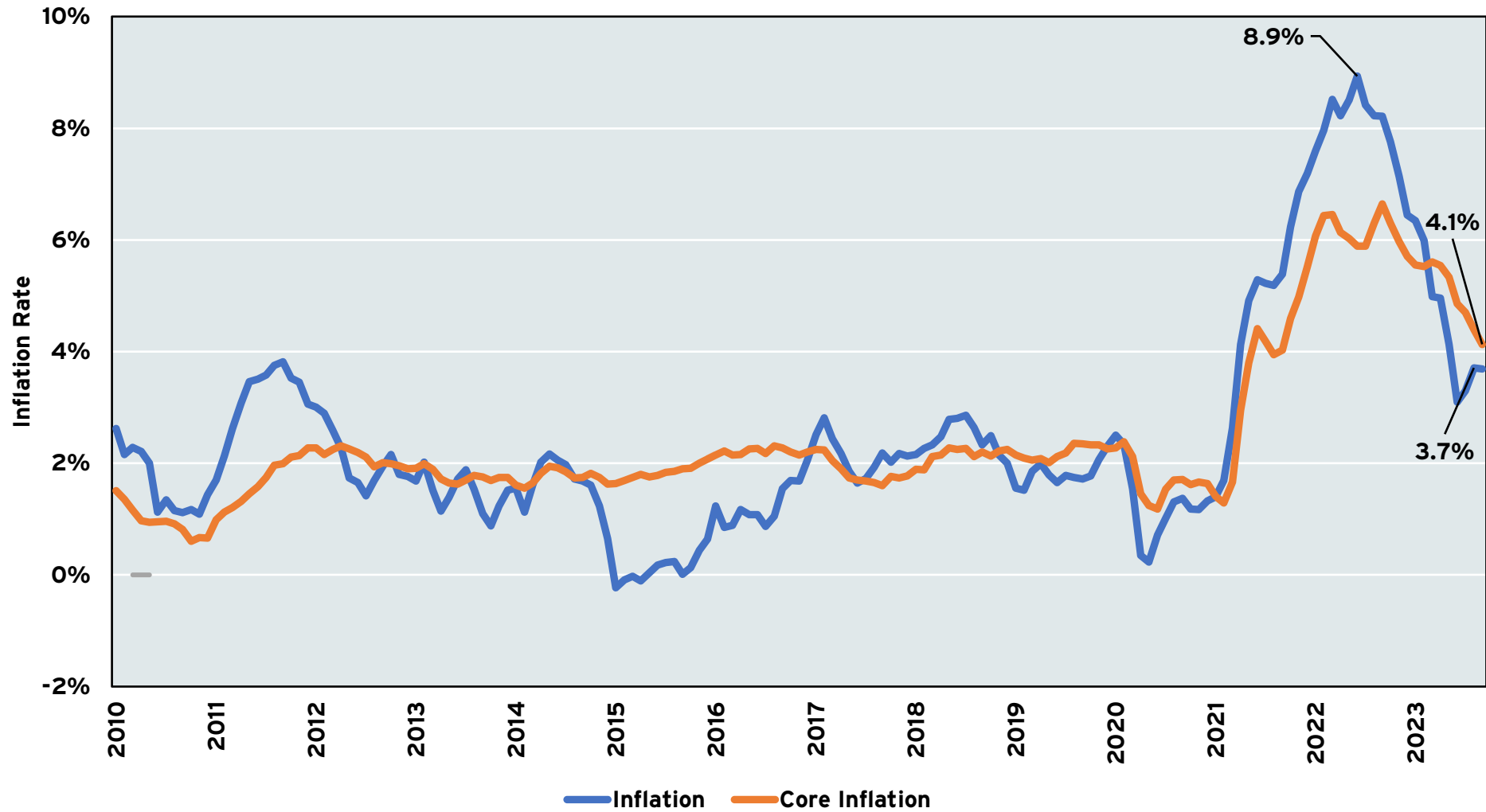
<b>Date</b>	<b>Discount Rate (% per annum)</b>
<b>December 16, 2008</b>	<b>0.50%</b>
<b>February 28, 2010</b>	<b>0.75%</b>
<b>December 17, 2015</b>	<b>1.00%</b>
<b>December 15, 2016</b>	<b>1.25%</b>
<b>March 16, 2017</b>	<b>1.50%</b>
<b>June 15, 2017</b>	<b>1.75%</b>
<b>December 14, 2017</b>	<b>2.00%</b>
<b>March 22, 2018</b>	<b>2.25%</b>
<b>June 14, 2018</b>	<b>2.50%</b>
<b>September 27, 2018</b>	<b>2.75%</b>
<b>December 20, 2018</b>	<b>3.00%</b>
<b>August 1, 2019</b>	<b>2.75%</b>
<b>September 19, 2019</b>	<b>2.50%</b>
<b>October 31, 2019</b>	<b>2.25%</b>
<b>March 4, 2020</b>	<b>1.75%</b>
<b>March 16, 2020</b>	<b>0.25%</b>
<b>March 17, 2022</b>	<b>0.50%</b>
<b>May 5, 2022</b>	<b>1.00%</b>
<b>June 17, 2022</b>	<b>1.75%</b>
<b>July 28, 2022</b>	<b>2.50%</b>
<b>September 22, 2022</b>	<b>3.25%</b>
<b>November 3, 2022</b>	<b>4.00%</b>
<b>December 15, 2022</b>	<b>4.50%</b>
<b>February 2, 2023</b>	<b>4.75%</b>
<b>March 23, 2023</b>	<b>5.00%</b>
<b>May 4, 2023</b>	<b>5.25%</b>
<b>July 27, 2023</b>	<b>5.50%</b>

Source: Federal Reserve Bank, Discount Window. The discount rate is the interest rate on primary credit advances to member banks.



GRAPH 4

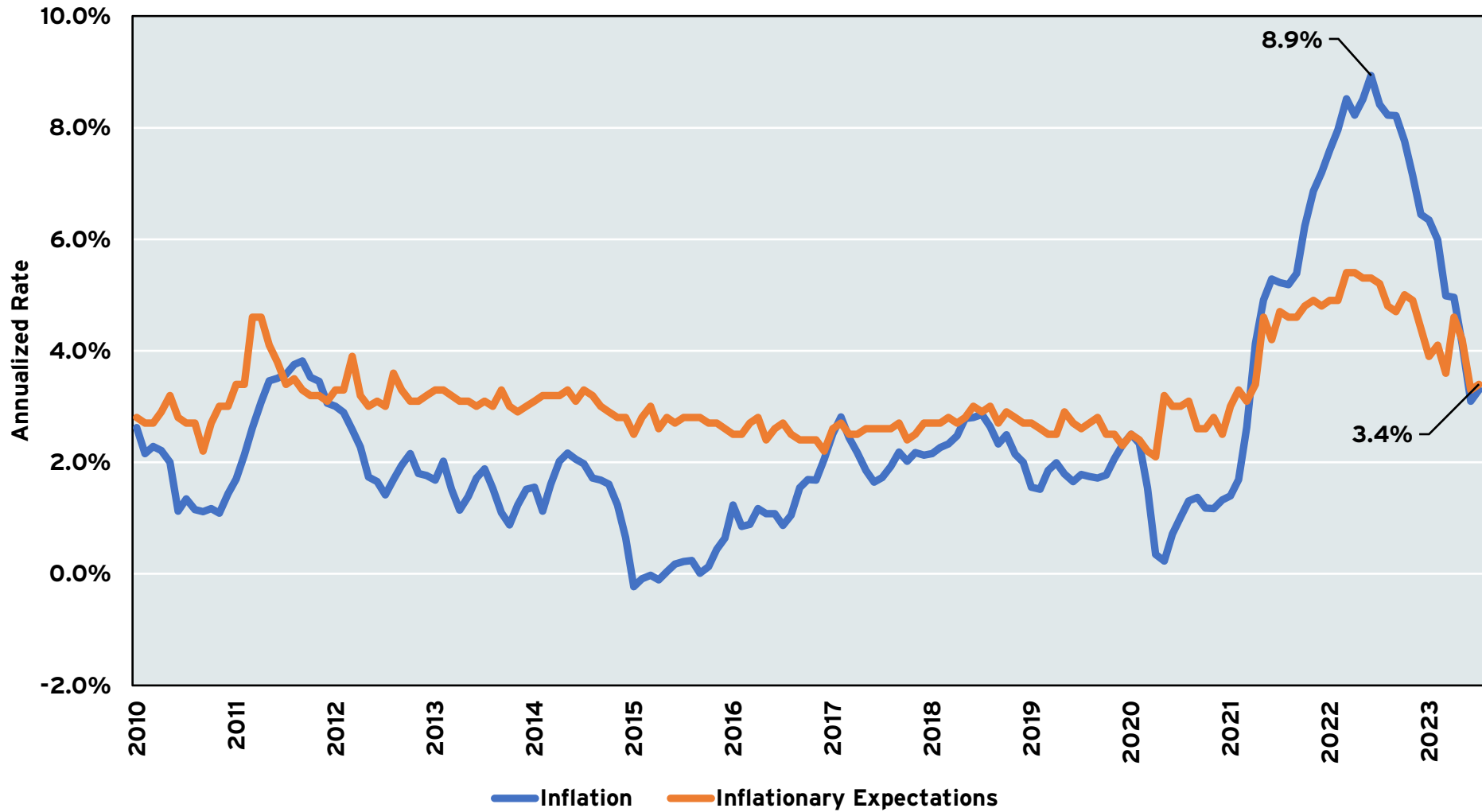
**INFLATION AND CORE INFLATION, UNITED STATES  
JANUARY 2010 - SEPTEMBER 2023**



Source: Bureau of Labor Statistics (2023). Inflation is the year-over-year change in CPI-U while Core Inflation is the year-over-year change in CPI-U less food and energy. Data are seasonally adjusted.

**GRAPH 5**

**INFLATION AND INFLATIONARY EXPECTATIONS, UNITED STATES  
JANUARY 2010 - AUGUST 2023**



Source: University of Michigan, Survey of Consumers and Bureau of Labor Statistics. Inflationary expectation is the median expected price change for the next 12 months.

The measures of inflation, however, are dependent on the weights assigned to goods and services that make up the CPI. Graph 6 presents the relative importance of selected major components of the CPI in July 2023. For the broadest measure of consumer prices, the Consumer Price Index for all Urban Consumers (CPI-U), shelter (which includes rents and imputed owner-occupied rents) accounted for approximately 34.8% of the overall index. If we exclude food and fuel from the index to focus on core CPI, shelter accounted for approximately 43.7% of core CPI in July 2023. However, shelter prices typically lag market rents, and thus CPI-U and core CPI will lag, in part, the change in prices in the economy.<sup>4</sup>

Why? Market rents capture the price of new rentals while the CPI-shelter measures existing rents and the owners' equivalent rents. If market rents fall in the current month, it will take time for this information to accumulate in the CPI measure of shelter costs. This is partly the reason inflation, which measures the year-over-year changes in the CPI, is considered a lagging measure of the change in prices that consumers face in the economy. Even with the use of rolling average of month-over-month changes in the CPI, it would still suffer from the lag of shelter prices with respect to prevailing market rents.

Graph 7 examines monthly inflation for shelter, consumer prices less shelter, and core CPI for the United States from January 2019 to September 2023. In June 2022, monthly inflation for all items less shelter was 10.6%, falling rapidly through 2022 and into 2023. However, the overall inflation rate did not fall as quickly as shelter prices continued to rise through this period. Recall that shelter accounted for approximately more than 30% of CPI-U and more than 40% of core CPI, and the measurement of shelter lags new market rents. This, again, somewhat explained why the inflation has persisted in 2023.

If there is a measure of good news, it is that market rents appear to be softening across the nation and, as these new rents are reflected in the CPI, CPI-shelter and core inflation are likely to subside in 2024, barring a significant increase in commodities' prices or an unforeseen economic shock. However, we must recognize that lower rates of inflation will not reset prices to pre-pandemic levels.

Why did inflation rise so rapidly in the aftermath of the COVID-19 pandemic after a decade of relative price stability? An aggressive shift in monetary policy which lowered interest rates to record levels undoubtedly contributed to the increase in single-family housing prices which, in turn, bled into multi-family rental markets. Supply-chain constraints plagued consumers and businesses in 2020 and into 2021, but were these problems responsible for the burst of inflation observed in 2022?

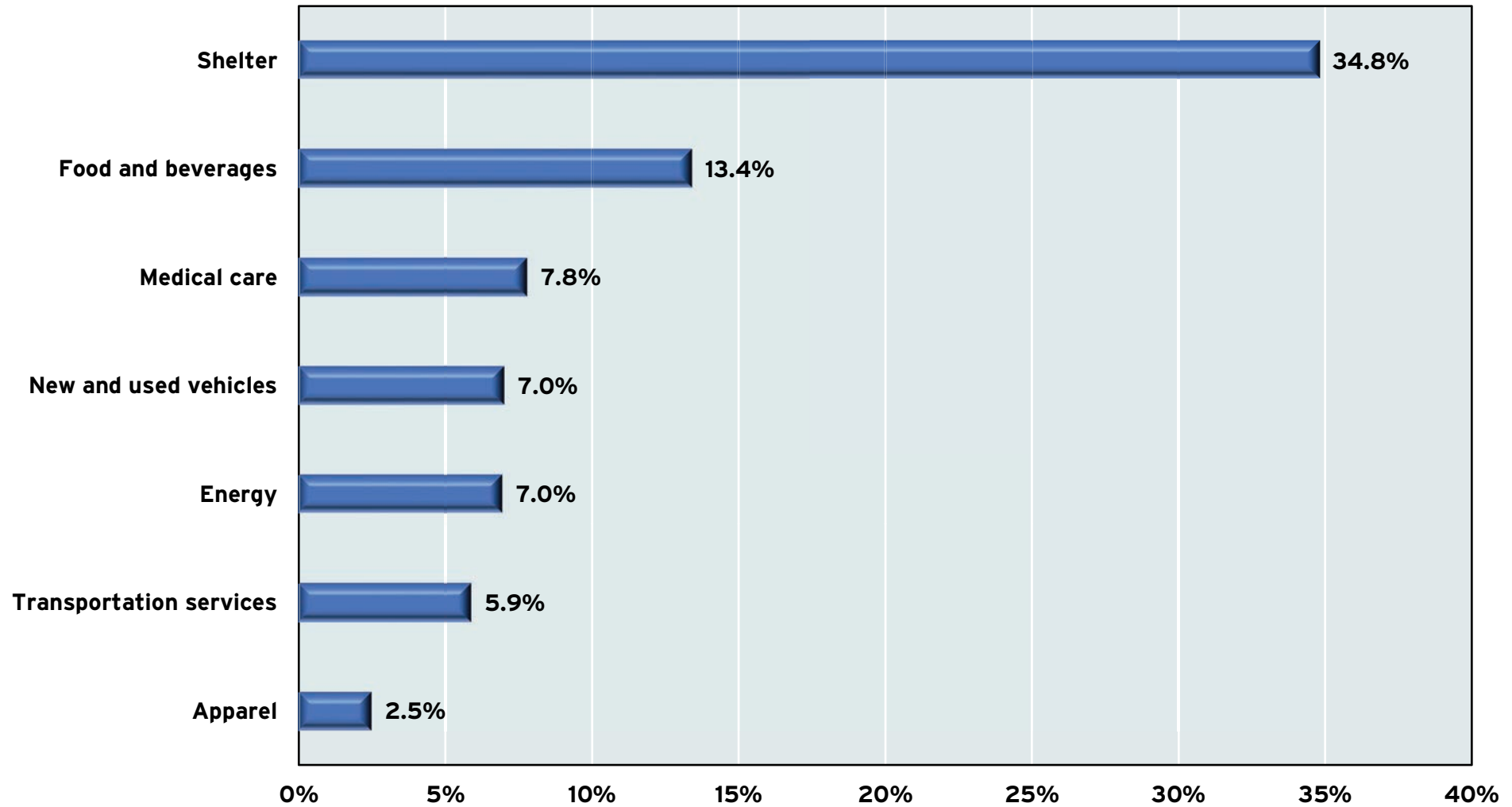
Many industrialized countries, including the United States, responded to the downturn in economic activity in 2020 by engaging in fiscal stimulus. In other words, central governments increased transfer payments to individuals and businesses in the hopes of staving off a prolonged recession, if not an outright depression. Focusing on fiscal stimulus, recent research argues that countries with larger stimulus experienced smaller decreases in consumption and stronger rebounds during periods of reopening.<sup>5</sup> However, these stimuli did not significantly increase industrial production. In other words, fiscal stimulus increased demand without increasing supply, leading to growing price pressures globally. A back-of-the-envelope estimate suggests that, for the United States, fiscal stimulus increased the inflation rate by 2.6 percentage points. Now, with increasing evidence that the stimulus in the United States was surfeited with fraud, we need to continue to ask hard questions and learn what worked (and more importantly, what did not) in preparation for the next significant economic downturn.

<sup>4</sup> Cotton, C. and O'Shea, J. (2023). "Forecasting CPI Shelter under Falling Market-Rent Growth." Current Policy Perspectives, Federal Reserve Bank of Boston. Available at: <https://www.bostonfed.org/publications/current-policy-perspectives/2023/forecasting-cpi-shelter-under-falling-market-rent-growth.aspx>

<sup>5</sup> De Soyres, F., Santacreu, A., and Young, H. (2023). "Demand supply imbalance during the COVID-19 pandemic: The role of fiscal policy." Federal Reserve Bank of St. Louis Review, First Quarter 2023, 105(1), pp. 21-50. <https://doi.org/10.20955/r.105.21-50>

**GRAPH 6**

**RELATIVE IMPORTANCE OF SELECTED MAJOR COMPONENTS  
CONSUMER PRICE INDEX FOR ALL URBAN CONSUMERS  
JULY 2023**

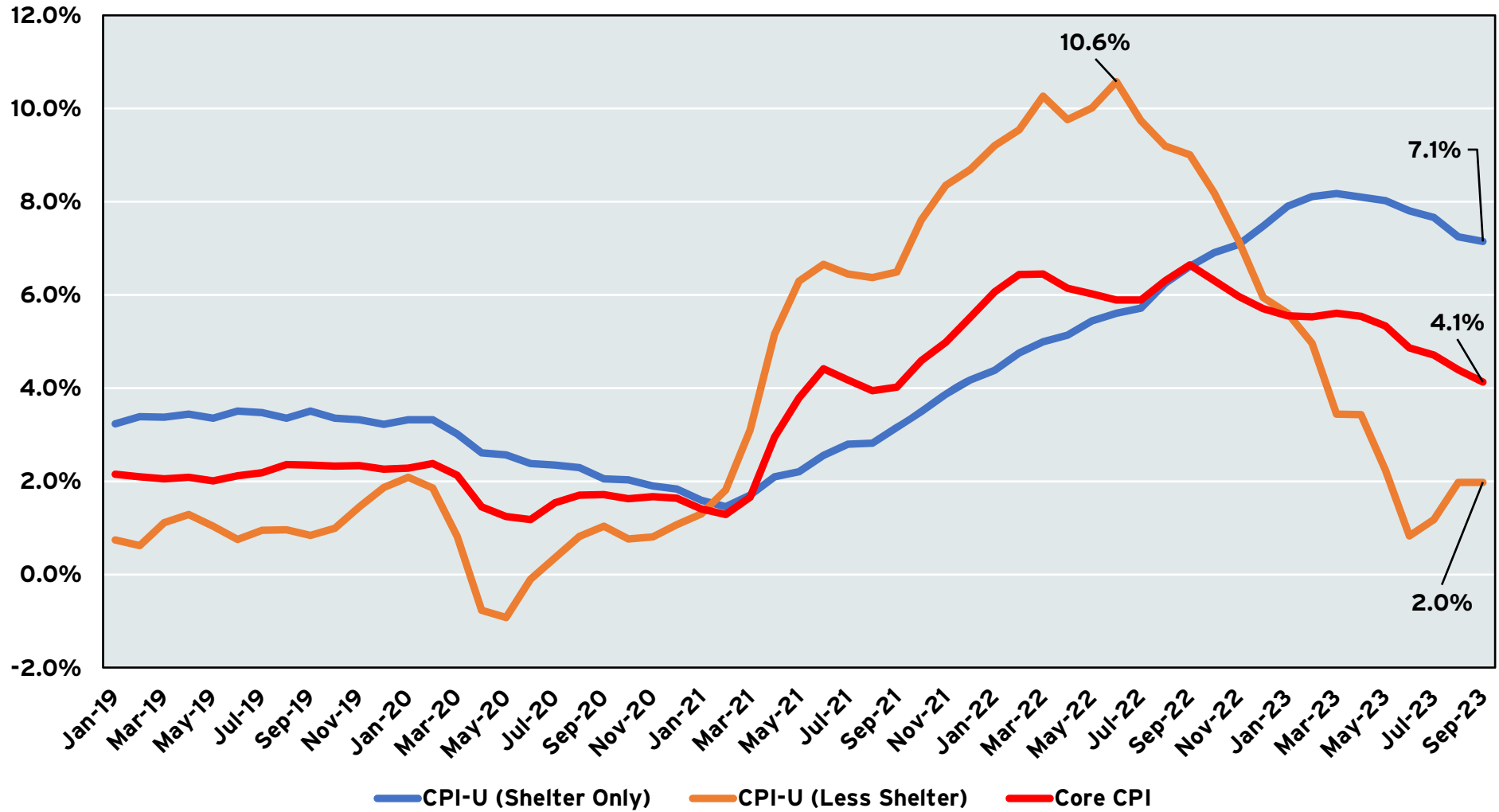


Source: Bureau of Labor Statistics, relative importance of components in the Consumer Price Index for all Urban Consumers (CPI-U), July 2023.



GRAPH 7

HOUSING INFLATION AND CORE INFLATION, UNITED STATES  
JANUARY 2019 - SEPTEMBER 2023



Source: Bureau of Labor Statistics (2023). Inflation is the year-over-year change in CPI-U while Core Inflation is the year-over-year change in CPI-U less food and energy. Data are seasonally adjusted.

## Gross Domestic Product: The Recovery Continues, Slowly

Gross domestic product (GDP) is one of the headline measures of economic performance, as it estimates the dollar value of final goods and services produced in an area during a given period of time. GDP is an imperfect measure in that it does not capture nonmarket transactions such as barter, may understate the extent of the “gig economy,” and does not place a value on household production. National data typically lag two to three months from the end of the most recent quarter. State data can lag four to six months from the end of the previous quarter. Quarterly data are also somewhat noisy (the data tend to have greater variation than annual data) and are subject to revision, especially at the state level.

The Bureau of Economic Analysis (BEA) is currently producing benchmark updates of state and national GDP estimates. The most recent release updates state data from 2018 Q1 to 2023 Q2, however, historical updates are not available. To compare the performance of the Virginia economy over time, we release on the previously released estimates and will transition to the new benchmark data in subsequent reports.

In Graph 8, we present data for nominal and real (inflation-adjusted) GDP for Virginia from the first quarter of 2005 to the first quarter of 2023. In the first quarter of 2005, real GDP was approximately \$405.3 billion, then climbed to approximately \$485.8 billion in the fourth quarter of 2019. Moving to the first quarter of 2020 and at the onset of the COVID-19 pandemic, real GDP declined by roughly \$4.8 billion, followed by a \$35.5 billion drop in the second quarter. As the Commonwealth “reopened” in the second half of 2020, real GDP bounced back by \$29.2 billion in the third quarter and by another \$7.8 billion in the fourth quarter of 2020, closing the year at \$585.4 billion. In the first quarter of 2021, Virginia’s real GDP exceeded the level observed in the fourth quarter of 2019. The rapid recovery in 2021 was followed by a contraction in real economic activity in the first two quarters of 2022. Growth then picked up pace beyond the

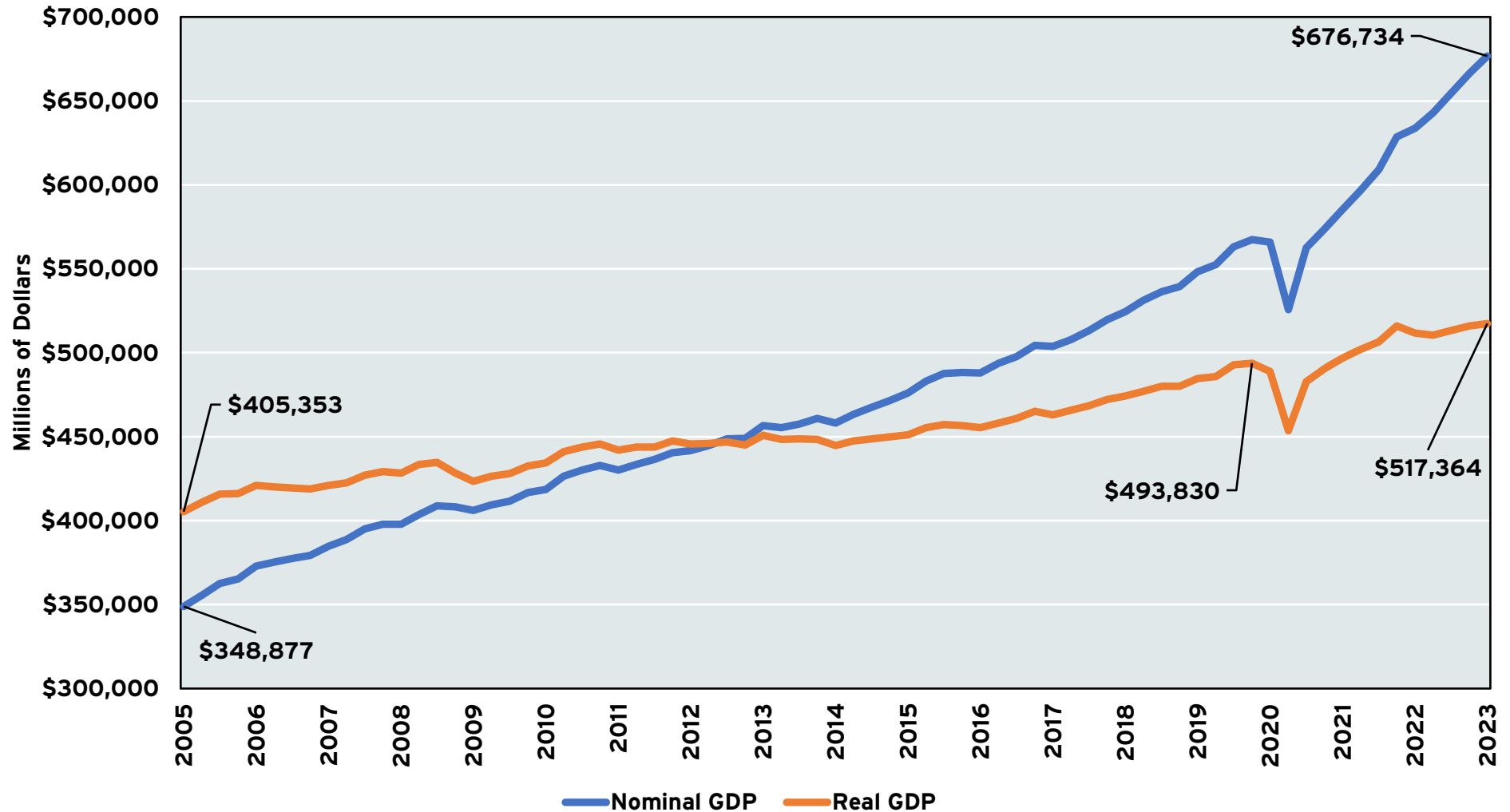
contraction, but at a slower rate than that observed in the aftermath of the economic shock of 2020.

Graph 9 shows the annualized quarterly change in real GDP for Virginia from the first quarter of 2019 to first quarter of 2023. Before the pandemic, the Virginia economy had grown in 14 out of the previous 15 quarters. In the first quarter of 2020, the economy contracted at an annualized rate of 3.9%. In the second quarter, when the restrictions on business and social activity were the most stringent, real economic activity in the state contracted at an annualized rate of approximately 26.0%. This historic shock was followed by a rapid recovery, with six straight quarters of growth. In the first half of 2022, however, economic activity contracted at an annualized rate of 3.3% in the first quarter and 0.9% in the second quarter. Growth then resumed towards the end of the year, with real GDP increasing by 2.2% and 2.1% in the third and fourth quarters, respectively. In 2023, the first quarter’s real GDP only increased by 1.0%, a relatively tepid performance given the national economy grew by 2.0% in the same quarter.

Graph 10 presents the performance of the Virginia’s economy relative to North Carolina and Maryland, as well as the country, from the first quarter of 2006 to the first quarter of 2023. At a quick glance, after the Great Recession of 2007 – 2009, Virginia’s economy lagged that of the comparison states and the U.S. However, in the aftermath of the 2020 economic shock, Maryland’s economy, for all intents and purposes, has not grown considerably relative to its pre-pandemic peak (an increase of 0.4% from Q4 2019 to Q1 2023). Between the fourth quarter of 2019 and the first quarter of 2023, while both Virginia’s and the nation’s economies grew moderately by approximately 4.8% and 5.6%, respectively, North Carolina’s real GDP soared by 8.9%.

**GRAPH 8**

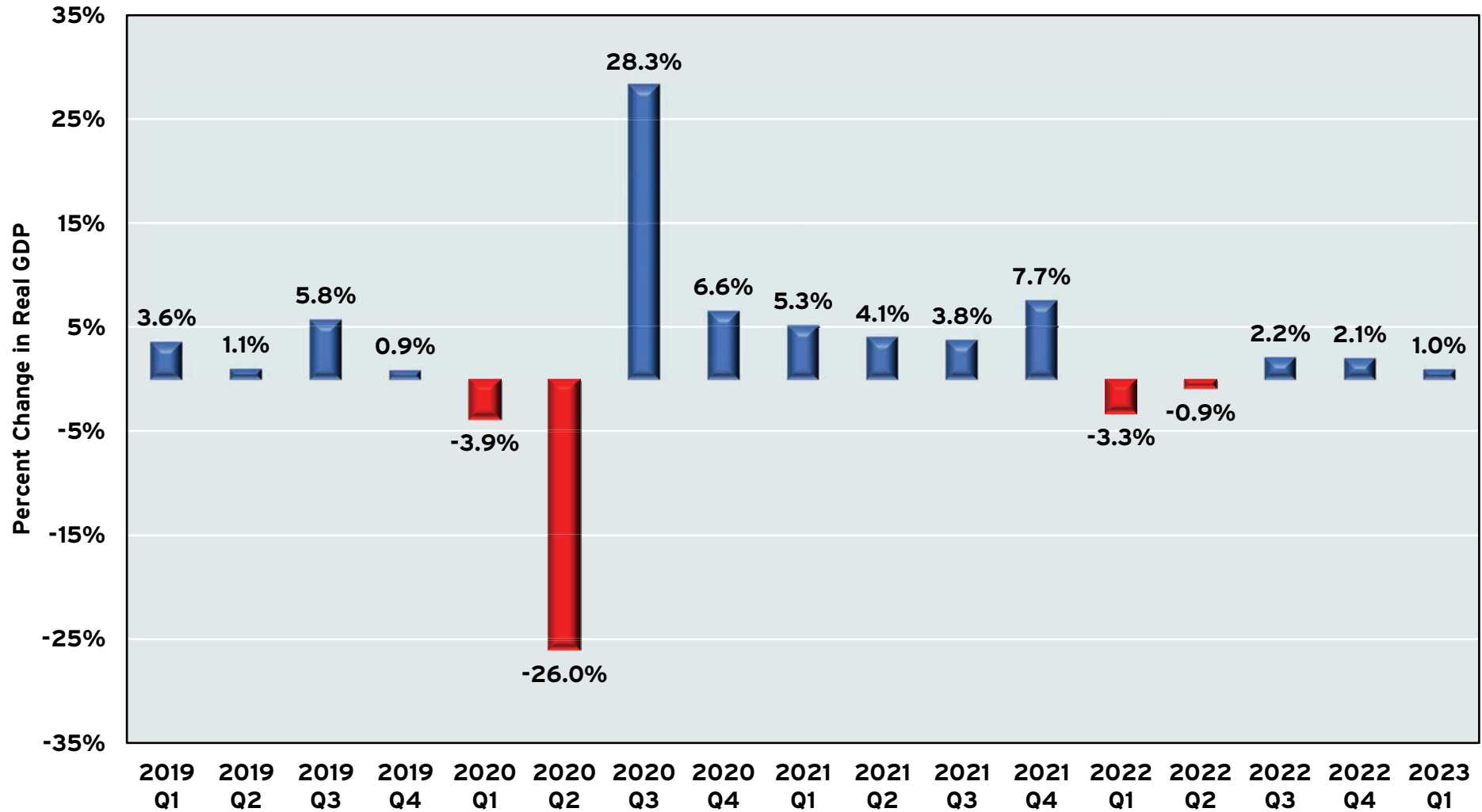
**NOMINAL AND REAL GROSS DOMESTIC PRODUCT  
VIRGINIA, Q1 2005 - Q1 2023**



Source: Bureau of Economic Analysis (2022). Real GDP is measured in millions of chained 2012 dollars. Seasonally adjusted data at annual rate.

**GRAPH 9**

**ANNUALIZED PERCENTAGE CHANGE IN QUARTERLY REAL GROSS DOMESTIC PRODUCT  
VIRGINIA, Q1 2019 TO Q1 2023**

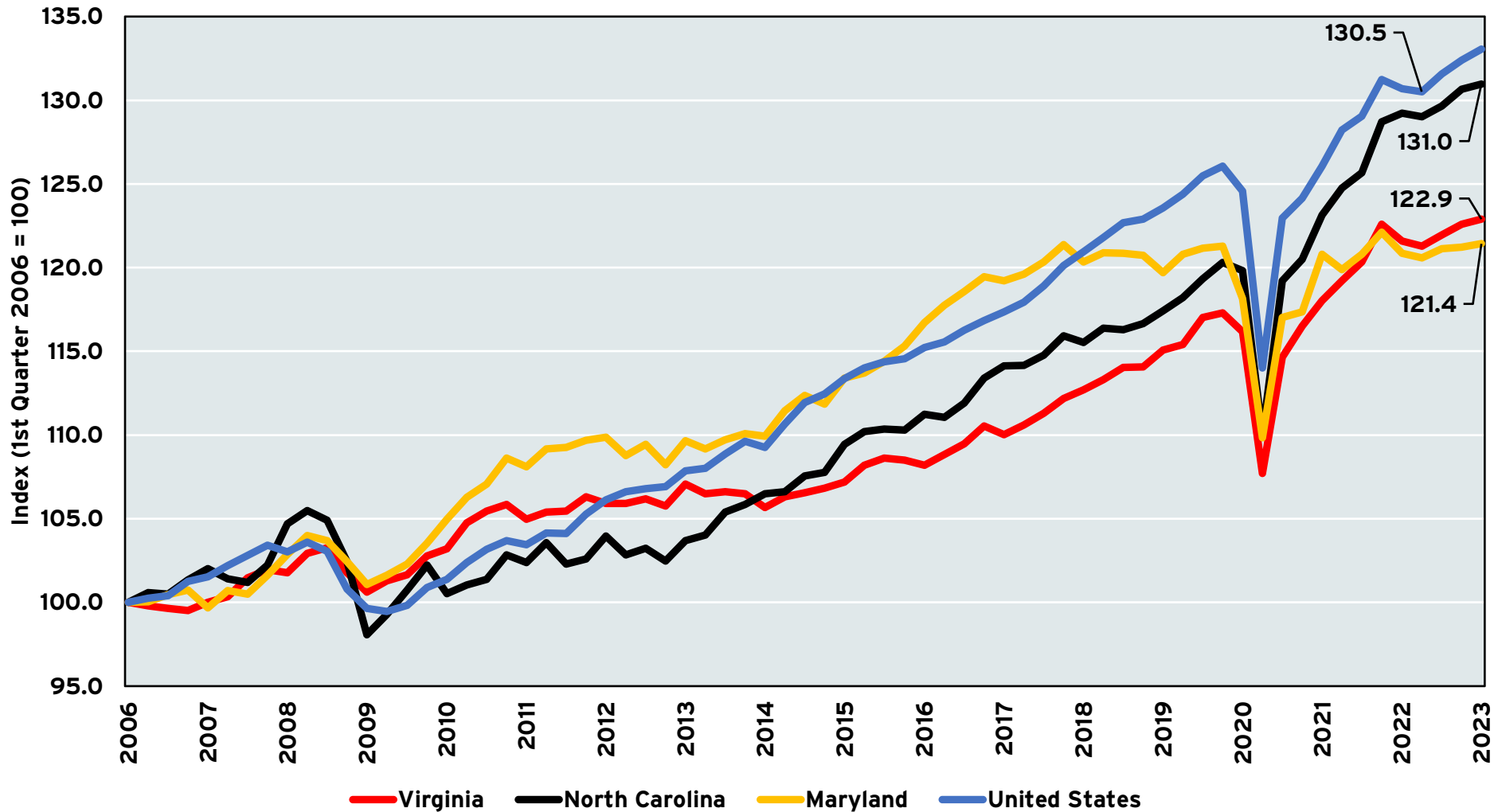


Sources: Bureau of Economic Analysis, 2023, and the Dragas Center for Economic Analysis and Policy, Old Dominion University. Table SQGDP9, real GDP by state. Annualized change in seasonally adjusted real GDP in millions of chained 2012 dollars.



GRAPH 10

**INDEX OF REAL GROSS DOMESTIC PRODUCT  
VIRGINIA, NORTH CAROLINA, MARYLAND, AND THE UNITED STATES  
Q1 2006 TO Q1 2023**



Sources: Bureau of Economic Analysis, 2022, and the Dragas Center for Economic Analysis and Policy, Old Dominion University. U.S. data from Table T10106 of the National Income and Product Accounts. State data from Table SQGDP9, real GDP by state.

In Table 7, we present our real GDP forecasts for the nation and the Commonwealth for the remainder of 2023. We project that economic growth in Virginia will not improve dramatically for the remaining quarters of 2023, and Virginia’s real GDP growth will again lag that of the nation. So, how will the economy fare in 2024? In the best-case scenario, inflation continues to moderate, the Federal Reserve does not continue to tighten monetary policy, and Congress manages to pass appropriations and other necessary bills in a timely (for Congress) manner. If these events take place, we forecast that national economic growth in 2024 will improve to 2.5%, and Virginia’s economy will grow to 2.0% in real terms.

On the other hand, we recognize that the economy may be near a tipping point, and any number of economic or political events may push the nation into a recession. Inflation may continue to persist, leading the Federal Reserve to tighten monetary policy. The “soft landing” may become a “fall” as businesses cut production, housing prices correct due to softening demand, and unemployment rises. Congress may find itself (again) unable to carry out its basic functions, and a prolonged federal government shutdown would have a disproportionate impact on the economy of the Commonwealth. For now, we remain optimistic that the nation and the Commonwealth will be able to “muddle through” to stronger growth in 2024.

<b>TABLE 7</b>				
<b>REAL GROSS DOMESTIC PRODUCT AND GROWTH IN REAL GROSS DOMESTIC PRODUCT, VIRGINIA AND THE UNITED STATES, 2010 TO 2024</b>				
<b>(MILLIONS OF DOLLARS)</b>				
<b>Year</b>	<b>United States</b>	<b>Real GDP Growth</b>	<b>Virginia</b>	<b>Real GDP Growth</b>
<b>2010</b>	<b>\$15,648,991</b>	<b>2.7%</b>	<b>\$441,242</b>	<b>3.2%</b>
<b>2011</b>	<b>\$15,891,534</b>	<b>1.5%</b>	<b>\$444,288</b>	<b>0.7%</b>
<b>2012</b>	<b>\$16,253,970</b>	<b>2.3%</b>	<b>\$445,974</b>	<b>0.4%</b>
<b>2013</b>	<b>\$16,553,348</b>	<b>1.8%</b>	<b>\$449,064</b>	<b>0.7%</b>
<b>2014</b>	<b>\$16,932,051</b>	<b>2.3%</b>	<b>\$447,678</b>	<b>-0.3%</b>
<b>2015</b>	<b>\$17,390,295</b>	<b>2.7%</b>	<b>\$455,162</b>	<b>1.7%</b>
<b>2016</b>	<b>\$17,680,274</b>	<b>1.7%</b>	<b>\$459,966</b>	<b>1.1%</b>
<b>2017</b>	<b>\$18,076,651</b>	<b>2.2%</b>	<b>\$467,362</b>	<b>1.6%</b>
<b>2018</b>	<b>\$18,609,078</b>	<b>2.9%</b>	<b>\$477,915</b>	<b>2.3%</b>
<b>2019</b>	<b>\$19,036,052</b>	<b>2.3%</b>	<b>\$489,199</b>	<b>2.4%</b>
<b>2020</b>	<b>\$18,509,143</b>	<b>-2.8%</b>	<b>\$478,909</b>	<b>-2.1%</b>
<b>2021</b>	<b>\$19,609,812</b>	<b>5.9%</b>	<b>\$505,351</b>	<b>5.5%</b>
<b>2022</b>	<b>\$20,014,128</b>	<b>2.1%</b>	<b>\$512,946</b>	<b>1.5%</b>
<b>2023*</b>	<b>\$20,414,411</b>	<b>2.0%</b>	<b>\$520,128</b>	<b>1.4%</b>
<b>2024*</b>	<b>\$20,924,771</b>	<b>2.5%</b>	<b>\$530,530</b>	<b>2.0%</b>

Sources: Bureau of Economic Analysis, 2022, and the Dragas Center for Economic Analysis and Policy, Old Dominion University. U.S. data from Table T10106 of the National Income and Product Accounts. Virginia data from Table SQGDP9, real GDP by state. Forecasted values for US real GDP for 2023 and 2024. \*2023 and 2024 data are forecasts.

## Median Household Income Declines in Virginia

If GDP is a measure of the value added in an economy, then median household income estimates the income of the household in the “middle” of the income distribution for a city, county, state, or nation. According to the U.S. Census Bureau, median household income includes the income of the householder and all other individuals 15 years and older in the household. For households and families, the median income is measured based on the distribution of the total number of households and families, including those with no income.<sup>6</sup>

Graph 11 displays nominal and real (inflation-adjusted) median household income for Virginia from 2010 to 2022.<sup>7</sup> Nominal household income continued to rise in the Commonwealth in 2021 and 2022, but when inflation was factored in, a different story emerges from the data. Real median household income fell in 2022, but why?

**The first (and obvious) reason is that gains in nominal median household income were less than the rise in consumer prices. From 2019 to 2022, nominal median household income in Virginia rose by approximately 12.3%, which might appear to be good news. However, over the same period, prices also rose, on average, by about 14.8%. From 2019 to 2022, real median household income in the Commonwealth fell by 2.2%.**

Table 8 highlights how real median household income changed in Virginia’s metropolitan statistical areas (MSA), the Commonwealth, and the United States from 2019 to 2022. Nationally, real median household income fell by -0.9% from 2019 to 2022. In Virginia, Blacksburg-Christiansburg (1.7%), Richmond (3.7%), and Staunton (11.3%) observed increases in real median household income.

However, two of the largest metro areas, Hampton Roads, and Washington-Arlington-Alexandria, saw real median household income fall from 2019 to 2022 by 6.3% and 3.2%, respectively. Several smaller metro areas also observed declines in real median household income. With the drop in two of the largest metro areas, it should be no surprise that real median household income declined for the Commonwealth as well.

**If there is a modicum of good news, it appears that inflation has ebbed from its highs and should continue to moderate in 2024. If, as we discuss in the next section, labor markets continue to be “tight,” Virginian workers will likely be able to command higher wages in 2024. The gains would likely reverse (or at least alleviate) the losses in median household income due to the onset of the pandemic and the subsequent economic shocks. If there is one lesson to be drawn from the data, it is that inflation acts as a tax on household incomes, reducing purchasing power, and decreasing Virginians’ quality of life.**

<sup>6</sup> For more information, including the standard distribution from which households are organized to estimate median household income, see U.S. Census Bureau (2023), “American Community Survey and Puerto Rico Community Survey, 2022 Subject Definitions,” Available at: [https://www2.census.gov/programs-surveys/acs/tech\\_docs/subject\\_definitions/2022\\_ACSSubjectDefinitions.pdf](https://www2.census.gov/programs-surveys/acs/tech_docs/subject_definitions/2022_ACSSubjectDefinitions.pdf)

<sup>7</sup> Due to the impact of COVID-19, the 2020 1-Year ACS estimates were deemed “experimental” and should not be compared with 1-year ACS estimates for different periods. We exclude the 2020 estimates from our analysis. For more information, see <https://www.census.gov/programs-surveys/acs/data/experimental-data.html>

**TABLE 8**

**REAL MEDIAN HOUSEHOLD INCOME  
VIRGINIA'S METROPOLITAN AREAS, VIRGINIA, AND THE U.S.  
2019 - 2022**

Metropolitan Statistical Area	2019 Real Median Household Income	2022 Real Median Household Income	Percent Change in Real Median Household Income 2019-2022
Blacksburg-Christiansburg	\$56,092	\$57,041	1.7%
Charlottesville	\$75,907	\$73,079	-3.7%
Harrisonburg	\$60,740	\$56,603	-6.8%
Kingsport-Bristol	\$48,615	\$46,060	-5.3%
Lynchburg	\$57,736	\$54,796	-5.1%
Richmond	\$68,324	\$70,882	3.7%
Roanoke	\$60,471	\$56,258	-7.0%
Staunton	\$57,844	\$64,382	11.3%
Hampton Roads	\$69,329	\$64,932	-6.3%
Washington-Arlington-Alexandria	\$105,659	\$102,273	-3.2%
Winchester	\$76,583	\$71,439	-6.7%
Virginia	\$76,456	\$74,788	-2.2%
United States	\$65,712	\$65,105	-0.9%

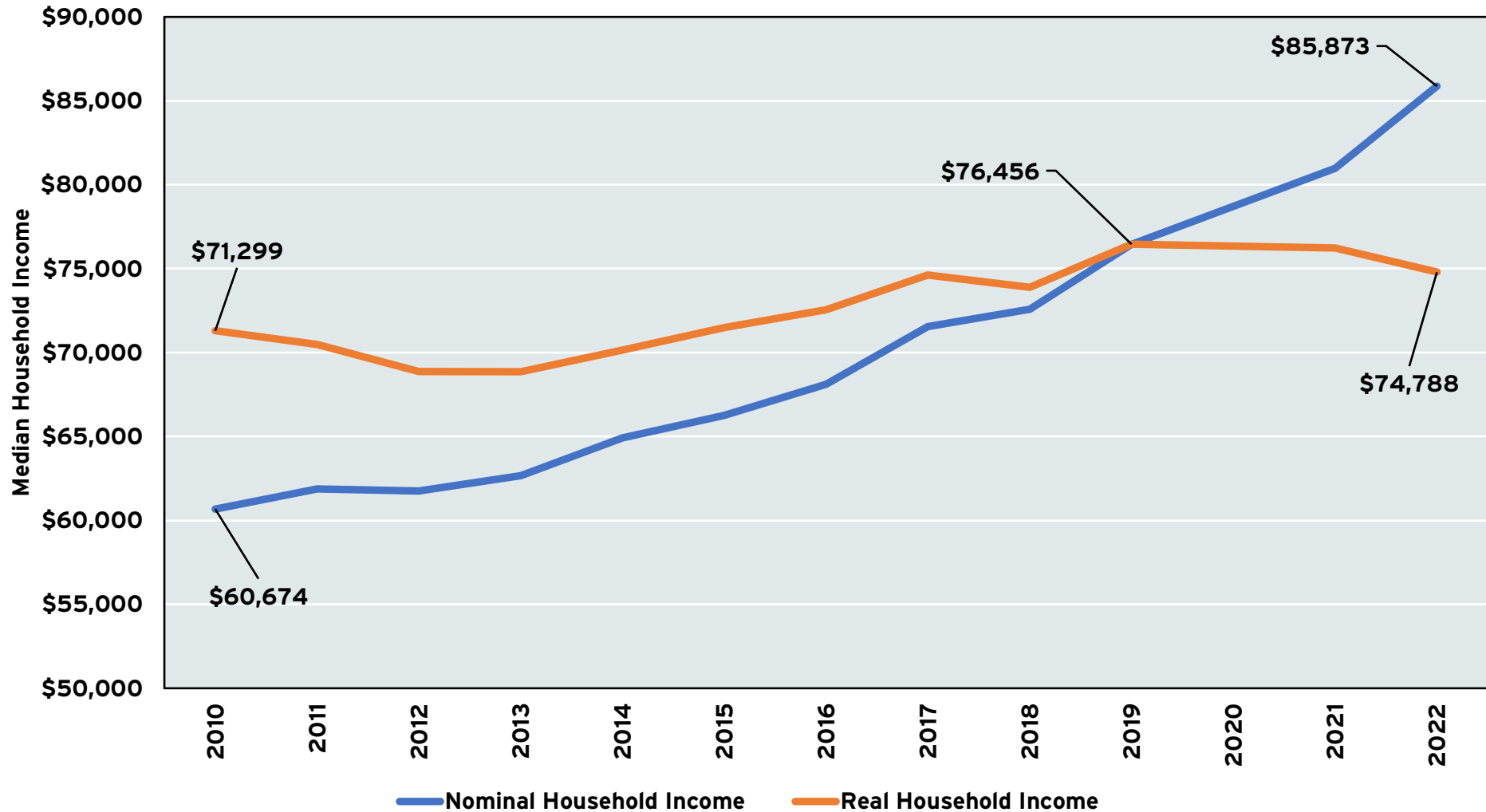
Source: United States Census Bureau, American Community Survey, 1-Year Estimates and the Dragas Center for Economic Analysis and Policy. 2019 constant dollars estimated using the Bureau of Labor Statistics Consumer Price Index research series (CPI-U-RS).

Individual employment and establishment employment data attempt to measure how many people are working at a given time. These data are from two different surveys: the Current Population Survey (CPS) and the Current Establishment Survey (CES). The CPS asks the civilian noninstitutionalized population whether they are working, looking for work or not attached to the labor force. The civilian labor force represents the civilian noninstitutionalized population that is either working or actively looking for work, while individual employment reflects those in the labor force who are working. The CES asks employers about their employees. There is an important difference between the CPS and CES. An individual can only be employed once in the CPS - that is, an individual either is working, unemployed or not seeking to work. In the CES, an individual can show up multiple times if he or she has different jobs with different employers. For clarity, we present the CPS data as "individual employment" and the CES data as "jobs."



**GRAPH 11**

**NOMINAL AND REAL MEDIAN HOUSEHOLD INCOME  
VIRGINIA, 2010 - 2022\***



Source: United States Census Bureau, American Community Survey, 1-Year Estimates and the Dragas Center for Economic Analysis and Policy. \*Due to the impact of COVID-19, 2020 ACS estimates are experimental and should not be compared to other ACS estimates. We exclude the 2020 estimates from our analysis. 2019 constant dollars estimated using the Bureau of Labor Statistics Consumer Price Index research series (CPI-U-RS).

## The Labor Force: Recovery Complete

Graph 12 illustrates the civilian labor force and individual employment in the Commonwealth from January 2019 to August 2023. In December 2019, both the labor force and individual employment set records at 4.44 million and 4.32 million Virginians, respectively. The civilian labor force declined through the spring of 2020 and reached its nadir of 4.29 million in May 2020. Individual employment declined to 3.81 million in April 2020, but recovered rapidly as Virginians returned to work.

By the end of 2020, the civilian labor in Virginia had grown to 4.31 million, increasing to 4.37 million in December 2021. The civilian labor force continued to increase through 2022, reaching 4.47 million in December 2022. Throughout 2023 until August, both the civilian labor force and individual employment continued to expand in Virginia, marking a record of 4.60 million and 4.49 million Virginians, respectively.

The headline unemployment rate measures the ratio of unemployed individuals to the civilian labor force. In Virginia, the unemployment rate jumped from 2.9% in February 2020 to 12.0% in April 2020 (Graph 13). However, the sharp increase in the unemployment rate was short-lived. By January 2021, the unemployment rate had declined to 4.8% and was cut further to 3.0% by the end of 2021. In 2022, the unemployment rate had continuously declined to 2.5% in early summer before increasing to 3.1% by December 2022. In 2023, the unemployment rate dropped below 3% in early summer and reached 2.5% in August 2023.

How has Virginia fared relative to neighboring states and the nation? In Graph 14, we compare the labor force recoveries of Virginia with Maryland, North Carolina, West Virginia, and the United States. Both Maryland and West Virginia experienced weaker civilian labor force in August 2023 when compared to February 2020 which was 4.9% and 1.3%, respectively. Over the same period, the civilian labor

force in Virginia in August 2023 was 3.8% larger than in February 2020, 1.7 percentage points more than that for the nation, and only 0.3 percentage points behind North Carolina. Virginia's recovery from the COVID-19 pandemic shifted into a new economic expansion over the last 12 months.

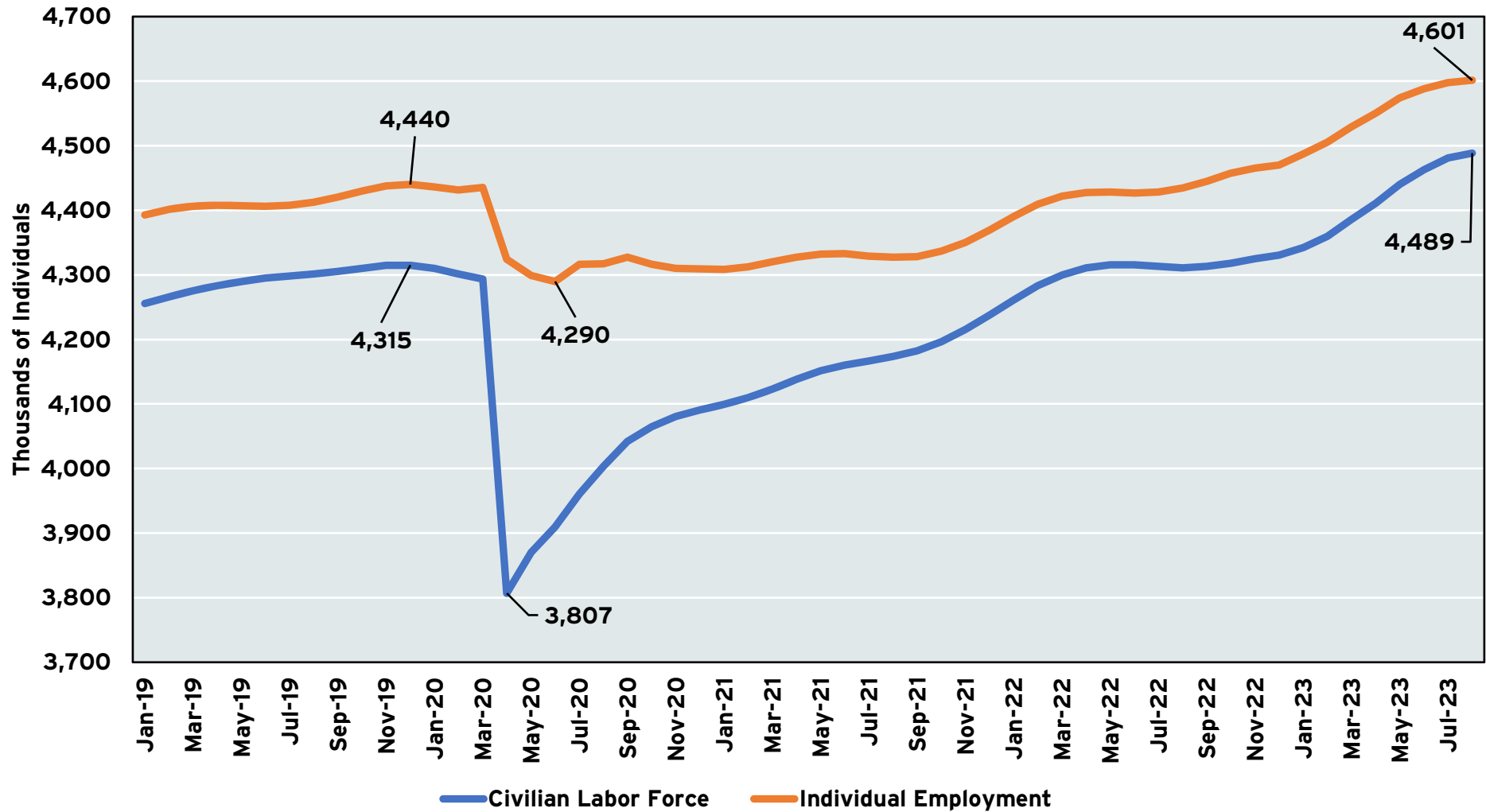
The labor force participation rate is equal to the number of individuals in the labor force as a percentage of the civilian noninstitutional population and represents the percentage of the population that is either working or actively looking for work.<sup>8</sup> Graph 15 presents the labor force participation rate for Virginia from January 2019 to August 2023. Prior to the onset of the COVID-19 pandemic, the labor force participation rate reached 65.9% in November 2019 before falling to 63.4% in April 2020. While the labor force participation rate rebounded off its lows in 2020, it remained below the pre-pandemic level through 2021 and 2022. In April 2023, the labor force participation rate in Virginia returned to 65.9% and continued to increase in the early summer months. In August 2023, the labor force participation rate in the Commonwealth reached 66.7%.

**It is certainly good news that the civilian labor force and individual employment have not only recovered from the shock of 2020 but have also continued to grow in 2023. We expect the civilian labor force will continue to expand in 2024, although at a slower pace than in 2023. Moving Virginians who are currently outside the labor force into gainful employment is crucial to provide enough workers to power a continued expansion in 2024. We remind the reader that the labor force participation rate was 69.9% in the summer of 2008 and, if we go even further back, was 70.9% in May 1992. Increasing labor force participation rates would bring thousands of Virginians into the workforce, a boon to their incomes and the economy of the Commonwealth.**

<sup>8</sup> The civilian noninstitutional population age 16 or older excludes active-duty members of the U.S. Armed Forces, people confined to, or living in, institutions or facilities such as prisons, jails, and residential care facilities, to include skilled nursing homes.

GRAPH 12

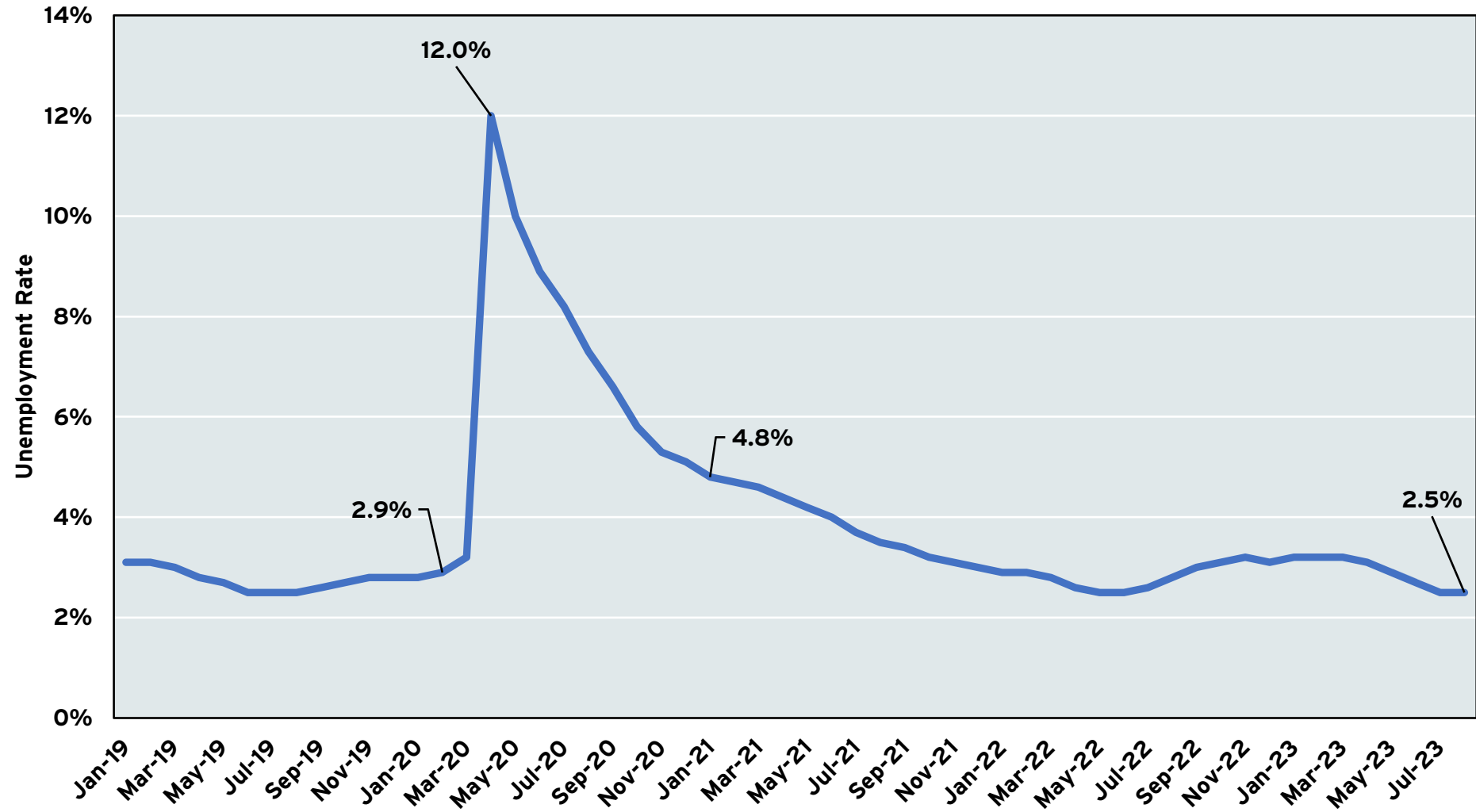
**CIVILIAN LABOR FORCE AND INDIVIDUAL EMPLOYMENT  
VIRGINIA, JANUARY 2019 TO AUGUST 2023**



Sources: Bureau of Labor Statistics and the Dragas Center for Economic Analysis and Policy, Old Dominion University. Data are seasonally adjusted.

**GRAPH 13**

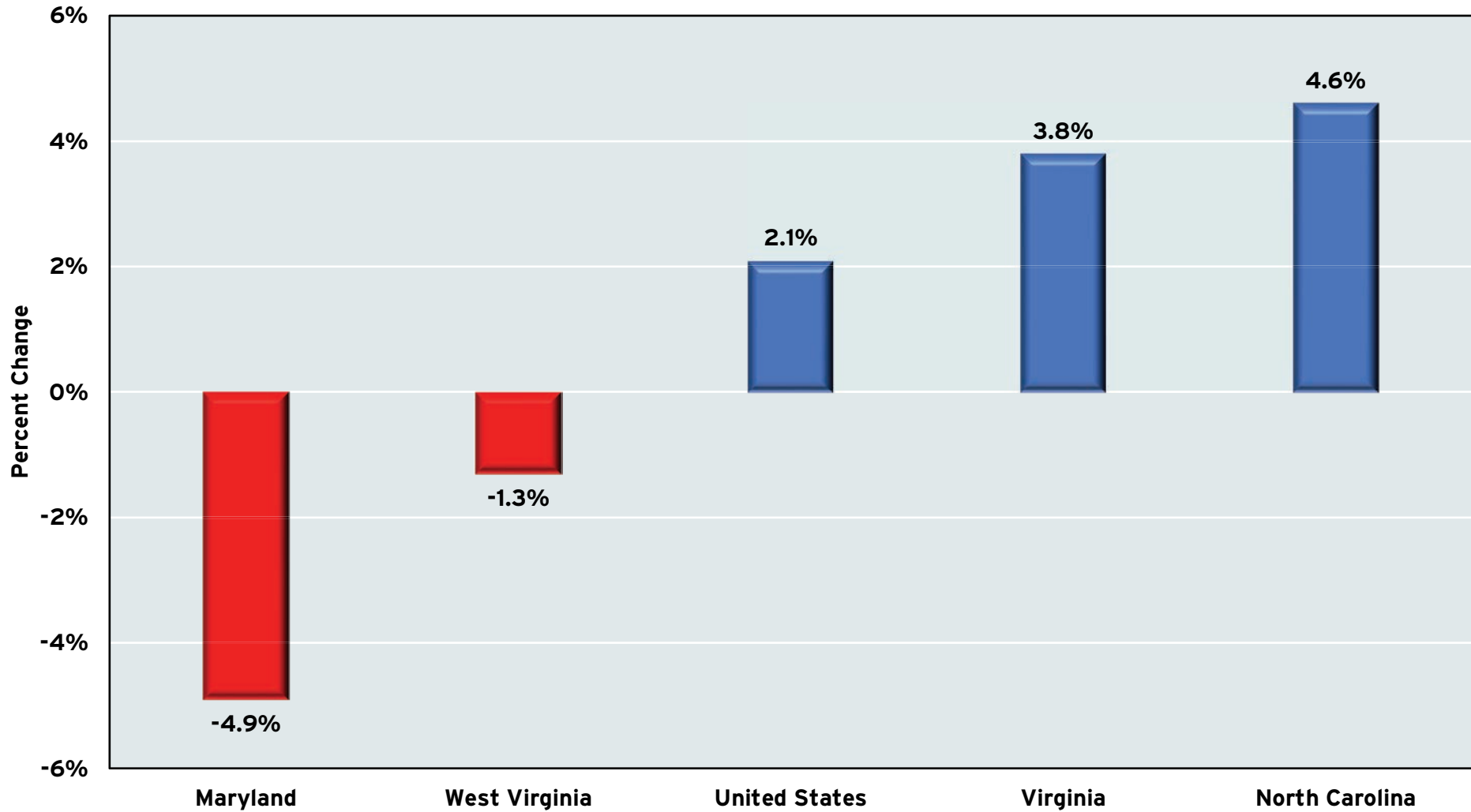
**HEADLINE UNEMPLOYMENT RATE (U3)  
VIRGINIA, JANUARY 2019 TO AUGUST 2023**



Sources: Bureau of Labor Statistics and the Dragas Center for Economic Analysis and Policy, Old Dominion University. Data are seasonally adjusted.

GRAPH 14

**PERCENT CHANGE IN CIVILIAN LABOR FORCE  
VIRGINIA, SELECTED STATES, AND THE UNITED STATES  
FEBRUARY 2020 TO AUGUST 2023**

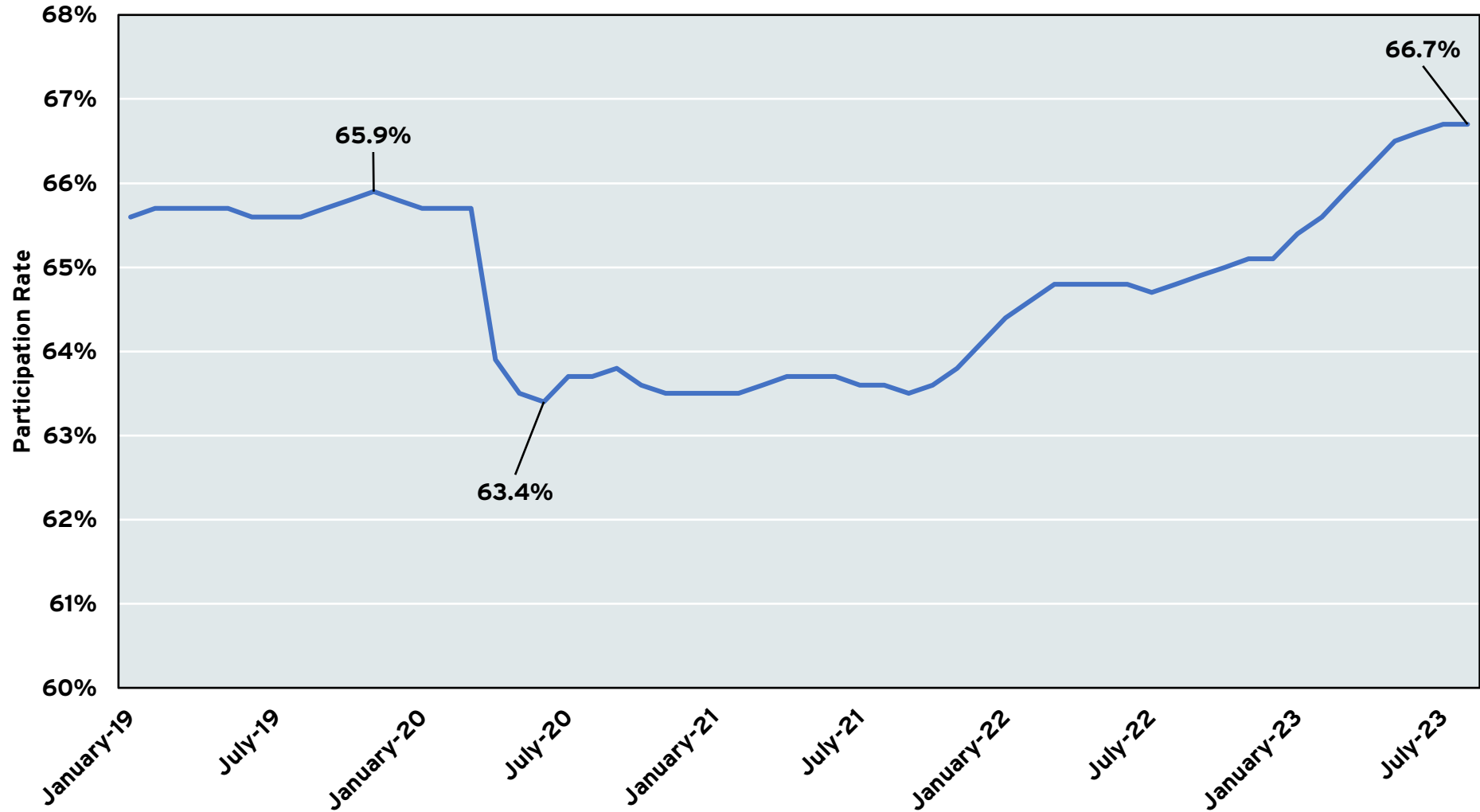


Sources: Bureau of Labor Statistics and the Dragas Center for Economic Analysis and Policy, Old Dominion University. Data are seasonally adjusted.



**GRAPH 15**

**LABOR FORCE PARTICIPATION RATE  
VIRGINIA, JANUARY 2019 - AUGUST 2023**



Sources: Bureau of Labor Statistics and the Dragas Center for Economic Analysis and Policy, Old Dominion University. Data are seasonally adjusted.

## Jobs Recovered, Expansion Underway

Graph 16 displays nonfarm payrolls (jobs) for the Commonwealth of Virginia from January 2010 to August 2023. Over this period, employers in Virginia added approximately 471,100 jobs. From February 2020 to April 2020, employers shed 475,600 jobs, essentially erasing the gains of the previous decade. As Virginia “re-opened” in the second half of 2020, jobs returned, but the recovery continued through 2021 and into 2022. In August 2022, Virginia’s nonfarm payrolls finally eclipsed the pre-pandemic record, and the Commonwealth entered a job expansion. By August 2023, Virginia had 4.16 million jobs, 68,100 more than in February 2020.

Graph 17 compares the performance of the Virginia and national economies in terms of creating jobs. If we benchmark ourselves to the trough in jobs in February 2010, we find that the Virginia economy had 13.7% more jobs in February 2020 than it did in February 2010, whereas nationally, there were 17.6% more jobs over the same period. However, the decline in jobs due to the pandemic was more significant nationally than in Virginia. By April 2020, job levels in the Commonwealth and in the nation were essentially the same as during the trough following the Great Recession in February 2010. However, as evidenced by Graph 17, the recovery in jobs was faster nationally than in Virginia. By August 2023, the United States had created 20.6% more jobs than it did in February 2020 while Virginia had 15.5% more. Both the nation and the Commonwealth were in the midst of a job expansion. The challenge for Virginia is not only to sustain the job expansion, but also to improve its pace to match that of the nation.

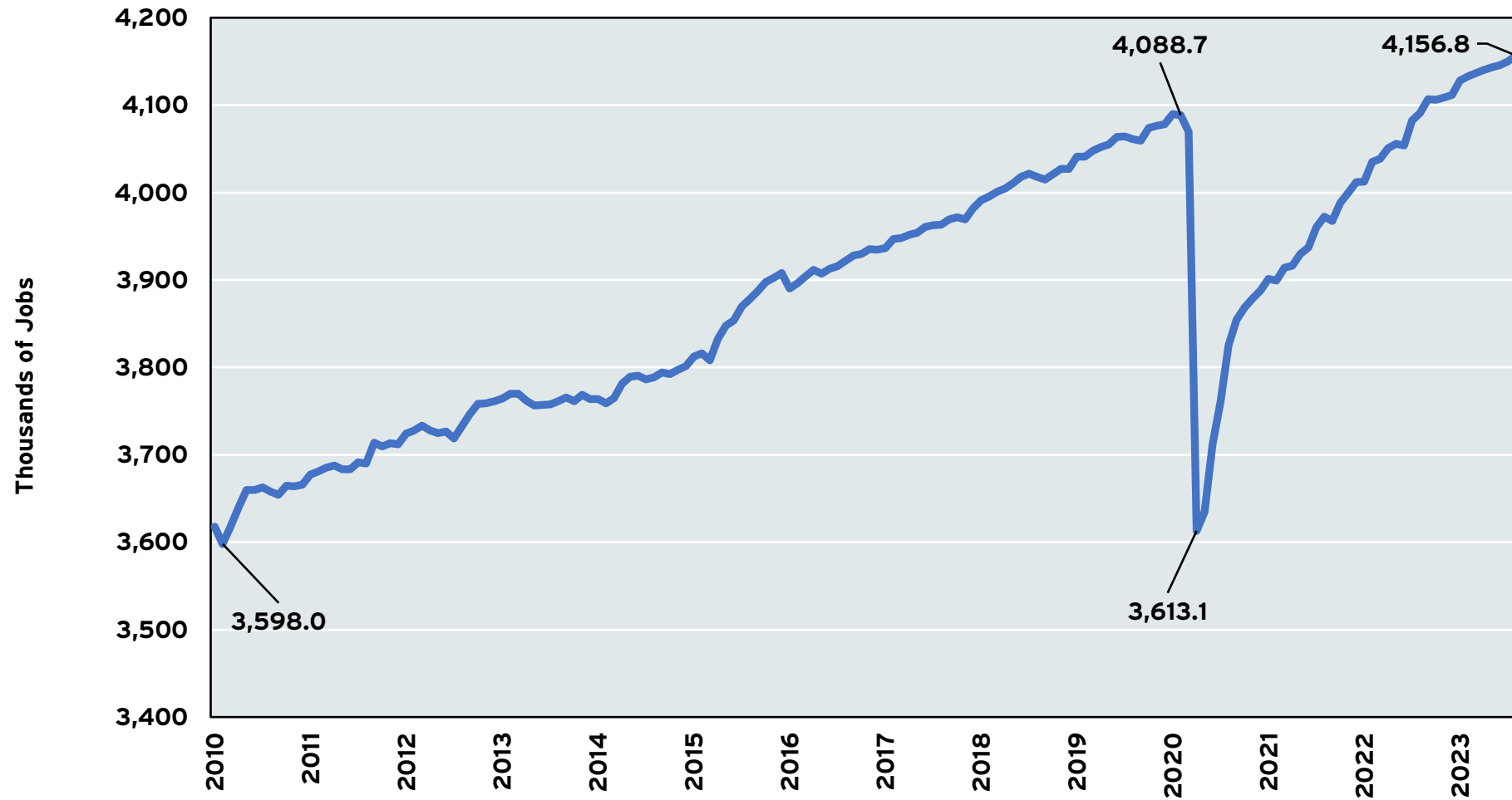
## Job Openings and Job Quits in Virginia

Graph 18 illustrates the average annual job openings and job quits for Virginia from 2010 to 2022. The data illustrate the demand of employers for employees (job openings) and the willingness of employees to depart from their current workplace (job quits). It should be no surprise that in 2010, in the aftermath of the Great Recession, employees were reluctant to quit their jobs and thus job openings were relatively few.

From 2010 to 2019, the average annual number of monthly job openings in Virginia increased at a higher pace than job quits. At the same time, the number of unemployed individuals in the Commonwealth declined, so employers found themselves with fewer applicants (on average) for each open position. After the economic shock of 2020, both employers and employees demonstrated a willingness to hire and to quit, as average monthly job openings increased to 320,700 and average monthly job quits reached a record of 111,000 in 2022. However, with unemployment hovering near pre-pandemic lows, employees found themselves in the position to command higher wages.

Delving into a narrower timeframe, Graph 19 highlights the most recent monthly data for job openings and job quits for Virginia from January 2022 to July 2023. Job openings peaked in December 2022 at 352,000, however, it trended downward, falling from 336,000 in January 2023 to 245,000 in July 2023. Job quits, which had reached 134,000 in May 2023, fell to 101,000 in July 2023. If sustained, the decline in job openings is a strong signal of softening employer demand along with observed job quits fall, employees are recognizing that economic conditions are changing and adapting to a job market where labor demand is weaker than in 2022.

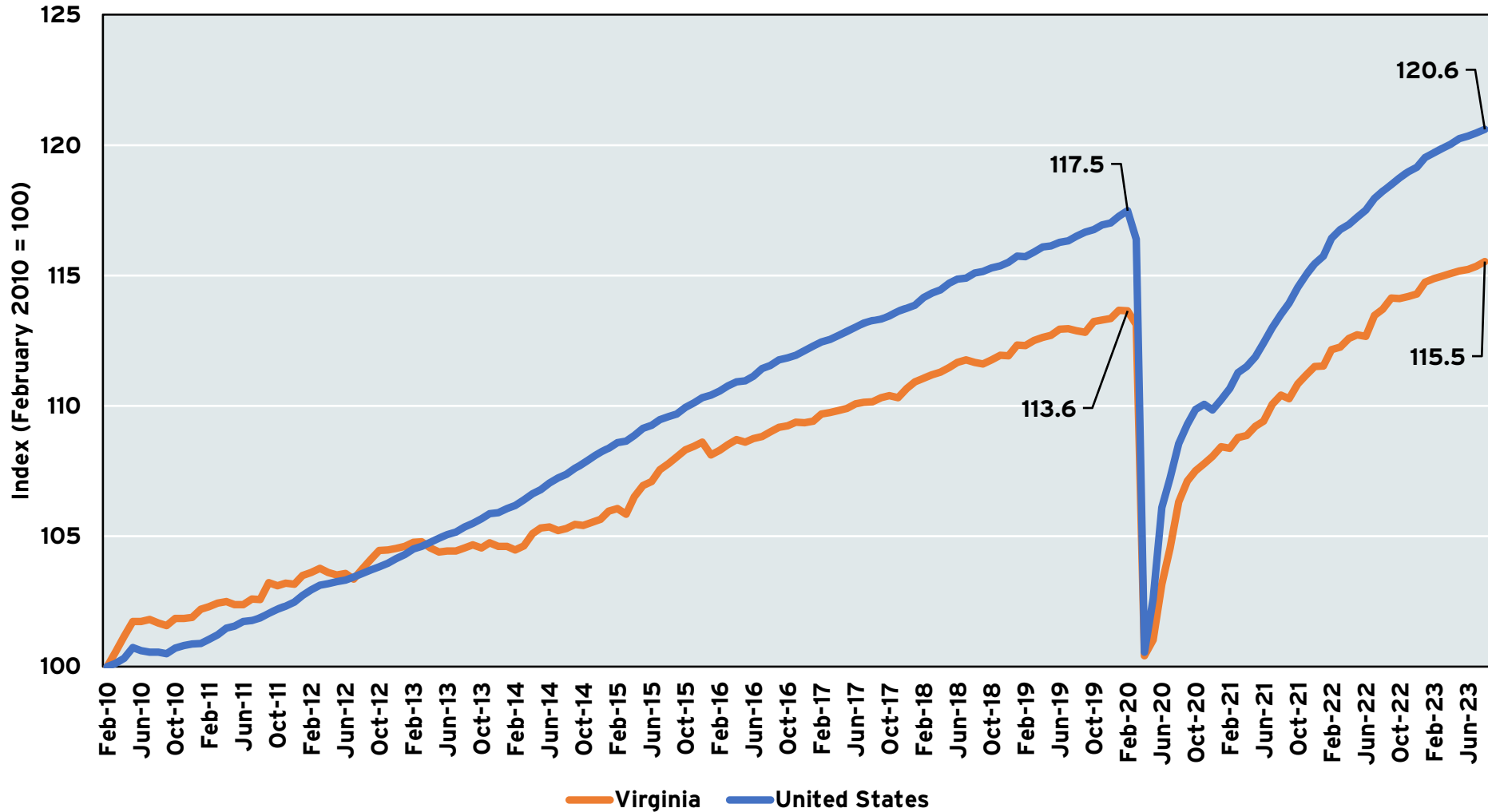
**GRAPH 16**  
**NONFARM PAYROLLS (JOBS)**  
**VIRGINIA, JANUARY 2010 TO AUGUST 2023**



Sources: Bureau of Labor Statistics and the Dragas Center for Economic Analysis and Policy, Old Dominion University. Data are seasonally adjusted.

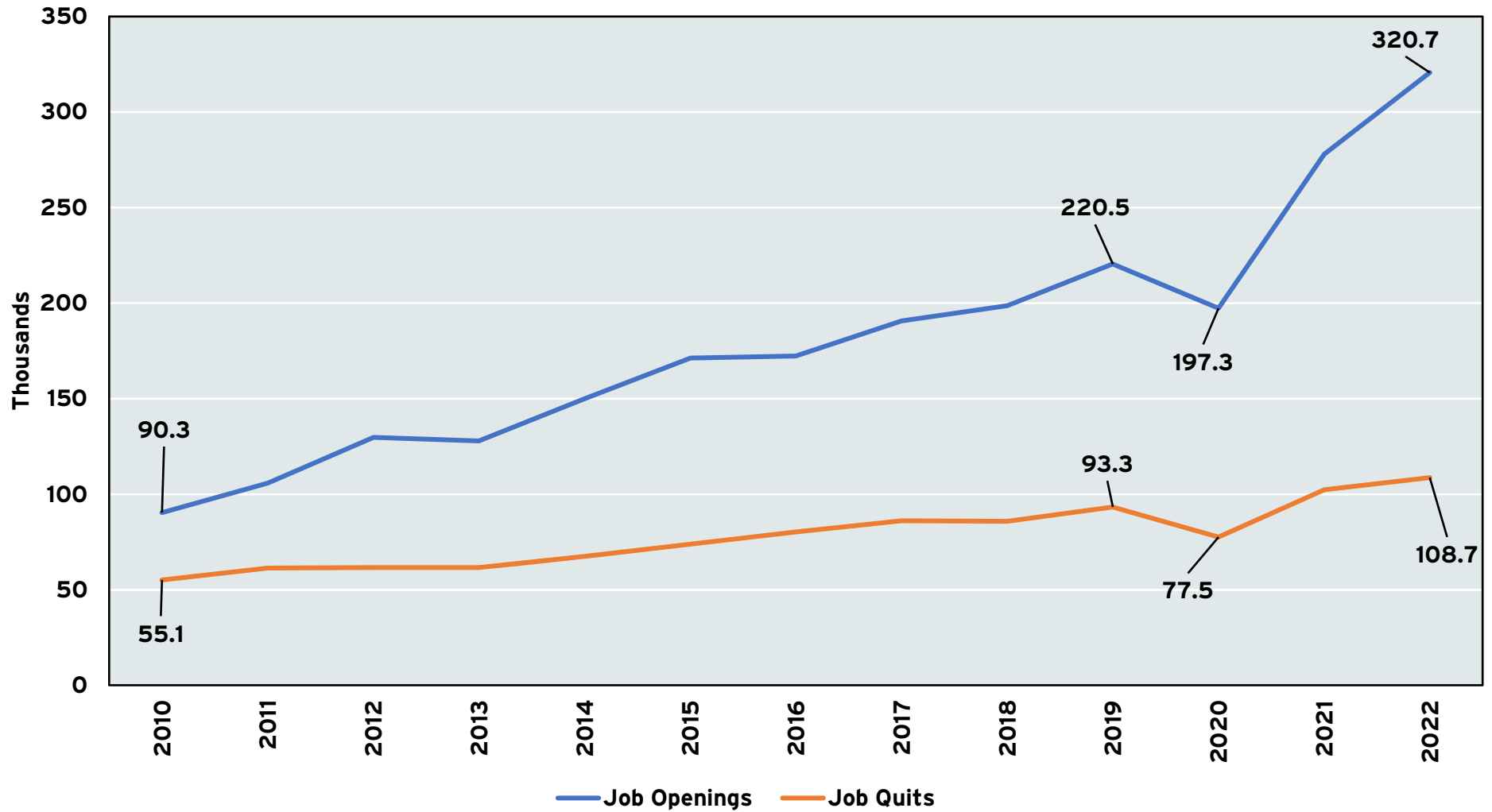
GRAPH 17

**INDEX OF CUMULATIVE GROWTH IN NONFARM PAYROLLS (JOBS)  
VIRGINIA AND THE UNITED STATES, FEBRUARY 2010 - AUGUST 2023**



Sources: Bureau of Labor Statistics and the Dragas Center for Economic Analysis and Policy, Old Dominion University. Data are seasonally adjusted.

**GRAPH 18**  
**AVERAGE MONTHLY JOB OPENINGS AND JOB QUILTS BY YEAR**  
**VIRGINIA, 2010 - 2022**

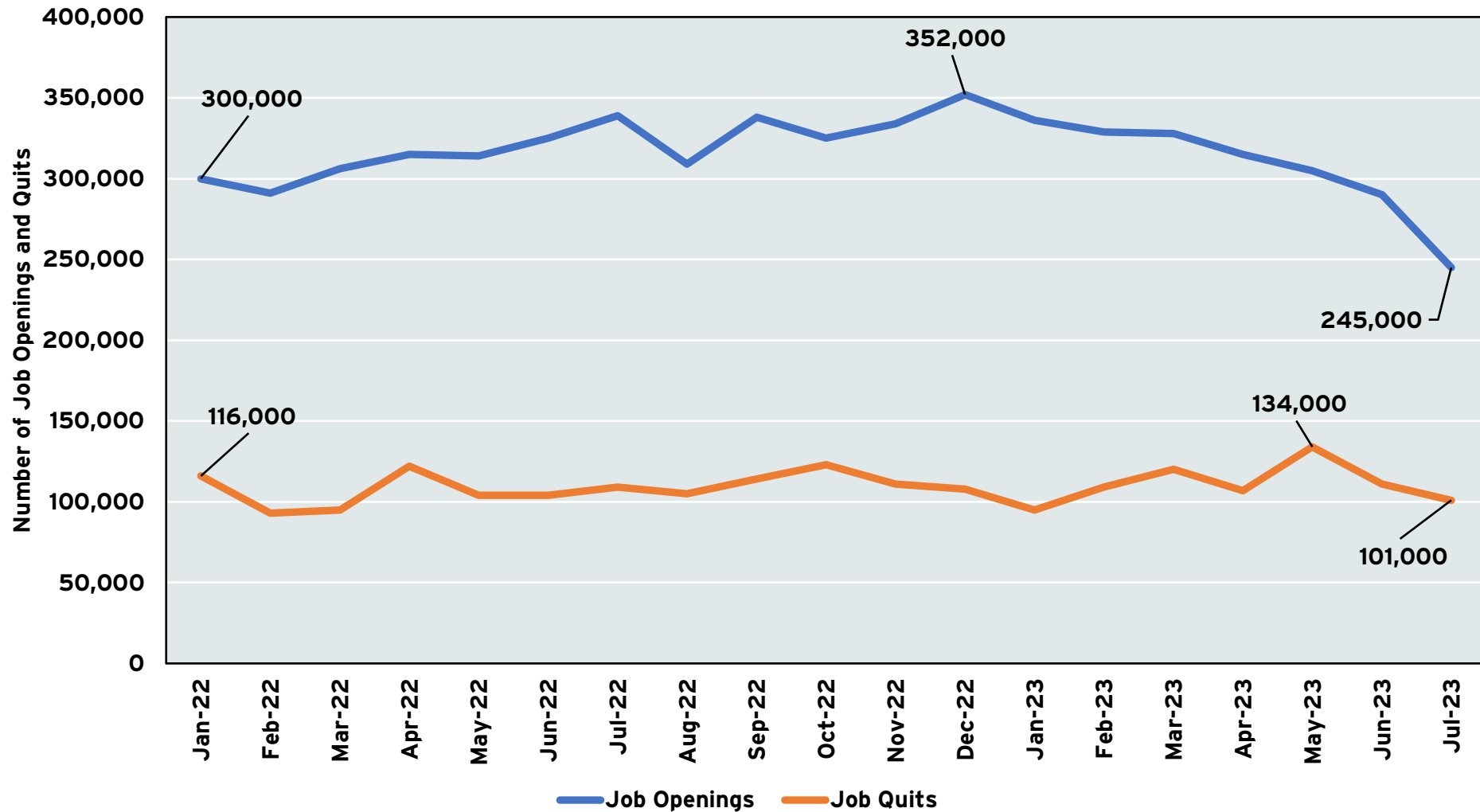


Sources: Bureau of Labor Statistics and the Dragas Center for Economic Analysis and Policy, Old Dominion University. Data are seasonally adjusted. Data for 2023 through July 2023.



**GRAPH 19**

**JOB OPENINGS AND JOB QUILTS  
VIRGINIA, JANUARY 2022 - JULY 2023**



Source: Bureau of Labor Statistics, Job Openings and Labor Turnover (JOLTS) Survey. Job openings for total nonfarm payrolls. Quits include employees who left voluntarily, with the exception of retirements. Data are seasonally adjusted.

## Real Estate Prices: Higher and Higher?

While the Federal Reserve has increased the discount rate to raise the cost of capital to consumers and businesses, we have not yet observed a significant correction in single-family housing values and sales prices. One possible explanation is that single-family housing supply has not kept pace with population growth in Virginia. One measure of the supply of new single-family residences is the number of average building permits. While permits are not necessarily equal to completed housing units, they are typically highly correlated with the supply of new single-family residences.

Graph 20 illustrates annual averages of monthly one-unit single-family residential permits in Virginia from 2000 to 2022. Prior to the Great Recession of 2007 – 2009, average residential permits peaked at 4,150 a month in 2005. By 2011, this had fallen to 1,282 a month. Typically, as economic activity rebounded from a recession, building permits (a signal of future building activity) would increase, but this did not occur after the Great Recession. The highest average level of monthly permits in the previous decade was 1,966 in 2017, a decline of approximately 53% from the peak in 2005. In other words, developers were not pulling permits to build single-family residences like they were prior to the Great Recession, constraining the new supply of houses.

**The average number of monthly single-family residential permits increased to 1,982 in 2020 and 2,070 in 2021 but remained well below the 2005 peak or levels observed early in the first decade of the century. For the first eight months of 2023, the average number of monthly permits was 1,689 as interest rate hikes cut into builders' margins. With interest rates forecasted to remain well above pre-pandemic levels into 2024, the flow of new homes into the market will likely diminish, further constraining the overall supply of houses in Virginia.**

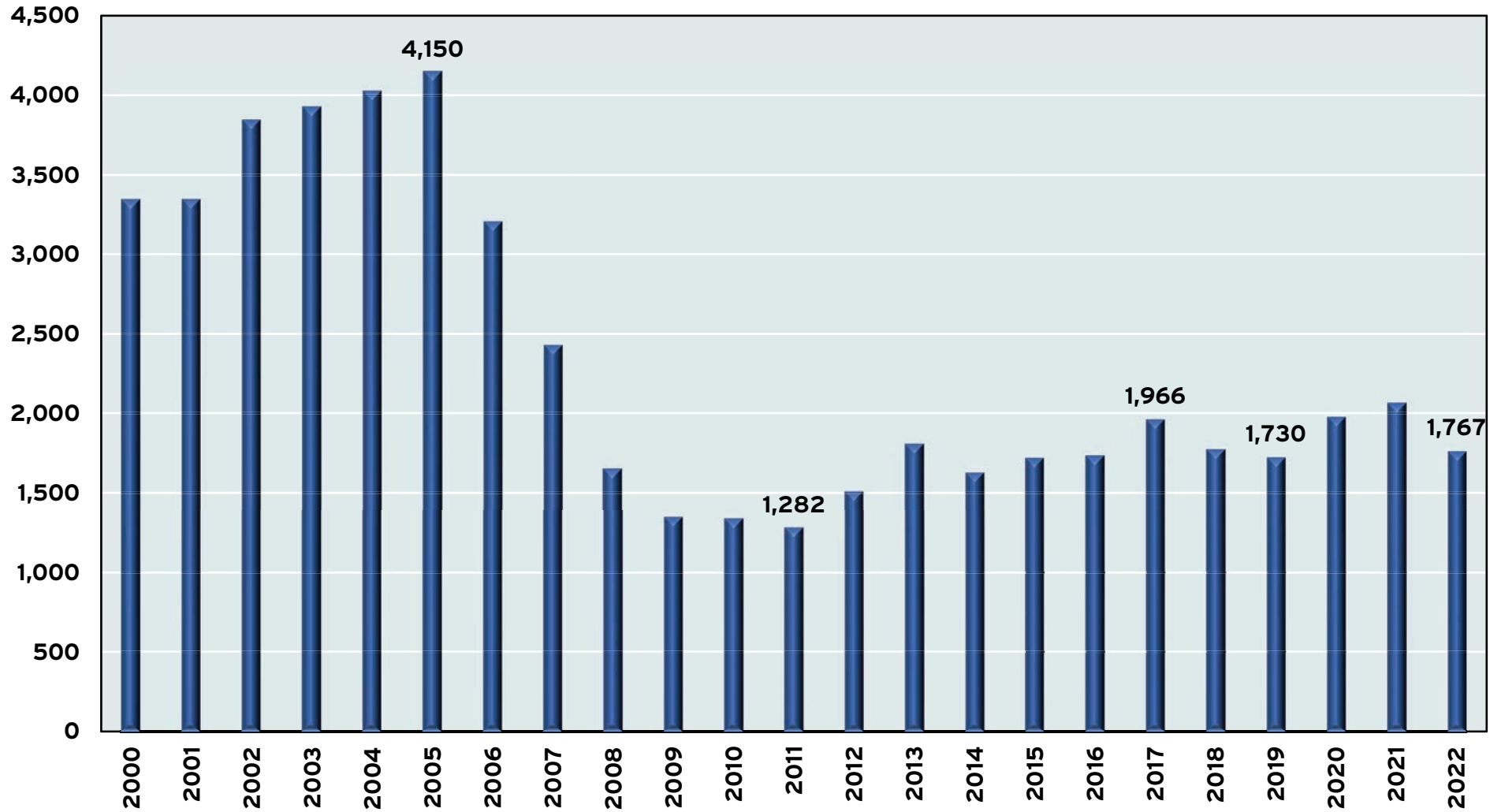
With fewer new single-family homes entering the market, what happened to housing values in Virginia? Housing values reflect the interaction between housing supply and demand. For this purpose, we use the Zillow Single-Family Home Value Index (ZHVI) to measure housing values in Virginia presented in graph 21.<sup>9</sup> In January 2010, the estimated housing value in Virginia was \$222,497. By January 2020, the typical house was worth \$280,721, an increase of 27%. From January 2020 to January 2021, the estimated housing value in the state increased by 9.3% and then another 9.6% from January 2021 to January 2022. From February 2020 to January 2023, the estimated housing value in Virginia had increased by 29.3%. In August 2023, the typical housing value for the Commonwealth was \$378,610, which was 34.1% higher than February 2020. The increases in housing prices were not limited to Virginia only. From February 2020 to August 2023, the estimated housing value for the United States also increased by 37.7%.

With estimated housing values increasing by 34.1% from February 2020 to August 2023, the question is where did people live? Graph 22 illustrates the estimated vacancy rates for Virginia from 1990 to 2022 for rental and single-family housing. The vacancy rate is equal to the proportion of inventory that is available for rent or sale. Estimated vacancy rates are at three-decade lows, inferring that there are not many homes available for sale. Fewer homes for sale mean that Virginians who would otherwise buy homes are, in effect, “stuck” in multi-family housing, leading to a rise in median rental prices. Until more housing units are built in the Commonwealth, this problem is likely to persist for the foreseeable future.

<sup>9</sup> According to Zillow, the Zillow Home Value Index is “A smoothed, seasonally adjusted measure of the typical home value and market changes across a given region and housing type. It reflects the typical value for homes in the 35th to 65th percentile range.” We refer to this index as the “typical housing value” instead of the “median housing value.”

GRAPH 20

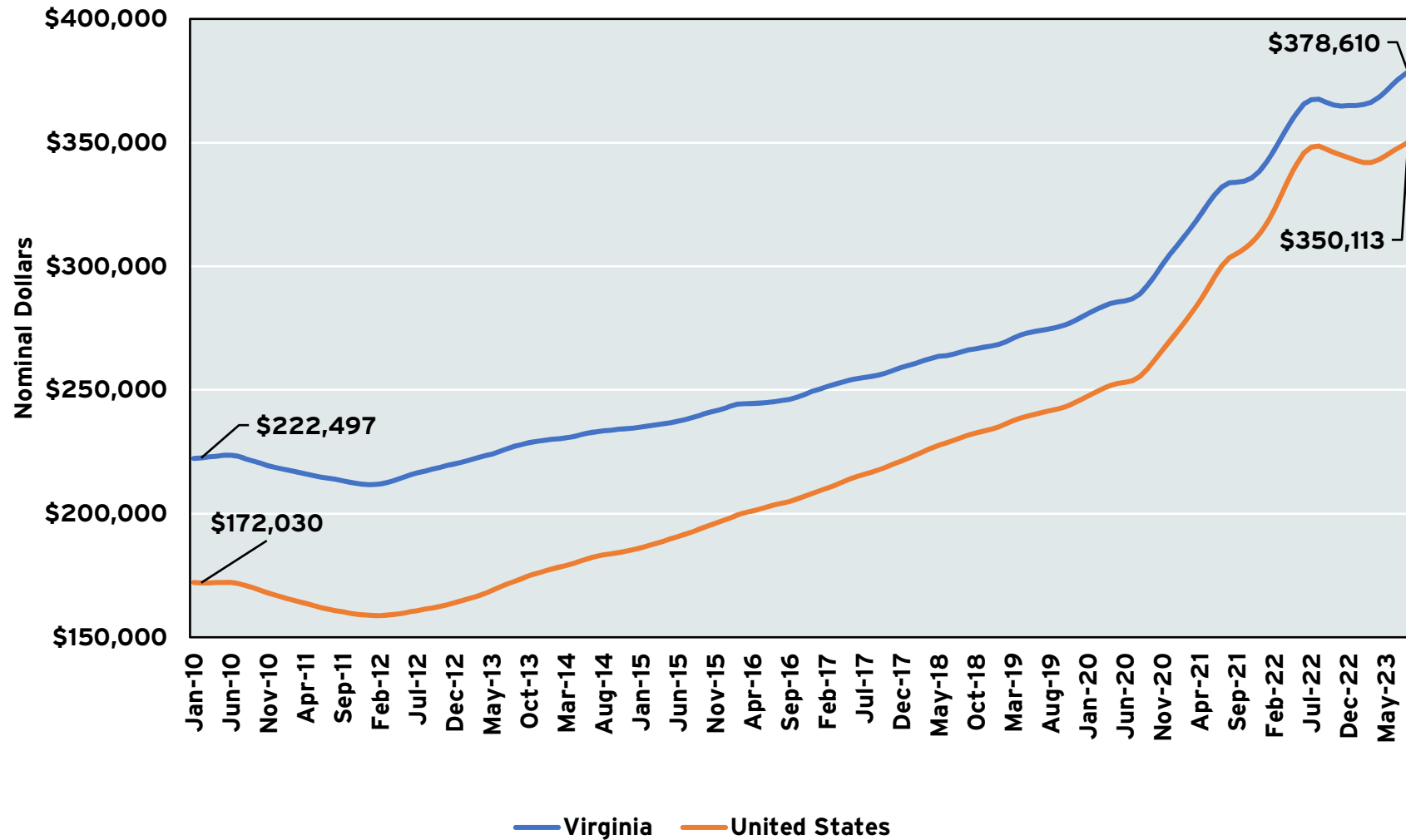
AVERAGE MONTHLY ONE-UNIT SINGLE-FAMILY RESIDENTIAL BUILDING PERMITS  
VIRGINIA, 2000 - 2022



Source: U.S. Census Bureau, New Private Housing Units Authorized by Building Permits: 1-Unit Structures for Virginia [VABPIFHSA], retrieved from FRED, Federal Reserve Bank of St. Louis.

**GRAPH 21**

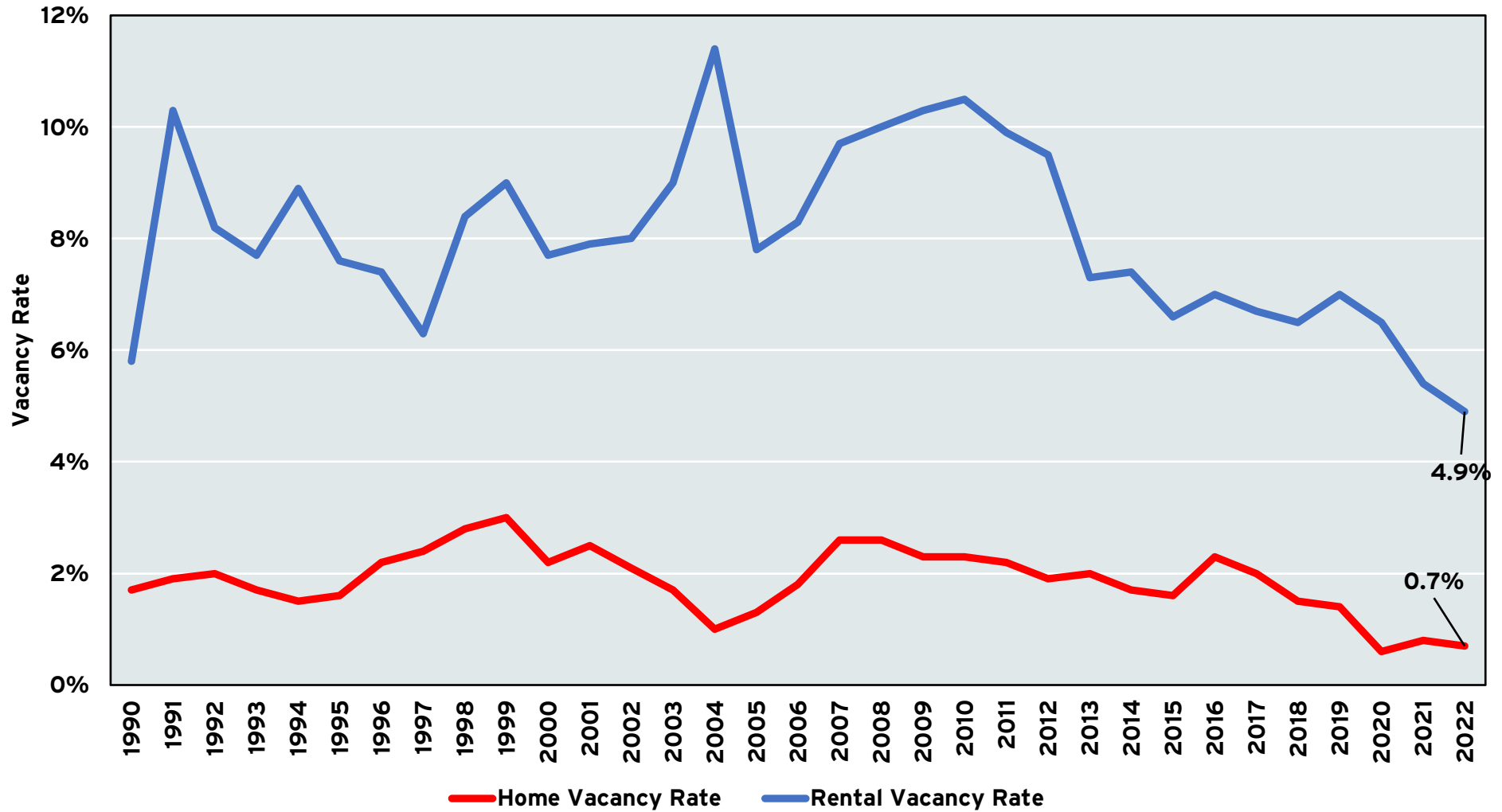
**ZILLOW HOME VALUE INDEX OF SINGLE-FAMILY RESIDENTIAL HOMES  
UNITED STATES AND VIRGINIA,  
JANUARY 2010 TO AUGUST 2023**



Source: Zillow (2022) and the Dragas Center for Economic Analysis and Policy, Old Dominion University. Zillow Home Value Index (ZHVI) for single-family residence. Data are not seasonally adjusted. For more information about the Zillow Home Value Index, see <https://www.zillow.com/research/zhvi-methodology/>

GRAPH 22

HOME AND RENTAL VACANCY RATES  
VIRGINIA, 1990 - 2022



Source: U.S. Census Bureau and Dragas Center for Economic Analysis and Policy. The rental vacancy rate is the proportion of the rental inventory which is vacant for rent. The homeowner vacancy rate is the proportion of the homeowner inventory which is vacant for sale.



## Final Thoughts

With 2023 drawing to a close, what can we say about the economic performance of the Commonwealth? A record number of Virginians were working or looking for work in 2023. Labor force participation rose in 2023, a sign that some Virginians were “coming off the sidelines” and engaging in the labor force. Employers created new jobs, and there were more jobs in the Commonwealth than prior to the pandemic. Virginians continued to spend, even in the face of inflation, and local governments enjoyed an influx of revenues due to rising property values.

For all the good news, there are concerning pieces of economic data to consider. Virginians continue to move out of the Commonwealth. The rise in housing values meant that some Virginians were, in essence, priced out of the single-family housing market. While inflation was lower in the second half of 2023, its impact on Virginians is clearly evident by a trip to a local grocery store where a dollar buys even less than before.

What will 2024 hold? If there is one lesson from the last three years, it is that the political and economic environment can wreak havoc on forecasts. We forecast that the Virginia economy will continue to grow in 2024, but it will continue to lag that of the nation. We argue that Virginia can experience 2% real GDP growth in 2024, but a number of events will need to come to fruition. We make the following assumptions. First, inflation will continue to moderate, and the Federal Reserve will maintain its current monetary policy stance through the first half of 2024. Second, the federal government will function in a “somewhat normal” manner. If federal departments and agencies can be funded for the entire fiscal year, this will bring a sigh of relief to many Virginians. Third, there are no unexpected geopolitical events that roil markets. If any of these assumptions does not hold, then the possibility of a recession in 2024 increases significantly.

## WHAT THEN CAN BE DONE?

**First, we will repeat our advice from previous reports: Virginia should continue to embrace fiscal discipline. Today’s surplus can easily become tomorrow’s deficit. We commend decision-makers in Richmond for their prudence with regards to the Commonwealth’s finances. If there are “surplus” funds to be expended, we recommend investments to facilitate the creation of jobs and trades in Virginia. Here, accelerating the construction of I-87 continues to be one opportunity that would leverage the Port of Virginia, and potentially create a corridor for jobs and innovations between Virginia and North Carolina. Improving East-West traffic corridors by widening existing roads and improving rail service would bind the Commonwealth together more strongly. Continuing to invest in the Port of Virginia, rural broadband, and aligning higher education with the needs of employers are all potential policies that would set up Virginia for success in the future.**

Second, Virginia must continue to focus on improving its business climate and avoid increasing the regulatory burden for businesses that operate in the Commonwealth. The state should seek to modernize its antiquated tax system to harmonize tax administration at the state and local levels across Virginia. To ensure wide acceptance of these efforts, the state could first promise to hold local governments harmless for the elimination of antiquated taxes. Any tax reform should also be revenue neutral, that is, an effort to improve efficiency rather than increasing tax burdens. These are not new recommendations but are worth repeating.

# A RECOVERY IN PROGRESS: VIRGINIA'S GO VIRGINIA REGIONS

*You can't go back and change the  
beginning, but you can start where you are  
and change the ending.*

*– C.S. Lewis*







For some areas of Virginia, the recovery from the economic shock associated with the COVID-19 pandemic has been robust, with evidence emerging of a new expansion in economic activity in 2023. For other areas of the Commonwealth, the recovery would be best characterized as anemic. As we conclude 2023 and look forward to 2024, the economic fate of the state looks increasingly bifurcated, with economic activity and population concentrated in a handful of regions. Now, with evidence of a “soft landing” from the turbulence of 2022 increasingly evident, the open question remains whether we can spur economic growth across the state.

In previous reports, we have examined economic conditions across Virginia’s metropolitan areas. However, not all of the Commonwealth lives and works in a metropolitan statistical area. To capture economic activity in these non-metro areas, we change our focus from metropolitan statistical areas to GO Virginia regions. GO Virginia is an initiative to improve economic growth across the Commonwealth, and the nine GO Virginia regions fully capture the state’s population and economy. By changing how we look at Virginia, we can gain fresh insight into the pace of economic growth and prospects for future development.



**The story that emerges from 2022 and 2023 is a mixture of good and not-so-good news. While Virginia’s population has continued to grow, some regions of the state have lost population, and, in others, population growth has slowed over time. Domestic outmigration from Northern Virginia and Hampton Roads has occurred for, we argue, different reasons, but is also a signal of the challenges ahead for retaining and recruiting talent. While some smaller regions are in the midst of a new economic expansion, some of the larger regions have yet to observe a full recovery in jobs. Federal spending continues to flow into the state, however, some regions are overly reliant on this spending, and private sector job growth has lagged the state and nation in these areas. Unemployment has declined, but the recovery in the labor force continues to limit the ability of employers to expand. Now is the time to build upon the good news and to recognize the challenges that are in front of us so that we can build a future shared by all Virginians.**

To explore how Virginia is faring across GO Virginia regions, we examine a number of measures of economic performance: population, employment, jobs, wages, incomes, and establishments. Each of these measures is available on a more frequent basis than GDP, and they provide a more current picture of the economic activity in each metro area. We also present the most recent (but significantly lagged) data for Gross Domestic Product. In aggregate, these data allow us to construct a clearer picture of the health of Virginia’s regional economies.

## A Primer on GO Virginia Regions

In the summer of 2015, a bipartisan coalition of business leaders across Virginia formed the GO Virginia Coalition with the intent of coordinating and promoting economic development across the Commonwealth. As noted by GO Virginia, this effort was driven by the realization that Virginia is relatively dependent on federal government spending and that private-sector job growth is needed to diversify the state’s economic base. To spur private sector job growth, however, requires coordination and collaboration between the public and private sector, and the economic development needs vary across the state. Furthermore, state government can play a pivotal role in economic development by creating incentives to improve collaboration and cooperation within and across regions. In 2016, authorizing legislation and funding passed through the General Assembly, and the first regional Growth and Diversification Plans were approved by regional boards in the fall of 2017.

Table 1 provides the names and localities in each of the nine GO Virginia regions. We provide this level of detail so the reader can familiarize themselves with each region. Where possible, we obtain county-level data and aggregate to the regional level of analysis. There are some data, however, that are only available at the metropolitan statistical area level of analysis. We also note that the differences in data granularity could result in different rolled-up estimates from one level to another.

**FIGURE 1**  
**GO VIRGINIA REGIONS**



Source: GO Virginia, Regional Council Information, <https://govirginia.org/regions/>



**TABLE 1**

**GO VIRGINIA REGIONS AND LOCALITIES**

Region 1: Southwest	Region 2: West Central	Region 3: Southside	Region 4: South Central	Region 5: Hampton Roads
Bland	Alleghany	Amelia	Charles City (County)	Accomack
Bristol City	Amherst	Brunswick	Chesterfield	Chesapeake City
Buchanan	Appomattox	Buckingham	Colonial Heights City	Franklin City
Carroll	Bedford	Charlotte	Dinwiddie	Hampton City
Dickenson	Botetourt	Cumberland	Emporia City	Isle Of Wight
Galax City	Campbell	Danville City	Goochland	James City (County)
Grayson	Covington City	Halifax	Greensville	Newport News City
Lee	Craig	Henry	Hanover	Norfolk City
Norton City	Floyd	Lunenburg	Henrico	Northampton
Russell	Franklin	Martinsville City	Hopewell City	Poquoson City
Scott	Giles	Mecklenburg	New Kent	Portsmouth City
Smyth	Lynchburg City	Nottoway	Petersburg City	Southampton
Tazewell	Montgomery	Patrick	Powhatan	Suffolk City
Washington	Pulaski	Pittsylvania	Prince George	Virginia Beach City
Wise	Radford City	Prince Edward	Richmond City	Williamsburg City
Wythe	Roanoke City		Surry	York
	Roanoke		Sussex	
	Salem City			

**TABLE 1 (CONTINUED)****GO VIRGINIA REGIONS AND LOCALITIES**

<b>Region 6: Eastern</b>	<b>Region 7: Northern</b>	<b>Region 8: Valley</b>	<b>Region 9: Central</b>
Caroline	Alexandria City	Augusta	Albemarle
Essex	Arlington	Bath	Charlottesville City
Fredericksburg City	Fairfax City	Buena Vista City	Culpeper
Gloucester	Fairfax	Clarke	Fauquier
King And Queen	Falls Church City	Frederick	Fluvanna
King George	Loudoun	Harrisonburg City	Greene
King William	Manassas City	Highland	Louisa
Lancaster	Manassas Park City	Lexington City	Madison
Mathews	Prince William	Page	Nelson
Middlesex		Rockbridge	Orange
Northumberland		Rockingham	Rappahannock
Richmond		Shenandoah	
Spotsylvania		Staunton City	
Stafford		Warren	
Westmoreland		Waynesboro City	
		Winchester City	

## Population Growth Across Virginia's Regions

One signal of economic vitality is population growth. Jobs attract people, and people attract jobs. Rapid population growth may strain public school systems, transportation infrastructure, and the capacity of local public services, but these are often offset by a growing tax base, increasing revenues, and an influx of employers. On the other hand, areas with sluggish growth and those with declining population often observe slow to negative job growth, stagnant or declining tax bases, and mismatches between public services and the remaining population.

To estimate how the population has changed over time, we rely on the United States Census Bureau's Population Estimates Program which uses data on births, deaths, domestic and international migration to estimate population change since the most recent decennial census. These annual estimates of total population and the components of population change start with the most recent decennial census and extend to the most recent year. However, each decennial census "resets" the population estimates. The estimates are consistent from the decennial census to the year before the next decennial census, but may have statistical artifacts if compared across periods. Region 5, for example, "gained" almost 34,000 people if one compared the population estimates on July 1, 2019 to July 1, 2020, but this gain was due to the occurrence of the 2020 Census and not from a sudden influx of new residents or a magnitude increase in the number of births in 2020.

Graph 1 presents each region's share of Virginia's population in 1990 and 2022. The data in Graph 1 allow the reader to quickly infer how the population of the state has shifted over time. The "urban crescent" of Virginia is formed by Region 4 (cities and counties located in and around the Richmond region), Region 5 (Hampton Roads), and Region 7 (Northern Virginia). In 1990, these regions accounted for approximately 61.8% of the Commonwealth's population. In 2022, Regions 4, 5, and 7 were home to 64.7% of the state's population. Of note is that while Region 4 and Region 7 have increased their shares of Virginia's population, Region 5's share of the state's population

declined from 1990 to 2022 due to the slower than average population growth.

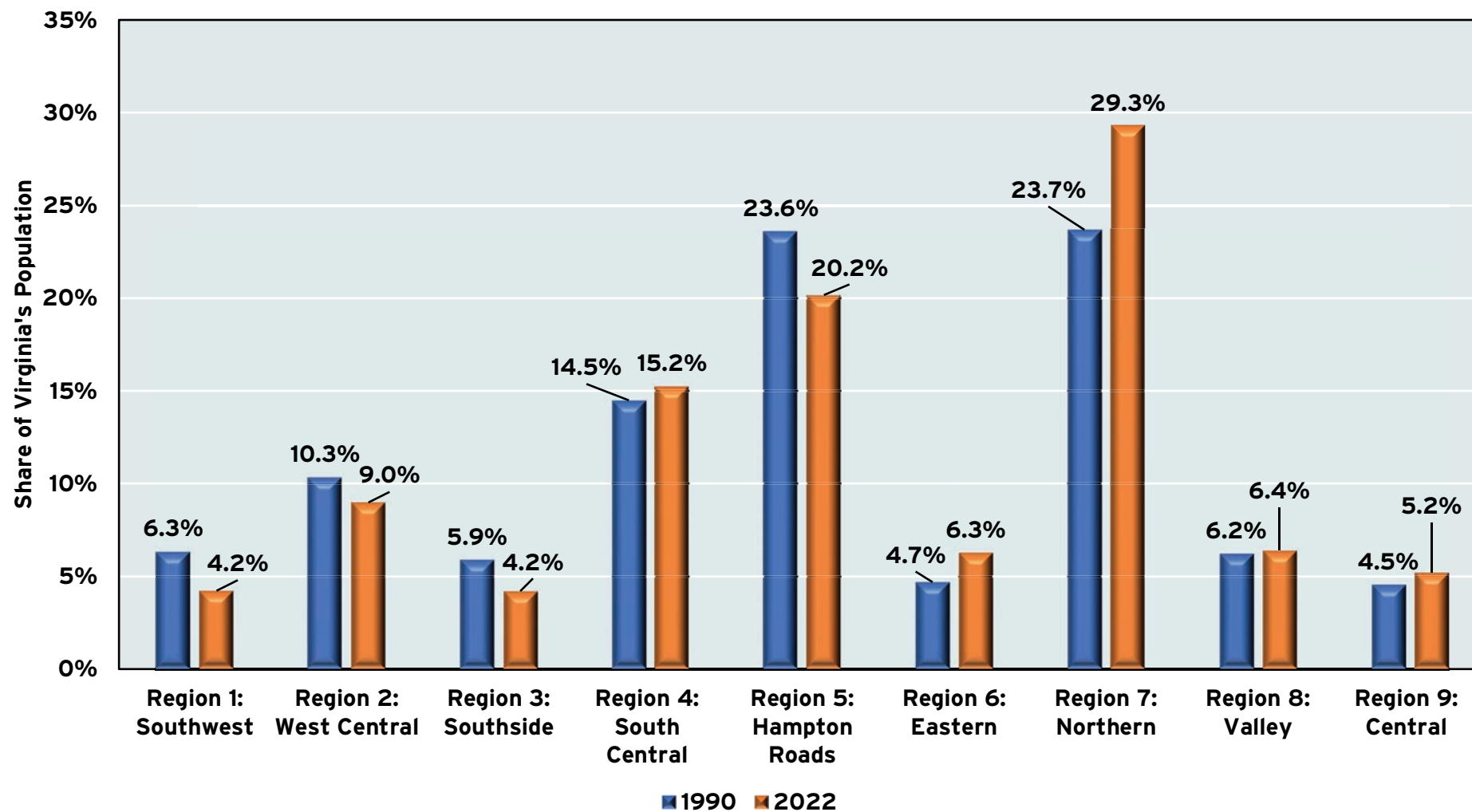
We observe that relatively faster population growth in Regions 4, 6, and 7 has "pulled" the population center of the Commonwealth towards an area bounded in the southwest by the Richmond metropolitan area and in the northeast by the Virginia portion of the Washington, D.C., metropolitan area. The disparities in population growth are evident in each region's share of Virginia's population. Regions that grew slower than Virginia average (or lost population) saw their shares of Virginia's population decline while regions that grew faster than the Virginia average saw their shares grow.

Table 2 provides the population for each GO Virginia region for 1990, 2000, 2010, 2020, and 2022 as well as the respective population growth rates for each decade. Average annual population growth was negative for Region 3 (Southside) from 2000 to 2009 (-0.1%), 2010 to 2019 (-0.6%), and 2020 to 2022 (-0.1%). Region 1 (Southwest) has also continued to lose population this decade (-0.5% annually) after experiencing negative population growth last decade (-0.7% annually). Of note is that Region 7, which grew well above the state average in each of the last three decades, has seen population decline this decade at an average annual rate of -0.1%. Region 5's population has grown slower than the state average each of the last three decades and has essentially observed zero population growth this decade. On the other hand, Region 6 (Eastern) and Region 9 (Central) have grown faster, on average, than the state and nation since 1990.

Why are some localities growing while others are contracting? The continued shift of the U.S. population from rural to urban areas may help explain the declining population of more rural regions. For large, urban areas, population growth is closely aligned with economic opportunities and the cost of living. Slower job growth may induce residents to seek economic fortunes elsewhere. Relatively expensive housing costs may also drive residents to relocate outside the region in search of a higher quality (and cheaper) life. A region with slow job growth and relatively expensive housing (Region 5) may find it difficult to retain residents over time.

**GRAPH 1**

**GO VIRGINIA REGIONS: SHARE OF VIRGINIA'S POPULATION  
1990 AND 2022**



Source: United States Census Bureau, Population Estimates, various years. Population estimates as of July 1st of the corresponding year. Regional estimates are aggregated from county-level population estimates to ensure consistency with city and county-level estimates and to align with GO Virginia region definitions.

**TABLE 2**  
**POPULATION GROWTH FOR THE U.S., VIRGINIA, AND GO VIRGINIA REGIONS**  
**1990, 2000, 2010, 2020, AND 2022**

Region	1990	2000	2010	2020	2022	1990-1999 Annual Growth	2000-2009 Annual Growth	2010-2019 Annual Growth	2020-2022 Annual Growth
Region 1: Southwest	393,511	398,740	401,784	370,586	366,695	0.2%	0.1%	-0.7%	-0.5%
Region 2: West Central	643,350	700,085	762,197	779,485	779,898	0.8%	0.8%	0.3%	0.0%
Region 3: Southside	366,116	387,778	383,733	365,657	364,703	0.6%	-0.1%	-0.6%	-0.1%
Region 4: South Central	900,854	1,036,200	1,177,724	1,302,426	1,323,751	1.4%	1.4%	0.9%	0.8%
Region 5: Hampton Roads	1,468,905	1,589,071	1,670,831	1,750,192	1,751,462	0.8%	0.5%	0.3%	0.0%
Region 6: Eastern	291,414	376,459	470,994	527,196	544,248	2.6%	2.3%	1.1%	1.6%
Region 7: Northern	1,472,561	1,829,631	2,245,500	2,550,646	2,545,650	2.1%	2.0%	1.3%	-0.1%
Region 8: Valley	386,523	445,222	509,080	547,562	554,733	1.4%	1.4%	0.7%	0.7%
Region 9: Central	282,699	336,206	401,856	442,721	452,479	1.7%	1.9%	1.0%	1.1%
Virginia	6,216,884	7,105,817	8,023,699	8,636,471	8,683,619	1.3%	1.2%	0.7%	0.3%
United States	248,790,925	282,162,411	309,321,666	331,511,512	333,287,557	1.2%	0.9%	0.7%	0.3%

Source: U.S. Census Bureau, Annual Intercensal Population Estimates 1990-2019, Vintage 2022 Population Estimates and Dragas Center for Economic Analysis and Policy. Percentages may not sum to 100 percent due to rounding. Estimated annual growth is the Compound Annual Growth Rate. Estimates, where possible, are for July 1<sup>st</sup> for comparison purposes. Resident population of the United States.

## Components of Population Change

Population change is driven by three components: the natural increase in the population (births minus deaths), net domestic migration (domestic arrivals minus domestic departures), and net international migration (international arrivals minus international departures). Regions that are growing typically have more births than deaths and inflows of new residents that are greater than outflows of current residents.

We review the components of population change for the previous decade before focusing on the data for the current decade.<sup>1</sup> As illustrated in Table 3, from April 1, 2010 to June 30, 2019, two regions in Virginia, Region 1 (Southwest) and Region 3 (Southside), saw absolute declines in total population over this period as deaths outnumbered births (negative natural increase), domestic departures outnumbered domestic arrivals (negative domestic migration), and net international migration was positive but insufficient to offset the declines in the other population components.

From April 1, 2010 to June 30, 2019, there were 13,186 more deaths than births in Region 1 as well as 12,834 more domestic departures than arrivals. In Region 3, there were 11,331 more deaths than births and 9,788 more domestic departures than arrivals. While there were 1,324 more international arrivals than departures for Region 3, these paled in comparison to the net negative natural change in the population as well as the net outmigration of residents to other domestic locations. On the other hand, from April 1, 2010 to June 30, 2019, Region 2 (West Central) experienced -594 more deaths than births, but the negative natural increase in the population was offset by 5,206 more domestic arrivals than departures and 14,430 more international arrivals than departures.

Among the larger regions in Virginia, Region 5 was joined by Region 7 (Northern) in experiencing negative net domestic migration from

April 1, 2010 to June 30, 2019. Combined, Region 5 and Region 7 saw over 151,000 more domestic departures than arrivals over this period. While some of these departures were for other locations in the Commonwealth, some residents left the state entirely, as evidenced by Virginia's negative domestic migration of -71,103 over this period. Unlike Region 5, Region 7's negative domestic migration of -85,840 from April 1, 2010 to June 30, 2019 was completely offset by its net positive international migration of 160,069.

Table 4 highlights the components of population change for the GO Virginia regions and the Commonwealth from April 1, 2020 to June 30, 2022. Region 1 (Southwest), Region 3 (Southside), and Region 7 (Northern) lost population this decade, although for different reasons. Regions 1, 2 (West Central), 3, and 8 (Valley) observed more deaths than births over the period but, in the case of Regions 2 and 8, net positive domestic and international migration offset the negative natural increase in the population. Regions 5 and 7 continued to observe negative net domestic migration, which was offset partially (or fully) by positive net international migration. However, while Region 5 gained 2,270 residents from April 1, 2020 to June 30, 2022, Region 7 lost 4,709 residents. Over this period, Virginia saw its population increase as negative net domestic migration was fully offset by net positive international migration flows and a positive natural increase in the population.

<sup>1</sup> We remind the reader that the population estimates program "resets" with each decennial Census and present the data from 2019 and 2022 Population Estimates program in one figure for presentation purposes. The components of population change estimate the change in population from July 1 to June 30, thus, the estimates for 2019 represent the change in the population components from July 1, 2018 to June 30, 2019.



**TABLE 3**

**COMPONENTS OF POPULATION CHANGE  
APRIL 1, 2010 - JUNE 30, 2019**

Region	Natural Increase	Domestic Migration	International Migration	Population Residual	Population Change
Region 1: Southwest	-13,186	-12,834	441	-51	-25,630
Region 2: West Central	-594	5,206	14,430	-362	18,680
Region 3: Southside	-11,331	-9,788	1,324	-58	-19,853
Region 4: South Central	38,569	35,256	27,806	-88	101,543
Region 5: Hampton Roads	78,144	-66,007	36,675	-220	48,592
Region 6: Eastern	16,744	26,138	5,525	-79	48,328
Region 7: Northern	218,310	-85,840	160,069	1,741	294,280
Region 8: Valley	6,141	17,934	7,802	-43	31,834
Region 9: Central	10,525	18,832	7,469	-130	36,696
Virginia	343,322	-71,103	261,541	710	534,470

Source: U.S. Census Bureau, 2019 Components of Change Estimates and Dragas Center for Economic Analysis and Policy. According to the U.S. Census Bureau, the population residual is equal to the change that cannot be attributed to any specific demographic component of population change.

**TABLE 4****COMPONENTS OF POPULATION CHANGE  
APRIL 1, 2020 - JUNE 30, 2022**

<b>Region</b>	<b>Natural Increase</b>	<b>Domestic Migration</b>	<b>International Migration</b>	<b>Population Residual</b>	<b>Population Change</b>
<b>Region 1: Southwest</b>	<b>-6,904</b>	<b>2,264</b>	<b>267</b>	<b>86</b>	<b>-4,287</b>
<b>Region 2: West Central</b>	<b>-5,562</b>	<b>3,333</b>	<b>2,360</b>	<b>102</b>	<b>233</b>
<b>Region 3: Southside</b>	<b>-5,558</b>	<b>3,603</b>	<b>528</b>	<b>83</b>	<b>-1,344</b>
<b>Region 4: South Central</b>	<b>2,277</b>	<b>14,547</b>	<b>6,169</b>	<b>296</b>	<b>23,289</b>
<b>Region 5: Hampton Roads</b>	<b>7,642</b>	<b>-11,796</b>	<b>5,861</b>	<b>563</b>	<b>2,270</b>
<b>Region 6: Eastern</b>	<b>1,038</b>	<b>16,273</b>	<b>1,448</b>	<b>-175</b>	<b>18,584</b>
<b>Region 7: Northern</b>	<b>36,064</b>	<b>-73,717</b>	<b>32,426</b>	<b>518</b>	<b>-4,709</b>
<b>Region 8: Valley</b>	<b>-1,662</b>	<b>7,344</b>	<b>2,037</b>	<b>11</b>	<b>7,730</b>
<b>Region 9: Central</b>	<b>595</b>	<b>8,374</b>	<b>1,666</b>	<b>-166</b>	<b>10,469</b>
<b>Virginia</b>	<b>27,930</b>	<b>-29,775</b>	<b>52,762</b>	<b>1,318</b>	<b>52,235</b>

Source: U.S. Census Bureau, 2022 Components of Change Estimates and Dragas Center for Economic Analysis and Policy. According to the U.S. Census Bureau, the population residual is equal to the change that cannot be attributed to any specific demographic component of population change.

## Population Change Among Adults Ages 20 to 34 Years

Whether a region can retain and attract younger individuals is key to population and economic growth. Inflows of younger individuals are a signal of the attractiveness of a region not only in terms of economic opportunities, but also in quality of life.<sup>2</sup> These inflows are needed as older generations retire from the workforce. The economic fortunes of a state or region are tied to its ability to attract and retain talents, especially adults entering the workforce and in the prime working years.

Graph 2 compares the growth in population of adults ages 20 to 34 in Virginia and the United States from 2000 to 2019. For Virginia, the slowing growth of the young adult population in the second half of the last decade was a troublesome development. From 2010 to 2015, the population of adults ages 20 to 34 grew at roughly the same pace in the Commonwealth and nation. By 2019, there were 7.1% more adults in this age group nationally. For Virginia, there were approximately 5.5% more adults in this age group in 2019. The more recent population estimates, which are based on the 2020 decennial Census, tell the same story. In 2022, the population of adults ages 20 to 34 was 0.8% larger nationally than 2020. For Virginia, in 2022, the population of this age group was 0.6% larger than 2020. Since the middle of the last decade, Virginia's population of young adults has not kept pace with the United States.

Graph 3 illustrates the share of adults ages 20 to 34 in the total population across GO Virginia regions for 2010 and 2022. First, there are regions that have observed a gain in the share of the young adult population, but this is driven by a decline in the overall population. Region 1 and Region 3 total population declined from 2010 to 2022, and these population losses were relatively larger among older adults. Thus, the share of the young adult population grew, not due to an expanding population, but because of relocation and increased death rate among older adults.

Several other regions observed increases in the population but declines in the share of young adults from 2010 to 2022. The largest decline was in Region 7 (Northern Virginia) where the share of young adults ages 20 to 34 declined from 22.2% to 20.1% of the total population from 2010 to 2022. However, population of Region 7 grew faster than that of Virginia for most of this period. On the other hand, while Region 5's overall population change was positive, its growth was slower than Virginia's, and the share of adults ages 20 to 34 in the overall population declined from 22.9% to 22.3% of the total population. While this was not as significant as the 2 percentage-point drop observed by Region 7, it was sufficient to be the second largest decline in the share of the adult population ages 20 to 34 among GO Virginia regions.

Table 5 illustrates the change in the population ages 20 to 34 for GO Virginia regions, Virginia, and the United States from 2010 to 2019 and 2020 to 2022.<sup>3</sup> From 2010 to 2019, Region 1 (Southwest) and Region 3 (Southside) experienced an absolute decline whereas Region 4 (South Central), Region 6 (Eastern), and Region 9 (Central) grew faster than the state or national average. In addition to that, the smaller increases in the young adult population for two of the most populous regions (Region 5 and Region 7) in the Commonwealth slowed growth for this age group for the state. In other words, given that Region 5 and Region 7 accounted for more than 50% of the state's population, slowing young adult population growth in these regions weighed heavily on the state's overall performance.

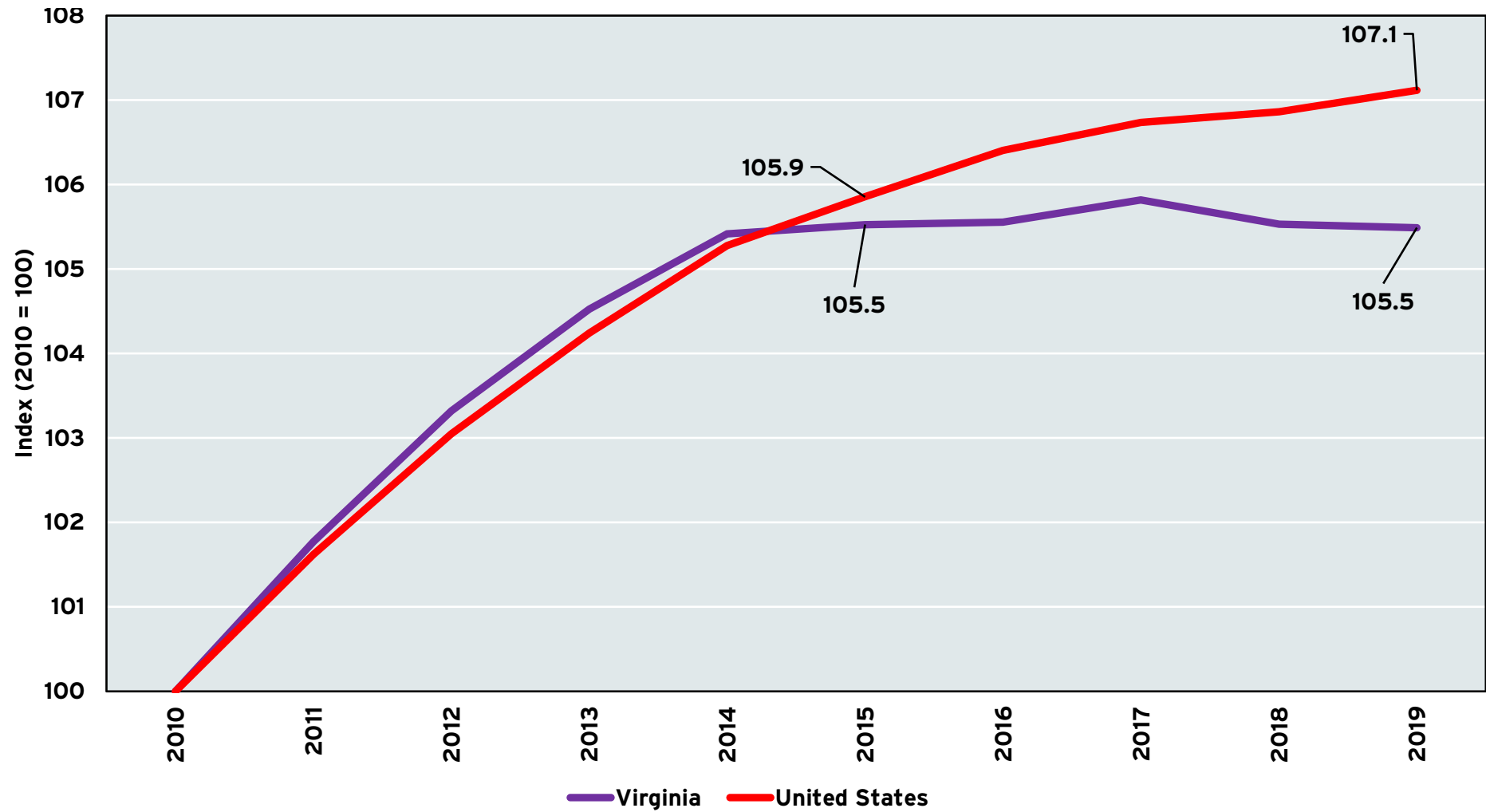
In the current decade, Region 5 and Region 7, which made up nearly 50% of Virginia's population in 2022, experienced absolute declines in the population of adults ages 20 to 34. While the negative growth is troubling in these two major regions, the good news is that other regions in the Commonwealth gained young adults and these gains offset the losses in Region 5 and Region 7. Drawing back, Virginia's population of adults ages 20 to 34 grew slower than the nation last decade and this decade, looming concern about the economic development in the Commonwealth.

<sup>2</sup> Individuals in "Gen Z" were born between 1997 and 2012 while "Millennials" were born between 1981 and 1996. "Gen X" spans birth years 1965 to 1980 while "Baby Boomers" span two time periods, 1946 to 1954 and 1955 to 1964.

<sup>3</sup> We remind the reader that the population estimates are consistent within decades and are "reset" each decennial Census.

**GRAPH 2**

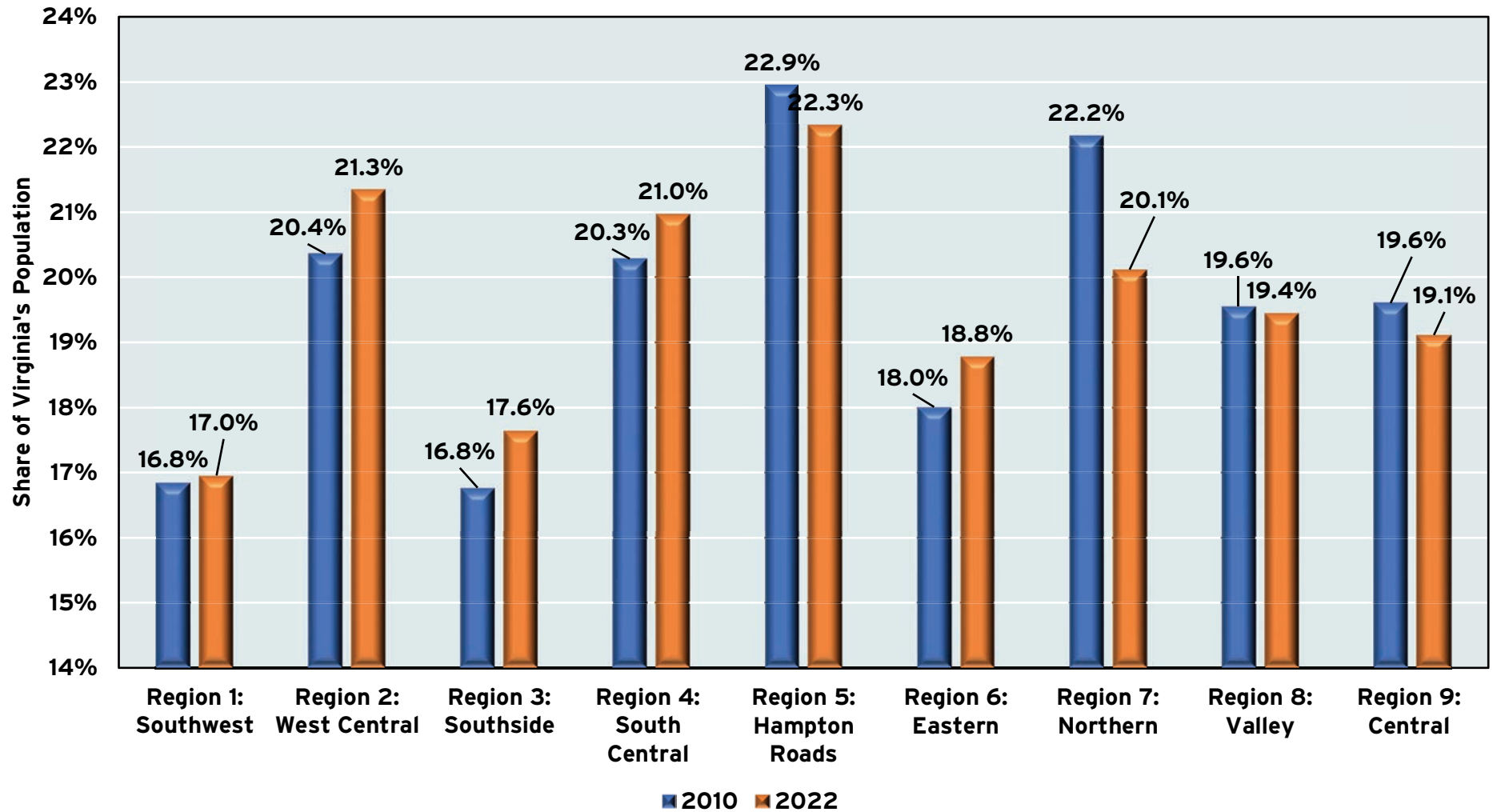
**POPULATION GROWTH: ADULTS AGES 20 TO 34  
UNITED STATES AND VIRGINIA, 2010 - 2019**



Source: U.S. Census Bureau, 2019 Components of Change Estimates and Dragas Center for Economic Analysis and Policy.

**GRAPH 3**

**GO VIRGINIA REGIONS: ADULTS 20 TO 34 YEARS AS SHARE OF TOTAL POPULATION  
2010 AND 2022**



Source: United States Census Bureau, Population Estimates, various years. Regional estimates are aggregated from county-level population estimates to ensure consistency with city and county-level estimates and to align with GO Virginia region definitions.

**TABLE 5****ADULTS AGES 20 TO 34 POPULATION  
GO VIRGINIA REGIONS, VIRGINIA, AND THE UNITED STATES, 2010 - 2022**

Region	2010 Population Ages 20 - 34	2019 Population Ages 20 - 34	2020 Population Ages 20 - 34	2022 Population Ages 20 - 34	Annual Growth 2010 - 2019	Annual Growth 2020 - 2022
Region 1: Southwest	67,692	62,370	61,548	62,172	-0.9%	0.5%
Region 2: West Central	155,187	165,958	164,278	166,439	0.7%	0.7%
Region 3: Southside	64,341	63,265	63,428	64,353	-0.2%	0.7%
Region 4: South Central	238,886	267,159	271,932	277,572	1.3%	1.0%
Region 5: Hampton Roads	383,356	399,472	394,728	391,168	0.5%	-0.5%
Region 6: Eastern	84,813	97,873	98,508	102,203	1.6%	1.9%
Region 7: Northern	497,740	515,021	513,569	512,091	0.4%	-0.1%
Region 8: Valley	99,533	105,689	105,903	107,834	0.7%	0.9%
Region 9: Central	78,769	85,193	85,310	86,480	0.9%	0.7%
Virginia	1,670,317	1,762,000	1,759,204	1,770,312	0.6%	0.3%
United States	63,664,529	68,194,912	67,635,647	68,207,079	0.8%	0.4%

Source: U.S. Census Bureau, 2019 and 2022 Components of Change Estimates and Dragas Center for Economic Analysis and Policy.



## Gross Domestic Product Across GO Virginia Regions

Nominal and real (inflation-adjusted) Gross Domestic Product (GDP) is a gauge of economic performance at the regional, state, and national levels. GDP estimates are available quarterly at the national and state level, with lags of one and six months, respectively. At the metropolitan statistical area and county level, GDP estimates are typically lagged by one year, and these estimates are subject to substantial revision in the coming years. County-level GDP estimates also do not aggregate to metropolitan area estimates, so care must be taken to interpret county-level, regional (aggregated from county-level), and metropolitan statistical area estimates. The data, while useful, are thus informative, and one should examine more contemporaneous measures of economic activity, such as data on the civilian labor force, employment, and nonfarm payrolls to obtain a more fulsome picture of economic activity.

In Table 6, we use U.S. Bureau of Economic Analysis (BEA) estimates of county-level GDP to estimate GDP for each GO Virginia Region. While lagged, the estimates allow us to compare economic performance across and within GO Virginia regions. The estimates in Table 6 show that the center of gravity of economy in the Commonwealth has shifted towards Regions 4 and 7 over the past decade. Over this period, Region 4 and Region 7 have observed increases in their shares of the state's GDP. While Region 5 is part of the urban crescent, its relatively anemic economic performance over the previous decade meant that its share of the Commonwealth's economy declined by approximately 2 percentage points.

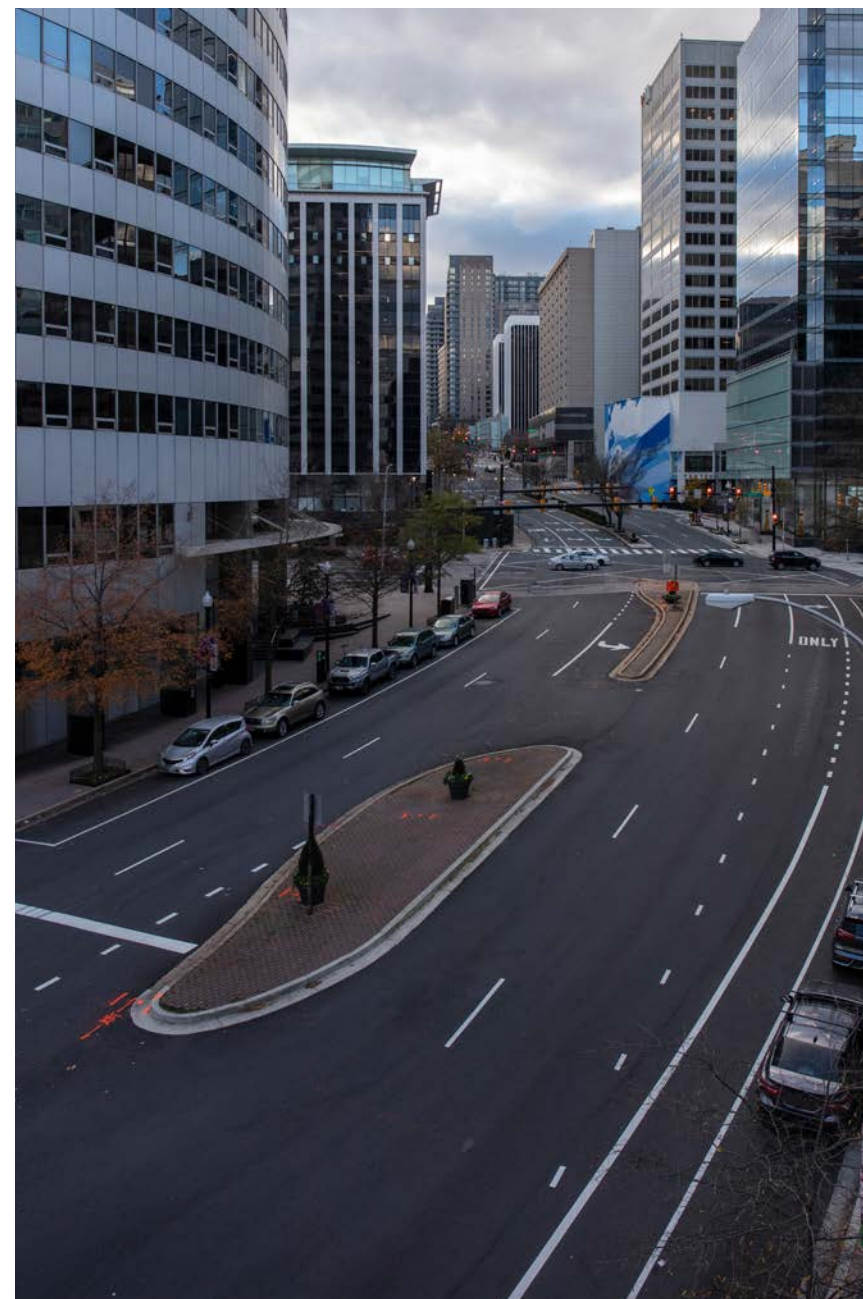
We note, as with the state level GDP data, the county level GDP data are undergoing a benchmark revision. Until this revision is complete, we rely on previously released data to make comparisons across time.

Region	2010	Share of Virginia's 2010 GDP	2021	Share of Virginia's 2021 GDP
<b>Region 1: Southwest</b>	\$13.4	3.0%	\$12.0	2.4%
<b>Region 2: West Central</b>	\$31.0	7.0%	\$32.2	6.4%
<b>Region 3: Southside</b>	\$11.1	2.5%	\$11.0	2.2%
<b>Region 4: South Central</b>	\$66.7	15.1%	\$82.3	16.3%
<b>Region 5: Hampton Roads</b>	\$86.4	19.6%	\$88.2	17.4%
<b>Region 6: Eastern</b>	\$15.4	3.5%	\$18.1	3.6%
<b>Region 7: Northern</b>	\$175.8	39.8%	\$215.7	42.7%
<b>Region 8: Valley</b>	\$23.1	5.2%	\$25.1	5.0%
<b>Region 9: Central</b>	\$18.4	4.2%	\$20.9	4.1%
<b>Virginia</b>	\$441.2	--	\$505.3	--

Source: U.S. Bureau of Economic Analysis, Gross Domestic Product by County, 2022 and Dragas Center for Economic Analysis and Policy. Real GDP in 2012 chained dollars. Percentages may not sum to 100 percent due to rounding.

As economic activity becomes increasingly concentrated in the urban crescent and within the urban crescent along the I-95 corridor between Richmond and Northern Virginia, a reinforcing economic development cycle continues to hinder efforts to promote growth across the Commonwealth. Higher levels of economic activity attract people, and people, generally, attract jobs.<sup>4</sup> More jobs attract more people, and the cycle reinforces itself. There are limits, of course, but if individuals can trade distance for cheaper housing, then we observe the rise of exurban communities. The challenge for state economic policy is to swim against this rising tide of economic activity to more equitably distribute jobs and economic opportunities across the Commonwealth. This is not a small task and will require the continued commitment of resources and attention to bring results to fruition.

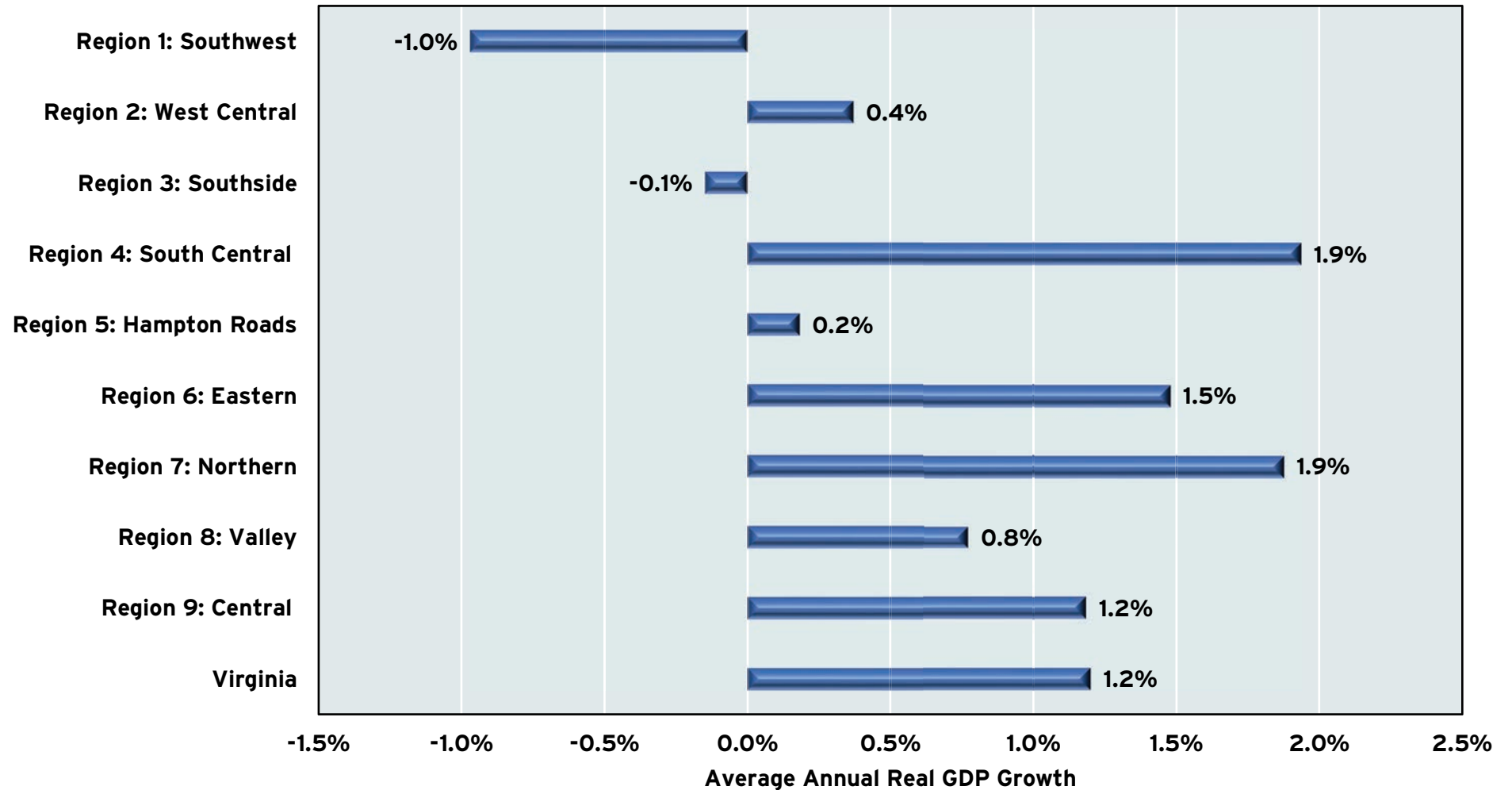
In Graph 4, we compare the average annual rate of real GDP growth from 2010 to 2022 across GO Virginia regions. Over this period, Region 4 and Region 7 economies grew at an annual average rate of 1.9%, 0.7 percentage points higher than the Commonwealth. Region 6 also grew faster than the state average, while Region 9 grew at the same rate as Virginia.



<sup>4</sup> Gerke J. Hoogstra, Jouke van Dijk & Raymond J. G. M. Florax (2017) Do jobs follow people or people follow jobs? A meta-analysis of Carlini-Mills studies, *Spatial Economic Analysis*, 12:4, 357-378, DOI: 10.1080/17421772.2017.1340663

**GRAPH 4**

**GO VIRGINIA REGIONS, REAL GDP GROWTH, 2010 - 2021**



Source: U.S. Bureau of Economic Analysis, Gross Domestic Product by County, 2021 and Dragas Center for Economic Analysis and Policy. Real GDP in 2012 chained dollars. Percentages may not sum to 100 percent due to rounding. Estimated annual growth is the compound annual growth rate.

## Federal Employment Across GO Virginia Regions

An important transmission mechanism of federal spending is the employment of military personnel. The BEA estimates military employment at the county level, and we can aggregate these estimates to the regional level.<sup>5</sup> However, in 2021, the BEA released revised estimates to its employment statistics. While the military employment data remained unchanged from 2001 to 2015, there was a significant change in the estimates from 2016 onwards. The revised estimates now classify military personnel by place of work and are based on data provided by the Defense Manpower Data Center (DMDC). Deployed personnel are no longer counted as employed in a region even though they may be stationed in a region. A sailor, for example, who is stationed on a ship that is based in Norfolk, but is deployed overseas for an extended period, would not be counted as employed in Region 5. Given the number of active-duty personnel in Region 5 and that many of these personnel are deployed at some point during their residence in the region, this change negatively impacted estimates of military personnel employed in the region.

The change in methodology was not trivial. We illustrate the divergence of the new estimates from the previous series in Graph 5. The 2019 estimates, for example, estimated that there were 83,400 active-duty personnel in Region 5. The 2021 estimates lowered this number to 64,600. Obviously, if there were approximately 19,000 fewer soldiers, sailors, airmen, and Marines in Region 5, it would have been noticeable. Our conversations with the BEA uncovered this error and, at some point, the estimates will be revised to reflect active-duty service members stationed but deployed elsewhere. Until this correction occurs, we do not present the BEA estimates for military employment and compensation as they may not accurately reflect the presence of active-duty service members in the region.

Federal civilian employment, on the other hand, was not impacted by the BEA's change in methodology. We thus present these estimates to

highlight the impact of the federal government on civilian employment across the Commonwealth. Graph 6 presents the share of federal civilian employment out of total employment by GO Virginia region for 2021. Across Virginia, approximately 5% of all employees in 2021 were federal civilian employees; however, this average obscures the concentration of federal employees in three regions: Region 5 (Hampton Roads), Region 6 (Eastern), and Region 7 (Northern Virginia). Outside of these three regions, the average share of federal civilian employees was 1.5%. Within these three regions, the average share of federal civilian employees was 7.1%.

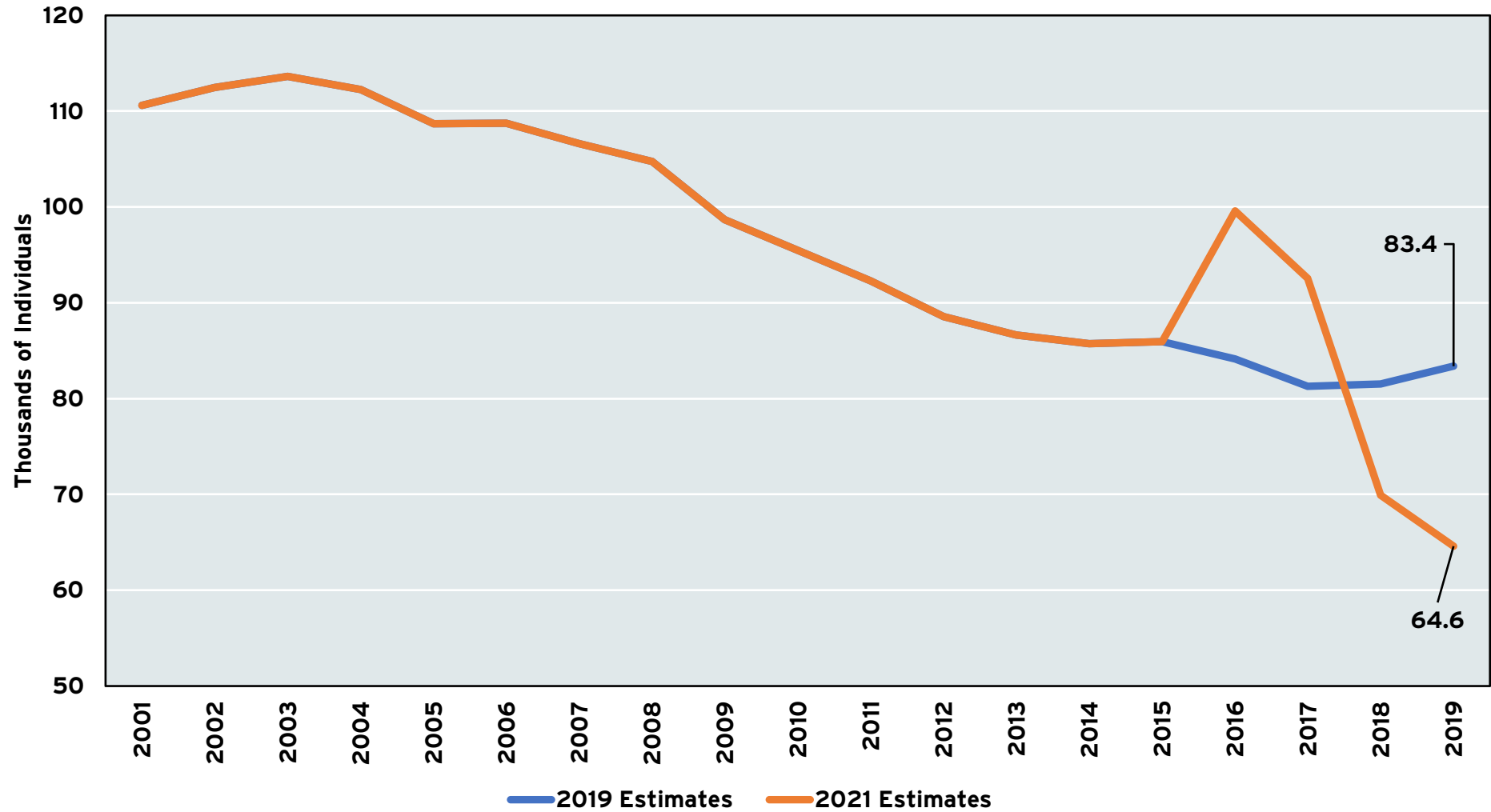
Total compensation measures wages and salaries as well as employer contributions to defined benefit plans. Increasing levels of total compensation are an indicator of rising wages and salaries in a region, which may also represent a shift in the composition of jobs towards higher-paying jobs, another positive indicator of economic performance. As the military employment estimates are adversely impacted by the change in BEA methodology, we focus on federal civilian employment and compensation in Table 7.

Table 7 illustrates, not surprisingly, that Region 5 and Region 7 accounted for 79.1% of all federal civilian employment in 2021. Regions 4, 5, and 7, which form the “urban crescent,” had 87.5% of all federal civilian employees in Virginia in 2021. In other words, in 2021, almost 9 out of 10 federal civilian workers in Virginia were employed in Regions 4, 5, and 7. In 2021, the average compensation of all employees in the Commonwealth was \$84,980. In the same year, the average compensation of federal civilian employees was \$146,810. Federal civilian compensation was more than twice that of average civilian compensation in Regions 6, 8, and 9.

<sup>5</sup> For more information on how the BEA estimates employment and how these estimates differ from U.S. Bureau of Labor Statistics (BLS) and U.S. Census Bureau estimates, see <https://www.bea.gov/help/faq/104>.

**GRAPH 5**

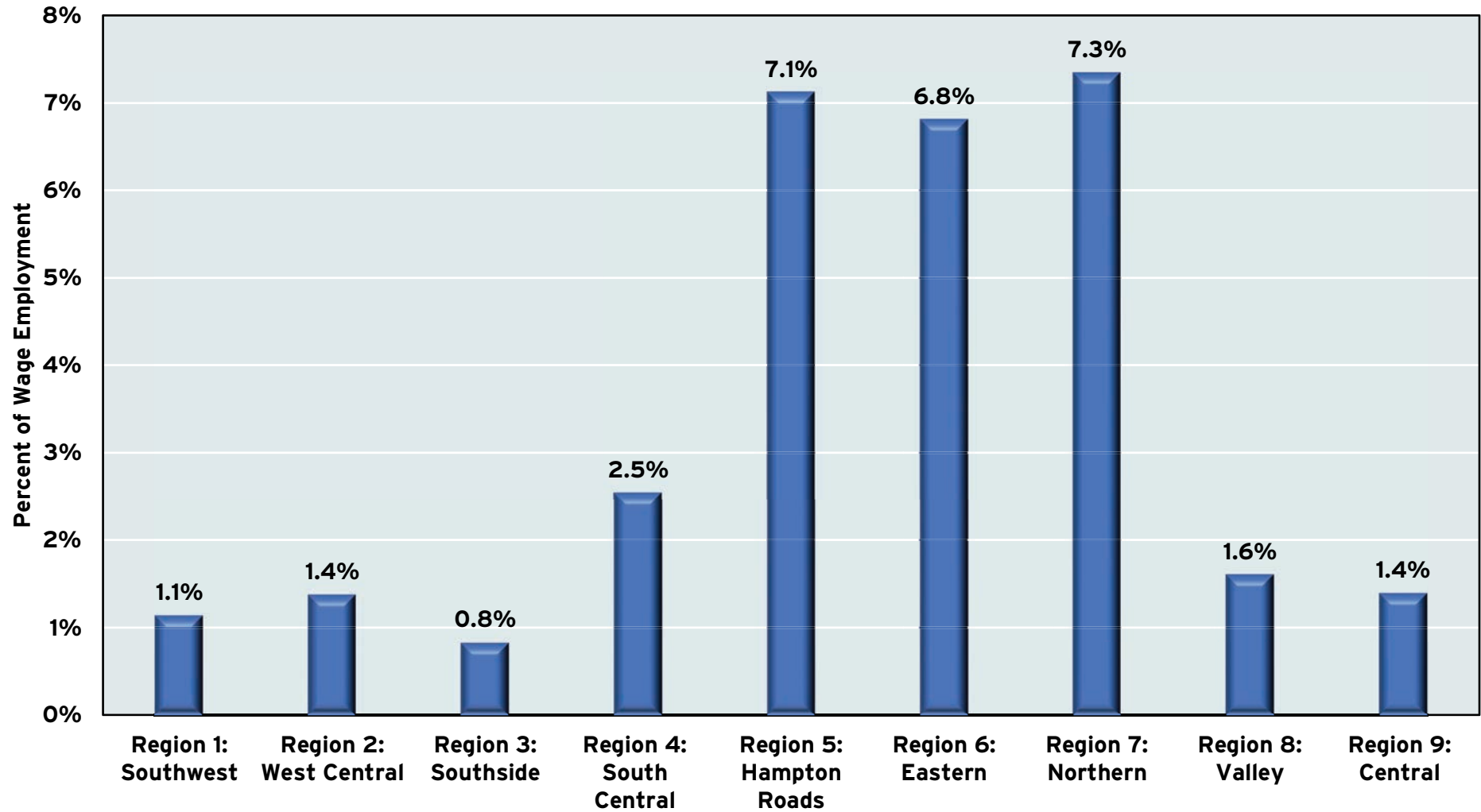
**2019 AND 2021 ESTIMATES OF MILITARY EMPLOYMENT  
VIRGINIA'S REGION 5, 2011 - 2019**



Source: U.S. Bureau of Economic Analysis, CAEMP25N, Total Full-Time and Part-Time Employment by NAICS Industry, and Dragas Center for Economic Analysis and Policy.

**GRAPH 6**

**FEDERAL CIVILIAN EMPLOYMENT AS PERCENT OF WAGE EMPLOYMENT  
GO VIRGINIA REGIONS, 2021**



Source: U.S. Bureau of Economic Analysis, CAEMP25N, Total Full-Time and Part-Time Employment by NAICS Industry, and Dragas Center for Economic Analysis and Policy.



**TABLE 7**  
**FEDERAL CIVILIAN EMPLOYMENT,**  
**GO VIRGINIA REGIONS AND VIRGINIA, 2021**

	Federal Civilian Employment	Share of Virginia Total	Average Federal Civilian Compensation	Average Civilian Compensation
<b>Region 1: Southwest</b>	1,471	0.7%	\$103,264	\$54,068
<b>Region 2: West Central</b>	4,815	2.3%	\$116,503	\$64,230
<b>Region 3: Southside</b>	1,049	0.5%	\$95,876	\$54,481
<b>Region 4: South Central</b>	17,401	8.4%	\$127,303	\$78,652
<b>Region 5: Hampton Roads</b>	60,709	29.5%	\$123,973	\$75,141
<b>Region 6: Eastern</b>	11,903	5.8%	\$165,270	\$70,603
<b>Region 7: Northern</b>	102,239	49.6%	\$164,615	\$111,988
<b>Region 8: Valley</b>	3,847	1.9%	\$127,748	\$62,483
<b>Region 9: Central</b>	2,582	1.3%	\$155,551	\$74,511
<b>Virginia</b>	206,016	---	\$146,810	\$84,980

Source: U.S. Bureau of Economic Analysis, CAEMP25N, Total Full-Time and Part-Time Employment by NAICS Industry, and Dragas Center for Economic Analysis and Policy.

The presence of the federal government is undoubtedly a fiscal boon to the Commonwealth as federal civilian employees, along with federal grants, transfers, expenditures, and military employment fuel economic activity in the state. Yet, this boon is a two-edged sword, fueling growth in times of plenty and slowing growth in times of federal restraint. When the federal government dominates a regional economy, it is difficult to “move the needle” on employment because a significant proportion of economic activity is determined by political decisions in Washington, D.C.

One statistic illustrates how this dependence creates an economic development challenge. In 2021, the average federal civilian employee compensation was 1.7 times higher than the average compensation for all employees in Virginia. A reduction in federal civilian personnel would require the private sector to create almost 1.7 new jobs for every lost federal civilian employee to maintain total compensation. This challenge is highlighted by the fact that the ratio of federal civilian compensation to all employee compensation ranged from a low of 1.5 (Region 7) to a high of 2.3 (Region 6). In other words, a drawdown in federal civilian employment in Region 6, for instance, would require, on average, the private sector to create 2.3 jobs to replace the lost compensation for every lost federal civilian job.

## Per Capita Income Across GO Virginia Regions

Per capita income measures the average income earned per resident of a region. Faster growth in per capita income is a signal that a region is not only growing but growing through the creation of higher-paying jobs. Regions that lag in per capita income growth may have slower employment growth, or the composition of employment is tilted towards lower-paying jobs. If individuals vote with their feet about economic opportunities, they will tend to seek out regions that offer increasing economic opportunities, a factor that is measured, in part, by per capita income growth over time.

Table 8 compares Virginia's average annual growth in per capita income with that of the nation for the last three decades as well as the change in real per capita income from 2019 to 2021. From 1990 to 1999, per capita income in the Commonwealth grew faster (1.6%) than the nation (1.5%). In the subsequent decade, average annual growth in per capita income in Virginia slowed to 0.9%, but this rate was three times higher than in the United States. From 2010 to 2019, the pace of per capita income growth in the state quickened to 1.1%, but this was slower than the pace of the United States (1.9%). Most recently, from 2019 to 2021, Virginia's change in per capita income lagged that of the nation. In absolute terms, Virginia's nominal per capita income remains above that of the nation, but this gap may close if per capita income growth in the Commonwealth continues to fall behind that of the United States.

Graph 7 displays nominal personal income for the GO Virginia regions, Virginia, and the United States in 2021 while Table 9 illustrates the growth in real per capita income across the last three decades as well as the change in real per capita income from 2019 to 2021 for each of the GO Virginia regions. Not surprisingly, Region 7 has the highest level of nominal income per capita (\$86,307) in 2021, followed by Region 9 (\$74,250) and Region 4 (\$62,606). For the change in real per capita income from 2019 to 2021, it was the highest for Region 3 (12.9%), Region 1 (11.3%), and Region 2 (8.1%). Even with the higher growth, however, nominal per capita income in these regions lagged considerably behind those in Regions 4, 9, and 7 in 2021.

**TABLE 8**

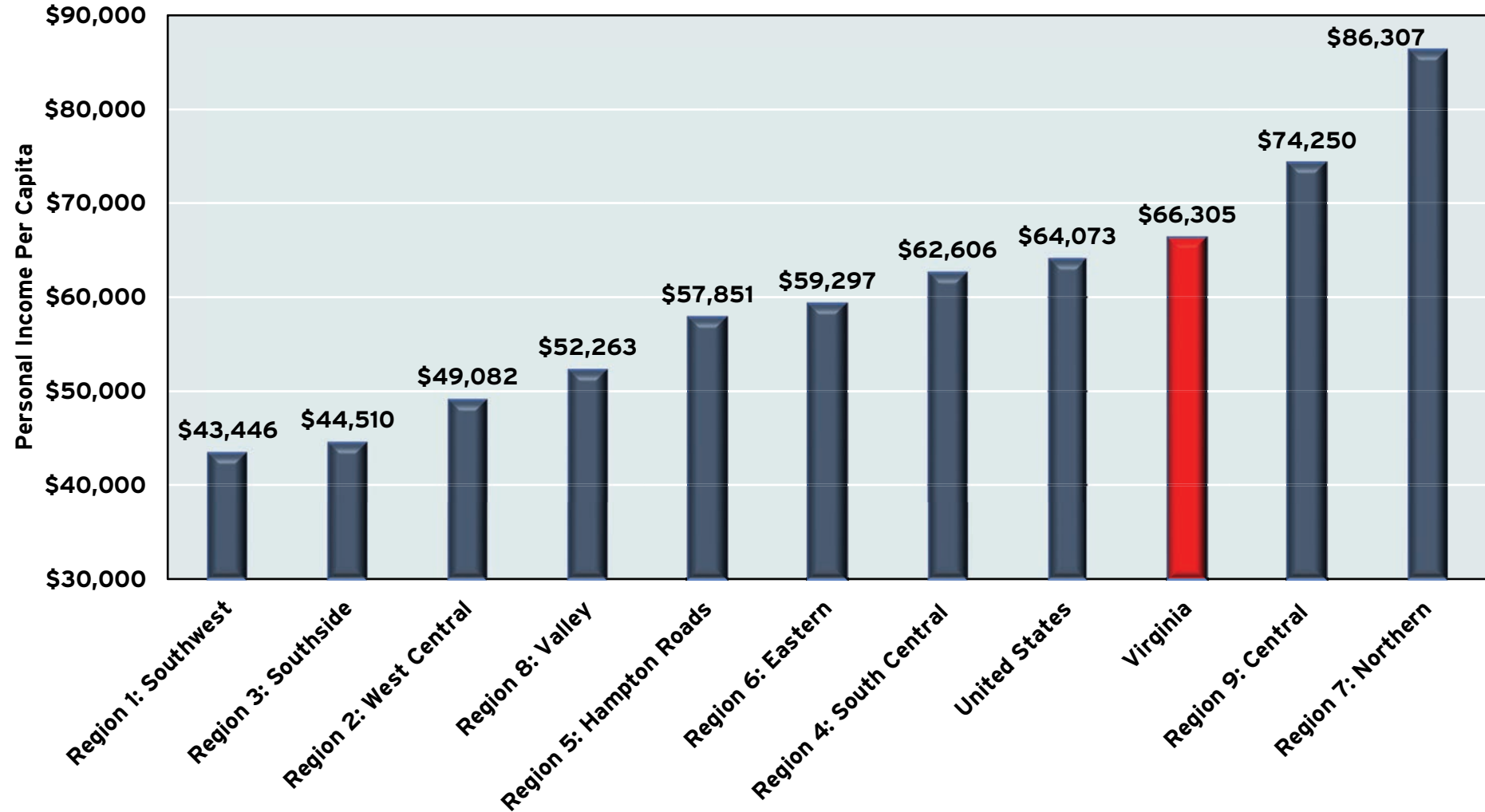
**PER CAPITA INCOME AND GROWTH IN REAL PER CAPITA INCOME VIRGINIA AND THE UNITED STATES, 1990-2021**

	2021 Nominal Per Capita Income	Real Income Growth 1990-1999	Real Income Growth 2000-2009	Real Income Growth 2010-2019	Change in Real Income 2019-2021
<b>Virginia</b>	<b>\$66,305</b>	<b>1.6%</b>	<b>0.9%</b>	<b>1.1%</b>	<b>5.9%</b>
<b>United States</b>	<b>\$64,073</b>	<b>1.5%</b>	<b>0.3%</b>	<b>1.9%</b>	<b>7.5%</b>

Source: U.S. Bureau of Economic Analysis, Personal Income by County, Table CAINC1 and National Income and Product Accounts, and Dragas Center for Economic Analysis and Policy. Annual growth rate is the Compound Annual Growth Rate. Base year for real per capita income is 2012.

**GRAPH 7**

**NOMINAL PER CAPITA INCOME  
THE UNITED STATES, VIRGINIA AND  
GO VIRGINIA REGIONS, 2021**



Source: U.S. Bureau of Economic Analysis, Personal Income by County, Table CAINCI, National Income and Product Accounts, and Dragas Center for Economic Analysis and Policy.

**TABLE 9****PER CAPITA INCOME AND GROWTH IN REAL PER CAPITA INCOME  
VIRGINIA AND THE UNITED STATES, 1990-2020**

	2021 Nominal Per Capita Income	Real Income Growth 1990-1999	Real Income Growth 2000-2009	Real Income Growth 2010-2019	Change in Real Income 2019-2021
<b>Region 1: Southwest</b>	<b>\$43,446</b>	<b>1.2%</b>	<b>1.5%</b>	<b>0.4%</b>	<b>11.3%</b>
<b>Region 2: West Central</b>	<b>\$49,082</b>	<b>1.1%</b>	<b>0.6%</b>	<b>0.9%</b>	<b>8.1%</b>
<b>Region 3: Southside</b>	<b>\$44,510</b>	<b>0.6%</b>	<b>0.5%</b>	<b>1.1%</b>	<b>12.9%</b>
<b>Region 4: South Central</b>	<b>\$62,606</b>	<b>1.0%</b>	<b>0.4%</b>	<b>1.6%</b>	<b>6.5%</b>
<b>Region 5: Hampton Roads</b>	<b>\$57,851</b>	<b>1.1%</b>	<b>1.5%</b>	<b>0.6%</b>	<b>7.8%</b>
<b>Region 6: Eastern</b>	<b>\$59,297</b>	<b>1.1%</b>	<b>1.7%</b>	<b>0.8%</b>	<b>6.5%</b>
<b>Region 7: Northern</b>	<b>\$86,307</b>	<b>2.1%</b>	<b>0.0%</b>	<b>0.9%</b>	<b>3.7%</b>
<b>Region 8: Valley</b>	<b>\$52,263</b>	<b>1.0%</b>	<b>1.0%</b>	<b>1.3%</b>	<b>7.9%</b>
<b>Region 9: Central</b>	<b>\$74,250</b>	<b>1.9%</b>	<b>0.9%</b>	<b>2.4%</b>	<b>4.3%</b>
<b>Virginia</b>	<b>\$66,305</b>	<b>1.6%</b>	<b>0.9%</b>	<b>1.1%</b>	<b>5.9%</b>
<b>United States</b>	<b>\$64,073</b>	<b>1.5%</b>	<b>0.3%</b>	<b>1.9%</b>	<b>7.5%</b>

Source: U.S. Bureau of Economic Analysis, Personal Income by County, Table CAINC1 and National Income and Product Accounts, and Dragas Center for Economic Analysis and Policy. Annual growth rate is the Compound Annual Growth Rate. Base year for real per capita income is 2012.

## Individual Employment Growth in Region 5

Robust growth in individual employment is a clear signal of the economic performance of a region.<sup>6</sup> Table 10 illustrates the average annual rate of individual employment growth among GO Virginia Regions by decade from 1990 to 2022. We note that the most current estimates (2020 to 2022) are biased upward due to the negative shock of the COVID-19 pandemic in 2020. Why? The downturn in employment across the Commonwealth due to the COVID-19-induced economic shock meant that average employment in 2020 was lower than it would have been in the absence of the pandemic. As such, the estimates from 2020 to 2022 capture the return to pre-pandemic levels of employment as well as growth above the pre-pandemic employment levels. With this in mind, we can use the most recent data to compare the speed of recovery across GO Virginia regions.

Table 10 illustrates that the pace of recovery across Virginia has been slower than the nation with only Region 4 (South Central) maintaining the same rate of employment growth as the United States from 2020 to 2022. No region in Virginia experienced individual employment growth faster than the nation over this period. For the same period, Region 1 (Southwest) and Region 5 (Hampton Roads) observed individual employment growth that lagged that of the nation by at least 1 percentage point. Given that Region 1 experienced negative annual employment growth over the last decade, the positive growth in 2022 is a modicum of good news. Region 5, which is considerably larger than Region 1, has seen individual employment grow slower than the state in each of the last three decades as well as in the current decade. Provided that Region 7 also grew slower than the nation, this, in large part, explains why Virginia's individual employment growth fell behind that of the United States from 2020 to 2022.

The headline unemployment rate is equal to the ratio of the number of unemployed people in the labor force to the overall labor force. Graph 8 demonstrates the average annual unemployment rate for each GO Virginia region in 2022. While unemployment spiked during the spring of 2020, the rapid rise in unemployment was not persistent, unlike the Great Recession of 2007-2009. Except for Region 1 and Region 3, the average unemployment rate hovered around 3%, a signal of how “tight” labor markets were across the Commonwealth.

The recovery in individual employment and the unemployment rate, however, needs to be juxtaposed with the longer-term decline in labor force participation regionally, across the state, and across the nation. While the unemployment rate may be low, it belies the fact that a non-trivial percentage of workers are “sitting on the sidelines” and are not actively looking for work or working. The reasons for the long-term decline in labor force participation are complex, but we must temper our good news with this fact.

<sup>6</sup> Individual employment estimates are obtained for the Current Population Survey's reference week. Individuals are considered employed if they meet any of the following criteria: (1) worked at least 1 hour as a paid employee, (2) worked at least 1 hour in their own business, profession, trade, or farm, (3) were temporarily absent from their job, business or farm, and (4) worked without pay for a minimum of 15 hours in a business or farm owned by a family member.

**TABLE 10****EMPLOYMENT GROWTH, GO VIRGINIA REGIONS AND VIRGINIA  
1990 - 2022**

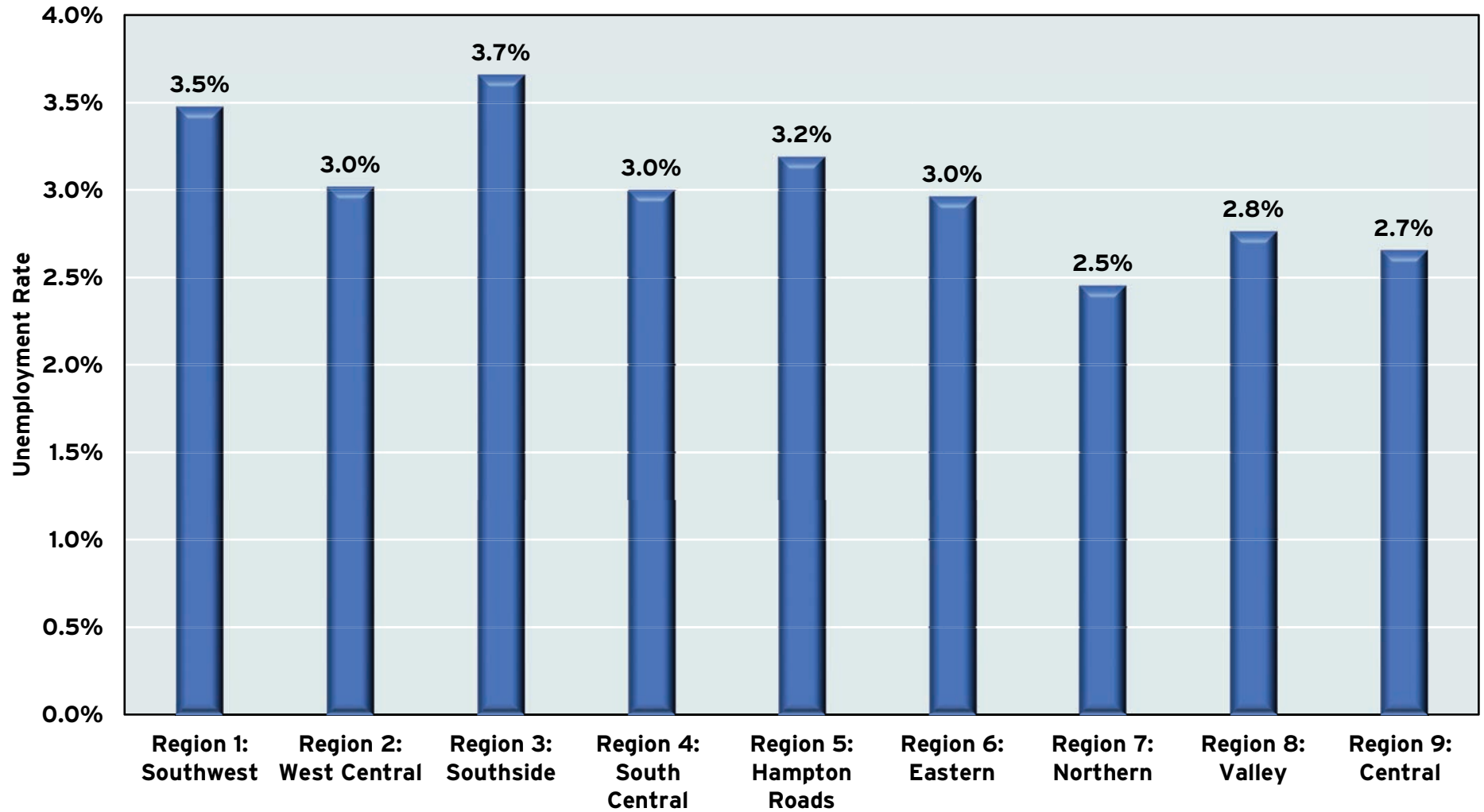
	<b>Annual Employment Growth 1990-1999</b>	<b>Annual Employment Growth 2000-2009</b>	<b>Annual Employment Growth 2010-2019</b>	<b>Annual Employment Growth 2020-2022</b>
<b>Region 1: Southwest</b>	<b>0.2%</b>	<b>0.2%</b>	<b>-0.3%</b>	<b>2.2%</b>
<b>Region 2: West Central</b>	<b>0.8%</b>	<b>0.0%</b>	<b>0.5%</b>	<b>2.8%</b>
<b>Region 3: Southside</b>	<b>0.0%</b>	<b>-0.9%</b>	<b>0.6%</b>	<b>2.6%</b>
<b>Region 4: South Central</b>	<b>1.1%</b>	<b>0.7%</b>	<b>1.7%</b>	<b>3.5%</b>
<b>Region 5: Hampton Roads</b>	<b>1.0%</b>	<b>0.7%</b>	<b>0.9%</b>	<b>2.5%</b>
<b>Region 6: Eastern</b>	<b>2.6%</b>	<b>2.2%</b>	<b>1.5%</b>	<b>3.0%</b>
<b>Region 7: Northern</b>	<b>1.4%</b>	<b>1.6%</b>	<b>1.6%</b>	<b>3.1%</b>
<b>Region 8: Valley</b>	<b>1.5%</b>	<b>0.8%</b>	<b>1.3%</b>	<b>3.1%</b>
<b>Region 9: Central</b>	<b>1.3%</b>	<b>1.7%</b>	<b>1.6%</b>	<b>3.3%</b>
<b>Virginia</b>	<b>1.1%</b>	<b>1.0%</b>	<b>1.2%</b>	<b>3.0%</b>
<b>United States</b>	<b>1.3%</b>	<b>0.2%</b>	<b>1.4%</b>	<b>3.5%</b>

Source: U.S. Bureau of Labor Statistics, Local Area Unemployment Statistics, 1990 - 2023 and Dragas Center for Economic Analysis and Policy. Annual average of monthly non-seasonally adjusted data. Annual growth rate is the Compound Annual Growth Rate.



**GRAPH 8**

**AVERAGE ANNUAL UNEMPLOYMENT RATE  
GO VIRGINIA REGIONS, 2022**



Source: U.S. Bureau of Labor Statistics, Local Area Unemployment Statistics, 1990 - 2023, and Dragas Center for Economic Analysis and Policy. Annual average of monthly non-seasonally adjusted data.

## Establishment Growth

An establishment is a single physical location where business is conducted or where services or industrial operations are performed. Economic activity is not only reflected in the value of output and the number of individuals employed by businesses, but also in the number of establishments. Businesses, like individuals, can vote about economic opportunities by expanding or contracting the number of establishments. A region that is gaining establishments is typically the location of improving economic conditions. Likewise, a decline in the number of establishments is correlated with a deterioration of the economic fortunes.

Graph 9 compares the growth in the number of establishments in Virginia with the United States from 2000 to 2021. In 2007, the number of establishments in Virginia was 14.2% higher than that in 2000, and 5.2 percentage points higher than the national average. In other words, the number of establishments in Virginia grew faster than the nation in the years prior to the Great Recession. During and in the aftermath of the Great Recession, the decline in the number of establishments was relatively larger in Virginia than the United States. By 2011, there were 8.8% more establishments in Virginia than in 2000, whereas nationally there were 4.0% more establishments when compared to 2000. Graph 9 also highlights how establishment growth was higher nationally from 2012 to 2021. Across the United States, the number of establishments grew by 9.7% from 2012 to 2021 while the number of establishments grew by only 7.0% in Virginia for the same period.

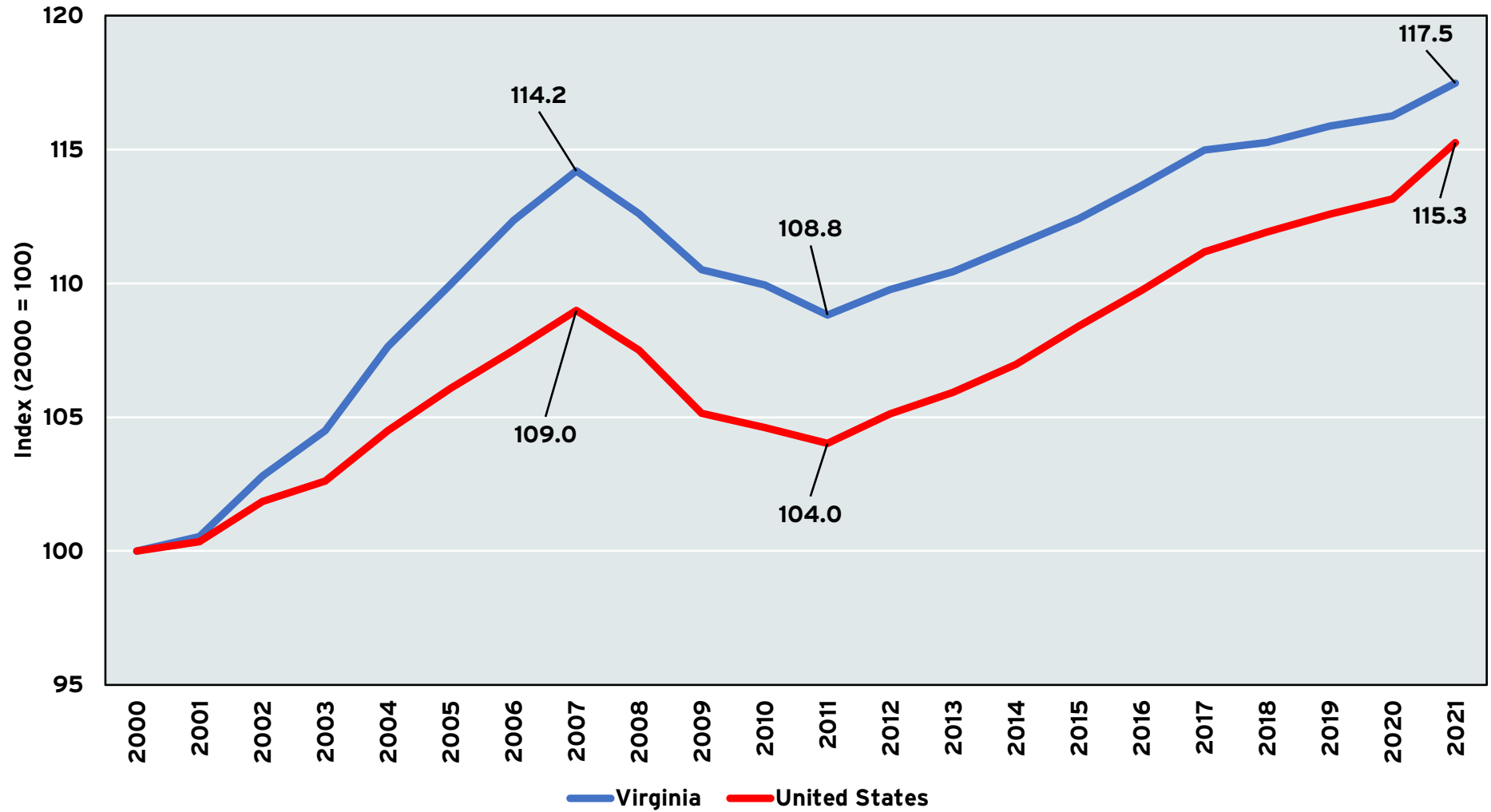
Table 11 presents the annual establishment growth for GO Virginia regions, Virginia, and the United States. A familiar story emerges from this data. From 1990 to 1999, establishment growth was positive across Virginia, and Virginia's higher growth rate was powered by the performance of Regions 6 and 7. From 2000 to 2009, establishment growth remained higher in these regions compared to the national average, however, Regions 1 and 3 observed negative establishment growth. From 2010 to 2019, Region 2 joined Regions 1 and 3 with negative establishment growth over the decade. Region 7 continued to create establishments at a pace above the national average, but overall,

establishment creation cooled considerably across the Commonwealth in the previous decade.

From 2020 to 2021, the number of establishments continued to decline in Region 1 and Region 3. We note that this occurred even though the pandemic shock registered in the 2020 data. In other words, these regions failed to see a bounce-back in the number of establishments after the pandemic. Region 6 observed the largest growth in the number of establishments from 2020 to 2021 (2.6%), however, Region 7, which previously outperformed the nation, saw establishment creation fall behind the state and national average from 2020 to 2021. The open question is whether this is a one-time aberration associated with the pandemic economic shock and a decline in domestic and international travel in 2020 and into 2021 or whether the economy of Northern Virginia is no longer the force it was for establishment creation.

**GRAPH 9**

**ESTABLISHMENT GROWTH IN VIRGINIA AND THE UNITED STATES  
2000 - 2021**



Source: U.S. Census Bureau, County Business Patterns and Dragas Center for Economic Analysis and Policy.

**TABLE 11****ESTABLISHMENT GROWTH, U.S., VIRGINIA, AND GO VIRGINIA REGIONS  
1990 - 2021**

	Annual Establishment Growth 1990 - 1999	Annual Establishment Growth 2000 - 2009	Annual Establishment Growth 2010 - 2019	Establishment Growth 2020-2021
<b>Region 1: Southwest</b>	1.2%	-0.9%	-1.3%	-0.7%
<b>Region 2: West Central</b>	1.5%	0.4%	-0.1%	1.1%
<b>Region 3: Southside</b>	1.0%	-0.3%	-0.9%	-0.3%
<b>Region 4: South Central</b>	1.3%	1.0%	0.8%	0.8%
<b>Region 5: Hampton Roads</b>	1.0%	1.0%	0.1%	1.3%
<b>Region 6: Eastern</b>	2.5%	1.9%	0.4%	2.6%
<b>Region 7: Northern</b>	2.6%	1.9%	1.4%	0.9%
<b>Region 8: Valley</b>	1.2%	0.9%	0.2%	1.2%
<b>Region 9: Central</b>	2.0%	1.3%	0.6%	1.7%
<b>Virginia</b>	1.7%	1.1%	0.6%	1.0%
<b>United States</b>	1.4%	0.6%	0.8%	1.9%

Source: U.S. Census Bureau, County Business Patterns, and Dragas Center for Economic Analysis and Policy. The annual growth rate is the Compound Annual Growth Rate.

## Final Thoughts

The question of how Virginia's GO Virginia regions are doing is likely to depend on whether one views the proverbial economic glass as half-full or half-empty. From the half-full perspective, many GO Virginia regions are in the midst of a new economic expansion, with more individuals employed than prior to the COVID-19 pandemic and unemployment rates hovering at or below 3%. Population growth has been uneven, but the urban crescent continues to gain population although one must caveat this with regards to negative net domestic migration from Region 5 (Hampton Roads) and Region 7 (Northern Virginia). While Region 7 continued to gain population in 2022, Region 5 observed a small loss in population. If this trend were to continue (and possibly accelerate) for Region 5, it would further shift the distribution of population and economic activity towards the I-95 corridor bounded by Richmond and Northern Virginia. Perhaps the glass is half full but leaking from this perspective.

Each year, we ask what the future holds. Increases in defense spending will drive economic activity in Region 5 and Region 7 in 2023 and into 2024. However, these gains appear to be subject to diminishing returns, that is, the increases in defense spending in the late 2010's did not appear to have the same return to economic activity when compared to earlier in the century. More individuals are employed, and jobs have increased from 2022 to 2023 across Virginia. Many workers have seen increases in compensation, which, of course, have been tempered by rising prices. A significant challenge remains: a lack of workers to sustain job growth. Higher reservation wages, higher disability rates, the continued opioid crisis, and long COVID are likely interacting to restrain labor force participation. There are no "silver bullets," but Virginia can start the discussion of what keeps some workers from actively seeking work and look for solutions to this persistent issue.

Virginia needs to ask why so many college students do not stay in the region or state. Virginia Tech, for example, has seen strong enrollment growth but Southwest Virginia has not observed a boost in economic growth. Likewise, Hampton Roads appears to be a net exporter of college students. Institutions of higher education do have a positive economic impact, but, in some cases, these impacts on surrounding communities are muted as graduates choose to leave for other destinations.

Virginia can act to improve regional outcomes. We continue to offer the following suggestions. Targeted investments in infrastructure in general are necessary to promote economic development and attract new businesses. Improving the quality of education, including investments in physical infrastructure, is recommended to produce a workforce that can compete in an increasingly globalized economy. Virginia's antiquated tax structure must be reformed to compete with neighboring states. Regulatory relief, or at least regulatory clarity, is a necessary component of economic growth. Lastly, regional collaboration should not just be a slogan. Virginia should continue to promote regional collaborations through efforts like GO Virginia. These recommendations may not be new, but until Virginia acts, they bear repeating.







# VIRGINIA IS FOR VETERANS

*...To care for him who shall have borne the  
battle and for his widow, and his orphan...*

*– President Abraham Lincoln, 1865*



Virginia has long occupied a distinctive role in the national security of the country. The Commonwealth is home to the largest naval base in the United States, numerous military installations, and, of course, to many who work in the halls of the Pentagon. Virginia's contributions to the armed services of the nation are more than just a place where ships are built and repaired and where the business of defense happens. The Commonwealth is also home to many veterans after they have finished their service to our country.

In 2021, according to the United States Census Bureau, 671,519 Virginians identified themselves as veterans of military service. With approximately 1 in 10 Virginian adults ages 18 years and older being a veteran of military service, the Commonwealth only ranked behind Alaska in the proportion of the adult population that identify as veterans. In 2021, Virginia ranked first for the share of veterans in the adult population among states with populations greater than 1 million. According to the Defense Manpower Data Center (DMDC), there were 156,698 military retirees in Virginia in 2021, behind only Florida (210,073) and Texas (222,909).<sup>1</sup> These retirees received, on average, almost \$500 million monthly in payments from the Department of Defense (DoD).

<sup>1</sup> We note the DMDC data captures DOD-administrated retirees. Retirees for the Coast Guard are administered by the Department of Homeland Security.



Thousands of active-duty service members separate annually from the armed services in Virginia. Recruiting and retaining these separating veterans is a priority for many area employers. Russell Czack, a retired Navy commander who currently heads the Commonwealth’s digital shipbuilding effort, noted in 2022 that veterans bring experience and discipline to the workforce, skills that are in high demand by local employers. “You can train somebody to do the actual work that you want them to do,” Czack says. “It’s a little harder to instill within them the importance of being on time, to work as a team, to be a leader, to take care of other people. These are traits that the military is very good at instilling and training their people.”<sup>2</sup>

**Why is attracting more veterans a winning proposition for Virginia? Military veterans in Virginia, on average, are more educated than their civilian counterparts and have higher household incomes. Military veterans between the ages of 18 and 54 are more likely to be actively engaged in the labor force. The presence of military veterans and retirees not only provides talent to employers, but also generates billions of dollars of payment transfers and expenditures by the federal government throughout Virginia.**

In this chapter, we explore the role of military veterans and retirees in the Virginia economy. We first ask what a military veteran is and what the differences are between veterans and retirees. We recognize these characteristics can be perplexing and provide a primer to familiarize the reader with the topic. We then ask who the military veterans and retirees are nationally and in Virginia and how veterans are distributed across the state. We delve into retiree and disability compensation payments and highlight how much money flows into Virginia due to the presence of these individuals. The last section of the chapter offers final thoughts on the role of military veterans and retirees in the Commonwealth and actions to increase the retention of separating service members who decide to call Virginia home.

## A Brief Primer on Veterans

Who is a veteran? The answer can be simple or complex, depending on whether the individual in question was on active duty, activated from the Reserve or National Guard, or injured while on active duty for training. The term “veteran” is defined by Title 38 U.S.C. § 101 (2) which states: “The term ‘veteran’ means a person who served in the active military, naval, or air service, and who was discharged or released therefrom under conditions other than dishonorable.”<sup>3</sup>

Title 38 U.S.C. § 101 (21) notes that active-duty service includes: (1) full-time duty in the Armed Forces, other than active duty for training; (2) full-time duty (other than for training purposes) as a commissioned officer of the Regular or Reserve Corps of the Public Health Service; (3) full-time duty as a commissioned officer of the National Oceanic and Atmospheric Administration or its predecessor organization the Coast and Geodetic Survey service as a cadet at the United States Military, Air Force, or Coast Guard Academy, or as a midshipman at the United States Naval Academy; and (4) authorized travel to or from such duty or service. Title 38 U.S.C. § 101 (24) defines “active military, naval, or air service” to include: (1) active duty, (2) any period of active duty for training during which the individual concerned was disabled or died from a disease or injury incurred or aggravated in line of duty; and (3) any period of inactive-duty training during which the individual concerned was disabled or died.

According to the Defense Manpower Data Center, the military retirement system applies to members of the Air Force, Army, Navy, Marine Corps, and Space Force. Most of the provisions also apply to retirement systems for members of the Coast Guard (administered by the Department of Homeland Security), officers of the Public Health Service (administered by the Department of Health and Human Services), and officers of the National Oceanic and Atmospheric Administration (administered by the Department of Commerce). The United States Census Bureau also asks whether an individual has ever served on active duty in the U.S. Armed Forces to identify veterans

<sup>2</sup> Courtney Mabeus-Brown, “Next stop – civilian life.” *Virginia Business* (April 28, 2022).

<sup>3</sup> For more information and the complete U.S. code, see <https://www.law.cornell.edu/uscode/text/38/101>.

in the population.<sup>4</sup> Understanding these differences in perspective is important in gauging the impact of veterans on the economies of Virginia and the nation.

## The Shrinking U.S. Veteran Population

The size of the veteran population in the United States is directly tied to the size of the armed forces. In 2000, there were approximately 24.7 million veterans in the United States, and that declined to 18.4 million in 2022 (Graph 1). The decreased veteran population is not surprising given the increasing age of veterans from World War II as well as the wars in Korea and Vietnam. With the transition to an all-volunteer force in the aftermath of the Vietnam War and the drawdown in forces following the end of the Cold War, the overall size of the active-duty force today is significantly smaller than it was in the past.

Furthermore, the first Gulf War (1990 - 1991), the war in Iraq (2003 - 2011), the war in Afghanistan (2001 - 2021) and other recent diplomatic conflicts did not result in an appreciable increase in the size of the active-duty force like World War II, the Korean War, or the Vietnam War. From 2000 to 2022, the number of active-duty military service members has hovered between 1.3 and 1.4 million, down from the post-Vietnam peak of 2.2 million in 1987.<sup>5</sup> While reservists and members of the National Guard were activated during these conflicts, these activations did not increase the number of veterans on the same scale as, for example, the Vietnam War. One of the inferences of the downsizing active-duty force is that the veteran population in the United States will dwindle over the coming decades. Specifically, by 2050, the number of veterans is projected to cut down to approximately 11.9 million.

Graph 2 illustrates the distribution of the veteran population by the period of armed conflict for 2000 and 2021. In 2000, more than 1 in 5 veterans (21.7%) had served in World War II. By 2021, World War II veterans only comprised 2.2% of the entire veteran population. Likewise, the proportion of Korean War veterans of the total veteran population dropped from 15.3% in 2000 to 6.6% in 2021. Over two decades, Vietnam-era veterans consistently comprised the largest slice of the veteran population, 34.9% in 2021, an increase from 31.7% in 2000. However, this share will decline in the coming years due to the aging of the veteran population. In 2021, 1 in 5 veterans had served in the Gulf War period, up from 1 in 10 in 2000. Finally, veterans of the Iraq and Afghanistan eras accounted for 22.4% of the veteran population in 2021.

Nationally, the veteran population is aging (Graph 3). In 2000, about 1 in 4 veterans were between the ages of 17 and 44, about 4 in 10 veterans were between the ages of 45 and 64, and 3.6 in 10 veterans were 65 years and older. By 2021, 1 in 5 veterans were between the ages of 17 and 44, 1 in 3 veterans were between the ages of 45 and 64, and almost 1 in 2 veterans were 65 years and older. When compared to the civilian population, the aging of the veteran population becomes more apparent. In 2021, roughly 1 in 5 adults (21.6%) were 65 years or older, while almost 1 in 2 veterans (46.0%) were 65 years or older.

The gender composition of the veteran population is also changing. As illustrated in Graph 4, the proportion of women in the veteran population has increased over the last two decades and is projected to increase over the coming years. Nearly 1 in 10 veterans was a woman in 2021, and that rate is projected to increase to as close as 1 woman in 5 veterans by 2050. The changing composition of the veteran population requires a shift in how services are provided to these individuals. A “one-size-fits-all” model will no longer work as the proportion of veterans who are women (and who are older) grows over time. The challenge for the nation is to adapt its veteran services to meet the needs of this changing population.

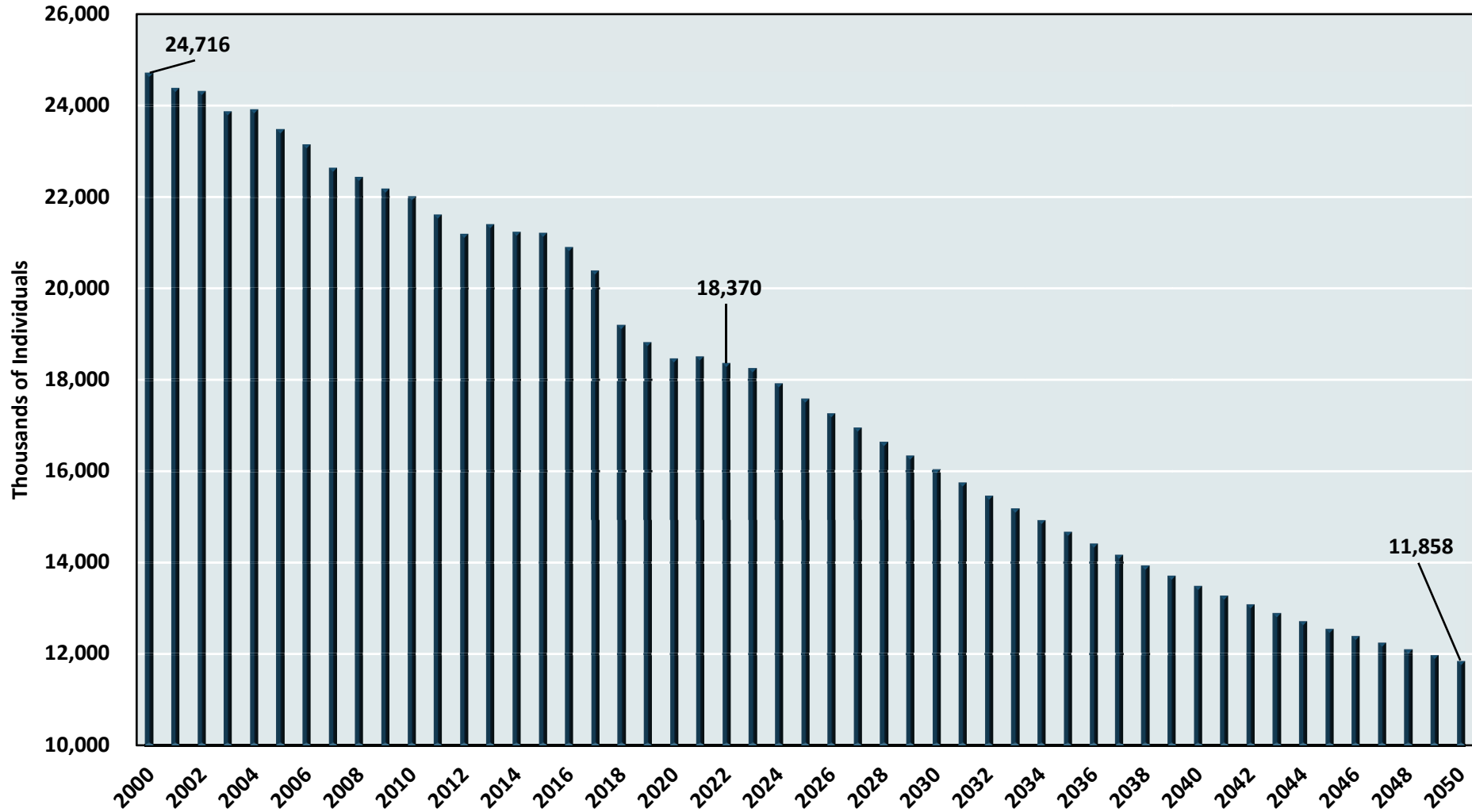
<sup>4</sup> <https://www.census.gov/topics/population/veterans/about/faq.html>

<sup>5</sup> Defense Manpower Data Center (DMDC), retrieved from: <https://usafacts.org/state-of-the-union/defense/>  
Estimate of total active-duty military excludes Coast Guard.

**As the veteran population shrinks relative to the total population of the nation, the connections between those who serve and those who are served have grown more tenuous. In 1980, according to the U.S. Census Bureau, 37% of the male population and less than 1% of the female population age 18 and older made up the veteran population nationally. By 2021, the proportion of male veterans had fallen to 13.4% while the proportion of female veterans remained relatively the same at 1.2%. In Congress, the number of individuals who served in the armed forces has declined as well, raising questions about whether decision-makers have enough perspective on the lives of armed service members when making decisions about compensation, benefits, and other related concerns.**



**GRAPH 1**  
**HISTORICAL AND PROJECTED VETERAN POPULATION**  
**UNITED STATES, 2000-2050**

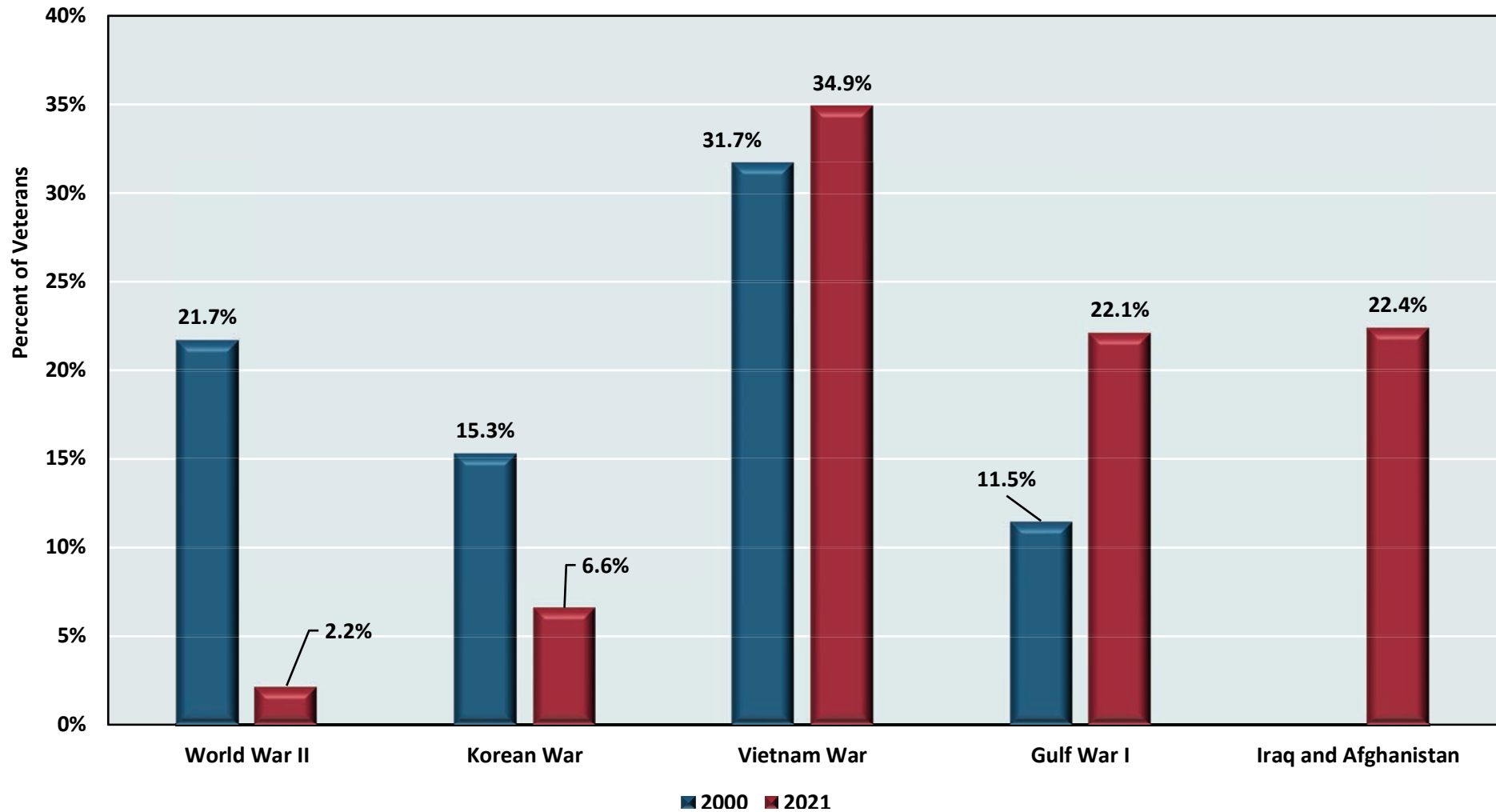


Sources: FRED Population Level - Total Veterans, 18 Years and over, Thousands of Persons, Annual, Not Seasonally Adjusted (LNU00049526), Veterans Affairs VetPop 2020 Model.



**GRAPH 2**

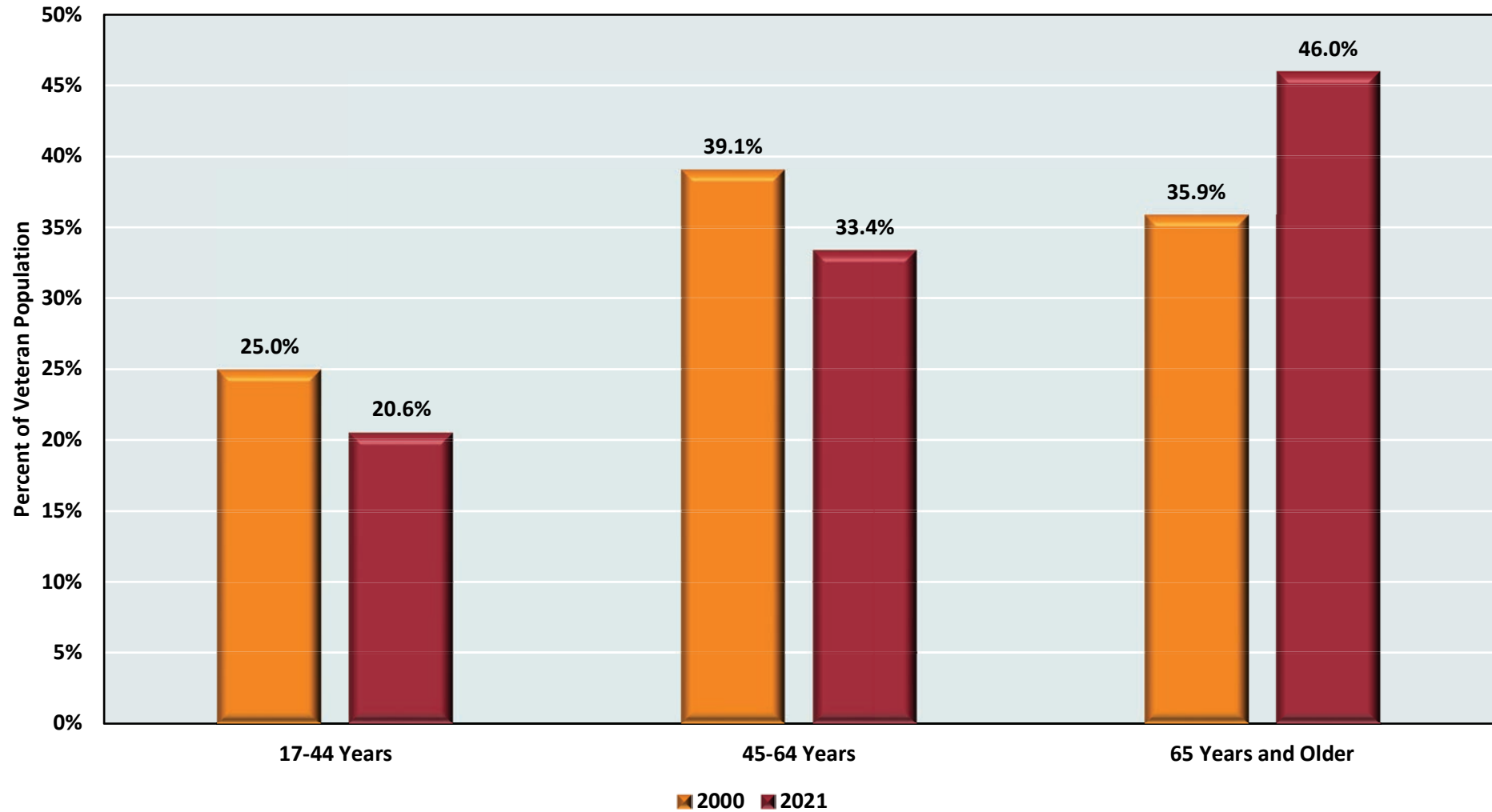
**VETERAN POPULATION BY PERIOD OF SERVICE  
UNITED STATES, 2000 AND 2021**



Source: U.S. Census Bureau. 2000 reflects 2000 Decennial Census and estimates for 2021 reflect the American Community Survey 5-year estimates, 2017-2021. The total percent of veterans exceeds 100% as service members can serve in more than one armed conflict period.

**GRAPH 3**

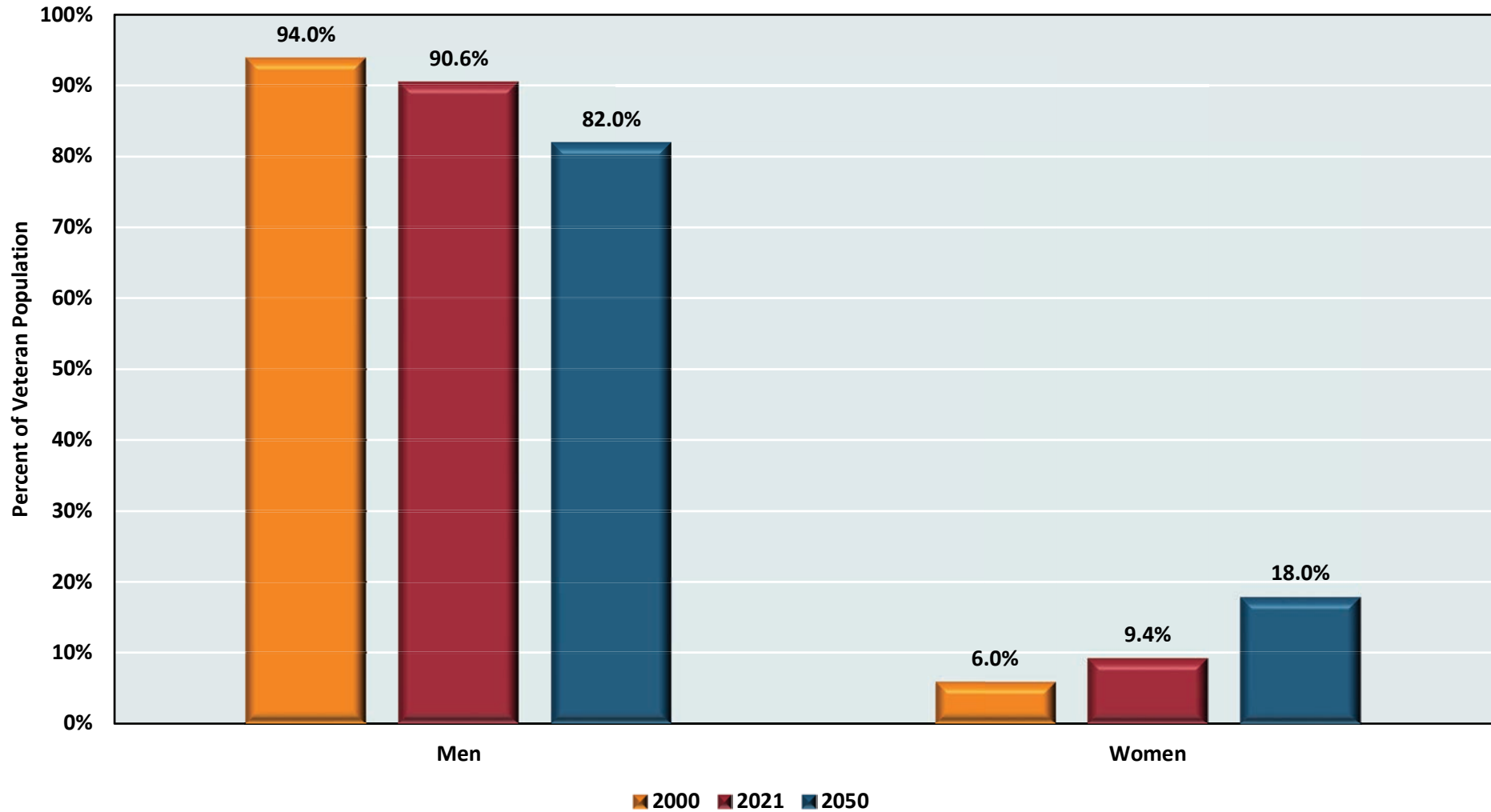
**AGE DISTRIBUTION OF THE VETERAN POPULATION  
UNITED STATES, 2000 AND 2021**



Sources: U.S. Census Bureau and Veteran Affairs VetPop Model 2020. 2000 reflects 2000 Decennial Census and estimates for 2021 reflect the American Community Survey 5-year estimates, 2017-2021.

GRAPH 4

DISTRIBUTION AND PROJECTION OF THE VETERAN POPULATION BY GENDER  
UNITED STATES, 2000 AND 2050



Sources: U.S. Census Bureau and Veteran Affairs VetPop Model 2020. 2000 reflects 2000 Decennial Census and estimates for 2021 reflect the American Community Survey 5-year estimates, 2017-2021.

## Post-Service Employment: Veterans in the Workforce

Post-separation veterans often find their skills and experience in demand in the civilian workplace. While some military skill sets may not directly translate to civilian life, the rigors of military life often produce individuals who are adaptable, disciplined, and willing to work. A 2019 Pew Research Center survey found that the majority of post-9/11 veterans said the skills and training gained from their prior military experience were useful in transitioning to civilian employment.<sup>6</sup> There were, however, significant differences between commissioned officers and non-commissioned officers or the enlisted. While 78% of commissioned officers responded that military service experience was useful in finding a civilian job, only 59% of non-commissioned officers and 54% of enlisted veterans had a similar response. Only about 1 in 10 respondents to the survey stated that serving in the armed forces hindered their ability to find gainful employment.

When we examine the unemployment rates of the veteran and the non-veteran populations, evidence supports the argument that military service experience provides a competitive advantage in the workforce. Graph 5 illustrates a simple fact that the annual unemployment rate for veterans is below that of the non-veteran population from 2000 to 2022. Even during periods of economic distress, such as the Great Recession of 2007-2009 or the COVID-19 economic shock of 2020, veterans' unemployment rate remained below that of the non-veteran population.

We must first recall that the unemployment rate is equal to the ratio of the number of unemployed to the number of individuals in the labor force. If there are fewer people participating in the labor force because those who are unemployed exit the labor force, then the unemployment rate may fall if employment remains relatively constant. Likewise, if there are fewer unemployed and the labor force is the same or growing, the unemployment rate will fall. Understanding whether the

unemployment rate is driven by fewer unemployed in the labor force or a smaller labor force is crucial for our discussion.

**There are two distinct possibilities for why the veteran unemployment rate is lower than the non-veteran population. First, veterans participate in the labor force at similar rates as the non-veteran population, and veterans have distinct advantages that render them more employable. Second, veterans participate in the labor force at lower rates than the non-veteran population; however, for those who participate, unemployment rates are lower.**

In Graph 6, at first glance, it might seem that veterans' participation in the labor force is lower than non-veterans'. In 2000, 69.3% of the non-veteran population age 18 and older and 59.0% of the veteran population participated in the labor force. By 2022, non-veteran participation had fallen to 64.7% while veteran labor force participation had declined to 48.0%. One might conclude that the veteran population's unemployment rate was lower because fewer veterans were working or actively engaged in looking for work.

In Graph 7, we explore labor force participation among veterans by gender. Women veterans have a much higher labor force participation rate than their male counterparts. In 2000, women veterans' labor force participation was 8.1 percentage points higher than male veterans. By 2022, the difference between women and men veteran labor force participation rates had climbed to 12.1%. Why? There are more male veterans than female veterans, and the male veterans are relatively older than the female veterans. As the male veterans have aged relative to the female veterans, their labor force participation rates have declined at a faster rate than those of women veterans.

When we compare the age distribution of the veteran and non-veteran population, we can observe how the age composition of the veteran population drives down overall labor force participation rates. In 2021, approximately 49.2% of veterans were 65 years and older as opposed to just 18.7% of the non-veteran adult population in the United States. Approximately half of the veteran population (50.8%) was between

<sup>6</sup> Ruth Igielnik, "Key Findings about America's military veterans," Pew Research Center (November 7, 2019). Available at: <https://www.pewresearch.org/short-reads/2019/11/07/key-findings-about-americas-military-veterans/>

the ages of 18 and 64, far below the 81.3% of the non-veteran adult population of this working age group. Proportionally speaking, there are fewer veterans of working age, and thus labor force participation rates are lower for the veteran population.

When we examine the labor force participation rates for the working age population (18 to 64), a different story emerges from the data. In 2022, the estimated labor force participation rates for veterans and non-veterans ages 18 to 64 were roughly the same, with 76.2% of non-veterans in the labor force compared to 76.3% of veterans. When we draw back to examine the entire data series from 2009 to 2022, the veteran labor force participation was 0.2-percentage points higher than that of the non-veteran.

To further illustrate our point that an aging veteran population drives aggregate labor force participation lower, we examine labor force participation for the veteran and non-veteran population ages 65 and older (Graph 10). While non-veteran labor force participation rates have climbed from 2009 to 2022, veteran labor force participation rates for this group have fallen over the same period. In 2022, in the age group of 65 and older, non-veteran labor force participation was 19.9%, which is 4.6 percentage points higher than the veteran labor force participation rate of 15.3%. Further, labor force participation rates for those who are 65 years or older, veterans or non-veterans, are much lower (less than 21%) compared to those who are between the ages of 18 and 64. Their participation rates are higher than 73.9%. Given that about one-half of veterans are 65 and older, it becomes readily apparent that this group is driving the overall labor force participation rate lower for the overall veteran population and that younger veterans participate in the labor force at the same (or higher) rate when compared to the non-veteran population.

Another factor contributing to the disparities in labor force participation rates is that veterans are more likely to have a disability compared to non-veterans. Data from the U.S. Census Bureau American Community Survey (ACS) 5-year estimates for 2017 to 2021 show that approximately 29.5% of veterans reported having a disability,

compared to 14.1% of non-veterans. The higher share of disabled veterans over that of non-veterans means fewer veterans are able to participate in the labor force.

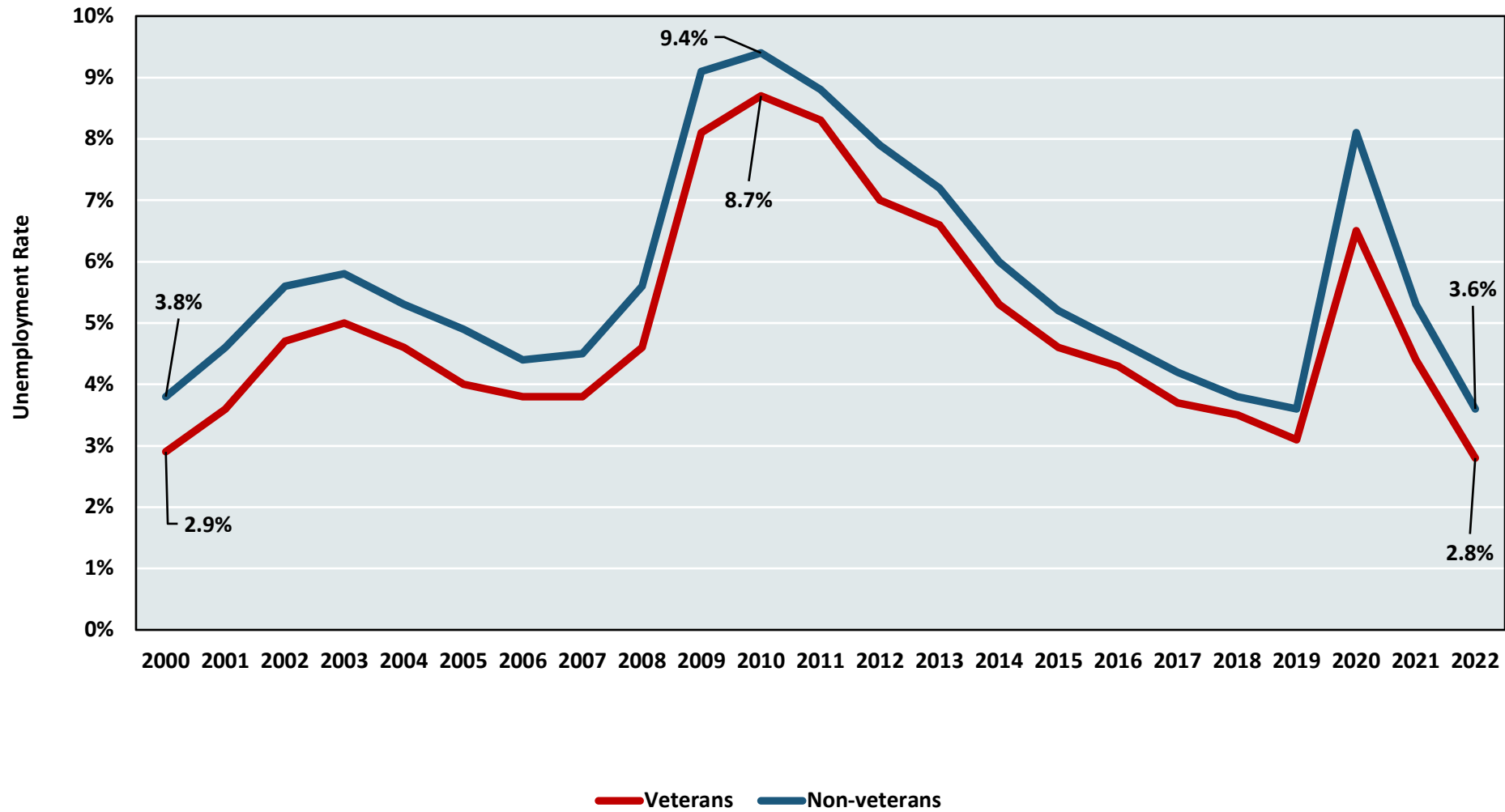
Finally, veterans are more likely to enroll in school during their prime working age years compared with the non-veterans.<sup>7</sup> This phenomenon is explained by the fact that these veterans were often still in military service when the average non-veteran had already graduated. The education benefits available to veterans, such as the GI Bill, are also likely to be a factor as they are more generous than most education benefit programs available to the non-veteran population.



<sup>7</sup> <https://www.brookings.edu/blog/up-front/2019/10/31/veterans-are-engaged-in-the-labor-force-and-in-the-classroom/>

**GRAPH 5**

**ANNUAL UNEMPLOYMENT RATE BY VETERAN STATUS  
UNITED STATES, 2000 - 2022**

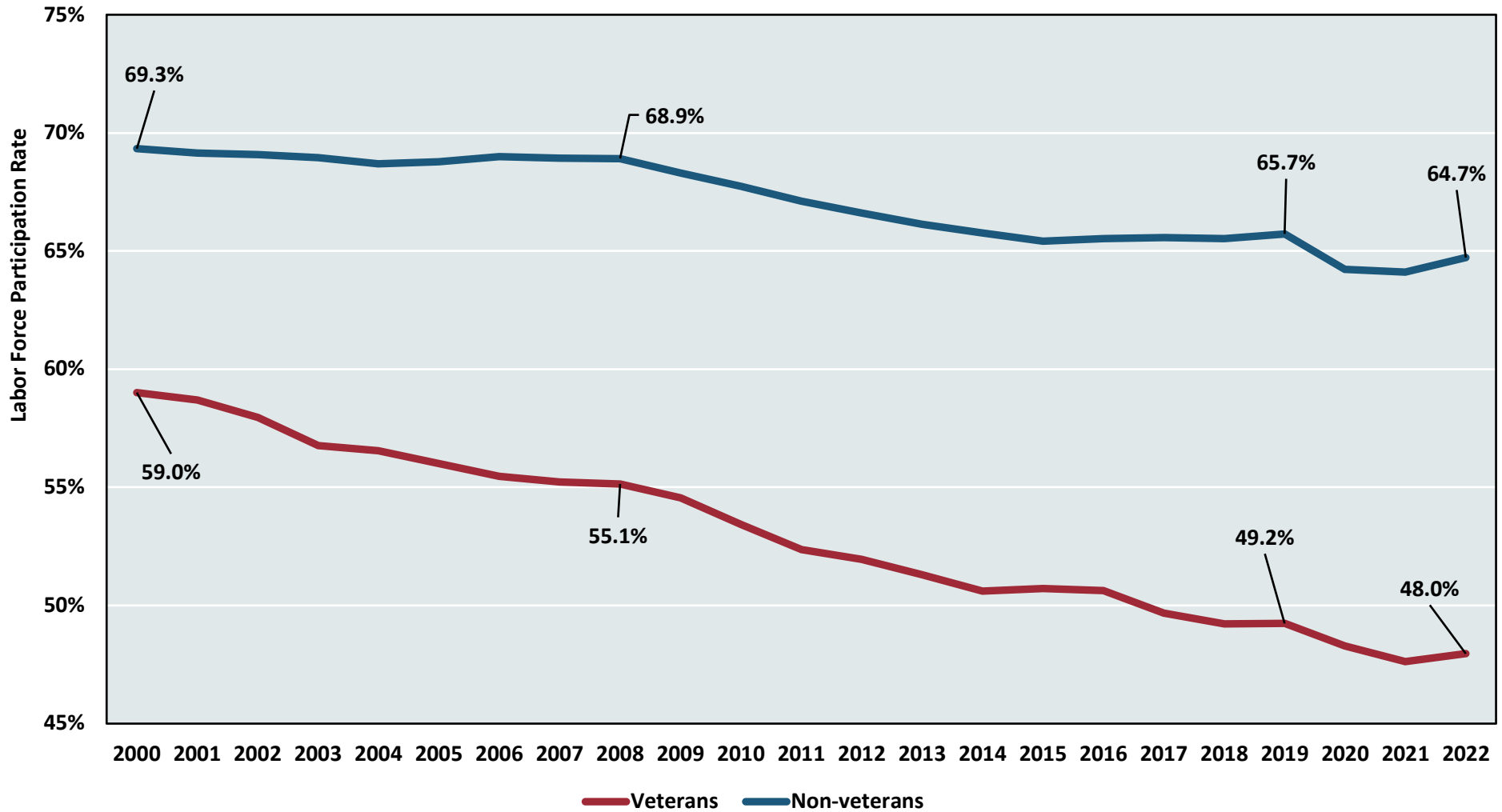


Source: Bureau of Labor Statistics, Employment Situation of Veterans Summary, various years.



GRAPH 6

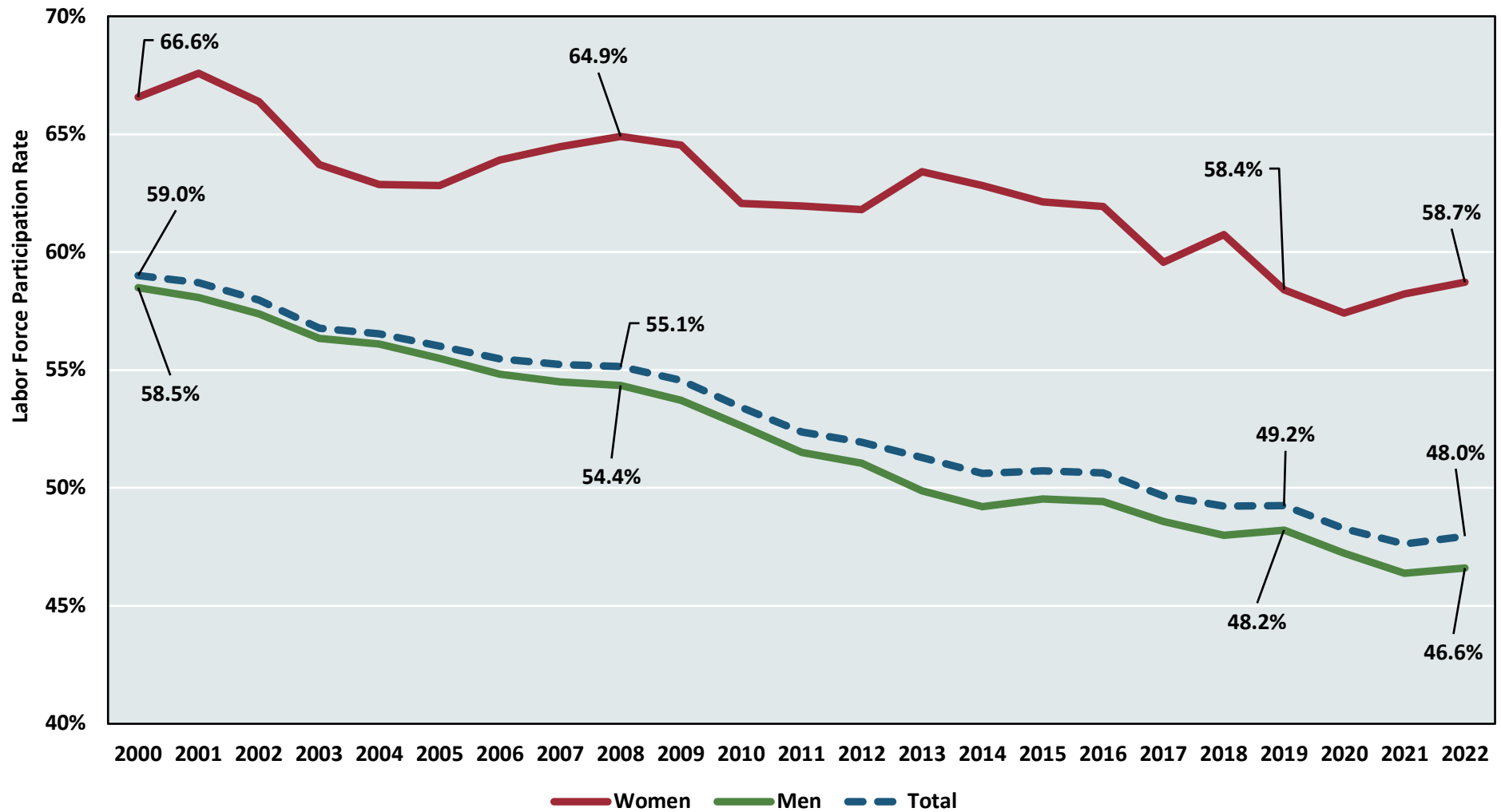
LABOR FORCE PARTICIPATION RATE BY VETERAN STATUS  
UNITED STATES, 2000-2022



Sources: Labor Force Participation Rate - Total Veterans, 18 Years and Older. Bureau of Labor Statistics, Current Population Survey (CPS). Retrieved from FRED (LNU01349526).

**GRAPH 7**

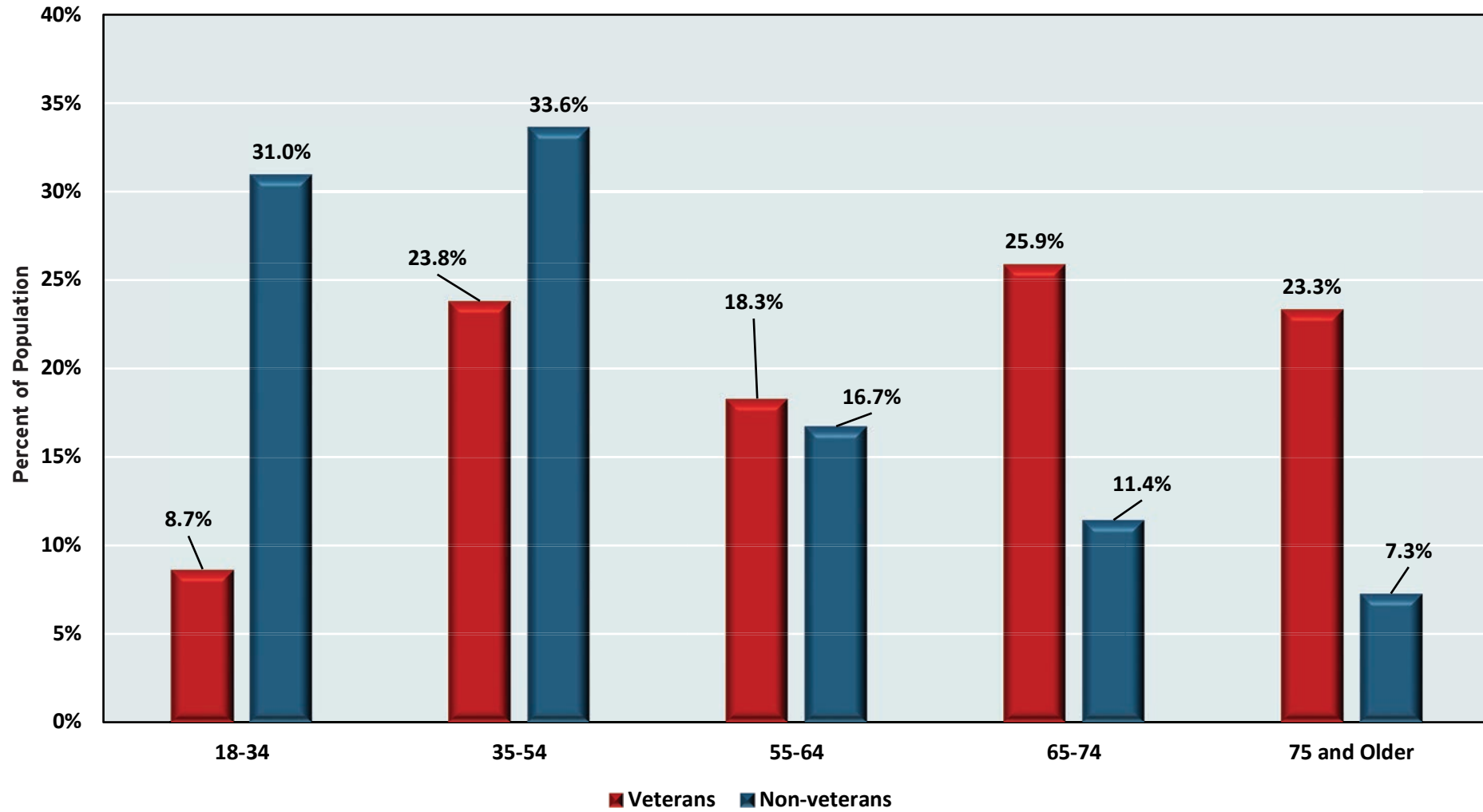
**VETERAN LABOR FORCE PARTICIPATION RATE BY GENDER  
UNITED STATES, 2000-2022**



Source: Labor Force Participation Rates, 18 Years and Older. Bureau of Labor Statistics, Current Population Survey (CPS). Retrieved from FRED (LNU01349526, LNU01349527, LNU01349528).

GRAPH 8

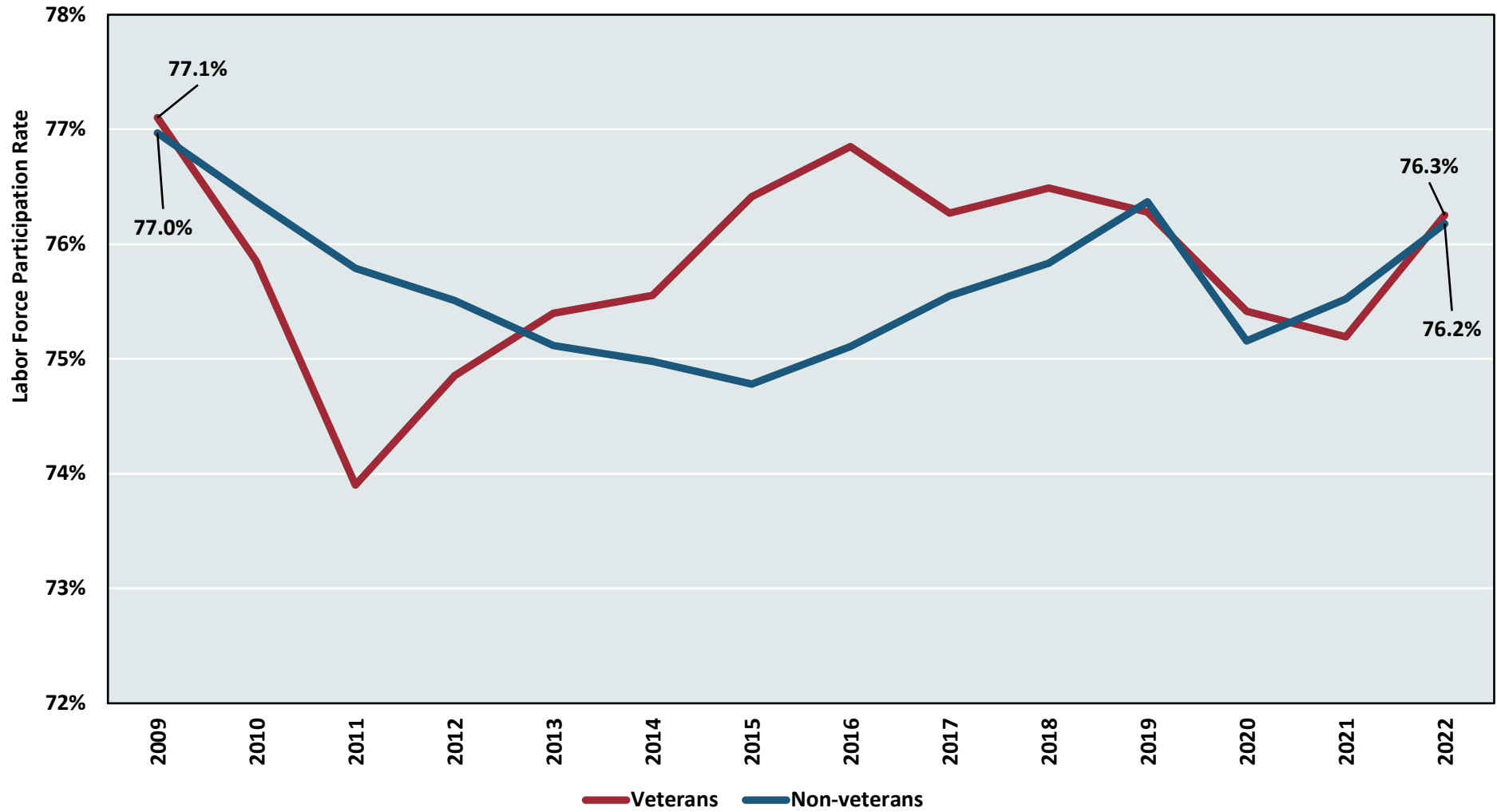
PERCENT OF POPULATION BY AGE GROUP AND VETERAN STATUS  
UNITED STATES, 2021



Source: U.S. Census Bureau American Community Survey 5-year estimates, 2017-2021.

**GRAPH 9**

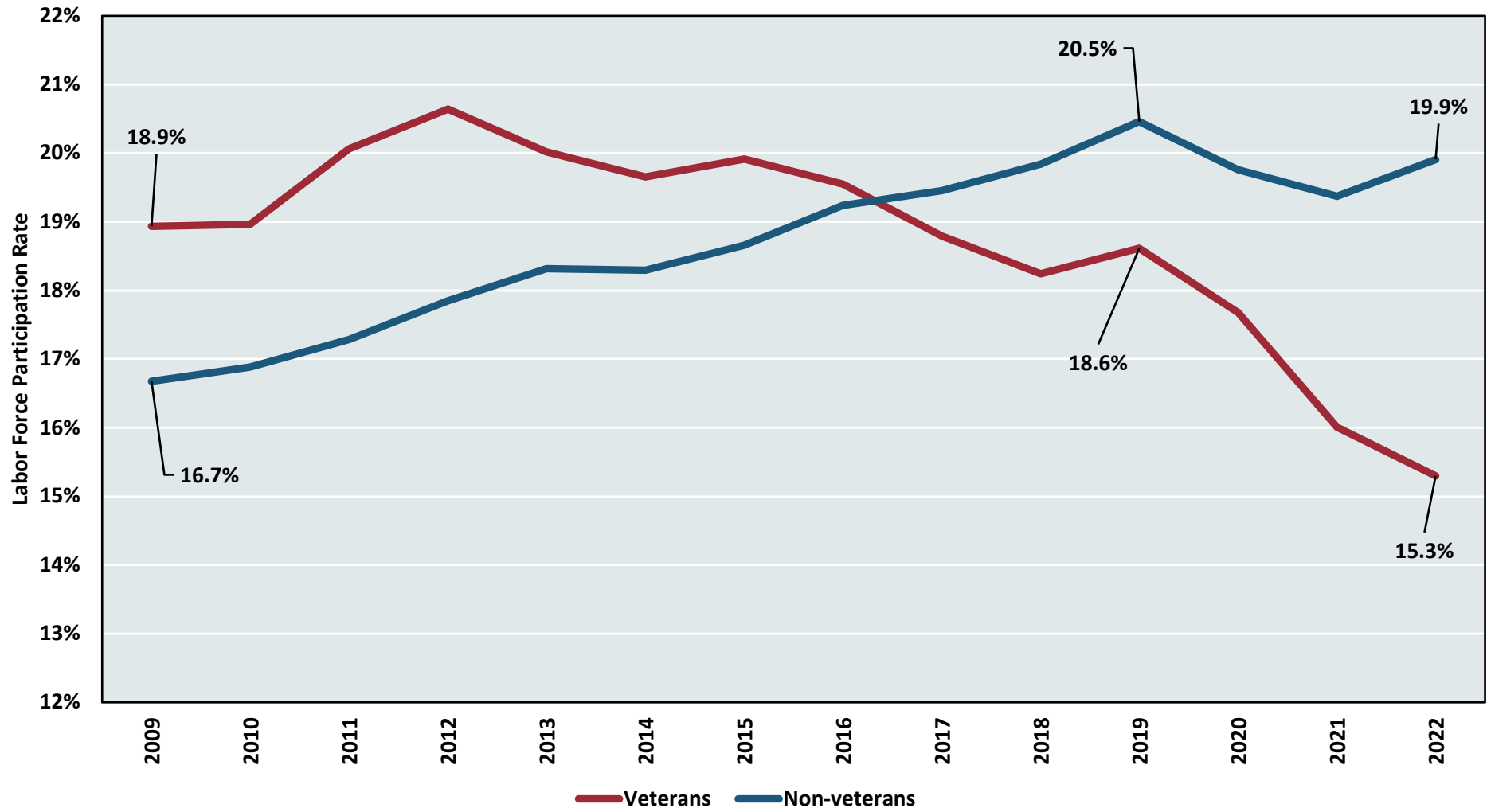
**LABOR FORCE PARTICIPATION RATES BY VETERAN STATUS, AGES 18 TO 64  
UNITED STATES, 2009-2022**



Source: Bureau of Labor Statistics, Current Population Survey (CPS).

GRAPH 10

LABOR FORCE PARTICIPATION RATE (AGES 65 AND OVER) BY VETERAN STATUS  
UNITED STATES, 2009-2022



Sources: Bureau of Labor Statistics, Current Population Survey (CPS).



## Veterans Benefits: Rising Budgets Despite a Shrinking Number of Recipients

Once separated from active-duty service, veterans and their families may be eligible for healthcare services and a variety of benefit programs administered by the U.S. Department of Veterans Affairs. Veterans Affairs includes the Veterans Health Administration, which is the largest integrated healthcare system in the nation providing healthcare services to service members, veterans, and their dependents, and the Veterans Benefits Administration (VBA), which provides financial and other forms of assistance to veterans and their families. Program eligibility is often determined by type and length of service. Table 1 summarizes the total of recipients and expenditures in fiscal year 2022 for each of the benefit programs available to veterans under the Veterans Benefits Administration.

In Fiscal Year (FY) 2022, Veterans Benefits Administration (VBA) expenditures totaled \$153.64 billion, with disability compensation accounting for \$135.3 billion (88.1%) of the total expenditures. Disability compensation provides a monthly benefit to eligible veterans with a service-connected disability. The monthly benefit amount is determined by the veteran's service-connected disability rating and the number of dependents. In Table 2, as of December 2022, for example, the monthly benefit for a veteran with no dependents and a service-connected disability rating of 30% is \$508.<sup>8</sup> A veteran with no dependents and a service-connected disability rating of 100% would receive an estimated monthly benefit of \$3,622.

While the veteran population has declined over the past two decades, the same cannot be said for the Department of Veteran Affairs (VA) expenditures. As illustrated in Table 3, from 2010 to 2022, the veteran population decreased by 17.9% while VA inflation-adjusted expenditures rose by approximately 83%. Expanded eligibility for

the Disability Compensation program, coupled with the wounds and trauma of Iraq and Afghanistan veterans, likely drove the program cost higher. In FY 2018, nominal Disability Compensation program expenditures were \$77 billion, more than federal government spending on either the Supplemental Nutrition Assistance Program (SNAP) or the Earned Income Tax Credit (EITC) and more than half as much the spending on Social Security Disability Insurance (SSDI).<sup>9</sup> Given that the United States has sent these veterans in harm's way, there is an explicit obligation to care for them when they return home.

One reason for the surge in expenditures is that the service-connected disability ratings have risen over time (Graph 11). In FY 2000, of the 2.3 million veterans with a service-connected disability rating, approximately 1.2 million (53.2%) had a rating of 0 to 20%. In the same year, there were 333,700 veterans with a 70 to 100% disability rating (14.5%). By FY 2020, the number of veterans with a service-connected disability rating had increased to about 5.1 million, an increase of 120% from FY 2000. Veterans with a 0 to 20% rating in FY 2020 increased by only 8% compared to FY 2000.

The growth in veterans with service-connected disability ratings has been seen among the highest disability rating groups. The number of veterans with a 30 to 40% disability rating increased by 51% from FY 2000 (506,019) to FY 2020 (762,378). Veterans with a 50 to 60% disability rating have increased by 206%, from 241,260 in FY 2000 to 737,789 in FY 2020. The number of veterans with the highest rating, between 70 to 100% disability, has jumped from 333,700 in FY 2000 to 2,250,820 in FY 2020, an increase of 575%.

<sup>8</sup> <https://www.va.gov/disability/compensation-rates/veteran-rates/>

<sup>9</sup> Coile, C., Duggan, M. and Guo, A. (2021), To Work for Yourself, for Others, or Not at All? How Disability Benefits Affect the Employment Decisions of Older Veterans. *J. Pol. Anal. Manage.*, 40: 686-714.

**TABLE 1**

**VETERANS BENEFITS ADMINISTRATION BENEFIT PROGRAMS  
NOMINAL EXPENDITURES AND TOTAL RECIPIENTS, FY 2022**

<b>Benefit Program</b>	<b>Definition</b>	<b>Total Recipients</b>	<b>Total Expenditures (Millions)</b>
<b>Pension &amp; Fiduciary</b>	<b>Needs-based pension plan available to eligible wartime veterans and their survivors. Fiduciary program provides oversight for those unable to manage benefits on their own.</b>	<b>407,782</b>	<b>\$4,436</b>
<b>Disability Compensation</b>	<b>Monthly tax-free payment for disabilities incurred or aggravated during active service. Payment is determined by the veteran's service-connected disability rating. Program includes payments to surviving spouses and dependents.</b>	<b>5,894,585</b>	<b>\$135,296</b>
<b>Insurance</b>	<b>Life insurance for service members, their families and veterans who are unable to purchase commercial insurance at the standard healthy rate.</b>	<b>5,586,174</b>	<b>\$135</b>
<b>Education</b>	<b>Educational resources for eligible veterans, their dependents, service members, and reservists. Includes monthly payments for tuition, educational costs, and a monthly housing allowance.</b>	<b>834,460</b>	<b>\$10,399</b>
<b>Veterans Readiness &amp; Employment</b>	<b>Assists veterans with a service-connected disability in finding and maintaining stable employment and maximizing independence in their daily lives.</b>	<b>124,437</b>	<b>\$1,471</b>
<b>Home Loan Guaranty</b>	<b>VA home loans to buy, refinance, or adapt a home available to veterans, surviving spouses, reserves, and active-duty personnel.</b>	<b>746,091</b>	<b>\$1,905</b>

Source: Veterans Benefits Administration Annual Benefits Report, Fiscal Year 2022. Home loan recipients reflect the number of loans guaranteed, and insurance recipients reflect the total number of lives insured.

**TABLE 2****DISABILITY COMPENSATION RATES  
VETERANS WITH NO DEPENDENTS, 2023**

Disability Rating	Monthly Base Payment
10%	\$166
20%	\$328
30%	\$508
40%	\$732
50%	\$1,042
60%	\$1,320
70%	\$1,663
80%	\$1,933
90%	\$2,172
100%	\$3,622

Source: U.S. Department of Veterans Affairs. Monthly Payment increases with dependents if the veteran's service-connected disability rating is 30% or above.

**TABLE 3****DEPARTMENT OF VETERANS AFFAIRS TOTAL EXPENDITURES  
UNITED STATES, FY 2010 AND FY 2022  
THOUSANDS OF 2021 DOLLARS**

	2010	2022	Percentage Change 2010-2022
<b>Veteran Population</b>	<b>22,568,578</b>	<b>18,522,638</b>	<b>-17.9%</b>
<b>Real Compensation &amp; Pension Expenditures</b>	<b>\$59,374,974</b>	<b>\$124,653,083</b>	<b>109.9%</b>
<b>Real Total Expenditures</b>	<b>\$134,984,471</b>	<b>\$247,024,581</b>	<b>83.0%</b>

Sources: The National Center for Veterans Analysis and Statistics, April 2023, and the Bureau of Labor Statistics Consumer Price Index (CPI-U). Inflation-adjusted 2021 dollars.

Why have we observed such a significant increase in the number of veterans within the severe service-connected disability group? One possible explanation is the expanded eligibility. Specifically, the Honoring our PACT Act of 2022, for example, increases disability compensation and health care services for veterans who were exposed to toxic substances.<sup>10</sup> It also raises the number of veterans without service-connected disabilities who now can receive health care from the VA. Both provisions are likely to increase VA spending by \$300 billion between 2022 and 2031.<sup>11</sup>

The second explanation is that many injuries that would have been fatal on the battlefield are no longer life-threatening due to advances in evacuation and medical care. The use of Improvised Explosive Devices on the modern battleground increased the prevalence of Traumatic Brain Injuries (TBIs) among veterans. The VA reported that more than 185,000 veterans have been diagnosed with at least one TBI. For those deployed to Afghanistan or Iraq, the estimated rates of probable TBIs ranged from 11 to 23%.<sup>12</sup> Compared to veterans of earlier conflicts, veterans of Afghanistan and Iraq have a higher likelihood of having a service-connected disability.

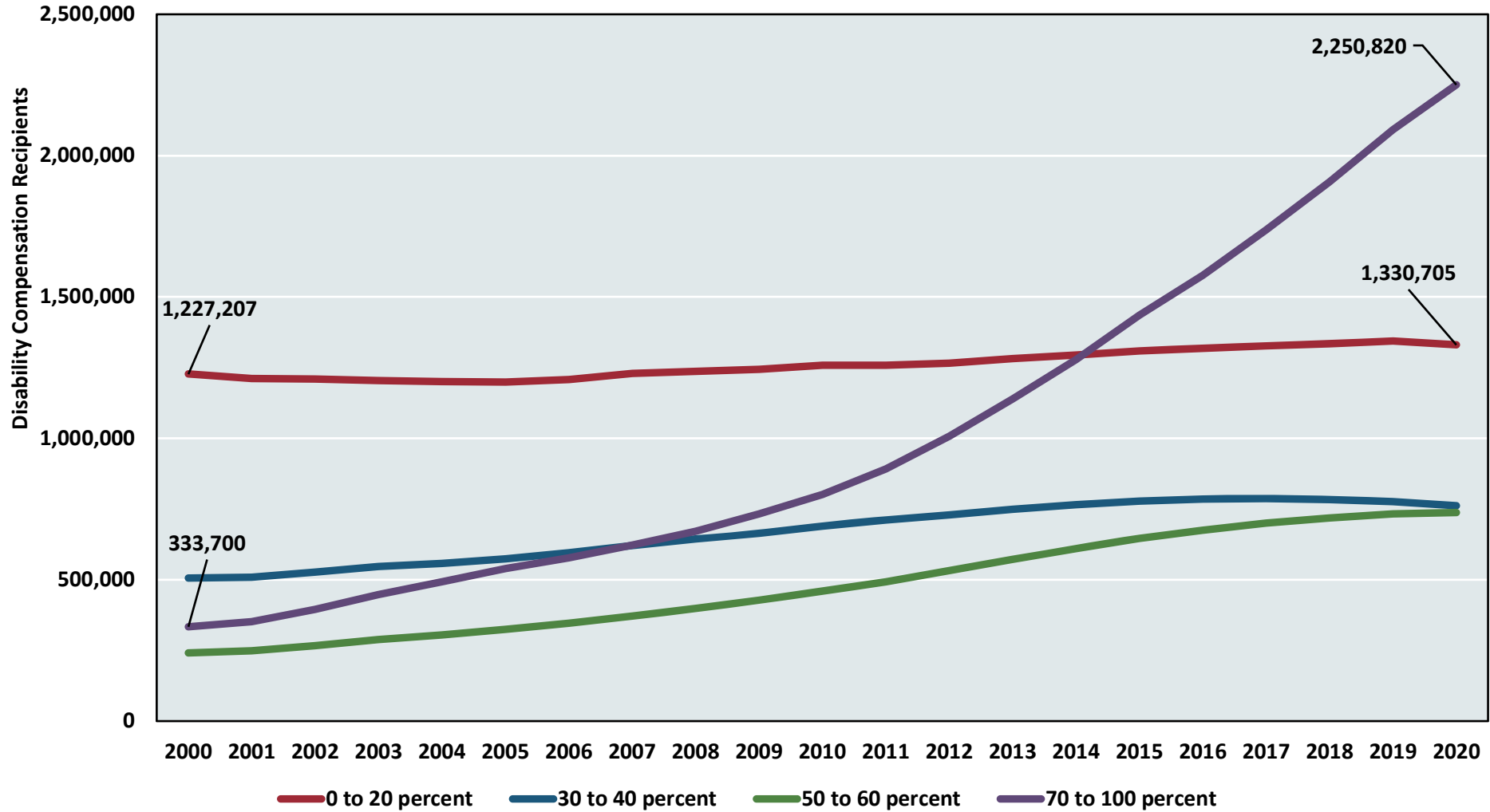
<sup>10</sup> <https://www.va.gov/resources/the-pact-act-and-your-va-benefits/>

<sup>11</sup> [https://www.cbo.gov/system/files/2022-06/hr3967\\_senate\\_version.pdf](https://www.cbo.gov/system/files/2022-06/hr3967_senate_version.pdf)

<sup>12</sup> Lisa K. Lindquist, Holly C. Love, and Eric B. Elbogen (2018). Traumatic Brain Injury in Iraq and Afghanistan Veterans: New Results from a National Random Sample Study.

GRAPH 11

**DISABILITY COMPENSATION RECIPIENTS BY SERVICE-CONNECTED DISABILITY RATING  
UNITED STATES, FY 2000 - FY 2020**



Source: Department of Veterans Affairs, Veterans Benefits Administration; 1985-1998: COIN CP-127 Reports; 1999-2020: Annual Benefits Reports. Prepared by the National Center for Veterans Analysis and Statistics.

## Pension Benefits for Military Retirees

Veterans who have either served in active duty for at least 20 years or were found unfit for duty due to an eligible disability are considered military retirees.<sup>13</sup> Military retirees receive a noncontributory defined benefit (pension) plan under the military retirement system administered by the Department of Defense. The military retirement system also includes a survivor annuity program. For retirees who elect coverage under this benefit plan, their beneficiaries will continue to receive up to 55% of the retiree’s pension payment upon their death.

In 2018, the armed services introduced the blended retirement system.<sup>14</sup> This system differs from the traditional military pension benefit. The blended system retains a defined benefit where retirement pay is based on years of service. For instance, if you serve 20 years, you will receive a defined benefit equal to 40% of your final base pay. The blended system also introduces a defined contribution, where the military contributes 1% of base pay to the Thrift Savings Plan. Service members are automatically enrolled with a 3% contribution, and the military will match up to 5% of base pay after 2 years of service. Another benefit included in the blended system is a continuation pay incentive. Here, when a service member reaches 12 years of service and commits to 4 more years of service, they will receive a cash incentive between 2.5 to 13 times the regular monthly base pay (assuming active-duty service). Service members, upon retirement, can take a lump sum payment of either 25% or 50% of gross estimated retirement pay and receive smaller monthly retirement checks. When the service member reaches 67 years of age, their retirement pay goes back to the full amount if they have taken the lump sum option.

Of the 2.2 million military retirees in the United States in 2022, slightly over 2.0 million retirees received a pension under the military retirement system (Table 4). In the same year, the average inflation-adjusted monthly pension for a military retiree was \$2,430, and a total

of \$59.6 billion was distributed to retirees. The decline in the number of veterans has yet to be fully reflected in the number of retirees. From 2010 to 2022, the total number of veterans declined by 16.5%, but the number of retirees rose by 7.8% over the same period. As military service has become more of a selective experience, retirees have become a larger share of the veteran population. In 2010, approximately 9.4% of veterans were military retirees; by 2022, their share has risen to 12.2% of the veteran population.

	2010	2022	Percent Change: 2010-2022
<b>Military Retirees</b>	<b>2,075,838</b>	<b>2,238,572</b>	<b>7.8%</b>
<b>Paid Retirees</b>	<b>1,955,289</b>	<b>2,043,658</b>	<b>4.5%</b>
<b>Veterans</b>	<b>22,010,917</b>	<b>18,369,583</b>	<b>-16.5%</b>
<b>Retirees as a Percent of Veterans</b>	<b>9.4%</b>	<b>12.2%</b>	
<b>Real Total Annual Pension Payments (Billions of \$)</b>	<b>\$58.0</b>	<b>\$59.6</b>	<b>2.8%</b>
<b>Real Average Monthly Pension Payment Per Retiree</b>	<b>\$2,470</b>	<b>\$2,430</b>	<b>-1.6%</b>

Sources: Retirees data received from Department of Defense and Defense Manpower Data Center (DMDC) and the Bureau of Labor Statistics Consumer Price Index for all urban Consumers (CPI-U). Pension payments reflected in 2021 dollars. Monthly payment per retiree reflects payment from DoD. More than 90% of retirees receive a pension from the DoD, non-paid retirees have elected to waive their pension payment to receive benefits from other sources.

<sup>13</sup> A veteran is entitled to disability retired pay if the disability is: permanent, not of negligence, and has a disability rating of at least 30%. Reservists generally must be at least 60 years old and have served at least 20 years to receive a pension.

<sup>14</sup> <https://militarypay.defense.gov/blendedretirement/>

## The Veteran Population in Virginia

**The United States Census Bureau 2017 – 2021 American Community Survey (ACS) estimated that 671,519 veterans called Virginia home in 2021. With an adult (ages 18 years and older) population of 6,668,727, this meant that approximately 1 in 10 adult Virginians identified themselves to the U.S. Census as a veteran in 2021. Virginia ranked fifth among U.S. states for the number of veterans, behind only California (1,467,026), Texas (1,426,641), Florida (1,389,309), and Pennsylvania (703,580). If we examine the number of veterans in each state relative to the adult population, Virginia ranked second of 50 states in 2021 (Graph 12). Among states with populations greater than 1 million, Virginia ranks first for the share of the adult civilian population that identify as veterans of military service.**

Graph 13 compares the distribution of the veteran population by period of service for Virginia and the United States. Proportionally, Virginia has fewer veterans from the World War II, Korea, and Vietnam eras of service (34.2%) when compared to the nation (43.7%). Of the veterans residing in Virginia, 34.6% were veterans of the first Gulf War era while 35.1% were veterans of the post-9/11 era.

Graph 14 illustrates how the veteran populations in Virginia and the United States were distributed by age group in 2022. Approximately 1 in 4 Virginia veterans of military service in 2022 were between the ages of 17 to 44, compared to about 1 in 5 veterans in the United States. Virginia also had a higher proportion of veterans in the ages 45 to 64 age group (37.3%) relative to the nation (32.6%). While 37.4% of veterans in the Commonwealth were ages 65 and older, 46.0% of veterans across the nation were ages 65 and older. In other words, veterans, on average, were younger in Virginia in 2022 than across the United States.

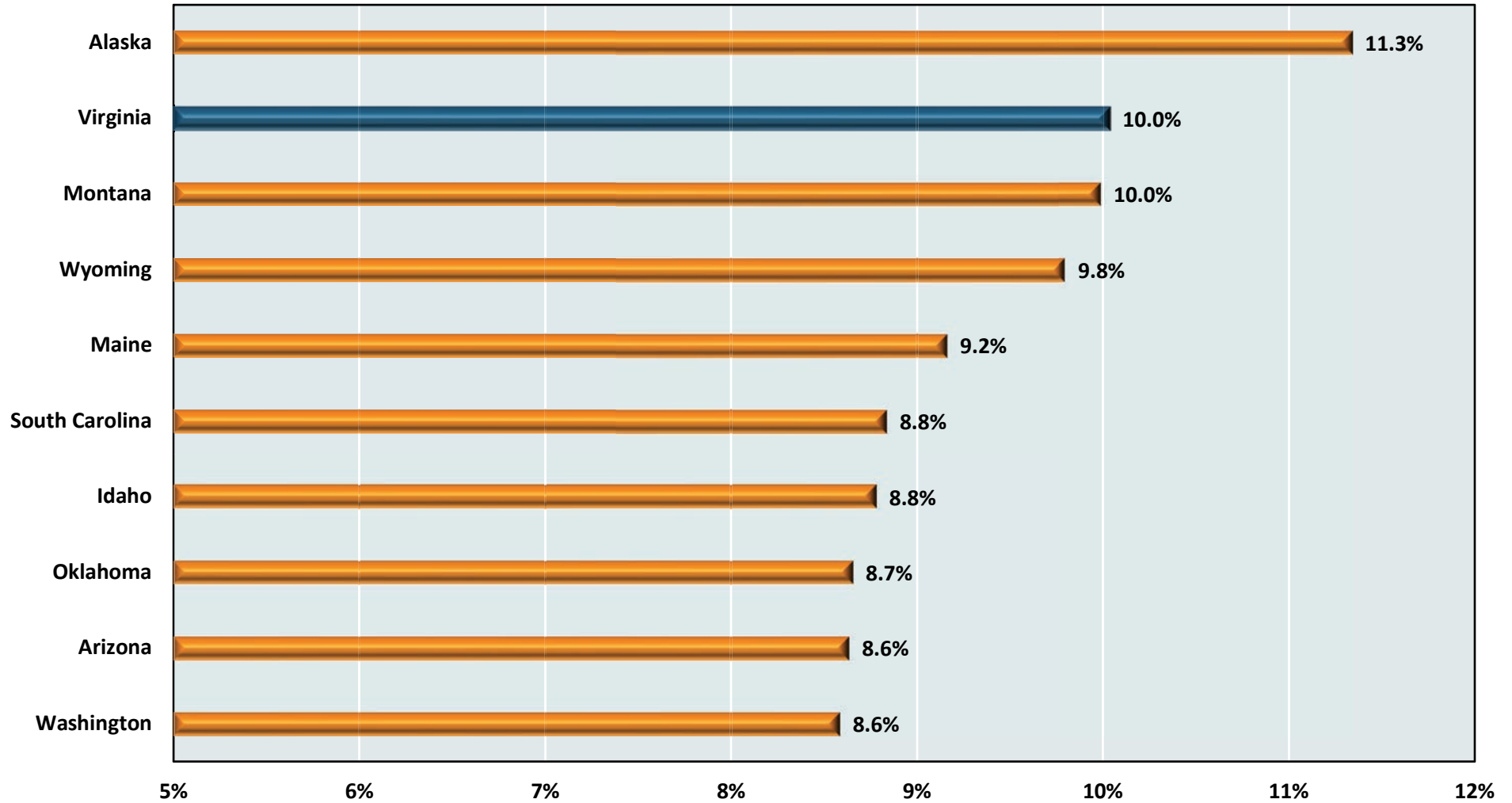
Graph 15 presents estimates from the 2017 – 2021 American Community Survey (ACS) for the share of veterans in the adult population by Metropolitan Statistical Area (MSA) for Virginia. The Virginia Beach – Norfolk – Newport News MSA (Hampton Roads) stands out with approximately 15.0% of the population ages 18 and older identifying as a veteran of military service. Numerically, there were more veterans in the Washington-Arlington-Alexandria MSA (370,554) than that in Hampton Roads (208,703), but the adult population of the Washington-Arlington-Alexandria MSA is also larger (about 4.9 million) than Hampton Roads (approximately 1.4 million). There were also 84,946 veterans in the Richmond MSA (8.3% of the adult population) as well as 22,056 in the Kingsport-Bristol MSA (8.9% of the adult population). The Roanoke (21,296), Lynchburg (17,863), and Charlottesville (12,783) metro areas each had more than 10,000 veterans. Only the Harrisonburg (5.2%) and Blacksburg (5.8%) metros observed shares of veterans in the adult population below 7% in 2021.

**If we look across the 392 MSAs in the United States, Hampton Roads ranks 11th in the percentage of adult population that are veterans of military service. Among the metro areas with substantial veteran populations, Hampton Roads is the only metro area among the top 20 with an adult population of more than 1 million residents (Table 5). If we ranked the share of adult identified veterans based on the size of the total adult population, Hampton Roads would be the winner.**



**GRAPH 12**

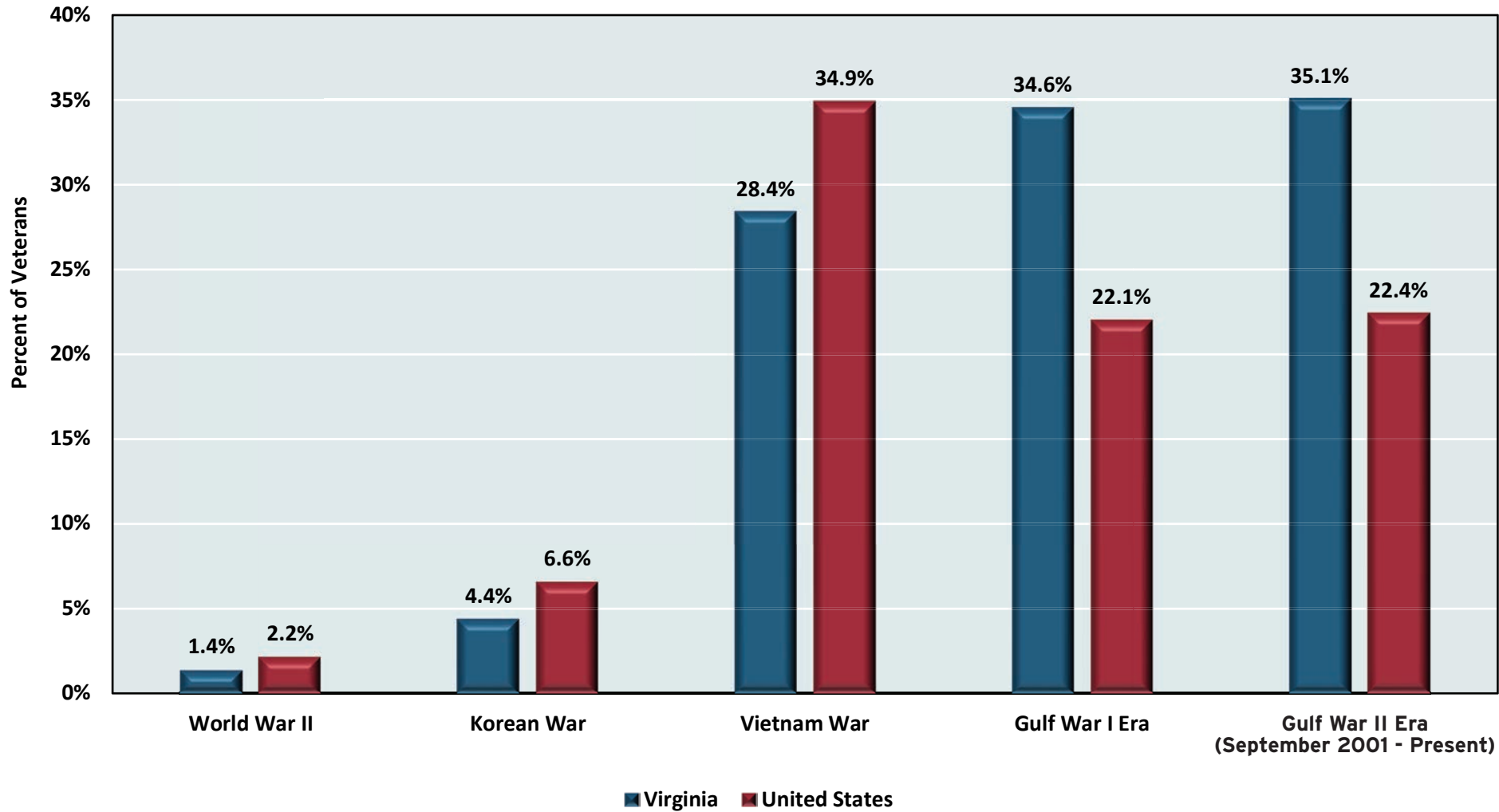
**VETERANS AS A SHARE OF THE ADULT CIVILIAN POPULATION  
TOP 10 STATES, 2021**



Source: U.S. Census Bureau American Community Survey 5-year estimates, 2017-2021. Adult population consisted of residents ages 18 years and older.

**GRAPH 13**

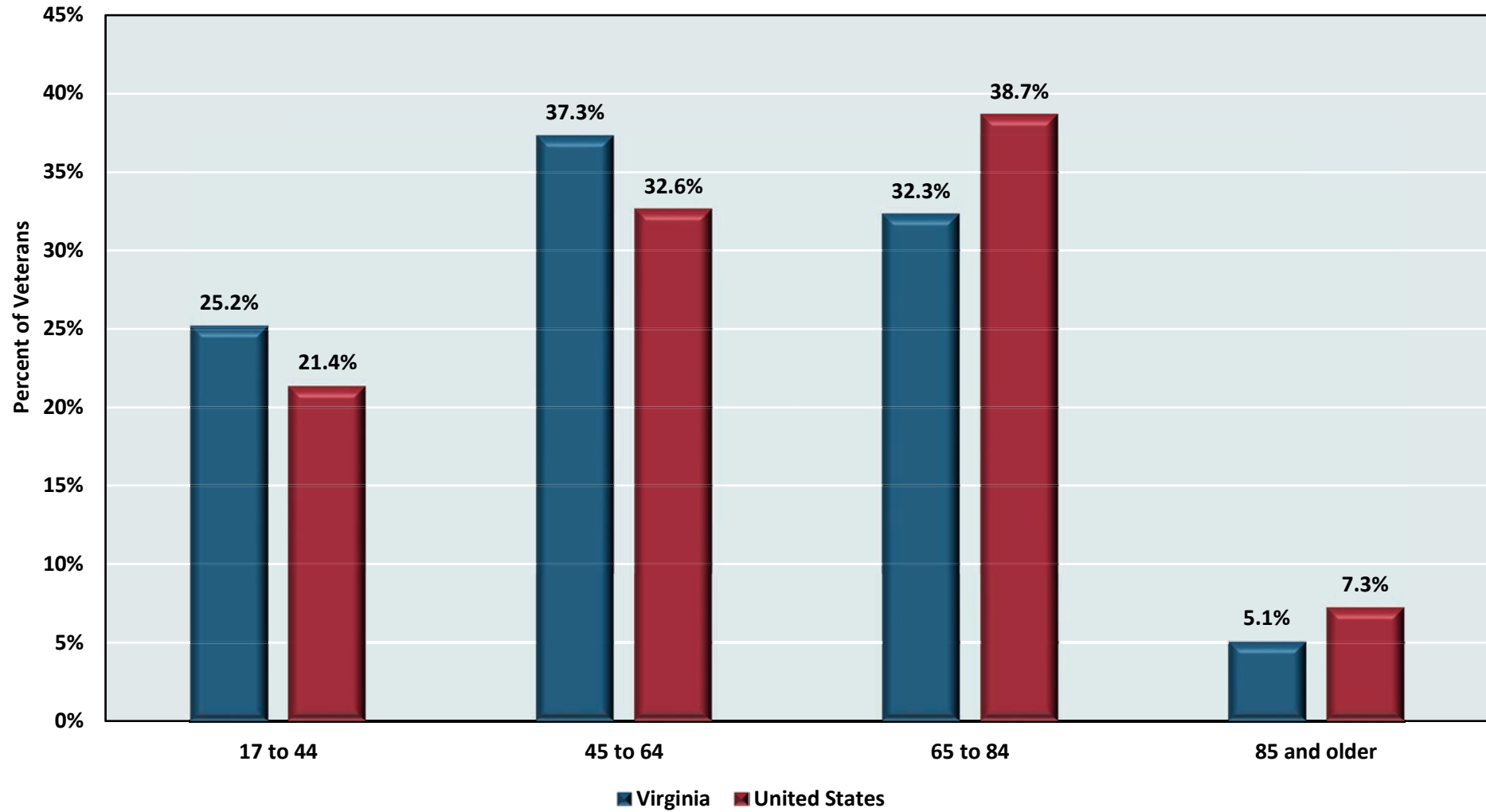
**VETERAN POPULATION BY PERIOD OF SERVICE  
VIRGINIA AND THE UNITED STATES, 2021**



Source: U.S. Census Bureau. 2000 reflects 2000 Decennial Census and estimates for 2021 reflect the American Community Survey 5-year estimates, 2017-2021. The total percentage of veterans exceeds 100% as service members can serve in more than one armed conflict period.

**GRAPH 14**

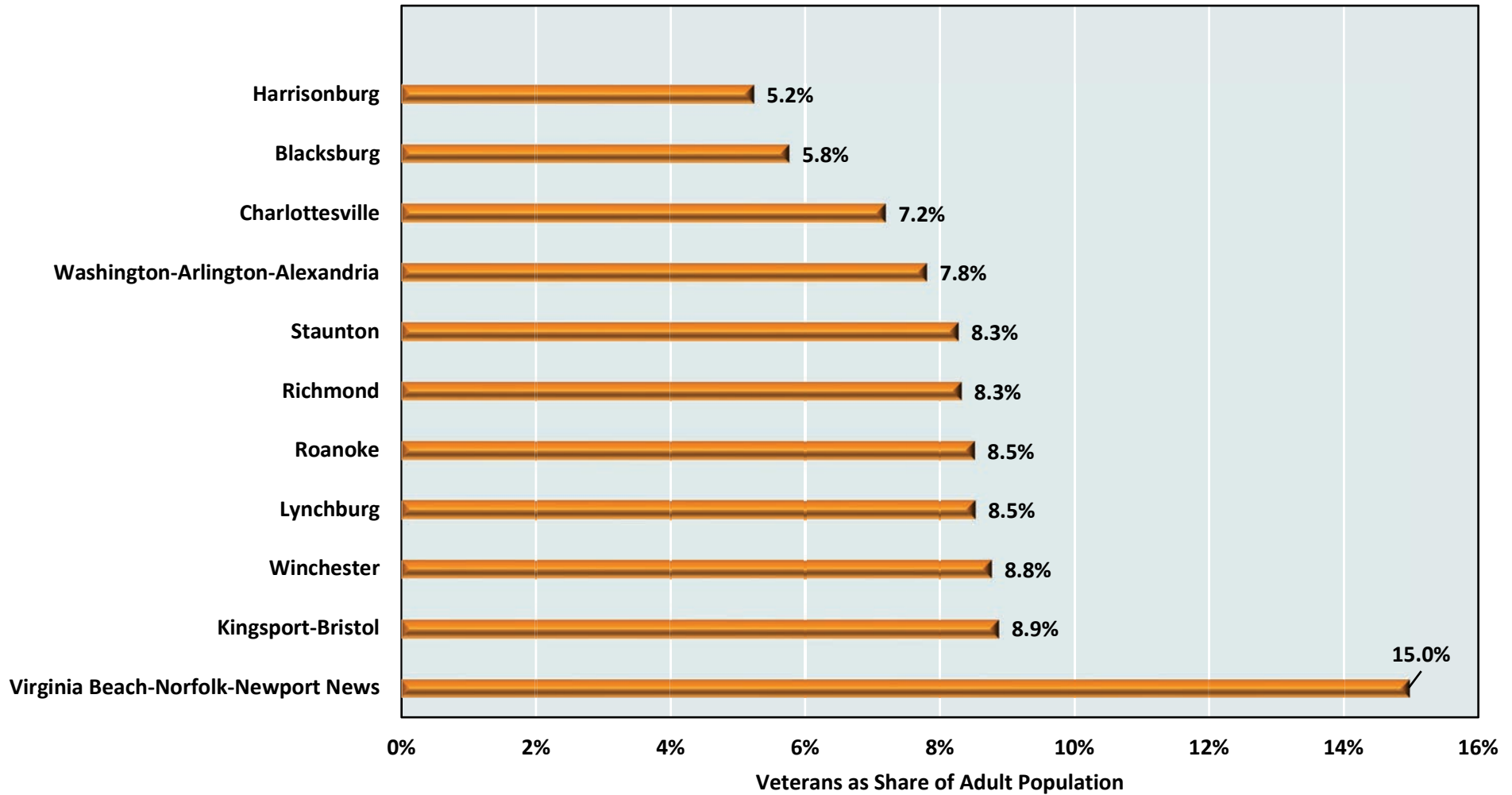
**VETERAN POPULATION BY AGE GROUP  
VIRGINIA AND THE UNITED STATES, 2022**



Source: Veterans Affairs VetPop 2020 Model.

GRAPH 15

VETERANS AS SHARE OF ADULT POPULATION  
VIRGINIA'S METROPOLITAN STATISTICAL AREAS, 2017 - 2021



Source: U.S. Census Bureau American Community Survey 5-year estimates, 2017-2021. Adult population consisted of residents ages 18 years and older.

**TABLE 5****VETERAN SHARE OF ADULT POPULATION  
TOP 20 METROPOLITAN AREAS, 2021**

Metropolitan Area	Veteran Population	Total Adult Population	Veterans Share of Adult Population	Ranking
Hinesville, GA	10,797	58,081	18.6%	1
Killeen-Temple, TX	63,641	343,256	18.5%	2
Sierra Vista-Douglas, AZ	18,058	98,244	18.4%	3
Crestview-Fort Walton Beach-Destin, FL	39,913	220,655	18.1%	4
Clarksville, TN-KY	37,406	231,942	16.1%	5
Jacksonville, NC	24,392	152,443	16.0%	6
The Villages, FL	18,659	118,206	15.8%	7
Colorado Springs, CO	89,373	569,783	15.7%	8
Lawton, OK	15,067	96,811	15.6%	9
Fayetteville, NC	58,687	386,454	15.2%	10
Virginia Beach-Norfolk-Newport News, VA-NC	208,703	1,394,369	15.0%	11
Pensacola-Ferry Pass-Brent, FL	57,720	395,069	14.6%	12
Bremerton-Silverdale-Port Orchard, WA	31,723	217,388	14.6%	13
Panama City, FL	20,560	143,083	14.4%	14
Warner Robins, GA	20,219	141,581	14.3%	15
Elizabethtown-Fort Knox, KY	16,660	117,462	14.2%	16
Great Falls, MT	9,179	65,010	14.1%	17
Lake Havasu City-Kingman, AZ	24,676	175,343	14.1%	18
Homosassa Springs, FL	17,976	129,077	13.9%	19
Cheyenne, WY	10,581	76,728	13.8%	20

Source: U.S. Census Bureau American Community Survey 5-year estimates, 2017-2021.

## Veterans in the Workforce

Veterans of the more recent service periods are more educated than those of previous generations as well as their non-veteran counterparts. Specifically, in today's military, veterans can receive STEM training on active duty. The expansion of education benefits such as the G.I. Bill also allows veterans to enroll in post-secondary schooling. As illustrated in Graph 16, 33.3% of Virginia veterans have some college education, as opposed to 25.6% of non-veteran adults in the region. Another 42.0% of veterans have at least a bachelor's degree or higher, which is 2 percentage points higher than their non-veteran counterparts.

Virginia veterans between the ages of 18 and 64 participated in the labor force at higher rates than their national counterparts (Graph 17), which was 77.0% nationwide and 82.6% for the state. The largest disparity in labor force participation rates was seen in veterans aged 55 to 64, where only 64.4% of veterans were in the labor force across the country and 73.0% in the Commonwealth.

In addition to higher participation rates across age groups nationally, veterans also participated in the labor force overall at a greater rate than non-veteran Virginia residents (Graph 18). Approximately 82.7% of veterans and 77.8% of non-veterans between the ages of 18 to 64 were in the labor force in the Commonwealth in 2021. If we examine labor force participation rates for the youngest age group in Graph 18, we observe that labor force participation was 6.7 percentage points higher for veterans. This higher rate of participation carried over to the 35 to 54 age group, where labor force participation was 5.3 percentage points higher for veterans when compared to non-veterans.

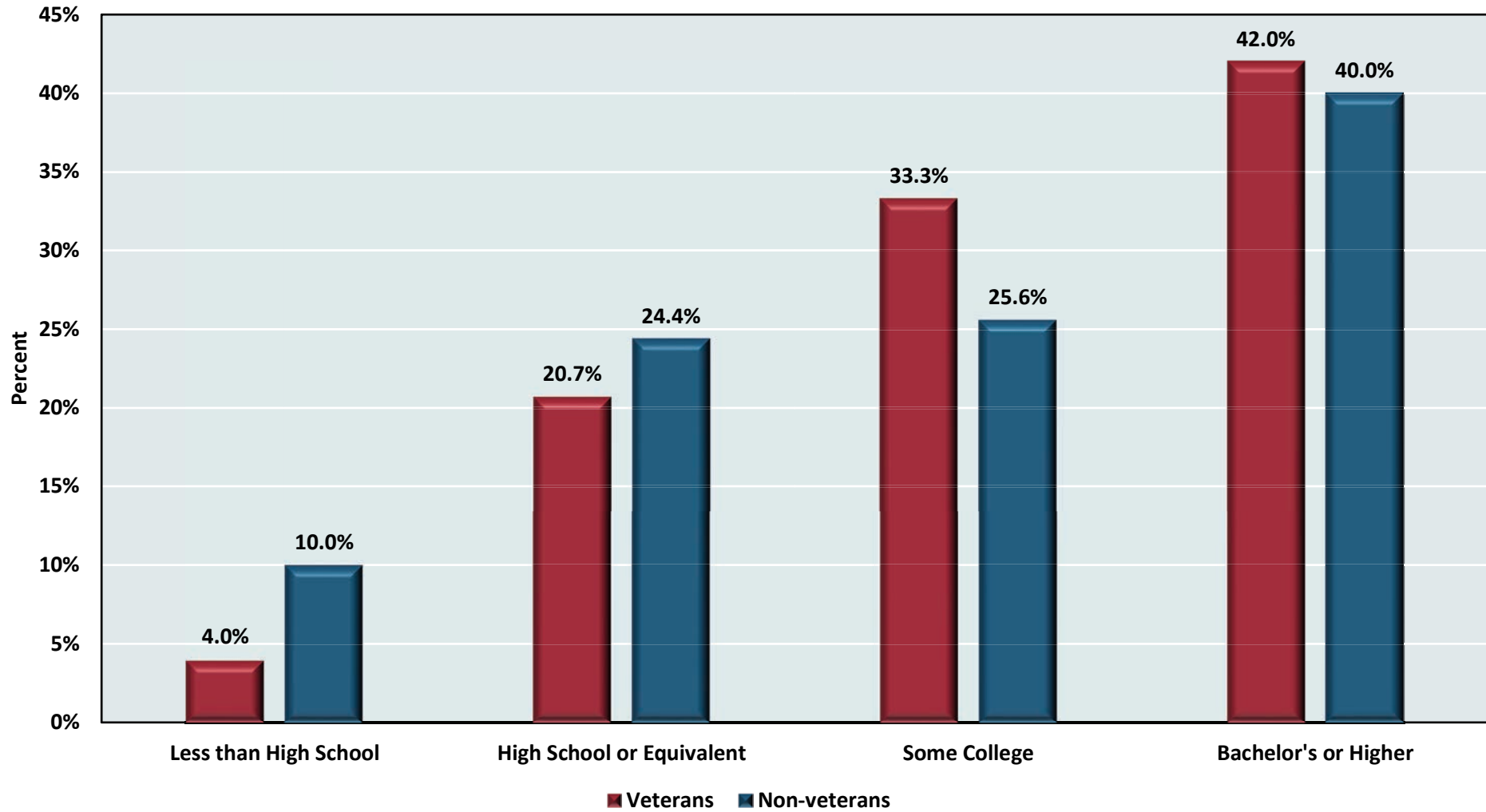
Median household income in the last 12 months is also higher for veterans than non-veterans in Virginia. Graph 19 displays median household income in 2021 by veteran status and gender. In 2021, median household income for male veterans was approximately 39.2% higher than male non-veterans, and female veterans' median household income was 68.9% higher than female non-veterans.

When we examine median household income at the regional level, we see that veteran households earned more than their non-veteran counterparts. Given that veterans, on average, are more educated and more engaged in the workforce at higher rates than their non-veteran counterparts, the estimates in Table 6 should not be surprising. In the Blacksburg-Christiansburg MSA, for example, median household income for female veterans (\$47,969) is more than twice that of female non-veterans (\$22,289).

The evidence suggests that veterans in Virginia were more educated and participated in the labor force at higher rates than their national counterparts and the state's non-veteran population. While some veterans may accept lower wages to remain close to VA facilities, the evidence suggests that, on average, their incomes are higher, even in regions with large veteran populations. Given the need for talent across the state, investing in strategies to convince those separating from active-duty to remain in the state is an obvious choice to spur economic development.



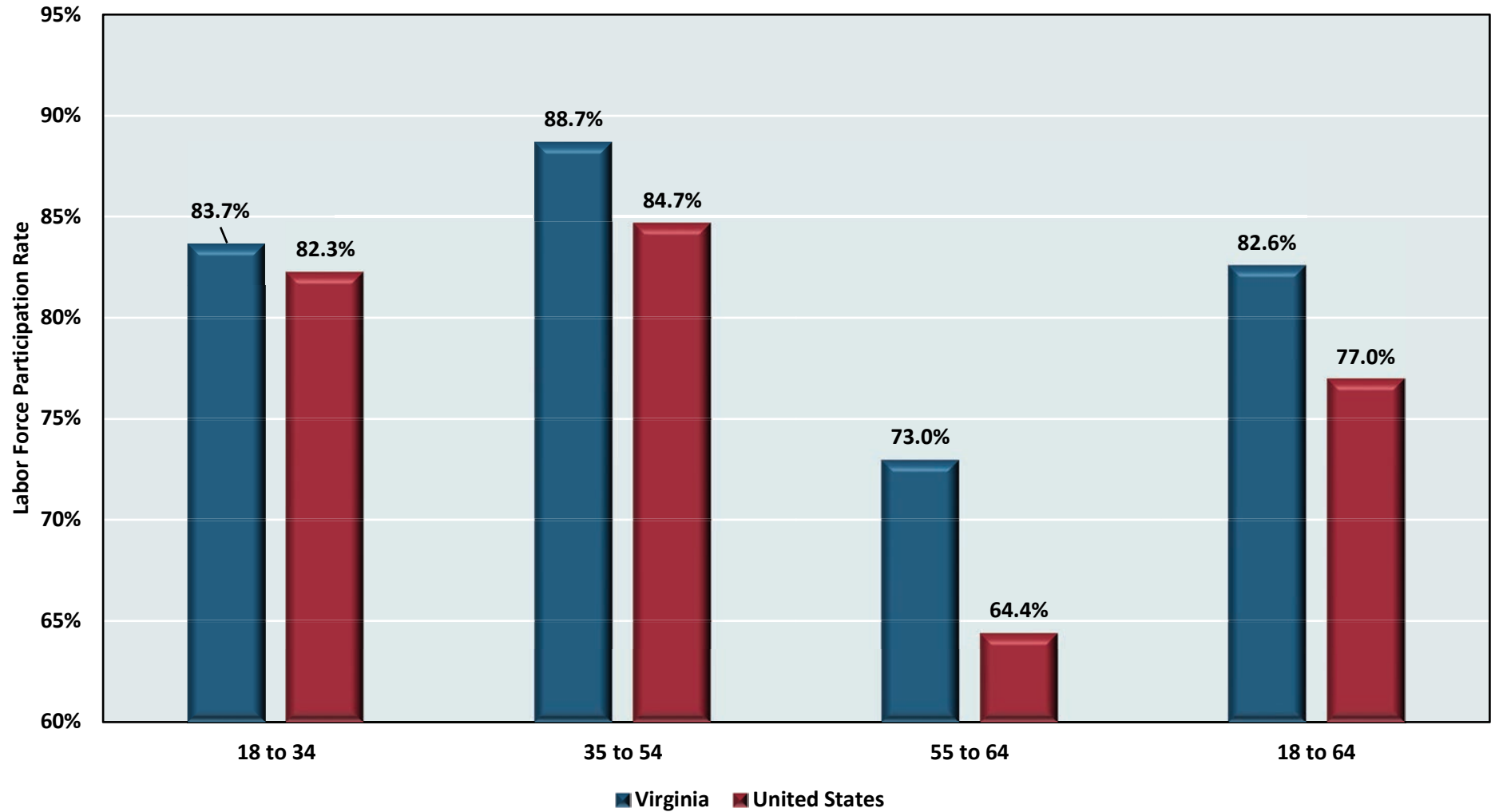
**GRAPH 16**  
**EDUCATIONAL ATTAINMENT BY VETERAN STATUS**  
**VIRGINIA, 2021**



Source: U.S. Census Bureau American Community Survey (ACS) 5-year estimates, 2017-2021.

GRAPH 17

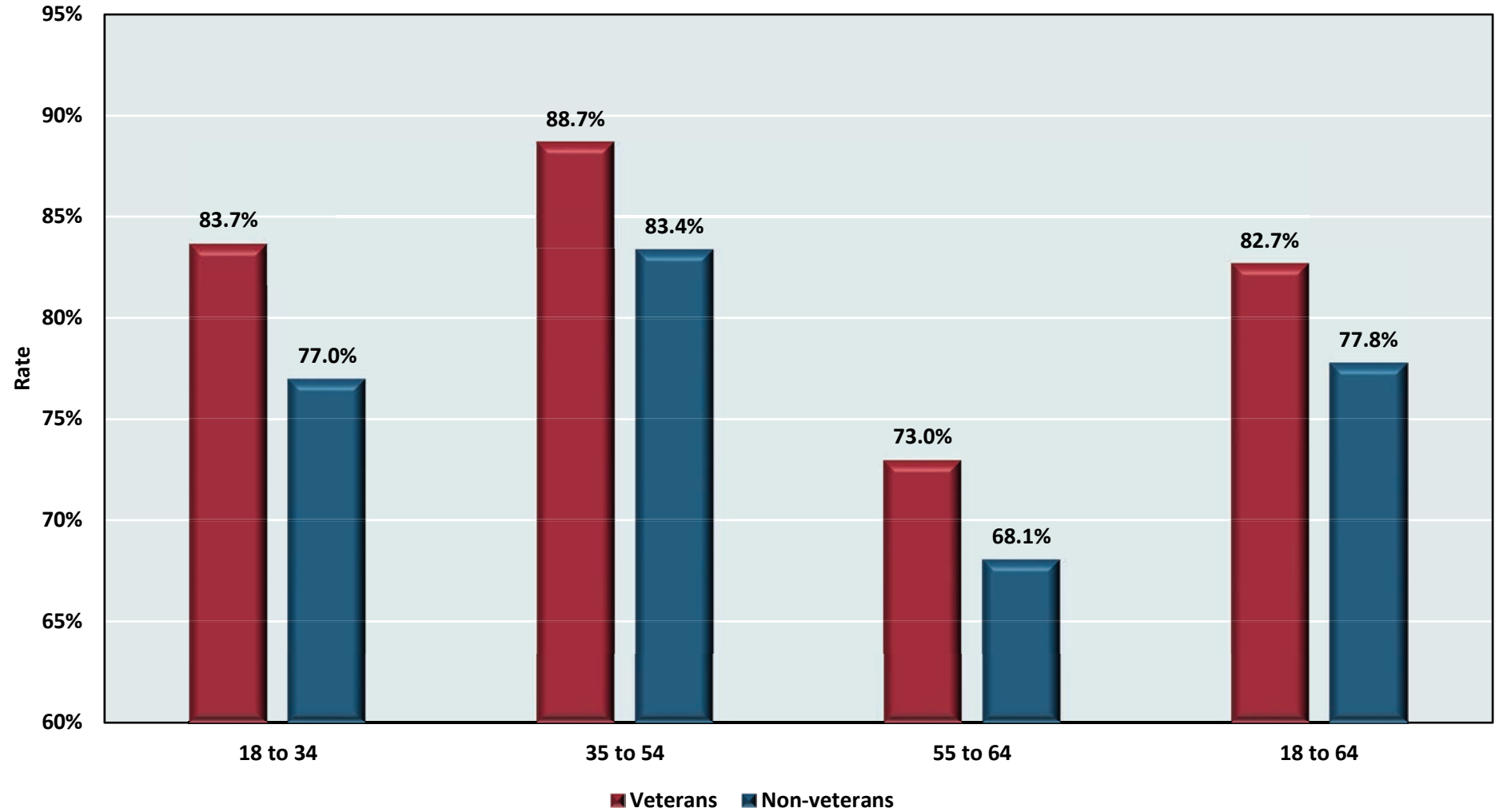
VETERAN LABOR FORCE PARTICIPATION RATE BY AGE GROUP  
UNITED STATES AND VIRGINIA, 2021



Source: U.S. Census Bureau American Community Survey (ACS) 5-year estimates, 2017-2021.

**GRAPH 18**

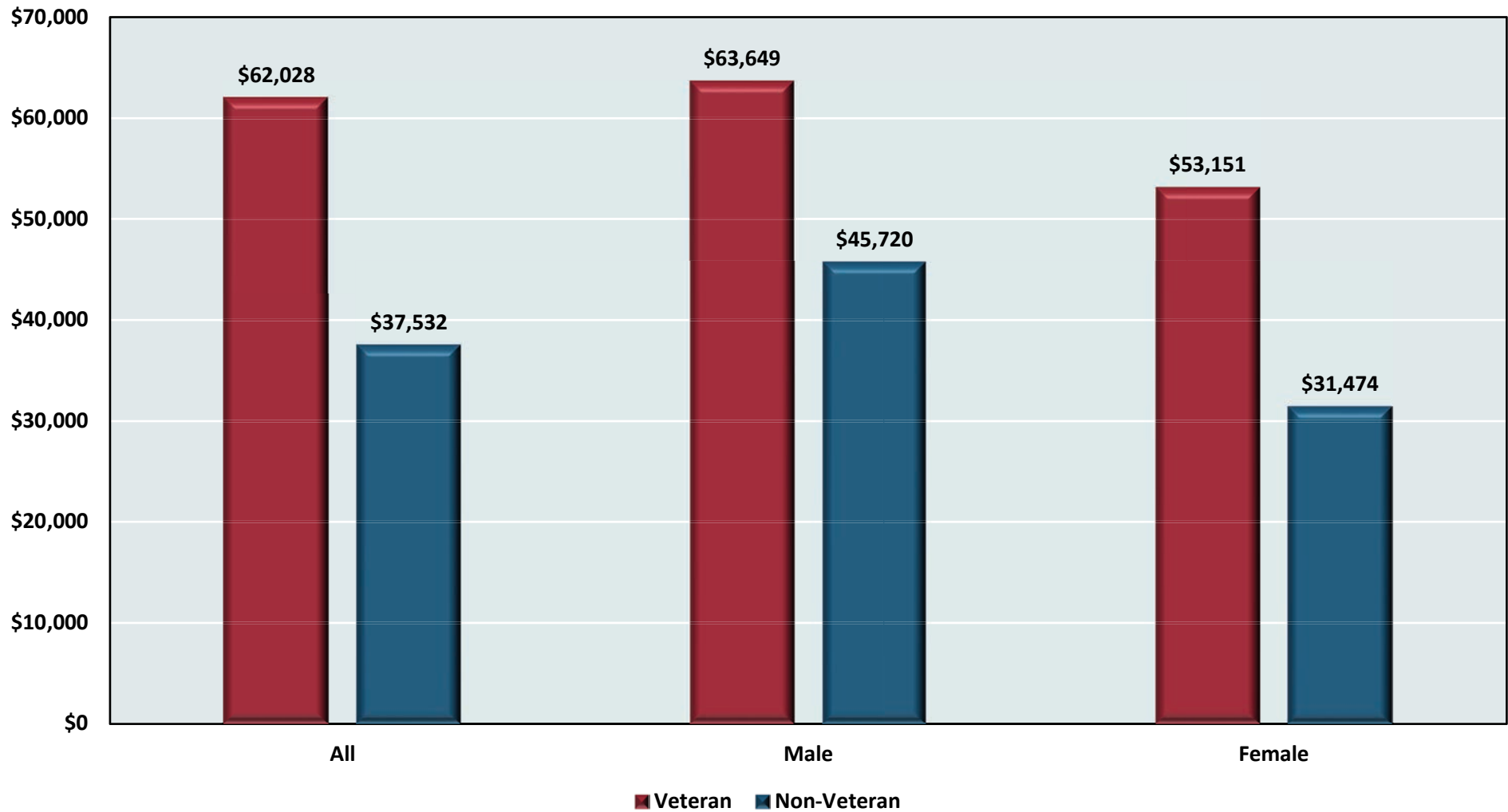
**LABOR FORCE PARTICIPATION RATE BY VETERAN STATUS AND AGE GROUP  
VIRGINIA, 2021**



Source: U.S. Census Bureau American Community Survey (ACS) 5-year estimates, 2017-2021.

GRAPH 19

MEDIAN HOUSEHOLD INCOME IN THE PAST 12 MONTHS BY VETERAN STATUS AND GENDER  
VIRGINIA, 2021



Source: U.S. Census Bureau American Community Survey (ACS) 5-year estimates, 2017-2021.

**TABLE 6****MEDIAN HOUSEHOLD INCOME IN THE PAST 12 MONTHS  
METROPOLITAN STATISTICAL AREAS IN VIRGINIA, 2021**

<b>MSA</b>	<b>Male Veterans</b>	<b>Male Non-veterans</b>	<b>Female Veterans</b>	<b>Female Non-veterans</b>
<b>Blacksburg-Christiansburg</b>	<b>\$47,413</b>	<b>\$33,224</b>	<b>\$47,969</b>	<b>\$22,289</b>
<b>Charlottesville</b>	<b>\$60,632</b>	<b>\$45,276</b>	<b>\$44,974</b>	<b>\$33,471</b>
<b>Harrisonburg</b>	<b>\$45,674</b>	<b>\$35,891</b>	<b>\$38,661</b>	<b>\$22,610</b>
<b>Kingsport-Bristol</b>	<b>\$34,450</b>	<b>\$32,959</b>	<b>\$23,945</b>	<b>\$21,875</b>
<b>Lynchburg</b>	<b>\$42,242</b>	<b>\$36,801</b>	<b>\$33,730</b>	<b>\$24,742</b>
<b>Richmond</b>	<b>\$53,416</b>	<b>\$44,534</b>	<b>\$44,659</b>	<b>\$32,719</b>
<b>Roanoke</b>	<b>\$41,498</b>	<b>\$39,972</b>	<b>\$41,826</b>	<b>\$26,939</b>
<b>Staunton</b>	<b>\$45,580</b>	<b>\$39,558</b>	<b>\$29,073</b>	<b>\$27,058</b>
<b>Virginia Beach-Norfolk- Newport News</b>	<b>\$61,244</b>	<b>\$41,085</b>	<b>\$45,603</b>	<b>\$28,737</b>
<b>Washington-Arlington- Alexandria</b>	<b>\$88,871</b>	<b>\$59,244</b>	<b>\$80,386</b>	<b>\$44,138</b>
<b>Winchester</b>	<b>\$53,072</b>	<b>\$42,930</b>	<b>\$23,538</b>	<b>\$30,236</b>
<b>Charlottesville</b>	<b>\$60,632</b>	<b>\$45,276</b>	<b>\$44,974</b>	<b>\$33,471</b>
<b>Virginia</b>	<b>\$63,649</b>	<b>\$45,720</b>	<b>\$53,151</b>	<b>\$31,474</b>

Source: U.S. Census Bureau American Community Survey (ACS) 5-year estimates, 2017-2021.

## A Brief Look at Military Retirees in Virginia

According to the Defense Manpower Data Center (DMDC), there were 155,832 military retirees in Virginia in 2022, of which 146,987 were paid by the Department of Defense (DoD).<sup>15</sup> These military retirees received approximately \$499.6 million in payments from the DoD. On average, these paid retirees received \$3,399 monthly, injecting almost \$6 billion in retirement payments annually into the state economy. Table 7 presents the information on DoD-administered military retirees and their payments for the United States and Virginia in FY 2022.

<b>TABLE 7</b>		
<b>MILITARY RETIREES AND PENSION PAYMENTS FROM DOD UNITED STATES AND VIRGINIA, FISCAL YEAR 2022</b>		
	<b>United States</b>	<b>Virginia</b>
<b>Military Retirees</b>	<b>2,190,448</b>	<b>155,832</b>
<b>Paid Military Retirees</b>	<b>1,998,452</b>	<b>146,987</b>
<b>Total Monthly Payment (In Millions)</b>	<b>\$5,225</b>	<b>\$499.6</b>
<b>Per Capita Payment</b>	<b>\$2,614.5</b>	<b>\$3,987.0</b>

Source: Retirees data received from DMDC. Per capita payment estimated the total monthly payment per paid retiree.

Graph 20 presents the top five states for the number of military retirees in 2022 as reported by the DMDC. In absolute terms, Virginia ranked third among U.S. states for the number of military retirees in 2022. Proportionally, Virginia also ranked among the top five states with respect to the population of military retirees in 2022.

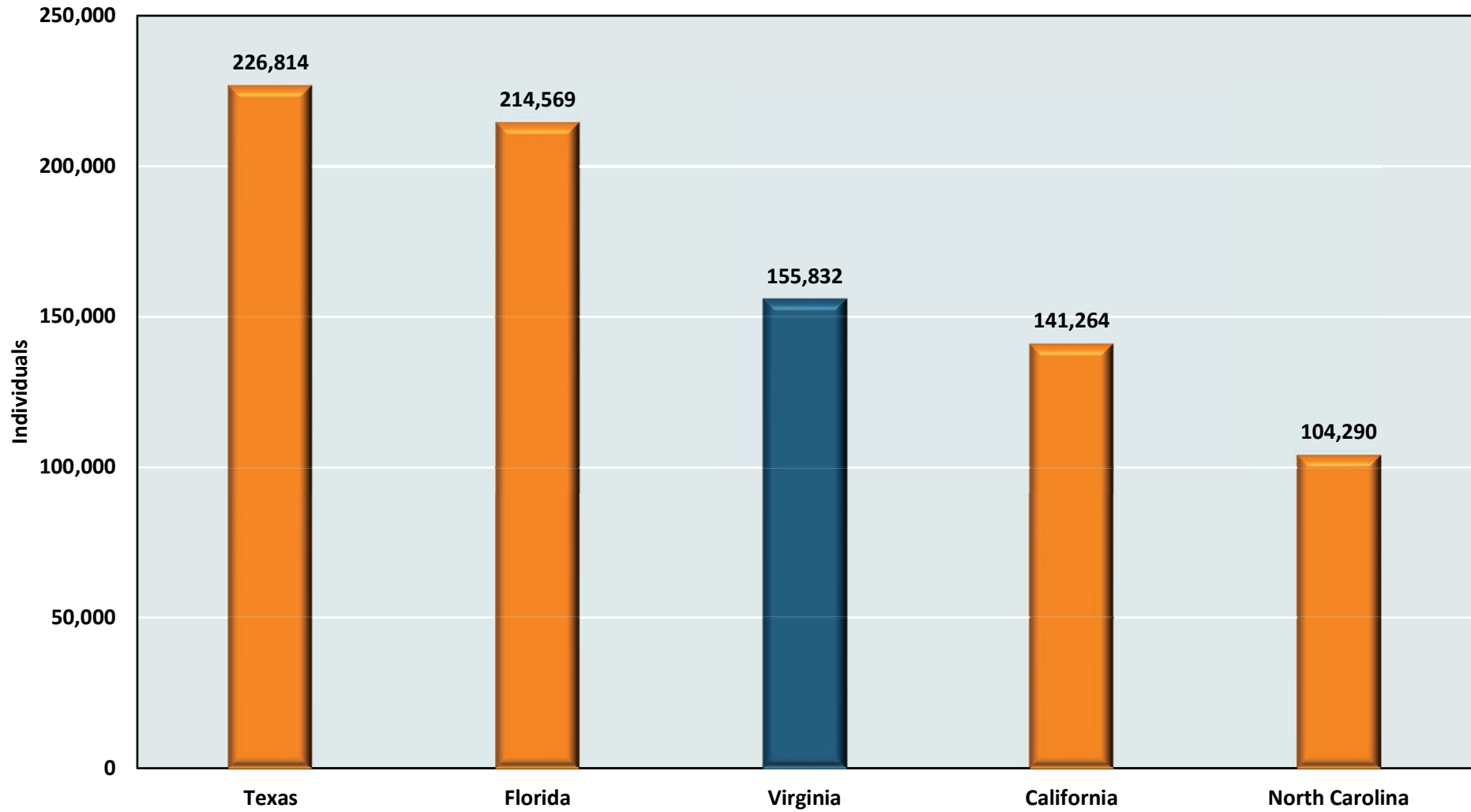
Graph 21 summarizes the number of military retirees by service for Virginia in 2022. Not surprisingly, given the Navy’s perceptible military presence in the Hampton Roads region, there were 59,589 U.S. Navy retirees in the Commonwealth in 2022. Additionally, there were 51,028 U.S. Army retirees, 32,539 Air Force retirees and 12,676 Marine Corps retirees.

Hampton Roads has the second-largest military retiree population compared to all other metro areas in the nation. In 2022, there were 68,659 military retirees in Hampton Roads, nearly 5% of the region’s adult population (Table 8). By the same identifier, the only other metro area in the nation with more retirees than Hampton Roads is the Washington-Arlington-Alexandria MSA with 88,308 military retirees. However, in relative percentages, Hampton Roads ranks first among the largest MSAs with a population of 1 million or more and ranks 13th nationally.

<sup>15</sup> According to the DMDC, the military retirement system applies to members of the Army, Navy, Marine Corps, and Air Force. Most of the provisions also apply to retirement systems for members of the Coast Guard (administered by the Department of Homeland Security), officers of the Public Health Service (administered by the Department of Health and Human Services), and officers of the National Oceanic and Atmospheric Administration (administered by the Department of Commerce). We present the data for military retirees administered by the DoD in this report.

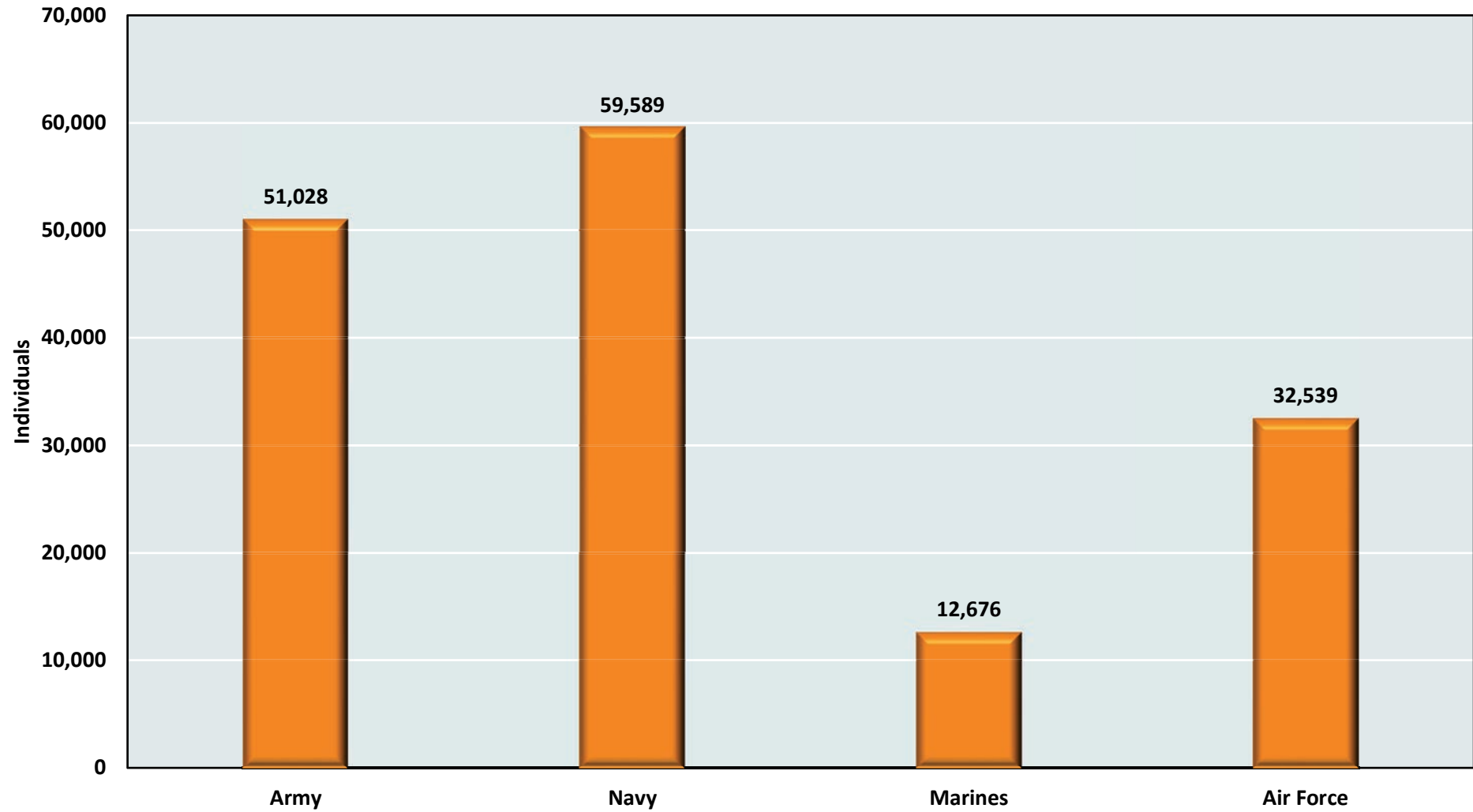


**GRAPH 20**  
**MILITARY RETIREES POPULATION**  
**TOP 5 STATES, 2022**



Source: Defense Manpower Data Center (2023).

**GRAPH 21**  
**MILITARY RETIREES BY SERVICE**  
**VIRGINIA, 2022**



Source: Defense Manpower Data Center (2023).

**TABLE 8****MILITARY RETIREES SHARE OF ADULT POPULATION  
TOP 20 METROPOLITAN AREAS, 2021**

Metropolitan Area	Military Retirees	Total Adult Population	Retiree Share of Adult Population	Ranking
Hinesville, GA	4,948	58,081	8.5%	1
Crestview-Fort Walton Beach-Destin, FL	17,096	220,655	7.7%	2
Killeen-Temple, TX	25,618	343,256	7.5%	3
Jacksonville, NC	10,159	152,443	6.7%	4
Fayetteville, NC	23,460	386,454	6.1%	5
Lawton, OK	5,795	96,811	6.0%	6
Clarksville, TN-KY	13,345	231,942	5.8%	7
Warner Robins, GA	8,035	141,581	5.7%	8
Elizabethtown-Fort Knox, KY	6,591	117,462	5.6%	9
Sierra Vista-Douglas, AZ	5,245	98,244	5.3%	10
Pensacola-Ferry Pass-Brent, FL	20,478	395,069	5.2%	11
Colorado Springs, CO	28,555	569,783	5.0%	12
Virginia Beach-Norfolk-Newport News, VA-NC	68,659	1,394,369	4.9%	13
California-Lexington Park, MD	3,910	85,729	4.6%	14
Panama City, FL	6,154	143,083	4.3%	15
Bremerton-Silverdale-Port Orchard, WA	9,347	217,388	4.3%	16
Columbus, GA-AL	10,163	248,129	4.1%	17
Sumter, SC	4,201	105,574	4.0%	18
New Bern, NC	3,752	97,391	3.9%	19
Cheyenne, WY	2,952	76,728	3.8%	20

Source: U.S. Census Bureau American Community Survey 5-year estimates, 2017-2021.



## Final Thoughts

**Military veterans are a foundational component of the Virginia economy. Working-age veterans are more likely to participate in the labor force than non-veterans. Military retirees in Virginia received more than \$6 billion in retirement payments from the DoD in 2022. This does not include disability payments from the Veterans Administration or expenditures for the care and support of veterans. When we combine the inflow of federal dollars with veterans' participation in the labor force, civic life, and service to the community, we can only draw the conclusion that attracting veterans to the Commonwealth and retaining them are worth the investment of public resources.**

These simple facts are mainly the reasons why states are moving quickly to make their tax and expenditure policies “veteran friendly.” While rankings of state policies must always be taken with a grain of proverbial salt, there are often some kernels of truth that one can glean from these reports. In 2023, Wallethub ranked Virginia third, behind Florida and South Carolina, in its annual ranking of best states for military retirees.<sup>16</sup> Virginia ranked fourth in economic environment, fifth in quality of life, and 17th for health care. Meanwhile, Smartasset ranked Virginia eighth for military veterans in an assessment focusing more on economic conditions than veteran-related state policies.<sup>17</sup> If there is one takeaway, it is that Virginia is well-positioned to attract and retain veterans who are separating from service.

<sup>16</sup> <https://wallethub.com/edu/best-states-for-military-retirees/3915>

<sup>17</sup> <https://smartasset.com/mortgage/the-best-states-for-veterans>






# DEATH AND DYING IN VIRGINIA

*The old man smiled. 'I shall not die of a cold, my son. I shall die of having lived.'*

*– Willa Cather, *Death Comes for the Archbishop**





**F**or many in the Commonwealth of Virginia, end-of-life care and hospice are intertwined terms. For those who have not experienced the death of a loved one in this way, hospice care is defined as a specialized form of treatment aimed at providing support and comfort to patients facing terminal illnesses, typically with a life expectancy of six months or less. According to data from the National Center for Health Statistics, over 1.5 million patients in the United States received hospice services in 2017 for life-limiting conditions such as end-stage heart disease, cancer, neurodegenerative diseases such as Parkinson's, lung or kidney disease, Alzheimer's, and other dementias.<sup>1</sup>

Hospice care is primarily focused on enhancing the comfort and quality of life for individuals in their remaining time, emphasizing symptom management, pain relief, and end-of-life support. Typically, hospice care is administered in a patient's home, but it can also be provided in outpatient clinics or inpatient settings. In 2020, Medicare spending on hospice care reached \$22.4 billion, highlighting its increasing significance as the aging population in Virginia and the United States continues to grow.

<sup>1</sup> Post-acute and Long-term Care Providers and Services Users in the United States, 2017-2018 Analytical and Epidemiological Studies, National Center for Health Statistics, Series 3, Number 47, May 2022.



Nearly 1.9 million Virginians are ages 60 or older, and by 2030, the Commonwealth’s population over age 60 is expected to grow to 2.2 million, almost one in four Virginians.<sup>2</sup>

Carla Thompson, Bon Secours’ Director of Hospice Care, noted in an interview in 2023 that patients come into hospice care for a variety of reasons.<sup>3</sup> “They can come when they have symptoms that can’t be managed at home. Or if their families need a five-day respite stay.” The 16-bed Community Hospice in Bon Air provides these and other services to families and patients who face a terminal diagnosis. One of the challenges for those needing hospice care, however, is an apparent reluctance to talk about the need for hospice care, even though surveys suggest that many would prefer to die at home.<sup>4</sup> Kyle Clark, Bon Secours Community Hospice House’s nursing director, urged Virginians to “Talk to your doctor about hospice...don’t wait... until you’re having a hard time and you’re struggling with the learning process.”

This chapter delves into the landscape of serious diseases and hospice care in the United States and Virginia. It explores the growing demand for hospice care among Medicare beneficiaries and the evolving composition of hospice care providers, with over two-thirds of hospices in the country now operating as for-profit entities. Many Commonwealth citizens are unaware of the differences between for-profit and nonprofit hospices, which can affect the care they receive. The importance of delivering high-quality care to individuals facing serious and terminal illnesses cannot be overstated. Quality care contributes to better patient outcomes by offering comprehensive, specialized care, effective pain and symptom management, emotional support, dignified end-of-life care, coordination and continuity of care, and a patient- and family-centered approach. The chapter also investigates the availability of care services for seriously ill individuals in the Commonwealth and ultimately poses the question: What is the current state of end-of-life care in Virginia?

## A Primer on Hospice Care

If we wish to focus on hospice and end-of-life care, then we need to sharpen our awareness of terminology. For those who are not acquainted with this topic, language can be a challenge surrounding this often difficult to discuss subject. To avoid confusion, we define commonly used terms in this chapter and provide a discussion of each term. To start, there are different types of care for individuals with illnesses: curative, palliative, and hospice.

**Curative care** refers to treatments provided to an individual at any age or illness stage with the primary goal of curing their illness or condition. A hospital stay for an appendectomy is an example of curative care. Curative care can range from relatively mild conditions to quite complex medical conditions that require intensive medical intervention and extended stays in medical facilities.

**Palliative care** is care designed to soothe the symptoms of someone suffering from a serious illness and is typically part of care for people with cancer. For any age or stage of illness, this type of care may also be referred to as supportive care. Palliative care can be administered at the same time as curative care and may even assist in illness recovery, if recovery is possible.

**Hospice care** is a specific type of palliative care for individuals who have been identified to have six months or less of life due to severe illness, life-threatening condition and/or other medical factors. When a patient chooses hospice care, they waive their rights to Medicare coverage of disease-focused curative treatments for their terminal illness. However, treatments and services to reduce pain or symptom severity and manage terminal illness and related conditions are included in the hospice benefit. This prognosis can only be determined by a physician, and the hospice benefit does not expire. The initial hospice benefit period starts when the patient signs up for hospice and the period lasts for 90 days, if needed. After the first 90 days, the

2 Demographic Services A 10-year blueprint to serve Virginia’s Area Agencies on Aging (2022). The University of Virginia Weldon Cooper Center for Public Service <https://www.vda.virginia.gov/downloads/DARS%20Aging%20Demographic%20Services%20Blueprint%202022.pdf>

3 <https://www.wtvr.com/news/local-news/virginia-healthcare-workers-commend-jimmy-carter-for-normalizing-end-of-life-care-february-24-2023>

4 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9255424/>

patient will be approved for an additional 90 days. Treatment during hospice care refers to alleviating symptoms and providing comfort when possible as there is no curative treatment being administered.

A patient always has control over the type of care received. For example, if a medical condition or illness improves or the patient prefers to leave hospice care, they are free to do so. Medical professionals would agree that when six months or less is identified for hospice qualification, this determination is based upon the expected course of the patient's medical condition. However, no two patients are ever the same, and disease progression may be faster or slower than the six-month time frame. After six months, a patient may be recertified after an in-person visit by a qualified health professional when the patient's condition remains life limiting.

Patients and their loved ones often want and need information and support surrounding the seriousness or finality of a diagnosed illness. However, medical professionals are only in the position to estimate this information based on what they know about the patient's medical history and the diagnosed illness. Over- or underestimating life span is fraught for many reasons. Supportive care to deal with the emotional challenges associated with an end-of-life diagnosis and care are available through hospice including counseling and respite care. Respite care provides short-term relief for an ill patient's primary caregiver. Respite care is essential because it helps family members maintain their well-being, both physically and emotionally. It allows caregivers to recharge, make informed decisions, and continue providing the best possible care to their loved ones, ultimately improving the quality of life for both the patient and their family.

Lastly, after the patient's death, bereavement services are designed to help individuals navigate the difficult emotions that come with losing a loved one. The Medicare Hospice Benefit provides bereavement services for at least one year. Many religious organizations in Virginia also provide bereavement services, for example, the *Grief Share* program is commonplace throughout churches as well as *Peace by*

*Piece*, an interfaith program for youth in partnership with Jewish Family Service of Tidewater.

## Hospice Care and Health in the United States

Inspired by St. Christopher's Hospice in London in 1967, Florence Wald founded the first "official" hospice in the United States. Established in 1973 in Branford, Connecticut, the Connecticut Hospice eventually became the model for hospice care across the nation. Dr. Elisabeth Kübler-Ross' groundbreaking book, *On Death and Dying*, which described five stages of grief, propelled the relatively new discussion of end-of-life care for the terminally ill to the American lexicon over 50 years ago. Evidence suggests that the prevalence of certain diseases has increased over time and expanded social awareness of serious illness and end-of-life conditions; this is vital to promoting better health outcomes and creating a supportive environment for those impacted. The National Institute on Aging defines serious illness as "a disease or condition with a high risk of death." Awareness initiatives play a crucial role in improving public health, advancing research, and enhancing the quality of life for individuals and communities. Consider the importance of the discussion of serious diseases such as cancer in the United States and Virginia.

Heart disease and cancer are the leading causes of death in the nation. In 2020, over 1.6 million new cases of cancer were reported, and over 602,000 people died of cancer. One of every five deaths in the United States in 2020 was due to cancer. Cancer is the leading cause of death in midlife and is poised to become the leading cause of death overall as the number of people diagnosed with and dying from cancer continues to increase.<sup>5</sup> By 2050, the number of colorectal cancers is predicted to exceed the total number of lung and bronchus cancers.<sup>6</sup> It is important to note that while the incidence of certain cancers has

5 U.S. Cancer Statistics Working Group. 2023. <https://www.cdc.gov/cancer/U.S.cs/dataviz/index.htm>

6 Weir HK, Thompson TD, Stewart SL, White MC. Cancer Incidence Projections in the United States Between 2015 and 2050. *Prev Chronic Dis.* 2021 Jun 10;18:E59. doi: 10.5888/pcd18.210006. PMID: 34114543; PMCID:PMC8220959

increased, advancements in medical treatments and interventions have also improved survival rates for many types of cancer. Early detection, better treatment options, and increased awareness have helped in managing and treating cancer more effectively. Nonetheless, especially as our population ages, it stands to reason that age is a significant risk factor for many types of cancer, and as life expectancy has increased, more individuals are living long enough to develop cancer. Individuals with a Stage 4 diagnosis, defined by the National Cancer Institute as cancer having spread to “distant parts of the body,” will be offered support care as curative care becomes limited.

The Bureau of Economic Analysis (BEA) Health Care account estimates health care spending by medical disease. Graph 1 illustrates the rise of disease costs in the United States from 2001 to 2020 with cancer remaining relatively persistent over that period. Of special note in Graph 1 is the impact of the COVID-19 pandemic’s first year spending on infectious diseases, jumping from \$127.0 billion in 2019 to \$205.1 billion in 2020. In per capita terms, expenditures for infectious diseases in nominal dollars jumped from \$388.4 per person in 2019 to \$620.8 per person in 2020, an increase of 59.8%.

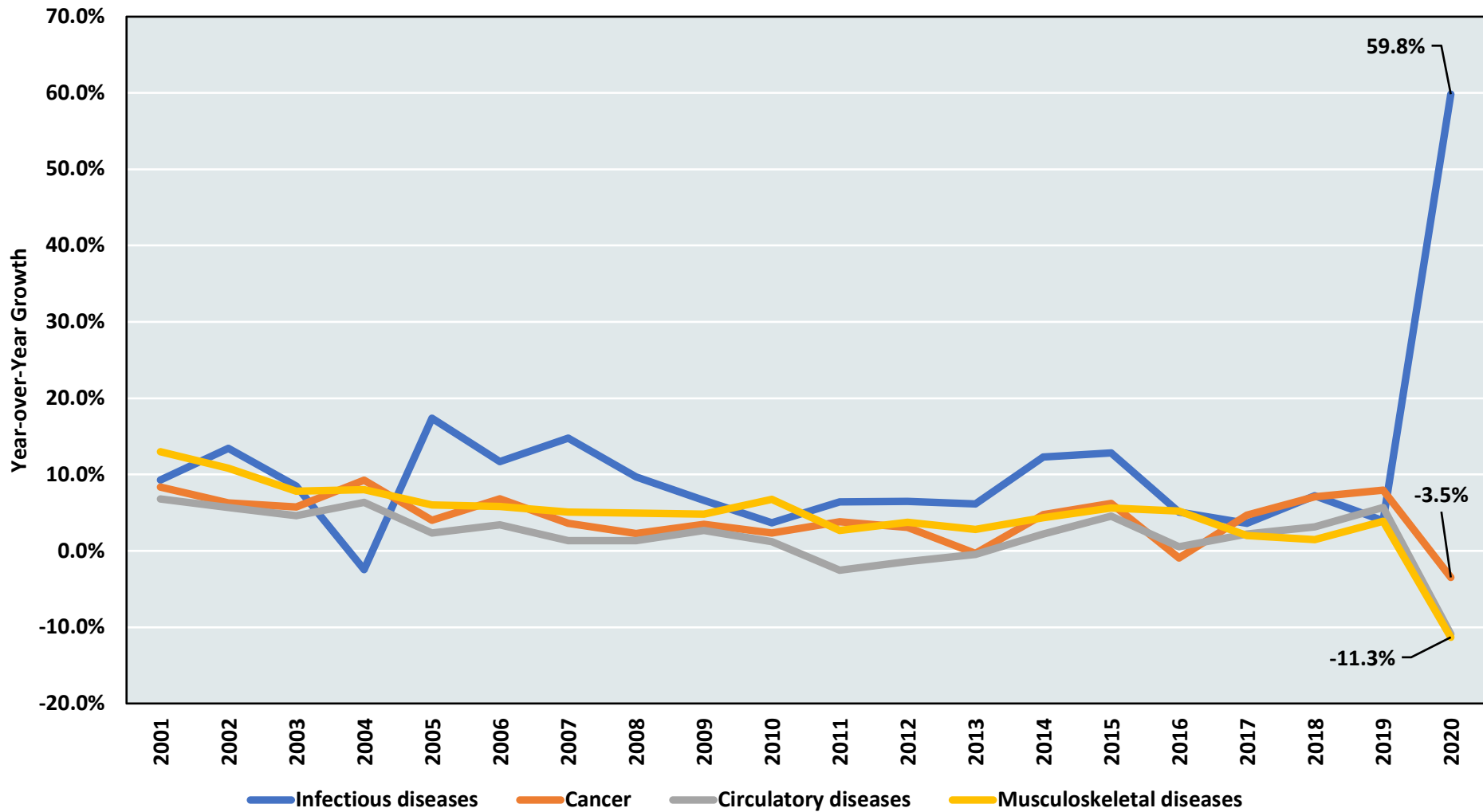
The Centers for Disease Control (CDC) officials have cautioned interpreting 2020 hospice data because the pandemic disordered health services. Closures and the suspension of health services due to social distancing led to delays and/or reductions in cancer screening, diagnosis, and reporting of disease. It is suspected that any decline in new cancer cases in 2020 may be due to the disruption of COVID-19 on routine health services. In addition, during the midst of the pandemic, deaths of the terminally ill were complicated by the introduction of COVID-19 fatalities. The long-lasting impacts of COVID-19 on data gathering in the United States include disruptions to data collection, changes in data collection methods, increased focus on health data, disparities and equity considerations, and reliance on real-time data. These effects will likely shape health care going forward in the post-pandemic era.

Table 1 reports the top 10 leading causes of death in the United States and Virginia in 2021 as reported by the National Vital Statistics System (NVSS) and CDC WONDER. Not surprisingly, the top five leading causes of death for the nation and the Commonwealth are the same. We note (again) that these statistics are impacted by the COVID-19 pandemic, with COVID-19 deaths ranking third both nationally and in Virginia in 2021.

<b>TABLE 1</b>		
<b>10 LEADING CAUSES OF DEATH, UNITED STATES AND VIRGINIA, 2021</b>		
<b>Rank</b>	<b>United States</b>	<b>Virginia</b>
<b>1</b>	<b>Heart Disease</b>	<b>Heart Disease</b>
<b>2</b>	<b>Cancer</b>	<b>Cancer</b>
<b>3</b>	<b>COVID-19</b>	<b>COVID-19</b>
<b>4</b>	<b>Accidents</b>	<b>Accidents</b>
<b>5</b>	<b>Stroke</b>	<b>Stroke</b>
<b>6</b>	<b>Chronic Lower Respiratory Diseases</b>	<b>Chronic Lower Respiratory Diseases</b>
<b>7</b>	<b>Alzheimer’s Disease</b>	<b>Diabetes</b>
<b>8</b>	<b>Diabetes</b>	<b>Alzheimer’s Disease</b>
<b>9</b>	<b>Chronic Liver Disease/ Cirrhosis</b>	<b>Kidney Disease</b>
<b>10</b>	<b>Kidney Disease</b>	<b>Suicide</b>

Source: National Center for Health Statistics (2023). A total of 3,464,231 resident deaths were registered in the United States in 2021. The 10 leading causes of death accounted for 74.5% of all U.S. deaths in 2021. Causes of death are ranked according to number of deaths. Virginia: National Center for Health Statistics (2023). Death data, including leading causes of death, come from the NVSS and CDC WONDER, and rankings are based on 2021 age-adjusted death rates.

**GRAPH 1**  
**ANNUAL GROWTH IN EXPENDITURES PER CAPITA**  
**UNITED STATES, 2001-2020**



Source: US Bureau of Economic Analysis, <https://www.bea.gov/data/special-topics/health-care>

Table 2 reports the number of cancer deaths and death rate in the Commonwealth for selected years, 2005 to 2021. The number of deaths from cancer in Virginia has risen since 2005 but so has the population of the state. If we examine the death rate from cancer, which is equal to the number of cancer deaths relative to the population, then the story is different. In 2005, the death rate from cancer in the Commonwealth was 190.0 per 100,000 residents. In 2019, the cancer death rate had fallen to 144.9 per 100,000 residents. While the death rate increased in 2021, it was still almost 21% below the level observed in 2005.

Table 3 presents data from the American Cancer Society for the number of estimated deaths from cancer in Virginia for 2023. The largest number of deaths occurred from lung and bronchial cancer, followed by colorectal and pancreatic cancer. Breast and prostate cancers were estimated to be the fourth and fifth leading causes of death from cancer in Virginia in 2023.

Life-threatening diseases and conditions in the United States and Virginia such as cancer, respiratory diseases, and neurodegenerative disorders, contribute to a demand for end-of-life care services. One important factor in meeting the potential increase in demand for hospice care is that policymakers and communities should work together to ensure adequate resources, funding, and access to hospice services. This includes expanding hospice programs, increasing awareness and education about end-of-life care options, and supporting initiatives that promote compassionate and high-quality care for individuals with life-limiting illnesses. One such monumental change, the inclusion of hospice services as a Medicare benefit, drastically changed end-of-life care in the United States over 40 years ago.

TABLE 2 CANCER MORTALITY, VIRGINIA, SELECTED YEARS, 2005 TO 2021		
Year	Death Rates	Number Of Deaths
2005	190.0	13,877
2014	161.5	14,749
2015	159.5	14,947
2016	156.1	15,027
2017	152.6	15,064
2018	149.3	15,148
2019	144.9	15,045
2020	146.6	15,499
2021	150.5	15,724

Sources: CDC WONDER and the Dragas Center for Economic Analysis and Policy, Old Dominion University. The number of deaths per 100,000 total Virginia population.

TABLE 3 ESTIMATED DEATHS FROM SELECTED CANCERS, VIRGINIA, 2023	
Cancer Type	Number Of Deaths
Lung and Bronchus	3,320
Colorectum	1,410
Pancreas	1,320
Breast (female)	1,150
Prostate	960
Liver and bile duct	680
Leukemia	590
Non-Hodgkin Lymphoma	510
Brain and other nervous system	500

Source: American Cancer Society, 2023, <https://cancerstatisticscenter.cancer.org/#/state/Virginia>



## Hospice Care and the Medicare Benefit

In 1982, the Medicare Hospice Benefit was added to the Social Security Act, which allowed hospice care to be covered by Medicare. This addition was a significant development in United States health care for several reasons. By including a hospice benefit, Medicare expanded access to specialized end-of-life care for millions of eligible beneficiaries. This ensured that individuals nearing the end of life could receive the necessary support and services without facing financial hardship. Graphs 2 and 3 report Medicare beneficiary participation and hospice spending because of this landmark policy change. **In 2020, more than 1.7 million Medicare patients received some form of hospice care.**

Prior to the addition of the Medicare hospice benefit, individuals and their families often had to bear these expenses themselves or rely on limited insurance coverage. Another gain of adding a hospice benefit to Medicare was that individuals now received the ability to choose the type and location of care aligning with their personal preferences and values. The inclusion of a hospice benefit in Medicare demonstrated a recognition of the unique needs and challenges faced by individuals nearing the end of life. It highlighted the importance of providing specialized care, support, and resources. This governmental acknowledgment helped foster a broader societal understanding of end-of-life care and the significance of compassionate and comprehensive services for patients and their families. Adding a hospice benefit to Medicare was a landmark development because it expanded access to specialized end-of-life care, provided financial relief, empowered patient choice, improved care coordination, emphasized palliative care, and recognized the specific needs of individuals nearing the end of life.<sup>7</sup>

The Virginia Association for Hospices and Palliative Care states Medicare coverage includes doctor and nursing care, hospice aides, social work services, counseling services, supplies, physical,

occupational and speech therapy, pain management, respite care, and grief support. Hospice care is available in a variety of settings, including in the home, hospice facilities, and hospitals. In the Medicare Payment Advisory Commission presentation to Congress in 2023, the independent congressional agency reported that the number of hospice providers increased by 6% in 2021 because of for-profit hospices, following a decades-long trend of increases in for-profit providers.<sup>8</sup> As of 2020, over 70% of providers were for-profit. Graph 4 shows the total number of hospice providers in the United States. In 2020, there were over 5,000 Medicaid-certified hospices operating in the U.S.

### The Carter Family

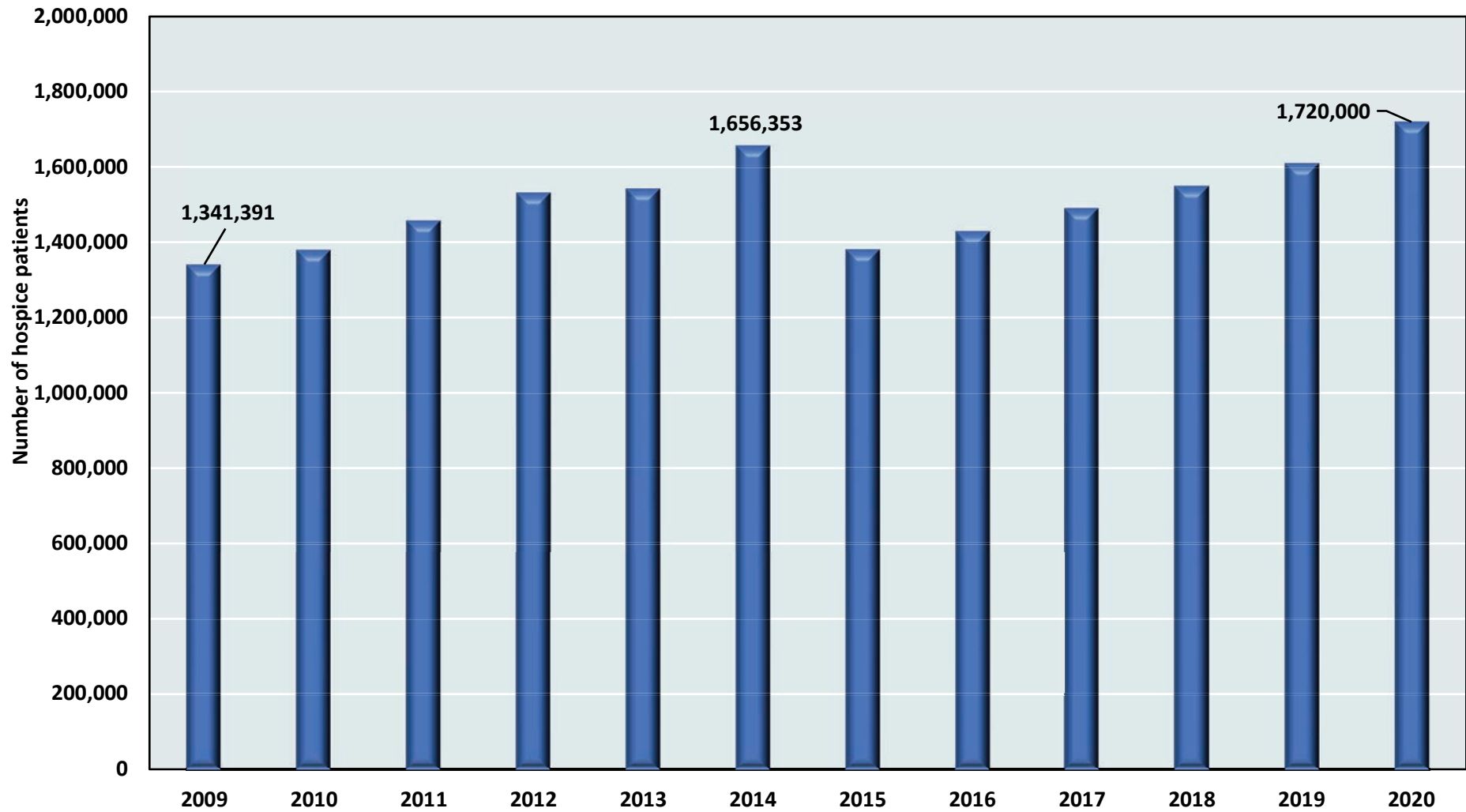
Hospice care, as exemplified by the recent cases of Former President Jimmy Carter and the late Former First Lady Rosalynn Carter, showcases the nuanced duration individuals spend in such care. Jimmy Carter was the 39th president of the United States and the 2002 Nobel Peace Prize recipient. The Carters were married for 77 years. The Carter Center announced in 2023 that both Mr. and Mrs. Carter entered into home Hospice Care but on very different timelines. Mr. Carter, aged 99, made the decision to cease medical intervention in February, choosing instead to receive hospice care. Notably, he is a cancer survivor with a history of multiple falls. On the other hand, Mrs. Carter, aged 96, entered hospice care only weeks before her passing on November 19 due to dementia. The Carter Family illuminates the varying timelines individuals may experience within hospice care, underscoring its adaptability to diverse medical conditions and end-of-life scenarios. As evidenced by Mr. Carter's physical appearance at Mrs. Carter's funeral, individuals approaching the end of their journey often require a high level of attentive and compassionate support and care.

<sup>7</sup> For more key facts on the history of Hospice including the AIDS crisis and the Patient Care Act, visit <https://www.nhpco.org/hospice-care-overview/history-of-hospice/>

<sup>8</sup> Medicare Payment Advisory Commission report [https://www.medpac.gov/wp-content/uploads/2023/03/Mar23\\_MedPAC\\_Report\\_To\\_Congress\\_SEC.pdf](https://www.medpac.gov/wp-content/uploads/2023/03/Mar23_MedPAC_Report_To_Congress_SEC.pdf)

GRAPH 2

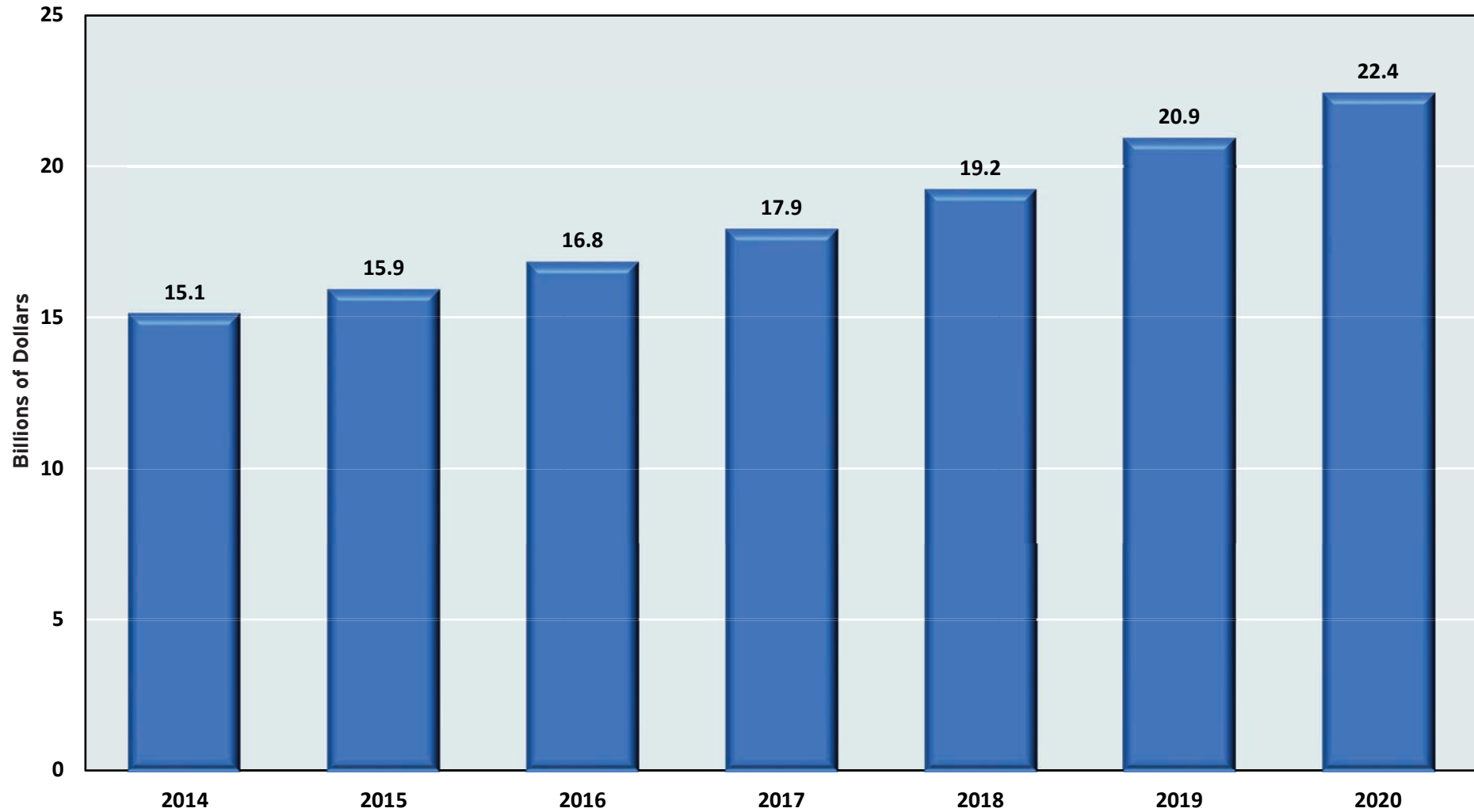
POPULATION OF MEDICARE HOSPICE PATIENTS  
UNITED STATES, 2009 TO 2020



Source: Hospice Care in America - NHPCO's Facts and Figures 2023 and MedPAC Report to Congress, [https://www.medpac.gov/wp-content/uploads/2023/03/Mar23\\_MedPAC\\_Report\\_To\\_Congress\\_SEC.pdf](https://www.medpac.gov/wp-content/uploads/2023/03/Mar23_MedPAC_Report_To_Congress_SEC.pdf)

**GRAPH 3**

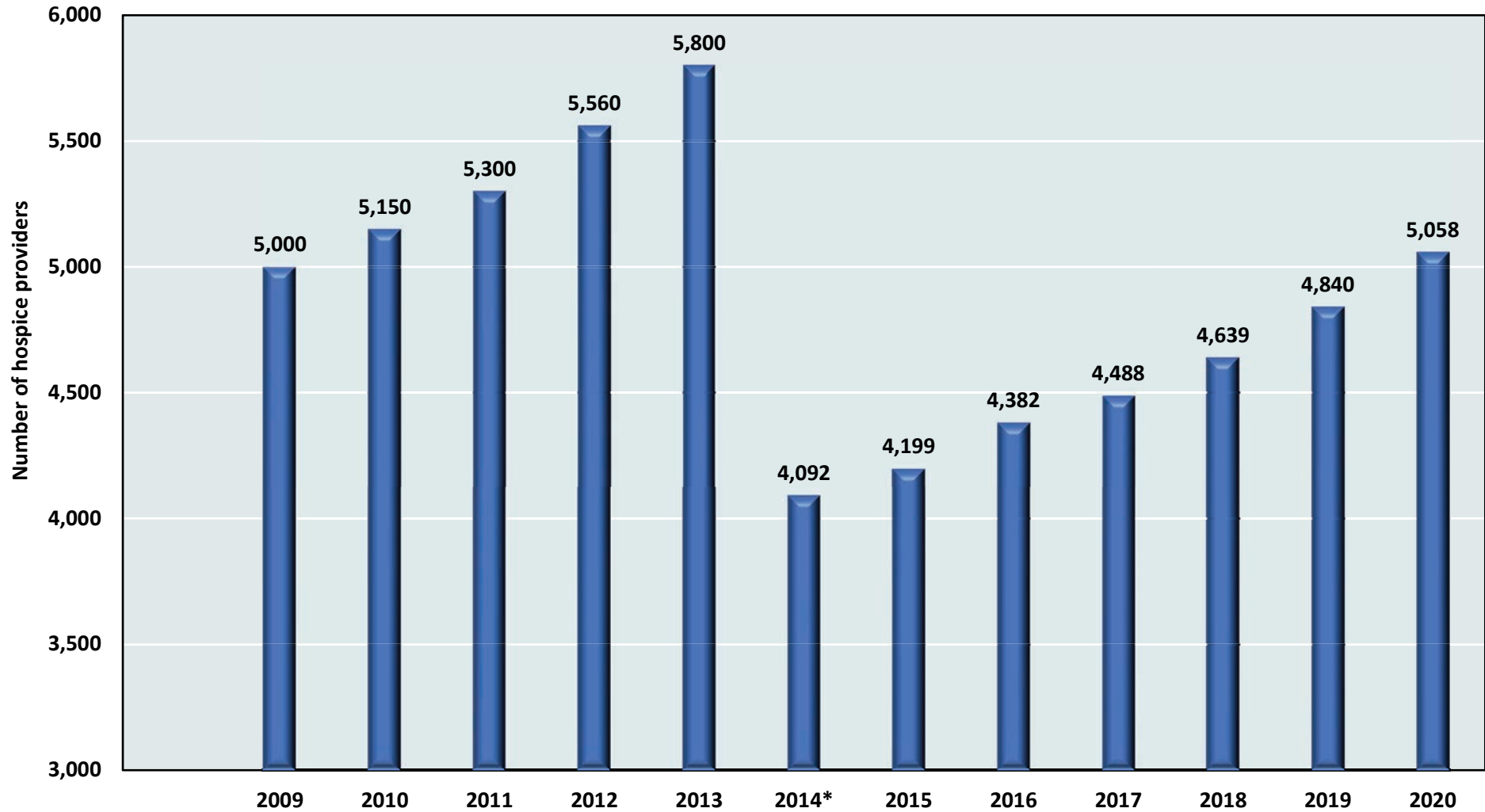
**U.S. MEDICINE SPENDING ON HOSPICE  
2014-2020 (BILLIONS OF DOLLARS)**



Source: Medicare Payment Advisory Commission report, 2023, [https://www.medpac.gov/wp-content/uploads/2023/03/Mar23\\_MedPAC\\_Report\\_To\\_Congress\\_SEC.pdf](https://www.medpac.gov/wp-content/uploads/2023/03/Mar23_MedPAC_Report_To_Congress_SEC.pdf)

GRAPH 4

POPULATION OF U.S. HOSPICE PROVIDERS, 2009-2020



Sources: Hospice Care in America - NHPCO's Facts and Figures 2022, <https://www.nhpc.org/wp-content/uploads/NHPCO-Facts-Figures-2022.pdf> ; Hospice providers beginning in 2014 to 2020 are Medicaid Certified Hospices.

According to the National Hospice and Palliative Care Organization (NHPCO), Virginia had a 46.2% utilization of hospice with Medicare decedents receiving one or more days of hospice care and being enrolled in hospice at the time of death in 2020. In the U.S., Utah is the state with the highest utilization at over 60%, and New York had the lowest use with 24%. The average length of stay in 2020 for the 1.72 million Medicare patients in Hospice care was 97 days. The NHPCO reports that it is the largest increase in the previous five years.<sup>9</sup> The number of beneficiaries using hospice services at the end of life grew 9% in 2020. A principal diagnosis of cancer was the leading diagnosis among Medicare hospice patients, followed by circulatory/heart disease and dementia. Table 4 reports total number of traditional Medicare hospice users in the U.S., Virginia and selected states in 2020.

Graph 5 reports data by the NHPCO on the total number of Medicare decedents using Hospice in the U.S. in 2019 and 2020 by principal diagnosis. In 2020, there were 374,992 deaths in hospices in the U.S. due to Alzheimers, dementias, and Parkinsons. The impact of the global pandemic is evident as over 31,000 hospice users died from COVID-19, which was unrecognized in the 2019 data. In 2020, Medicare decedents in hospice care at the time of their death were majority female and white. Other racial groups were comparable in hospice usage: 36% Asian American, 35.5% Black, 33.5% American Indian/Alaska Native and 33.3% Hispanic.

Graph 6 presents the share of Medicare recipients who utilized hospice services in 2021. The largest age category for this population is 60.8% of the oldest adults over the age of 85. While many may think hospice is only for the elderly population, the data suggest otherwise. More than 1 in 4 hospice patients in 2020 were under the age of 65.

**TABLE 4**

**USE OF HOSPICE SERVICES IN TRADITIONAL MEDICARE, UNITED STATES AND SELECTED STATES, 2020**

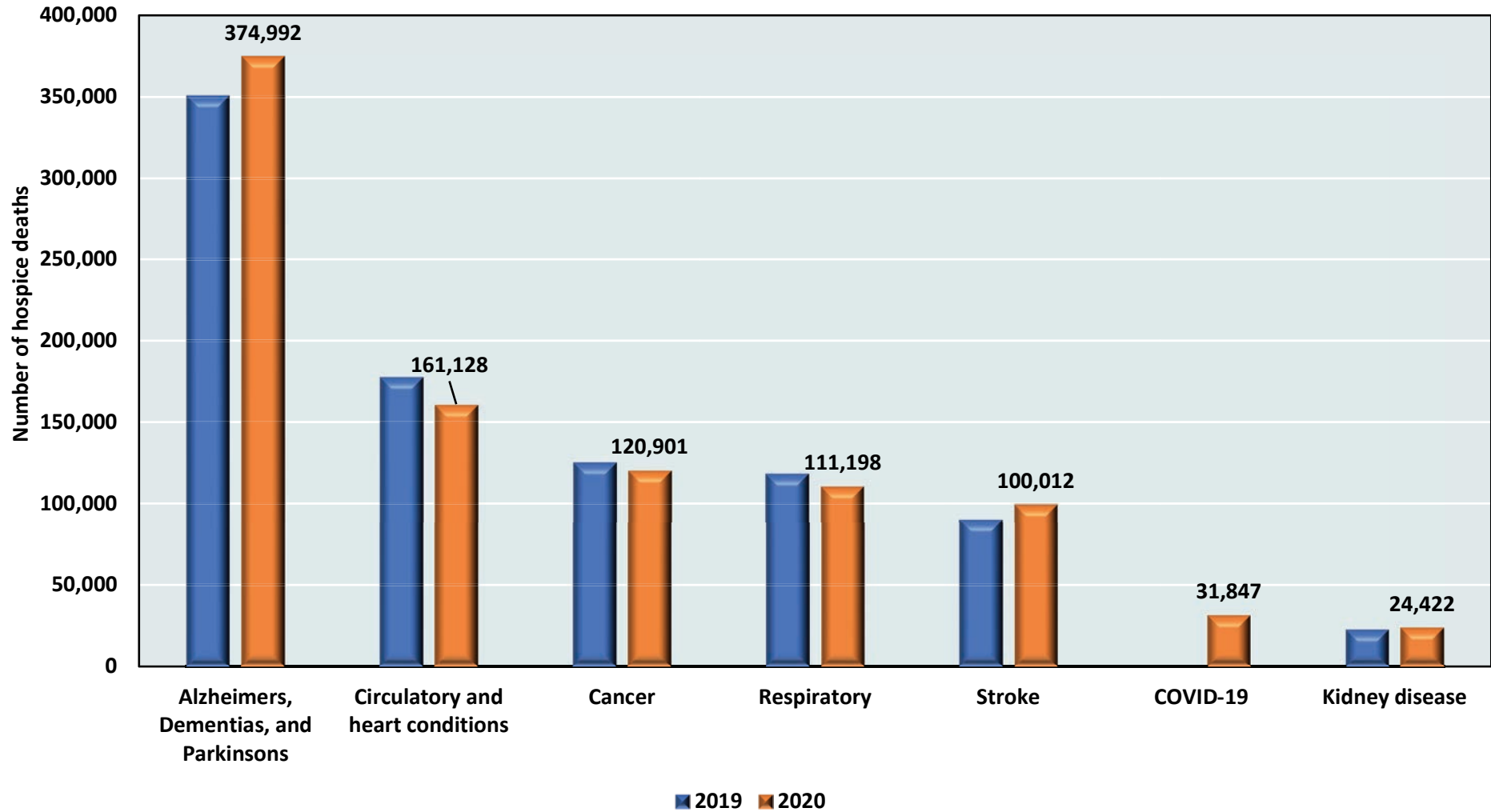
State	Part A Enrollees	Hospice Utilizers	Percent of Part A Enrollees
Kentucky	931,126	22,575	2.4%
Maryland	1,056,328	26,479	2.5%
North Carolina	2,028,204	56,136	2.8%
Tennessee	1,382,574	39,413	2.9%
Virginia	1,540,473	39,930	2.6%
West Virginia	442,495	11,440	2.6%
United States	61,211,371	1,717,193	2.8%

Sources: <https://www.kff.org/medicare>, The Henry J. Kaiser Family Foundation, Centers for Medicare & Medicaid Services, Office of Enterprise Data and Analytics, CMS Chronic Conditions Data Warehouse. Note: The total Medicare Part A enrollee counts and calculated 'per Part A enrollee' rates are based on enrollees in Traditional Medicare and Medicare Advantage/Other Health Plans combined, because once a beneficiary enrolled in Medicare Advantage/Other Health Plans elects the hospice benefit, his or her Medicare benefits revert to fee-for-service.

<sup>9</sup> Hospice Care in America - NHPCO's Facts and Figures 2022 <https://www.nhpco.org/wp-content/uploads/NHPCO-Facts-Figures-2022.pdf>

**GRAPH 5**

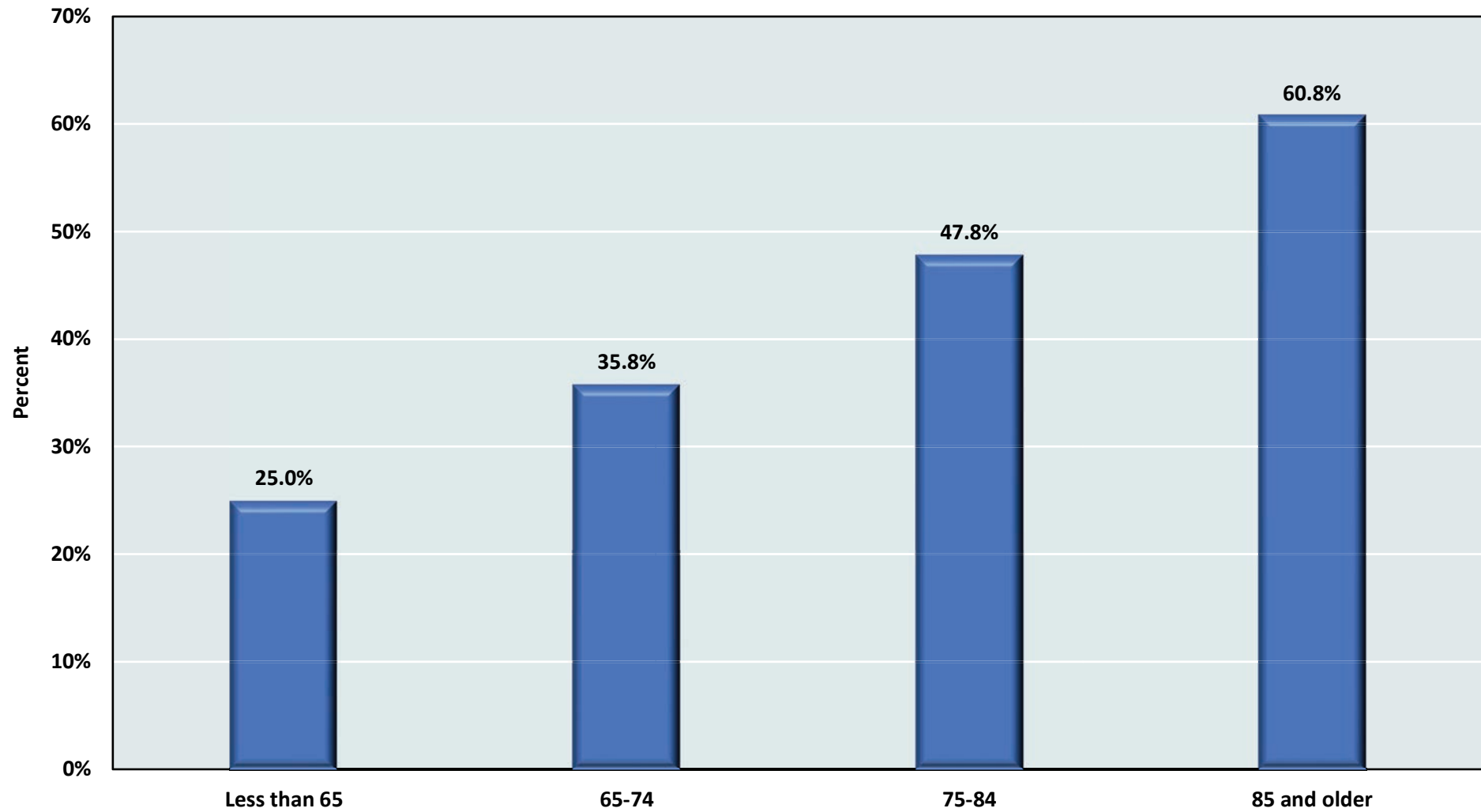
**POPULATION OF MEDICAID HOSPICE DEATHS, UNITED STATES  
2019 AND 2020, BY PRINCIPAL DIAGNOSIS**



Sources: Hospice Care in America - NHPCO's Facts and Figures 2022, <https://www.nhpc.org/wp-content/uploads/NHPCO-Facts-Figures-2022.pdf>



**GRAPH 6**  
**SHARE OF MEDICARE DECEDENTS USING HOSPICE**  
**BY AGE GROUP, 2021**



Source: MedPAC March 2023 Report to Congress, Table 10-3, [https://www.medpac.gov/wp-content/uploads/2023/03/Mar23\\_MedPAC\\_Report\\_To\\_Congress\\_SEC.pdf](https://www.medpac.gov/wp-content/uploads/2023/03/Mar23_MedPAC_Report_To_Congress_SEC.pdf)

## Hospice Care Delivered

The three most common places people at the end of life pass away are at home, in a hospital, or in a care facility. While not everyone may control where they will die, people who know that end of life is approaching may have the opportunity to plan their type of care, where they will receive it and the role of family and friends to help. Hospice care is typically provided in the patient's home, but it can also be provided in a hospice facility, nursing home, or hospital. Hospice care teams usually consist of a physician, nurses, social workers, counselors, and volunteers who work together to provide comprehensive care to patients and their families.

**One of the biggest misconceptions about home hospice care (regardless of a private or nonprofit entity providing the services) is that it is daily, comprehensive care. Although there are different levels of hospice care provided, the home hospice benefit primarily entails intermittent care. This means the care provider's visits with the patient are routinely under an hour. These visits may occur daily or infrequently throughout the week, but the primary burden of home hospice typically falls on family members.**

Most hospice patients are eligible for Medicare. There is no deductible for hospice services although there may be a very small co-payment for prescriptions and for respite care. In most states, Medicaid offers similar coverage. It is important to note that original Medicare covers hospice even if the patient is enrolled in a Medicare Advantage Plan. Military families have hospice coverage through Tricare, and hospices will accept private payment or self-pay. End-of-life (EOL) care is usually covered by Medicare (fully covered under Medicare Part A), Medicaid, and/or a mix of private insurance plans.<sup>10</sup>

For the past several decades, the hospice industry has transitioned from a mostly not-for-profit sector to one where nearly 66% of all agencies operate on a for-profit basis. A substantial driver of this

trend has been the growth of large publicly traded for-profit hospice chains. Facilitated by relatively easy market entry and the prospect of stable Medicare payments, these firms have made strategic hospice investments in recent years, raising numerous quality concerns among some policymakers and patient advocates, especially as many of these corporations have little previous experience providing these services and often rely on a model of reducing care visits to cut labor costs.<sup>11</sup>

In a 2019 report by the U.S. Government Accountability Office presented to Congress, patients in for-profit hospices were less likely than patients in nonprofit hospices to have received any hospice visits in the last three days of life according to a 2014 to 2017 analysis of federal data.<sup>12</sup> In *Complaints About Hospice Care in the United States, 2005-2015*, published in the *Journal of Palliative Medicine* in 2018, for-profit agencies were between 1.3 and 1.5 times more likely than not-for-profits to have patients and family members complain of alleged substandard care and a deficiency. Graph 7 reports U.S. hospice ownership percentages by corporation type in 2020.

The main difference between for-profit and nonprofit hospice programs is their financial structure and the way they use their revenue. For-profit hospice programs are owned and operated by private companies or individuals who seek to make a profit. They are accountable to their shareholders and investors, and their primary goal is to generate revenue. As such, for-profit hospice programs may charge higher fees for their services, and they may be more likely to focus on marketing and profitability. Nonprofit hospice programs are typically owned and operated by charitable organizations or community groups. They do not seek to make a profit, and any surplus revenue is reinvested into the organization to support its mission. Nonprofit organizations typically have a governing board that oversees their operations and ensures that they fulfill their charitable mission. This accountability structure can help maintain high standards of care and ensure that resources are used appropriately. Nonprofit hospice programs may be more

<sup>10</sup> Details on coverage may be found at <https://www.medicare.gov/Pubs/pdf/02154-medicare-hospice-benefits.pdf> and <https://www.medicaid.gov/medicaid/benefits/hospice-benefits/index.html>

<sup>11</sup> Acquisitions of Hospice Agencies by Private Equity Firms and Publicly Traded Corporations, 2020 <https://jamanetwork.com/journals/jamainternalmedicine/article-abstract/2779069>; Stevenson DG, Grabowski DC, Keating NL, Huskamp HA. Effect of ownership on hospice service use: 2005-2011. *J Am Geriatr Soc.* 2016;64(5):1024-1031. doi:10.1111/jgs.14093; Stevenson DG, Grabowski DC. Private equity investment and nursing home care: is it a big deal? *Health Aff (Millwood).* 2008;27(5):1399-1408. doi:10.1377/hlthaff.27.5.1399

<sup>12</sup> MEDICARE HOSPICE CARE Opportunities Exist to Strengthen CMS Oversight of Hospice Providers, <https://src.bna.com/MQG>

focused on providing high-quality care and meeting the needs of their patients and families than generating revenue. Additionally, nonprofit hospice programs may be more likely to provide care to patients who are uninsured or underinsured and are often deeply rooted in the communities they serve, while for-profit hospice programs may focus more on patients who have private insurance or Medicare.

In the 2019 *State-by-State Report Card on Access to Palliative Care in Our Nation's Hospitals* published by the Center to Advance Palliative Care (CAPC) and the National Palliative Care Research Center (NPCRC), the U.S. exhibited continued growth in the overall number of hospital palliative care teams with 72% of U.S. hospitals with 50 or more beds reporting a palliative care team. These hospitals served 87% of all hospitalized patients in the United States. CAPC researchers present geographical differences, the status of for-profit or nonprofit hospitals, and hospital size as factors deeply impacting the quality of patient care for those living with a serious illness.

**One of the key findings of the report is that access to palliative care is still unreliable in the U.S. and that nonprofit hospitals are far more likely than for-profit hospitals to provide palliative care. Virginia received a letter grade of A/86.5, and Table 5 details**

**the Commonwealth's ranking in the 2019 report. The Virginia Association for Home Care and Hospice has renewed calls for additional sources of funding and support for palliative care and training, including more non-physician professionals such as palliative nurses. Citing the American Academy of Hospice and Palliative Medicine, the organization states that over the next 20 years, the demand for palliative care will grow by more than 20% while over the same time, the palliative physician workforce will grow by only 1%.**

It is important to note that the previously mentioned distinctions do not imply that all for-profit hospice providers are deficient or that all nonprofit providers are superior. There are excellent organizations on both sides of the spectrum. The aim of highlighting the differences here is to provide patients and family members with the necessary information to make an informed decision based on their preferences, values, and the specific qualities they seek in a hospice care provider. Transparency and accountability can promote higher-quality hospice care.

**TABLE 5**

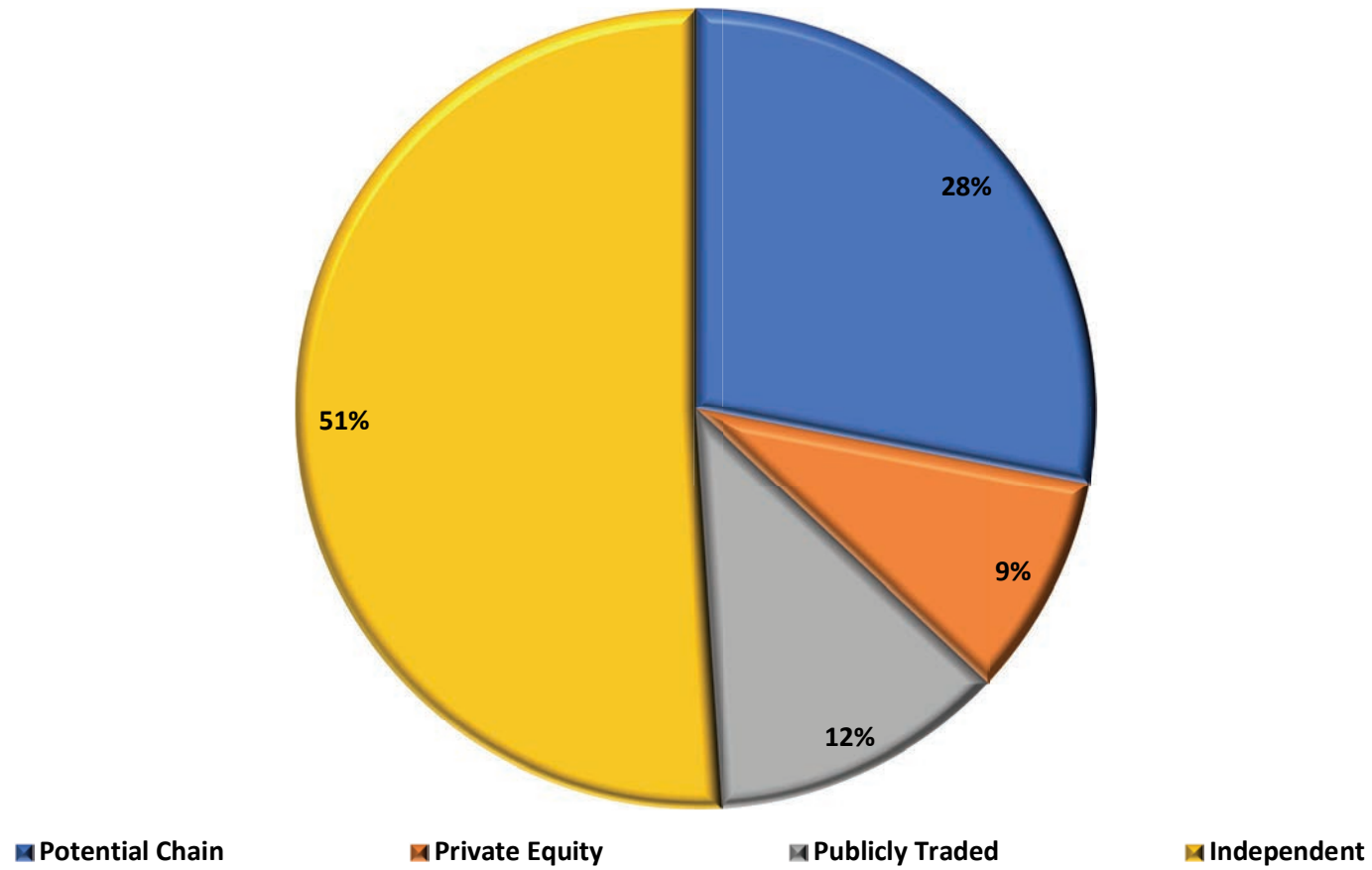
**PALLIATIVE CARE PROGRAMS IN U.S. HOSPITALS, VIRGINIA, LETTER GRADE, 2019**

Limited to U.S. Hospitals with 50 or More Beds

State	Letter Grade	Number Grade	Total Programs/ Hospitals	By Hospital Type			Sale Community Provider	>300 beds	<50 beds*
				Nonprofit	For-Profit	Public			
Virginia	A	86.5	(45/52)	97.4 (38/39)	40.0 (4/10)	100.0 (3/3)	60.0 (3/5)	100.0 (15/15)	45.0 (9/20)

Source: <https://reportcard.capc.org/> Note: Additional data on hospital palliative care programs were obtained from the National Palliative Care Registry™ ([registry.capc.org](https://registry.capc.org/)) and CAPC's Mapping Community Palliative Care initiative ([mapping.capc.org](https://mapping.capc.org/)).

**GRAPH 7**  
**MEDICARE HOSPICE BY**  
**CORPORATE OWNERSHIP PERCENTAGE, UNITED STATES, 2020**



Source: 2022 State Hospice Report, Hospice Analytics [https://www.nationalhospiceanalytics.com/library/2022\\_State\\_Hospice\\_Report\\_2020\\_Medicare\\_Data.pdf](https://www.nationalhospiceanalytics.com/library/2022_State_Hospice_Report_2020_Medicare_Data.pdf)

## What's missing in Hospice Care in Virginia

It is important to note that while there may not be a shortage of hospice care overall in the United States, there are specific communities, particularly in poor and/rural areas, which do not have adequate access to hospice services.<sup>13</sup> The majority of hospice patients are cared for by unpaid and often untrained family caregivers. The need for family members willing to serve as caregivers for their loved ones is anticipated to grow exponentially as the nation's population ages. The CDC has called the impending caregiver shortage, compounded by the COVID-19 pandemic, an emerging public health crisis. Addressing these disparities in access to care is an important goal for the hospice industry and healthcare system as a whole, especially as our population ages.

**The latest data available on hospice care across Virginia and the United States suggests that Virginia does not have enough freestanding hospice houses as compared to other states with similar populations. Virginia has only eight hospice houses in the entire state, far fewer per capita than neighboring states. For example, West Virginia has a hospice house for every 30,000 citizens. In particular, the Hampton Roads region appears to be the largest Metropolitan Statistical Area (MSA) in the nation without a freestanding hospice house and the fourth largest MSA in Virginia, the Roanoke Valley region also does not have a freestanding hospice home. What are freestanding or independent hospices? Freestanding or independent hospices are specialized healthcare facilities or organizations that provide end-of-life care and support to patients with terminal illnesses and their families. Unlike hospice services that are affiliated with or operated within a hospital or healthcare system, freestanding or independent hospices operate as separate entities.**

As previously mentioned, hospice care is often primarily intermittent care, daily and/or weekly visitations that are usually less than an hour in length. In fact, it is important to know that seriously ill patients usually require someone at home with the patient 24 hours a day, 7 days a week, and this can dramatically impact the patient's family. Unfortunately, in-home visits by hospice workers and part-time caregivers do not work well for many patients and their families. On-site hospice services at home are not 24/7, and this means that family caregivers are responsible for most of the care needs including administering medications, providing personal care, and coordinating health services. Most family caregivers do not feel comfortable or qualified to do so. All too often, family members quickly run out of leave from their work to coordinate and administer care from home. Patients deserve to have their symptoms and pain addressed quickly by medical experts so they can maximize the quality of life that remains. Additionally, many patients do not want their families traumatized by their death in the home.

Around the United States, many communities have freestanding inpatient hospice facilities to assist patients who do not have caregivers available at home or need around-the-clock physical care. In many states, respite care (temporary care for patients by someone other than their primary caregiver) is often provided at inpatient hospice facilities. Another benefit of an inpatient hospice facility is that they are designed to provide a peaceful and comfortable environment for patients. They often offer private rooms, family gathering spaces, gardens, and amenities like massage therapy, music therapy, and pet therapy. These amenities contribute to the well-being and comfort of patients and their families. The vast majority of hospice houses need ongoing charitable support or endowments to operate.

<sup>13</sup> See Hospice and palliative care access issues in rural areas. Am J Hosp Palliat Care. 2013;30(2):172-177.



## The Dozoretz Hospice House of Hampton Roads

More than 1.8 million citizens in Hampton Roads currently have no freestanding hospice house to meet their end-of-life needs. In 2020, MSA data analysis found that Raleigh, NC, (Wake County) and Hampton Roads were relatively comparable markets in median age, household income (HHI) and overall population. They serve similar demographic groups, and both do not have enough freestanding hospice houses to meet the needs of their residents. However, the vast difference between our area and Raleigh is that in 2009, a freestanding 20-bed hospice house, the William M. Dunlap Center for Caring – “Hospice Home” – was opened in Cary after the North Carolina Council of State awarded 8.7 acres of land for the project. Estimating a daily hospice need of 45 beds in Hampton Roads, an organized network of dedicated health professionals, business leaders and concerned citizens are responsible for the \$9.56 million Dozoretz Hospice House of Hampton Roads that broke ground in 2022. When it opens in Spring 2024, it will address an urgent need to care for Hampton Roads’ terminally ill patients in a specialized setting.



The Dozoretz Hospice House of Hampton Roads (DHHR), [www.hospicehousehr.org](http://www.hospicehousehr.org)

The Hospice House, located in Virginia Beach, will offer 12 private bedroom suites for patients and will include a screened porch, chapel, living room with fireplace, and a kitchen. Family will have 24/7 access to the facility to spend time with their loved one. Professionally licensed medical personnel, along with trained volunteers, will staff the facility. The Hospice House staff members will be available 24 hours a day, 365 days a year. It will be the mission of the staff to walk side-by-side with patients and offer support, not only for any physical symptoms, but for emotional and spiritual needs too.



## The Good Samaritan Center for Caring

Since 1992, helping dying people pass comfortably and with dignity has been the mission underlying “Good Sam” Samaritan Hospice in Roanoke. In 2022, Good Sam provided nearly 1,300 residents of Western Virginia with hospice and bereavement services in Roanoke and the New River Valleys. The only community-based nonprofit hospice in the region, Good Sam Hospice has cared for the seriously ill for 31 years. In 2023, Good Sam Hospice broke ground on a \$13 million Center for Caring. The 30,000-square-foot building is now under construction on a 6-acre hilltop above Peters Creek Road in Roanoke and will include 16 private patient rooms with space for family members to stay overnight as needed, family meeting rooms, a chapel and gardens.

Good Sam CEO Aaron Housh stated that the care center will provide “aggressive care,” especially when patients must be cared for outside of the home due to severe pain and other symptoms.<sup>14</sup> The Center for Caring will also serve as a permanent home for home hospice teams, include a community bereavement center, and administrative offices. Currently, the closest inpatient hospice facilities are two hours away from the region in North Carolina and West Virginia. The Center for Caring will admit its first patients by August 2024.



The Good Samaritan Center for Caring, Roanoke, <https://www.goodsam.care/center-for-caring>

<sup>14</sup> WFIR interview, July 26, 2023, <https://wfirnews.com/news/good-sam-ceo-on-the-center-for-caring-under-construction>

New freestanding inpatient hospice homes in Hampton Roads and Roanoke bring end-of-life care closer to the respective communities. This allows patients to receive care in a familiar setting, surrounded by their loved ones and within their local community. It fosters a sense of belonging and support, as individuals may have established connections and relationships within the community that can be strengthened during their end-of-life journey. In addition to providing hospice beds, both facilities will operate a Bereavement Center that will serve families and their loved ones. The bereavement care team will work with loved ones to help them navigate the grieving process. Trained volunteers, clergy members and professional counselors will provide personalized support for at least a year after a patient's death. The establishment of these homes in Virginia is a positive development as it improves access to specialized care, enhances the quality of care provided, supports caregivers, offers emotional and psychosocial support, and brings community-centered care to individuals facing end-of-life circumstances.



## Specialized Services for the Dying

Some readers may be familiar with a traditional Doula, a trained professional who provides physical and emotional childbirth support to an expectant mother in labor. A more unusual type of Doula has emerged in the last 10 years, known as an End-of-Life (EOL) or Death Doula.<sup>15</sup> These doulas are trained professionals that assist an individual in their end-of-life days. EOL doulas specifically assist with the needs of the dying person. This may include talking with the person about dying including how dying may feel and what they may experience, helping them identify their final wishes including a plan for what they want after their death. Doulas can also

assist in communicating with family members and friends as well as creating memories and writing final letters before passing forward. Doulas are different from hospice or palliative care in that they do not provide medical services, medical evaluations and medications for comfort and pain. However, Doulas may be on the staff of a Hospice Team. Amy Nixon of Comforting Hands in Newport News provides compassionate end-of-life doula care. “My focus is on bringing total physical, informational, and emotional support to my clients and their loved ones. As death is imminent, I sit vigil with the caregiver and/or loved ones. This is usually the hardest part for everyone, and here I provide gentle guidance and support. Emotions can run high, and loved ones often don’t know quite what to do. It is here that I can help turn an anxiety- and fear-filled experience into a meaningful one.” Table 6 provides a directory of selected Doulas in Virginia.

**TABLE 6**

**SELECTED END-OF-LIFE DOULAS, VIRGINIA**

NAME	EMAIL	SERVICE AREA
Reamey Belski	info@crossoverdoulaservices.com	Richmond
Kate Catalina	kate.catalina@catalinagroup.org	Throughout Virginia
Lakshmi Danis	lakshmi@lakshmipurih healing.com	Northern VA
Deborah Draves-Legg	eponicity@gmail.com	South-Central VA and Online
Jane Euler	info@transitionwithtranquility.org	Northern VA
Cryst’l Gatto	Cryst.1785@gmail.com	Lanexa/Williamsburg
Krystal Giordano	deathdoula@etadmira tions.com	Hampton Roads Southside
Amy Nixon	amy@comfortinghands.net	Hampton Roads Peninsula
Michelle Weakley	michelleweakley@outlook.com	Fredericksburg and Richmond

<sup>15</sup> Readers may prefer “end-of-life” doula rather than “death” doula as some cultures are uncomfortable with the term “death.” By offering the term “end-of-life doula,” it allows for a more inclusive and adaptable approach to support. Some people may feel more comfortable with a term that focuses on the entire end-of-life journey rather than solely on death, aligning with diverse personal and cultural perspectives.



## Final Thoughts

Talking about serious illness, hospice care, and EOL matters can be challenging for several reasons. Death and dying are often considered uncomfortable topics in American culture. There is a general societal reluctance to openly discuss these subjects, which can create barriers to meaningful conversations about EOL decisions. There is fear and denial, and many individuals fear facing their mortality or the mortality of their loved ones. This fear, combined with a natural inclination to deny the inevitability of death, can make it difficult to broach the topic and engage in discussions about serious illness and end-of-life care.

In the United States, there is a strong emphasis on medical interventions and the pursuit of curative treatments. This focus on “fighting” illness and extending life can overshadow conversations about the limitations of medical interventions and the importance of quality-of-life considerations, including hospice care. There is also a widespread lack of awareness and understanding about hospice care and end-of-life options. The American healthcare system is often criticized for its fragmentation, which can impede effective communication and coordination of care. This fragmentation can make it challenging for patients, families, and healthcare providers to navigate the complex landscape of serious illness and end-of-life decision-making. Compounding the confusion is that many people are unaware of the available benefits and availability of no- or low-cost hospice services, leading to a lack of proactive discussions and planning for end-of-life care. Unfortunately, there is evidence that substantial proportions of patients (especially in rural areas) have only pursued hospice care late in the dying process, which is not uncommon.<sup>16</sup>

We are a diverse nation with a wide range of cultural and religious beliefs surrounding death and dying. These diverse perspectives can influence attitudes toward discussing serious illness and end-of-life care, leading to varying levels of comfort and difficulty in addressing these topics. When death becomes a taboo topic within a family, it can create emotional isolation for individuals who may need support during difficult times. If someone is grieving or facing a terminal illness, the inability to openly express their emotions and fears can lead to feelings of loneliness and increased psychological distress. Avoiding discussions about death can lead to family disagreements and conflicts when critical decisions need to be made. Different family members may have varying perspectives on medical treatments which can cause tension and strain relationships. EOL decisions, such as advance care planning and the use of medical interventions, can involve complex legal and ethical considerations. Varying state laws, confusion surrounding terminology, and ethical dilemmas related to issues such as withholding or withdrawing treatment can add layers of complexity to these discussions.

Overcoming these numerous challenges requires promoting open dialogue, increasing public education about hospice and end-of-life options, improving healthcare communication and coordination (especially in underserved communities) and fostering a cultural shift that normalizes conversations about serious illness and end-of-life care. Creating supportive environments that encourage and facilitate these discussions can help individuals and families make informed decisions and receive the appropriate care and support during these important life stages. Promoting societal awareness of EOL care helps combat the stigma often associated with serious illnesses, including cancer. By encouraging open discussion and understanding, individuals facing heart disease, cancer, kidney failure, chronic obstructive pulmonary disease and other serious conditions are less likely to feel isolated or judged. Increased awareness fosters compassion and empathy, creating a more inclusive and supportive environment for those affected.

<sup>16</sup> Baernholdt M, Campbell CL, Hinton ID, Yan G, Lewis E. Quality of hospice care: comparison between rural and urban residents. *J Nurs Care Qual.* 2015 Jul-Sep;30(3):247-53. doi: 10.1097/NCQ.0000000000000108. PMID: 25546093; PMCID: PMC4582410 and Robinson CA, Pesut B, Bottorff JL. Issues in rural palliative care: Views from the countryside. *J Rural Health.* 2010;26(1):78-84.

Hospice services provide a valuable benefit. The goal of hospice care is to provide patients with the highest quality of life possible, while also supporting their families and caregivers during a challenging time. Hospice care emphasizes comfort, dignity and respect, and it can be a valuable resource for patients and families facing the end of life. The economic impact of hospice care is also clear. **In the *Value of Hospice in Medicare* report presented by NORC at the University of Chicago, the total costs for Medicare beneficiaries who used hospice care in the last year of life was 3.1% lower than for those beneficiaries that did not use hospice.** Hospice care is often more cost-effective compared to aggressive medical interventions or prolonged hospital stays. By shifting the focus from curative treatments to comfort care, hospice can reduce unnecessary hospitalizations, emergency room visits, and intensive care utilization. This not only lowers healthcare costs but also helps patients and families avoid financial burdens associated with extensive medical interventions.

**The 2024 openings of the Dozoretz Hospice House of Hampton Roads and the Good Sam Center for Caring in Roanoke are a result of dedication and tireless efforts of numerous individuals, organizations, and the larger communities to provide much-needed services to our citizens. As hospice care expands, we can expect a greater level of community engagement and awareness regarding end-of-life matters. This increased understanding will encourage open dialogue, reduce the stigma surrounding death and dying, and empower community members to have proactive discussions and make informed decisions about their end-of-life care.**

Expanding hospice care in our state not only brings about improved quality of life for individuals but also offers economic and healthcare benefits. By reducing unnecessary hospitalizations and intensive care utilization, hospice can promote a more efficient and coordinated healthcare system, benefiting patients and healthcare providers alike.

The Commonwealth of Virginia should consider implementing awareness campaigns to educate citizens about the benefits of hospice care and the importance of local hospice houses, collaborate with healthcare providers to streamline access to hospice services, and invest in training programs for healthcare professionals to ensure a future pipeline of a skilled hospice workforce to meet future demand.

Additionally, creating supportive policies and incentives for hospice providers may help in expanding and improving services throughout Virginia. In particular, Hospice houses may encounter challenges if the state categorizes them as hospitals based on the number of beds in the house. This classification might lead to regulatory requirements designed for hospitals, potentially creating undue burdens for hospice houses. Limiting the number of beds in a hospice house limits the number of residents they can serve. To address this, Virginia policymakers could consider enacting special laws or regulations explicitly exempting hospice houses from certain hospital requirements, recognizing their unique role in providing temporary care. Tailoring regulations to the specific needs and nature of hospice care facilities can help ensure they operate effectively without unnecessary constraints.

In the face of tough issues, especially death and dying, it is our willingness as a Commonwealth to confront and tackle them head-on that reveals our true strength and resilience. For it is through these courageous conversations and actions that we pave the way for progress, understanding, and the best care for members of one of our most vulnerable populations.

# VIRGINIA'S HOTEL INDUSTRY GROWS, BUT CHANGE IS COMING

*Where you're headed is more important  
than how fast you're going.*

*– Stephen Covey*



A photograph of a hotel lobby. In the foreground, a light-colored suitcase has a straw hat with a white ribbon tied around its base. The hat is perched on the suitcase. In the background, a man in a light blue shirt is smiling, and another person in a colorful patterned shirt is partially visible. The scene is brightly lit, suggesting a warm, sunny day.

**H**istorical performance measures and indicators can offer valuable insights into the future. The hotel industry in the Commonwealth is navigating a new and challenging economic landscape in the wake of the COVID-19 pandemic. Was 2022 the year of full recovery from the impact of the COVID-19 pandemic for the hotel industry? What short-term policies are hotel managers implementing to help with the recovery process? What action can hotels take to stay competitive in the market that is becoming increasingly saturated with different accommodation options, including short-term rental services like Airbnb and Vrbo? What is being done to cope with labor shortages in the hotel industry? How are hotels in Virginia adjusting their services and offerings to meet the changing preferences of modern travelers? The answers to these (and other) questions will provide us insight into the near-term future of the hotel industry in Virginia.

As we look back at the performance of hotels in the Commonwealth in 2022, there is much to be optimistic about. The hotel industry in Virginia generated double-digit percentage increases in revenue in 2021 and 2022 and surpassed pre-pandemic nominal revenue levels observed in 2019. The average rental revenue for an occupied room per day (ADR), the revenue per available room (RevPAR), the supply of rooms, the demand for rooms, and the room occupancy rate all continued to



grow in 2022. As 2023 draws to a close, the prospects for future growth appear bright, although these prospects must be tempered by higher inflation, global uncertainty, and the possibility of slower economic growth in 2024.

This chapter assesses the performance of the hotel industry in the Commonwealth and attempts to list the immediate challenges and possible solutions to sustain growth in 2024 and beyond. In the next section, we review how the hotel industry performed from 2019 to 2022. We then delve into the impact of inflation and gas prices on the hotel industry's performance and examine the scope of labor shortage and retention of skilled staff. We discuss the increasingly competitive nature of the industry and how expanded accommodation options are challenging the traditional hotelier model. Finally, we discuss how shifts in hotel guests' booking behavior may impact growth in the future.

## 2022: The Recovery Continued

Most hotel markets in Virginia surpassed the pre-pandemic nominal revenue benchmarks set in 2019, marking 2022 as an important year. According to Oxford Economics, in 2022, hotel guests spent \$13 billion in Virginia on 158,230 hotel guest rooms across 1,639 properties. In 2022, the hotel industry supported an estimated 174,867 jobs (3.3% of all jobs) in Virginia. Direct hotel wages and salaries amounted to \$1.7 billion, while the total hotel industry supply chain impact generated \$9.1 billion in wages and salaries across Virginia. The hotel industry also produced \$1.9 billion in state and local taxes and \$2.1 billion in federal tax revenues in 2022.<sup>1</sup>

Graph 1 displays nominal and real (inflation-adjusted) hotel revenue for Virginia from 2018 to 2022. Nominal hotel revenues increased from approximately \$3.4 billion in 2021 to \$4.3 billion in 2022, an increase of 26.6%. Real hotel revenues increased from approximately \$1.3 billion in

2021 to about \$1.5 billion in 2022, an increase of 17.3%. In other words, the record level of nominal hotel revenues in 2022 was driven, in part, by increasing inflation as the average rate of inflation rose from 1.2% in 2020 to 4.7% in 2021, and to 8.0% in 2022.

Graph 2 shows nominal hotel revenue for Virginia and its metropolitan regions and non-metropolitan regions from 2018 to 2022.<sup>2</sup> Nominal hotel revenues across Virginia's metro regions declined from \$3.7 billion in 2019 to \$1.8 billion in 2020, a decline of 49.9%. Non-metro areas in the state saw nominal hotel revenue decline from \$446 million in 2019 to \$307 million in 2020, a decline of 31.2%. Given that the major metros account for a preponderance of hotel revenues in the state, it should be no surprise that hotel revenues in the Commonwealth declined from an estimated \$4.1 billion in 2019 to approximately \$2.1 billion in 2020, a drop of 47.9%.

The recovery from the shock of 2020 was not evenly distributed across Virginia. By the end of 2021, non-metro areas of the Commonwealth had completely recovered from the downturn of 2020, with nominal revenues reaching \$491 million, an increase of about 60.0% from 2020. From 2021 to 2022, nominal revenues increased again to \$575 million for the non-metro areas of the state, an additional increase of approximately 17.0%. Real hotel revenues for non-metro areas fell by 32.0% from 2019 to 2020, increased by 52.8% from 2020 to 2021, and increased an additional 8.4% from 2021 to 2022. In real terms, revenue set a new record in 2021 and did it again in 2022.

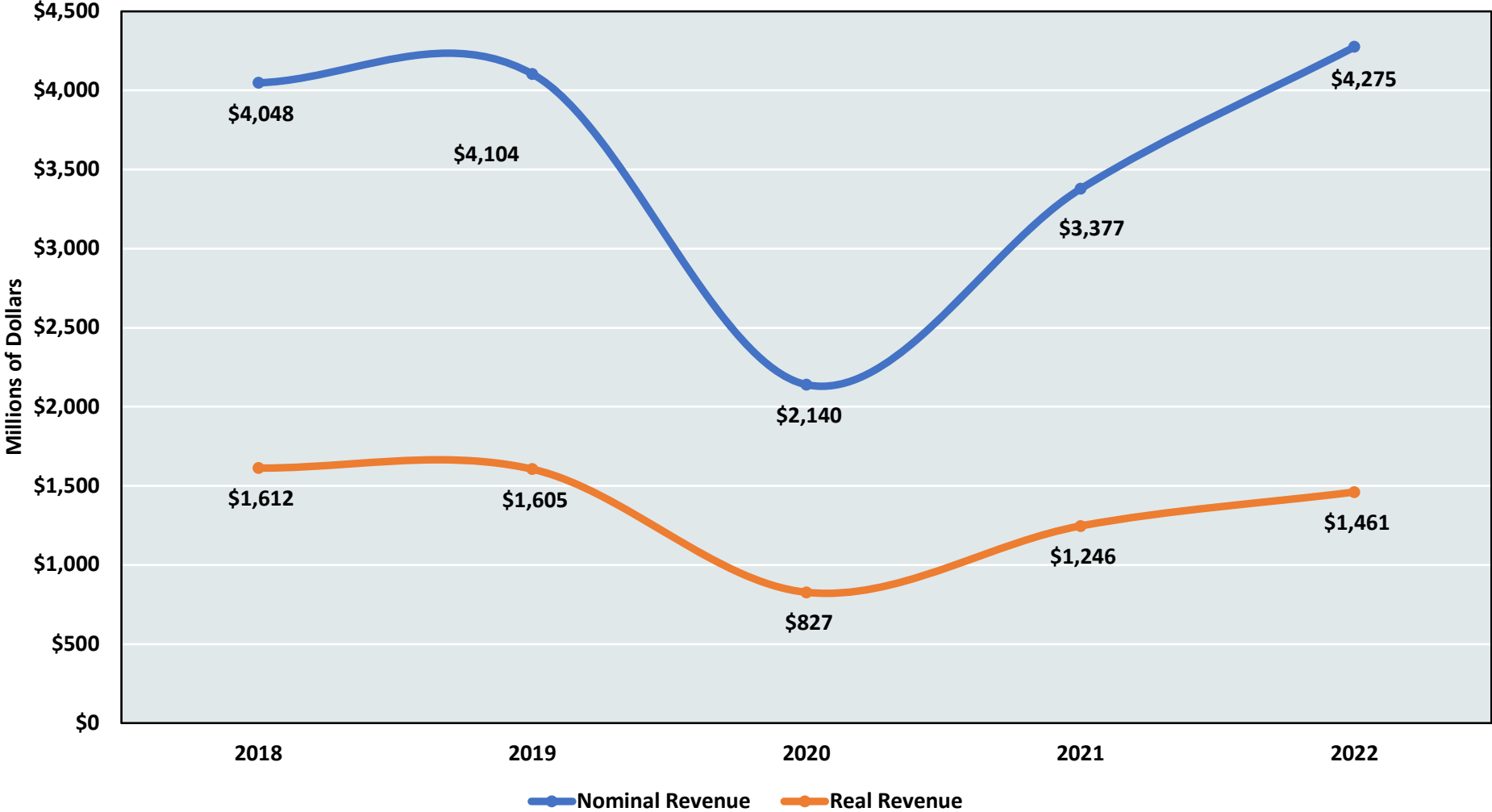
Turning to the major metro areas of the state, we note that nominal hotel revenues fell by 49.9% from 2019 to 2020 before increasing by 57.5% from 2020 to 2021. From the lows of 2020, nominal revenues jumped 57.4% in 2021 and an additional 28.2% in 2022. When we account for the impact of inflation, we note that real revenues declined by 50.5% in 2020 before increasing by 50.4% in 2021 and 18.7% in 2022. In 2022, real hotel revenues eclipsed the previous record set in 2019.

<sup>1</sup> The report of economic impacts of the hotel industry by congressional district for the American Hotel & Lodging Association (AHLA), Oxford Economics "Virginia's Hotel Industry, by the Numbers" <https://ahla.morningconsultintelligence.com/states/virginia/>

<sup>2</sup> The metropolitan statistical areas included in Virginia's metros are: Blacksburg, Charlottesville, Hampton Roads, Lynchburg, Northern Virginia, Richmond, Roanoke, Staunton, and Harrisonburg

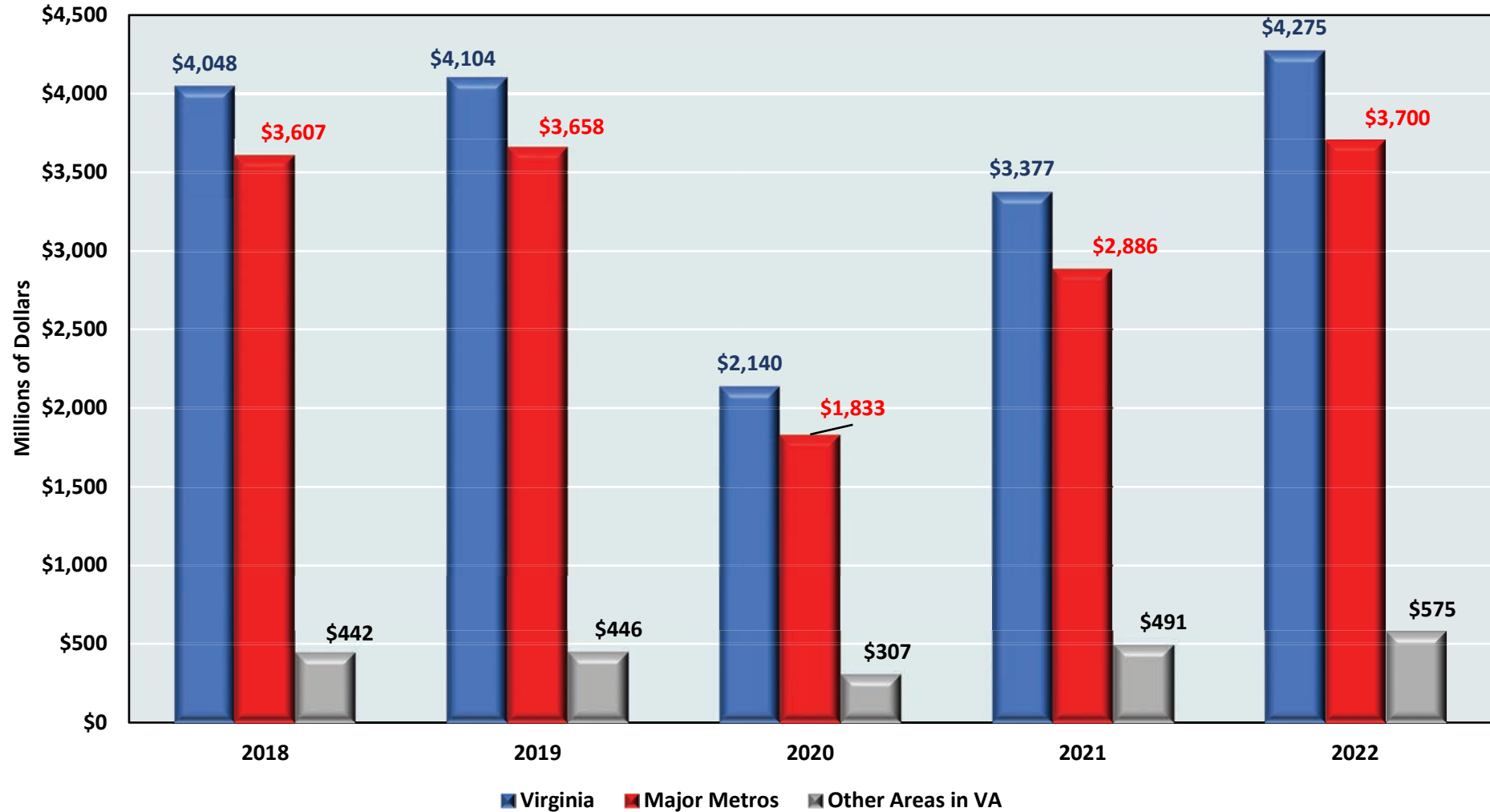
**GRAPH 1**

**NOMINAL AND REAL HOTEL REVENUE, VIRGINIA, 2018 - 2022**



Sources: STR Trend Report January 2023, Bureau of Labor Statistics, and Dragas Center for Economic Analysis and Policy. Base Year for CPI is 1982-1984.

**GRAPH 2**  
**NOMINAL HOTEL REVENUE**  
**VIRGINIA, STATE'S MAJOR METROS, AND OTHER AREAS, 2018 - 2022**



Sources: STR Trend Report January 2023 and Dragas Center for Economic Analysis and Policy. Major metropolitan areas represent Blacksburg, Charlottesville, Hampton Roads, Lynchburg, Northern Virginia, Richmond, Roanoke, and Staunton/Harrisonburg. Other Areas in Virginia represent Virginia's less major metropolitan areas.

Graph 3 depicts the shares of major hotel markets across the Commonwealth for 2019 and 2022. It should be no surprise that three areas, Hampton Roads, Northern Virginia, and Richmond, generated the highest levels of hotel revenue in each of these years. In 2022, Northern Virginia accounted for 34.1% of hotel revenue in Virginia, followed by Hampton Roads (25.9%), and Richmond (12.9%). The next largest single market area was Charlottesville, which accounted for 3.7% of the total hotel revenue in 2022. In total, markets outside the urban crescent (Northern Virginia, Hampton Roads, Richmond) accounted for approximately 27.1% of hotel revenue in 2022.

In comparison to the pre-pandemic level of 2019, both the Hampton Roads and the Richmond areas continued to fare better than the Northern Virginia area in 2022. In 2019, Hampton Roads' hotel revenue accounted for only 22.3% of the total hotel revenue in the Commonwealth. By 2022, Hampton Roads' market share of total revenue increased to 25.9%. Richmond saw a slight increase in total revenue market share from 12.0% in 2019 to 12.9% in 2022. In contrast, the Northern Virginia hotel industry market share of total revenue decreased from 42.8% in 2019 to only 34.1% in 2022.

An obvious question is why the hotel industry in Hampton Roads outperformed the top twenty markets nationally, the Commonwealth, and the nation in the aftermath of the pandemic? The root explanation lies in the composition of demand for hotels in Hampton Roads when compared to other markets across the United States. Hotels in the region typically rely more on drive-in leisure travelers and less on fly-in leisure and business traffic. The mixture of hotels in Hampton Roads is oriented towards leisure, not business travelers, and while there are luxury hotels, these are far less numerous than other large markets. In Hampton Roads, only about one-third of hotels are considered upscale or luxury. In Northern Virginia, on the hand, more than 50% of hotels fall into these categories.

During the shutdowns in the spring of 2020, upscale and luxury hotels, on average, saw demand fall more precipitously than mid-market hotels. The data suggest that demand for upscale and luxury hotels has yet to fully recover to pre-pandemic levels. Why? Business, government,

and convention-oriented travel has not rebounded as quickly as domestic tourism. International tourism remains, in some markets, below pre-pandemic levels as well. While weddings, sporting events, and other cultural events have returned to normal, the demand for upscale and luxury hotels continues to lag drive-in hotels, reducing the performance of regions dependent on these hotels relative to regions that rely more on domestic tourism, like Hampton Roads.

Graph 4 shows that in 2022, hotel markets across the Commonwealth, apart from Northern Virginia, experienced an increase in nominal hotel revenue beyond the pre-pandemic revenue level of COVID-19 in 2019. Blacksburg, Charlottesville, Hampton Roads, Lynchburg, and Staunton/Harrisonburg all witnessed a growth rate in revenue of more than 20%. Lynchburg hotel revenues grew by 22.9% from \$59 million in 2019 to \$72 million in 2022. Blacksburg witnessed a similar growth in revenue of 22.9% from \$88 million in 2019 to \$109 million in 2022. The Hampton Roads area also registered an increase of 20.8% from \$914 million in 2019 to \$1.1 billion in 2022. Charlottesville saw a rise from \$130 million to \$158 million in the same period, increasing by 21.8%. Richmond's market boosted its revenue by almost \$60 million from \$491 million in 2019 to \$551 million in 2022 at a growth rate of 12.2%. Other areas in Virginia saw their revenue grow by 28.8%, from \$446 million in 2019 to \$575 million in 2022.

In contrast, the Northern Virginia market, despite a 56.3% increase in revenue from \$934 million in 2021 to a remarkable \$1.4 billion in 2022, has yet to regain its 2019 revenue level of \$1.7 billion. The prolonged recovery period for this market is due to the unique attributes of its hotel industry with a concentration of luxury hotels, its reliance on business travelers, group business, international travel, and the fact that it was the hardest-hit region during the pandemic with more than a 62% decrease in revenue between 2019 and 2020. Nonetheless, this market is showing promising signs of continued recovery in 2023. The latest data show that revenues in the Northern Virginia market have increased by about 20.8% from year-to-date September 2022 to year-to-date September 2023 and are only 2.7% lower compared to year-to-date September 2019.

Revenue per Available Room (RevPAR) is the standard measure of performance in the hotel industry as it accounts for both changes in rates charged by hotels as well as changes in demand and supply of available rooms. As displayed in Graph 6, from 2019 to 2022, nominal RevPAR increased across the Commonwealth except for the Northern Virginia market. Other areas in Virginia accounted for the largest increase in RevPAR, increasing by 18.5%. Among the larger metro areas in the Commonwealth, the Hampton Roads hotel industry realized the highest percentage growth in nominal RevPAR with a 17.7% increase, followed closely by Lynchburg (16.1%), Charlottesville (15.3%), Blacksburg (13.9%), and Roanoke with a 12% increase. Meanwhile, the Richmond and Staunton/Harrisonburg markets experienced single-digit RevPAR increases of 7.9% and 7.3%, respectively. In contrast, Northern Virginia witnessed a 10.7% decrease in nominal RevPAR over the same period. Across the Commonwealth, the hotel industry managed a modest 3.4% nominal RevPAR increase which is much lower than the national average of 8.1% primarily due to the large decline observed in the Northern Virginia market.

The obvious question is what caused RevPAR to grow from 2019 to 2022. Was it due to the higher rates charged by hotels or due to the increased demand for hotels? Graph 7 provides the data for the nominal Average Daily Rate (ADR), the average revenue per occupied room. In this period, among the large metro areas, Charlottesville experienced the highest percentage increase of 21.5% in nominal ADR. The Hampton Roads area saw a similar increase of 19.1%, followed by Blacksburg (16.4%) and Roanoke (14.3%). Richmond and Lynchburg were not far behind with 10.5% and 9.5% increases, respectively, and Staunton/Harrisonburg had an ADR increase of 8.8%. The only exception was the Northern Virginia market with a 1.6% decrease in ADR. Other smaller areas in the Commonwealth saw a 15% increase in their ADR. Across the Commonwealth, ADR rose by 7.6%, while we observed a 13.6% increase in ADR for the nation. Again, here the lackluster performance of the Commonwealth was primarily due to the poor performance of Northern Virginia hotels.

Looking at the nominal revenue performance measures per room (ADR & RevPAR), the hotel industry in the Commonwealth was not only able to recover from the economic shock of 2020, but also grew at a rate higher than the pre-pandemic level of 2019. Across the Commonwealth, the average ADR was 7.6% higher and the average RevPAR was 3.4% higher in 2022 compared to 2019. The Northern Virginia market was the only major hotel industry area in the Commonwealth that was unable to completely recover from the repercussions of the COVID-19 pandemic. This is rationalized in part by the fact that the Northern Virginia market has a larger concentration of luxury hotels and relies more heavily on business travel, group travel, international tourism, and convention events than other areas within the Commonwealth.

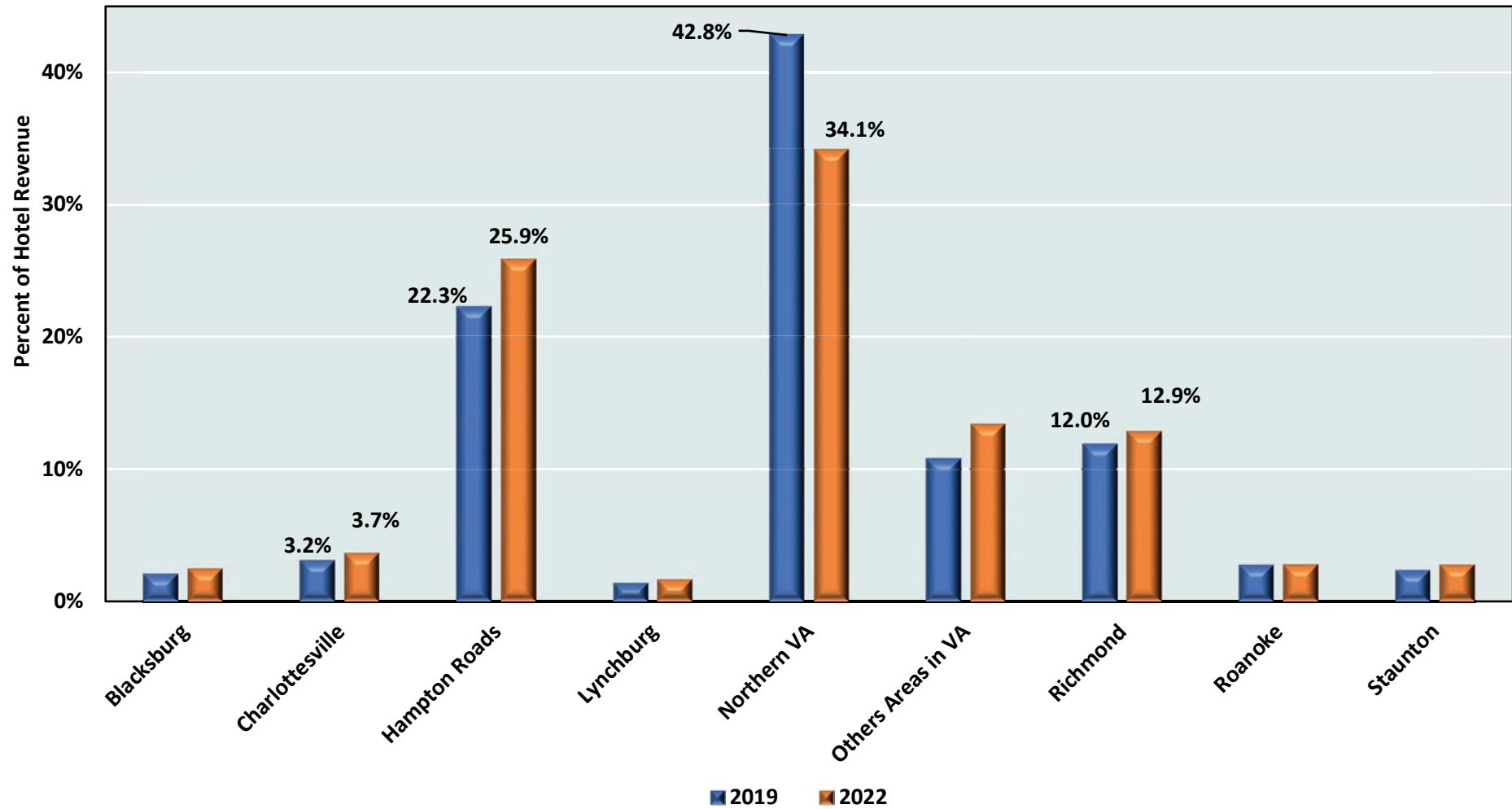
Due to its intrinsic attributes, Northern Virginia was also the hardest-hit market by the pandemic. Specifically, its revenue decreased by more than 62% between 2019 and 2020. In 2022, moving out of the pandemic aftermath and excluding the Northern Virginia market, Virginia hotels achieved an average ADR of \$117 compared to \$101 in 2019, which is an increase of 15.6% above the pre-pandemic level and higher than the average national ADR growth of 13.6%. The same holds true for RevPAR. Without the Northern Virginia market, the average hotel in Virginia realized a RevPAR level of \$71 in 2022 compared to only \$62 in 2019, showing an increase of 14.6%. The percentage point increase is almost double the increase of 8.1% observed for the nation.





**GRAPH 3**

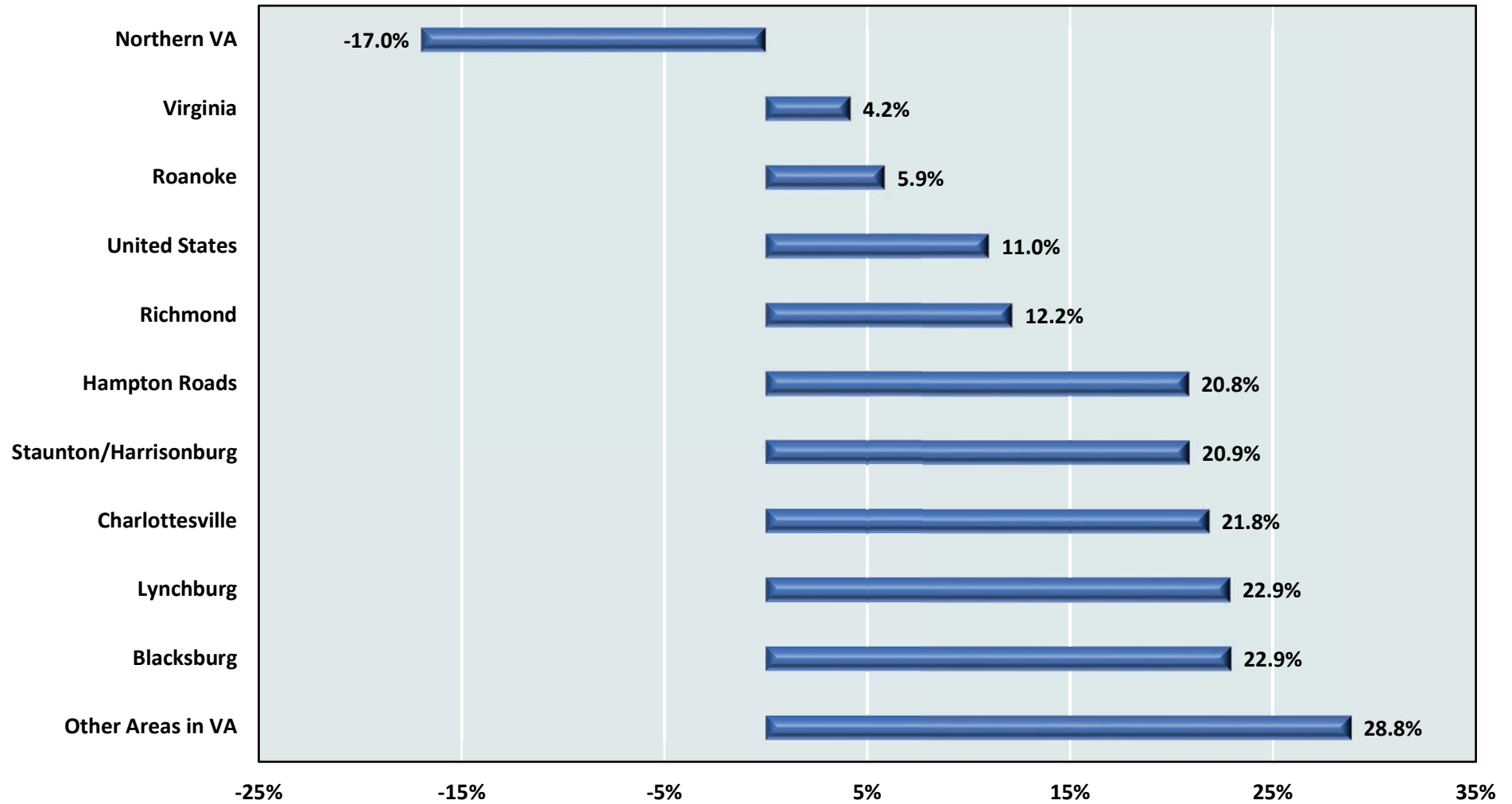
**ESTIMATED SHARES OF HOTEL ROOM REVENUE  
VIRGINIA, 2019 AND 2022**



Sources: STR Trend Report January 2023 and Dragas Center for Economic Analysis and Policy. Staunton market includes Staunton and Harrisonburg markets as STR considers these metros as representing one market.

**GRAPH 4**

**PERCENT CHANGE IN NOMINAL HOTEL REVENUE IN SELECTED MARKETS  
METROS IN VIRGINIA, VIRGINIA, AND THE UNITED STATES, 2019 TO 2022**



Sources: STR Trend Report January 2023 and Dragas Center for Economic Analysis and Policy. Staunton/Harrisonburg market includes both Staunton and Harrisonburg MSAs as STR considers these metros as representing one market.

**GRAPH 5**

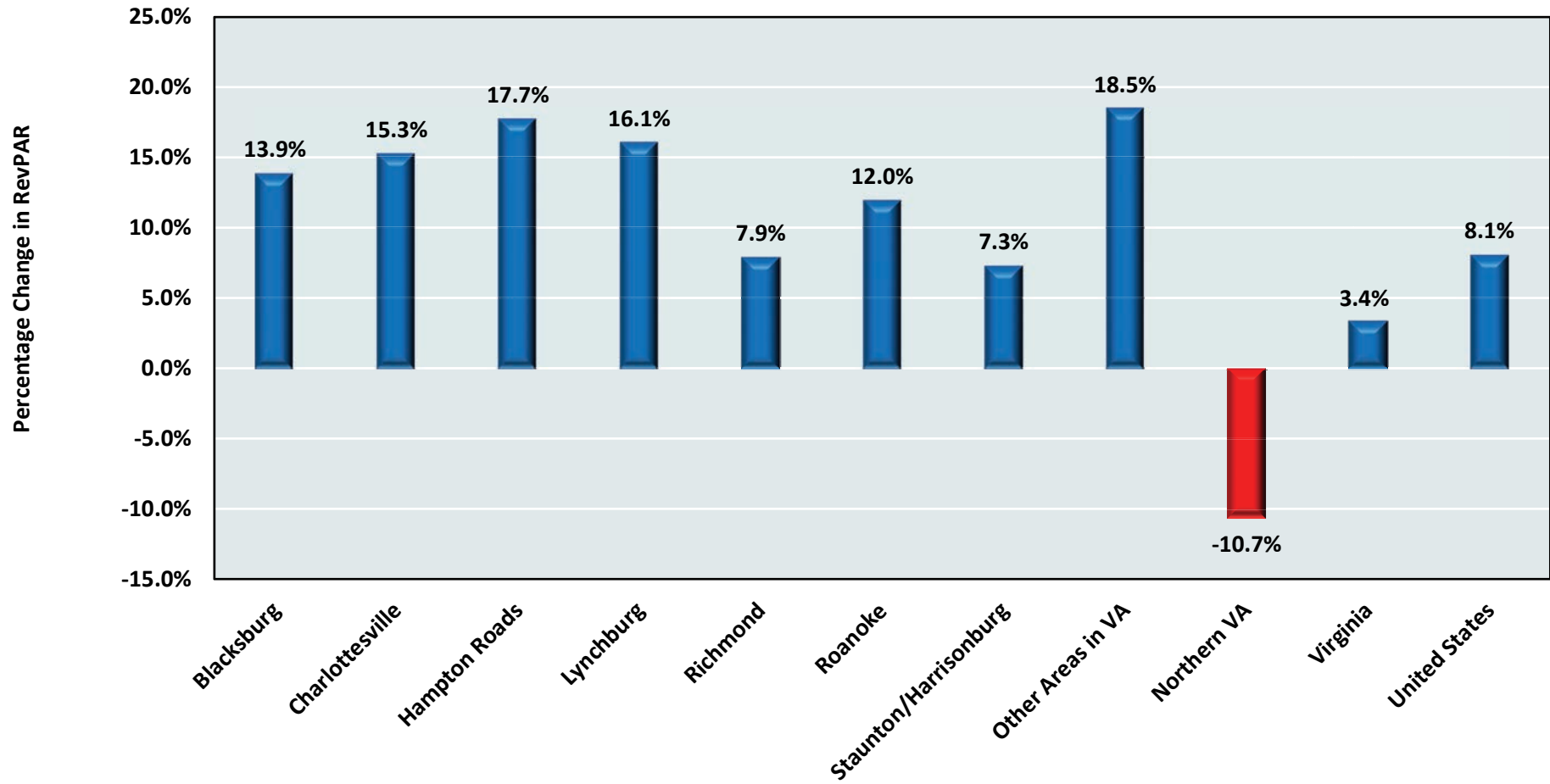
**NOMINAL MONTHLY HOTEL REVENUE  
NORTHERN VIRGINIA, JANUARY 2019 - DECEMBER 2022**



Sources: STR Trend Report January 2023 and Dragas Center for Economic Analysis and Policy.

**GRAPH 6**

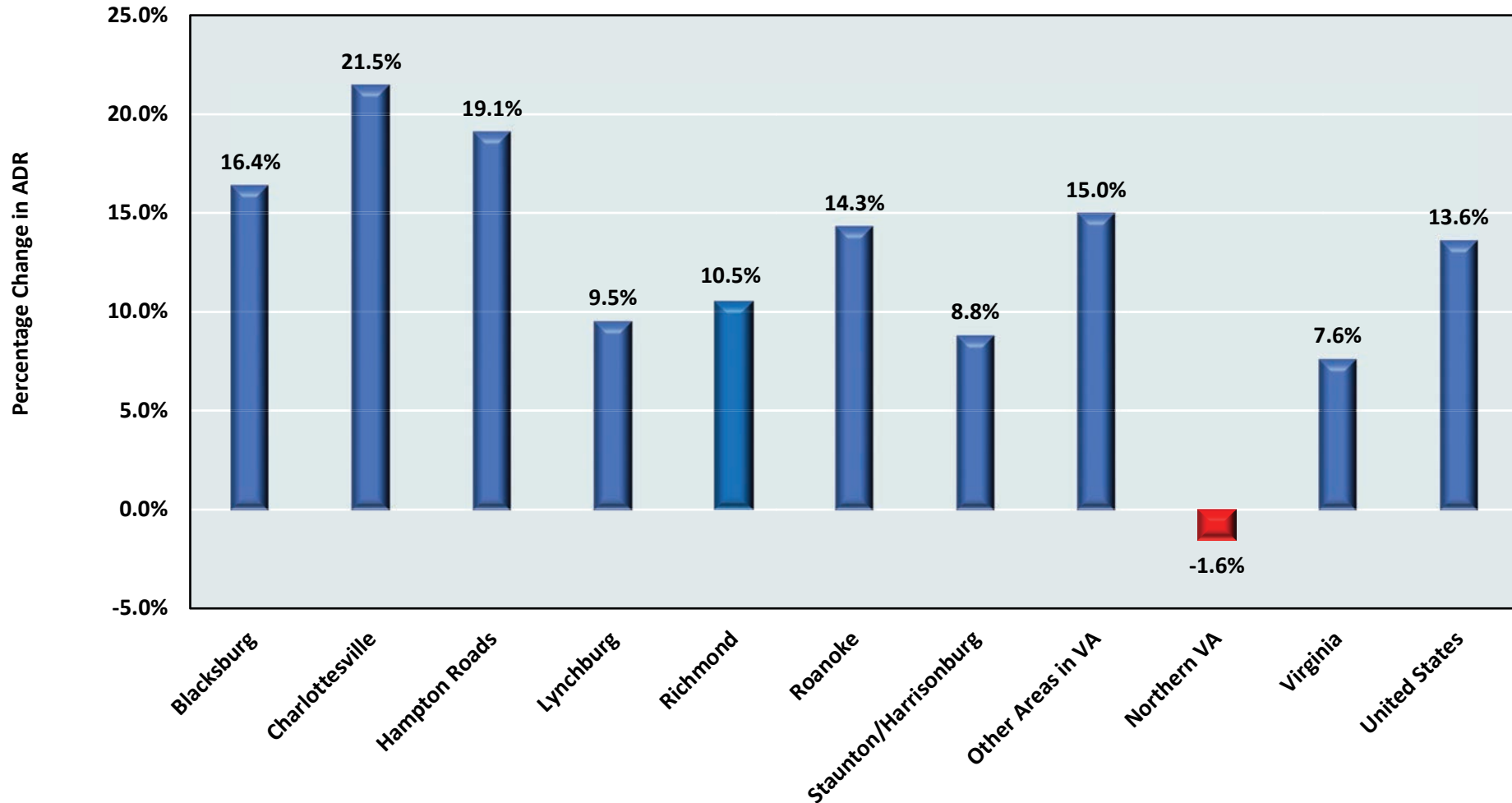
**PERCENT CHANGE IN NOMINAL REVENUE PER AVAILABLE ROOM IN SELECTED MARKETS  
METROS IN VIRGINIA, VIRGINIA, AND THE UNITED STATES, 2019 TO 2022**



Sources: STR Trend Report January 2023, and Dragas Center for Economic Analysis and Policy. Staunton/Harrisonburg market includes both Staunton and Harrisonburg MSAs as STR considers these metros as representing one market.

**GRAPH 7**

**PERCENT CHANGE IN NOMINAL AVERAGE DAILY RATE IN SELECTED MARKETS  
METROS IN VIRGINIA, VIRGINIA, AND THE UNITED STATES, 2019 TO 2022**



Sources: STR Trend Report January 2023, and Dragas Center for Economic Analysis and Policy. Staunton/Harrisonburg market includes both Staunton and Harrisonburg MSAs as STR considers these metros as representing one market.

## Impact of Inflation and Gas Prices on the Performance of the Hotel Industry

For Americans deciding on future travel plans in 2022, worries about inflation and soaring gas prices took precedence over COVID-19 concerns. According to an October 2022 survey of 4,000 adults conducted by Morning Consult on behalf of AHLA, 85% of Americans said gas prices and inflation were a consideration in deciding whether to travel over the next three months, compared to only 70% who said the same about COVID-19 infection rates.<sup>3</sup> Concerns about the general price level increase in 2022 humbled the real performance measures of the hotel industry adjusted for inflation.

Graph 8 features the monthly rates for inflation and core inflation (less food and energy) for the United States from January 2018 to August 2023. The average yearly inflation and core inflation rates in 2019 (pre-pandemic) were 1.8% and 2.2%, respectively. During the pandemic year of 2020, the average yearly inflation rate was 1.3% and the average core inflation rate was 1.7%. In the post-pandemic period of 2022, the average yearly inflation rate jumped to 8%, and the core inflation rate increased to 6.2%. The lowest monthly inflation rate for the entire period was observed in May 2020 with 0.2% while the lowest core inflation rate occurred in June 2020 at 1.2%. On the other end of the spectrum, June 2022 marked the highest monthly inflation rate for the period with 8.9%, and September of the same year registered the highest core inflation rate with 6.6%.

The pre-pandemic period saw stable prices, and inflation and core inflation rates hovered around 2% or less per year. With the beginning of the economic shock in February 2020, the shutdown of non-essential businesses, the disruption in supply chain, and the increase in the unemployment rate, the federal government opted for fiscal stimulus relief packages, and the Federal Reserve Bank relaxed its monetary

policy by lowering the discount rate to a historical low of 0.25% in March 2020. The steps taken successfully mitigated the COVID-19 pandemic's impact and gradually led to an increase in demand with the reopening of the economy. However, the shortage in the labor force and the disruption in supply chain continued to restrain growth in supply. The result was an increase in the price level that reached a yearly inflation rate of 8.0% and a core inflation rate of 6.2% in 2022, the highest average observed since 2018.

The persistence of the post-pandemic shortage in the hotel industry labor force, the increased cost of supplies, the concerns about the level of gas prices and inflation rates in 2022, the tightening of monetary policy by the Federal Reserve Bank, and the increase in the discount rate from a low of 0.25% on March 2020, to 4.5% on December 2022,<sup>4</sup> all left hotel managers with no other option but to increase their daily room rates.

Graph 9 depicts the percentage change in real ADR across selected Virginia markets for the period between 2019 and 2022. After accounting for inflation, the Charlottesville market realized the highest percentage increase in the Commonwealth with a 6.1% increase in real ADR in contrast to a 15% nominal percentage increase in ADR. The Hampton Roads and Blacksburg areas are the only other two major metro markets experiencing a positive percentage increase in real ADR over the same period with 4.0% and 1.7%, respectively. All the other five major markets, including Roanoke, Richmond, Lynchburg, Staunton/Harrisonburg, and Northern Virginia, experienced a decline in real ADR. The Roanoke market saw a modest decline in real ADR with only 0.1%. The Richmond market observed a decrease of 3.4% in real ADR, followed by Lynchburg and Staunton/Harrisonburg markets observing 4.3% and 4.9% decrease in their real ADR, respectively. The Northern Virginia market had the worst performance with a 14% decrease in real ADR. Across the entire hotel industry in the Commonwealth, the picture is not different, with the average hotel experiencing a 6.0% decrease in real ADR in 2022 compared to 2019. At the national

<sup>3</sup> Survey of 4,000 adults conducted by Morning Consult on behalf of AHLA on October 14-16, 2022, <https://www.ahla.com/news/survey-higher-share-americans-plan-holiday-hotel-stays-hotels-top-choice-leisure-travelers>

<sup>4</sup> Federal Reserve Bank, Discount Window. <https://www.frbdiscountwindow.org/Pages/Discount-Rates/Historical-Discount-Rates>



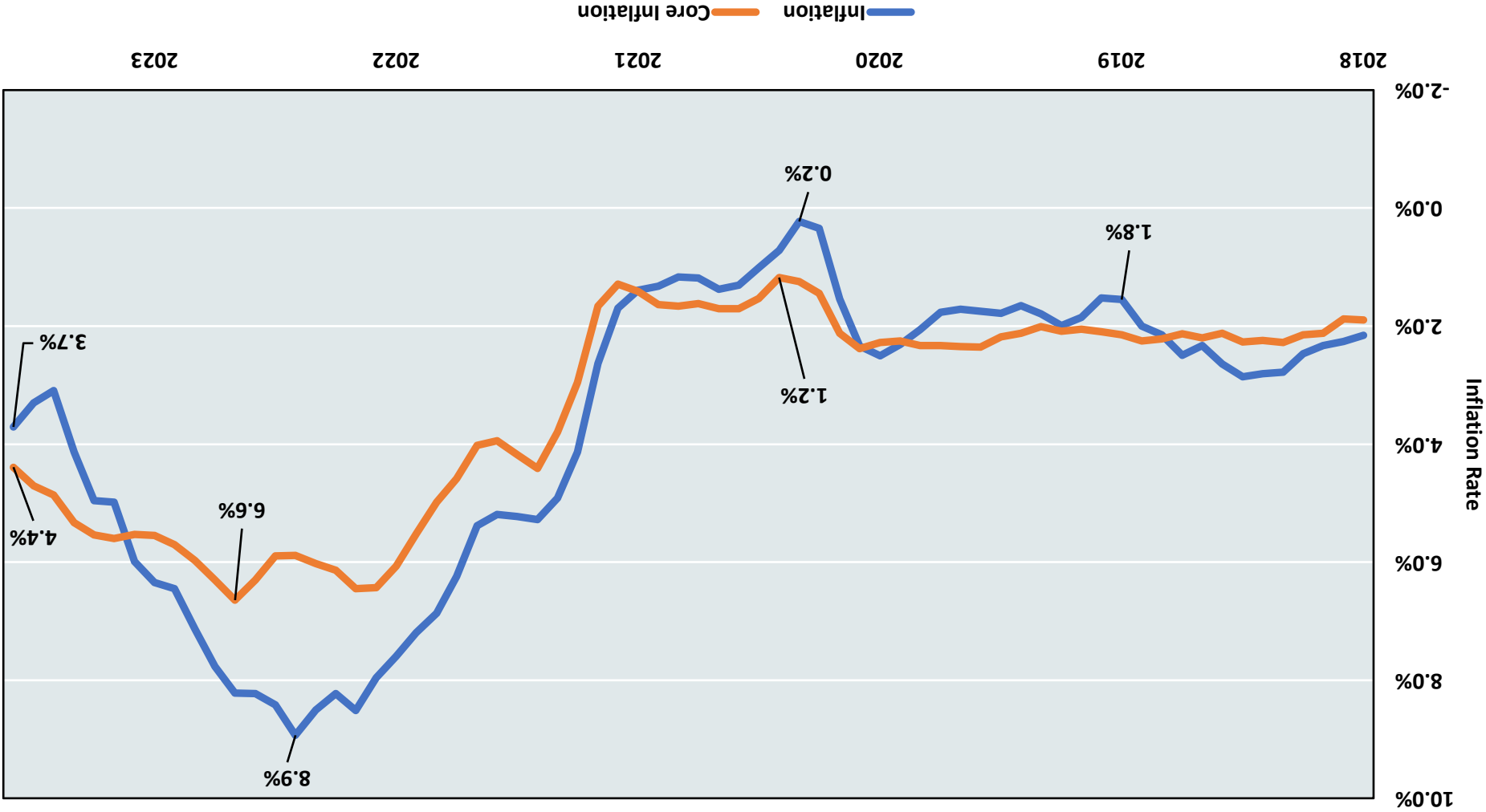
level, the situation is much more nuanced, with the average hotel experiencing only a 0.7% decrease in real ADR for the same period.

Graph 10 displays the percentage change in real revenue per available room or RevPAR for the period between 2019 and 2022. Markets representing all other areas saw a 3.5% growth in real RevPAR. Among major markets in the Commonwealth, Hampton Roads fared at the top of the list with a 2.9% increase in real RevPAR. Lynchburg with 1.4% and Charlottesville with a modest 0.7% in real RevPAR, were the only other two major metro markets experiencing an increase over the same period. All other five markets faced the painful reality of inflationary impact, with Northern Virginia being the hardest-hit market with a 22% decrease in real RevPAR. The Staunton/Harrisonburg market was the second worst-hit area with a 6.2% decline in real RevPAR followed by the Richmond market with a 5.7% decrease. At the national level, the average hotel experienced a 5.6% decrease in real RevPAR while in the Commonwealth, the average hotel saw their real RevPAR decrease by 9.7% between 2019 and 2022. The substantial decline for the Commonwealth can again be easily attributed to the poor performance of the hotel industry in Northern Virginia.



GRAPH 8

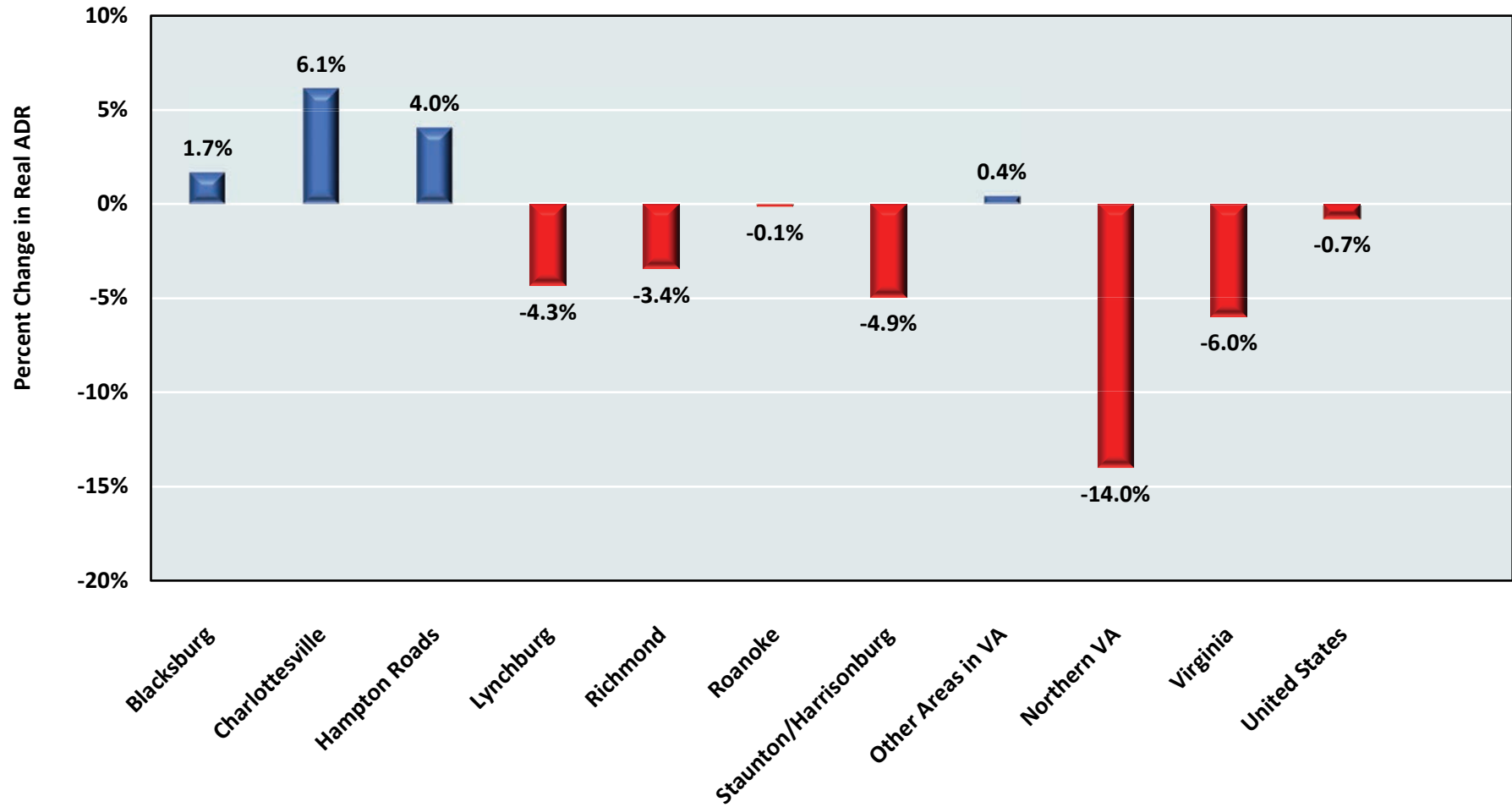
INFLATION AND CORE INFLATION, UNITED STATES  
JANUARY 2018 - AUGUST 2023



Source: Bureau of Labor Statistics (2023). Inflation is the year-over-year change in CPI-U while Core Inflation is the year-over-year change in CPI-U less food and energy. Data are seasonally adjusted.

**GRAPH 9**

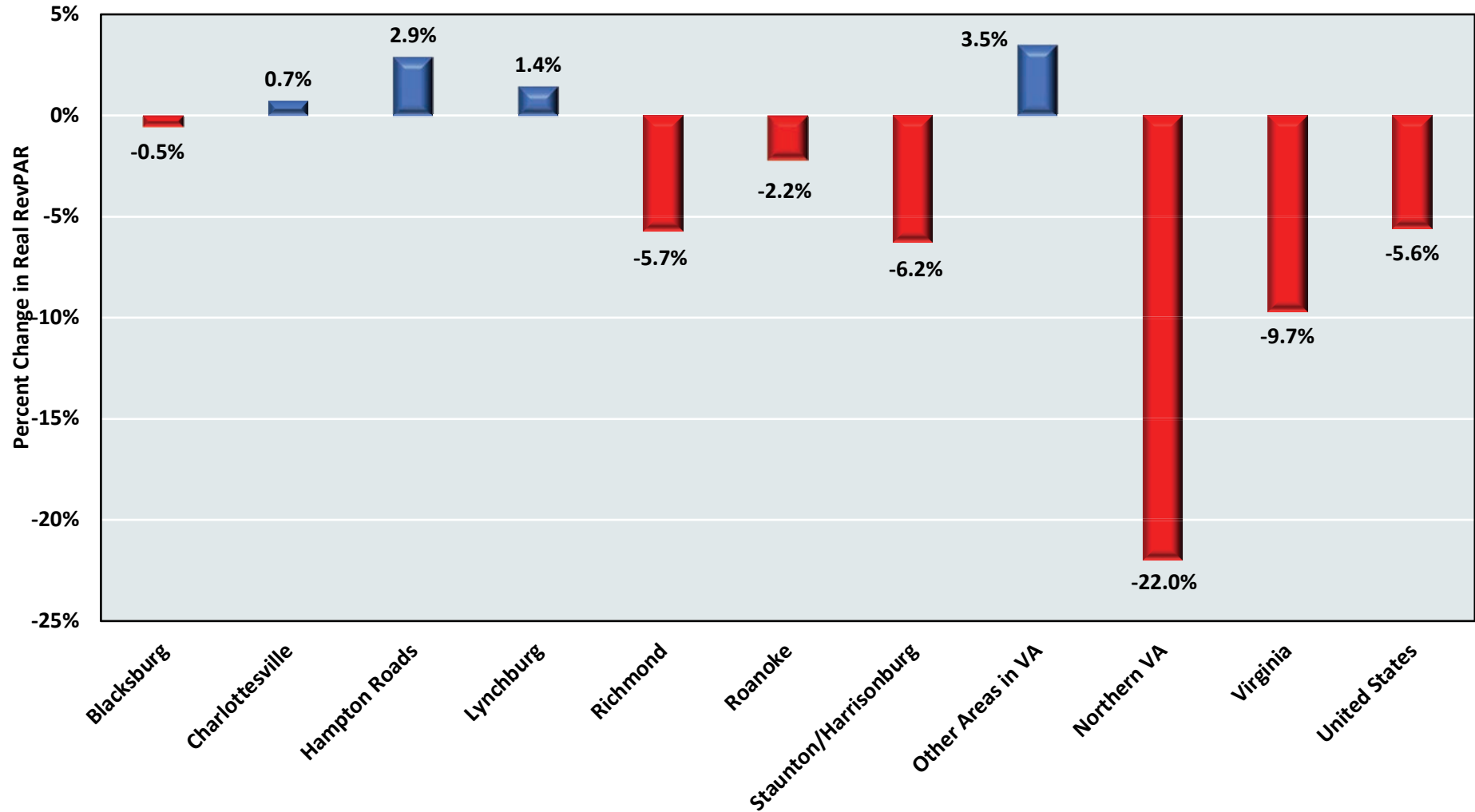
**PERCENT CHANGE IN REAL AVERAGE DAILY RATE IN SELECTED MARKETS  
METROS IN VIRGINIA, VIRGINIA, AND THE UNITED STATES, 2019 TO 2022**



Sources: STR Trend Report January 2023, and Dragas Center for Economic Analysis and Policy. Base Year for CPI is 1982-1984. Staunton/Harrisonburg market includes both Staunton and Harrisonburg MSAs as STR considers these metros as representing one market.

**GRAPH 10**

**PERCENT CHANGE IN REAL REVENUE PER AVAILABLE ROOM IN SELECTED MARKETS  
METROS IN VIRGINIA, VIRGINIA, AND THE UNITED STATES, 2019 TO 2022**



Sources: STR Trend Report January 2023, and Dragas Center for Economic Analysis and Policy. Base Year for CPI is 1982-1984. Staunton/Harrisonburg market includes both Staunton and Harrisonburg MSAs as STR considers these metros as representing one market.

As pointed out earlier in this chapter, most markets in the Commonwealth, except for Northern Virginia, had more than fully recovered by the end of 2022 from the severe impact of COVID-19 when measured by nominal Total Revenue, nominal RevPAR or nominal ADR. The obvious question is whether the increases in total revenue or RevPAR were solely due to the increase in ADR, to the increases in room demand, or to both. To get an insight, we examine the data on changes in hotel occupancy rates from 2019 to 2022 in Graph 11. Except for the Lynchburg market and other areas in Virginia, all other seven major single markets in the Commonwealth experienced a decrease in room occupancy rate in this period. Occupancy in these markets over this time increased by 6% and 3%, respectively. However, occupancy rates in the four largest markets, Northern Virginia, Hampton Roads, Richmond, and Charlottesville declined by 9.3%, 1.1%, 2.4%, and 5.1%, respectively. These trends could lead one to believe that there is a decline in demand for rooms, but in reality, this might not be the case. Occupancy rate is the ratio of rooms occupied to rooms available. Hence, occupancy rates can decline if the supply is growing at a faster rate than the demand for rooms. Likewise, an increase in occupancy rate could be the result of a stagnant demand accompanied by a decrease in the supply of rooms. To get a better picture of the health of the hotel industry, we also examine growth in demand for rooms.

Graph 12 shows the change in hotel rooms sold in 2019 and 2022. It should not come as a surprise to note that the Lynchburg market and other areas in Virginia (outside the eight major metro areas) saw a substantial increase in rooms sold; these increased by over 12% in each of these two areas. Recall these were the only two markets that had increases in occupancy rates over this time. The Staunton/Harrisonburg and Blacksburg markets saw significant increases in rooms sold at 11.1% and 5.6% rate, respectively. The relatively faster growth in room supply at a 12.6% rate in Staunton/Harrisonburg and 8.0% in Blacksburg led to decreases in their occupancy rates over this period. The Hampton Roads and Richmond markets also had increases in rooms sold, but occupancy rates in these markets declined as growth

in supply of rooms exceeded the growth in rooms sold. The largest decline in rooms sold was observed for the Northern Virginia market where room supply actually decreased by 7.0% over this time period. The Commonwealth of Virginia and the nation also saw a decrease in the number of rooms sold, but the percentage decline in their occupancy rate was larger due to an increase in the supply of rooms in these markets.

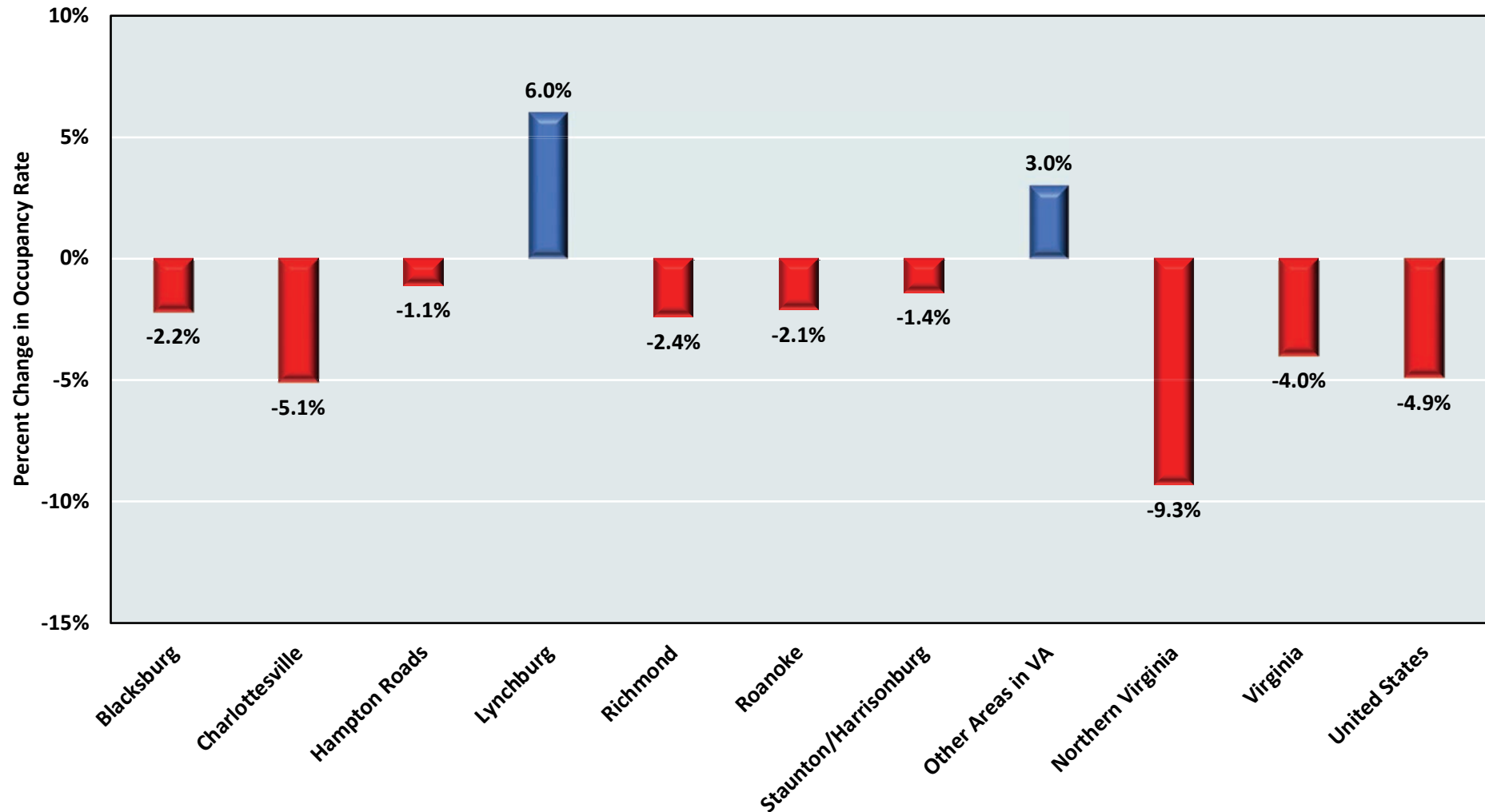
In 2022, Virginia's hotel industry saw a solid positive growth in nominal revenue. The Commonwealth realized a double-digit increase in revenue with the average hotel increasing its nominal revenue by 26.6% over 2021 and 4.2% over pre-pandemic levels observed in 2019. Nominal ADR and nominal RevPAR also increased and were 7.6% and 3.4% higher, respectively, compared to 2019. However, occupancy rate for the hotels declined by 4.0% as rooms sold declined by 3.2% and room supply increased by 0.8%.

What needs to be emphasized is that the increases in nominal revenue and RevPAR in 2022 compared to 2019 were mainly the result of hotel managers charging a higher ADR. The decision to transfer the burden of inflation to hotel guests is only a short-lived policy. Hotel managers need to be more creative and focus alternatively on stimulating demand, long-term revenue growth opportunities, and customers' needs, especially as inflationary pressure continues to ease through 2023.<sup>5</sup>

<sup>5</sup> At the time this report is being prepared, the monthly inflation rate is down from its peak of 8.9% in June 2022 to 3.7% in August 2023. Source: Bureau of Labor Statistics (2023). Inflation is the year-over-year change in CPI-U. Data are seasonally adjusted.

**GRAPH 11**

**PERCENTAGE CHANGE IN ROOM OCCUPANCY RATES IN SELECTED MARKETS  
METROS IN VIRGINIA, VIRGINIA, AND THE UNITED STATES, 2019 - 2022**

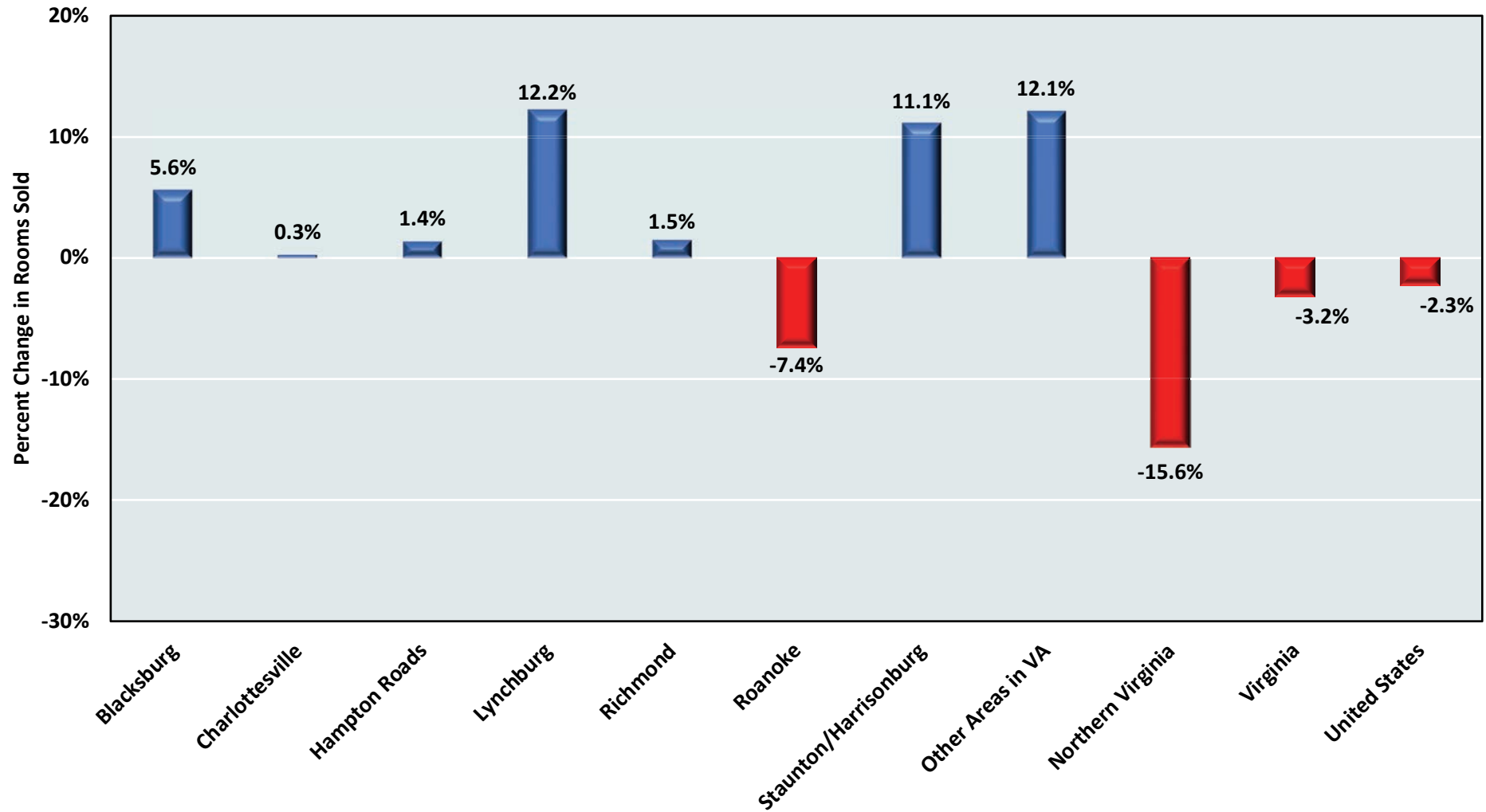


Sources: STR Trend Report January 2023, and Dragas Center for Economic Analysis and Policy. Staunton/Harrisonburg market includes both Staunton and Harrisonburg MSAs as STR considers these metros as representing one market.



**GRAPH 12**

**PERCENTAGE CHANGE IN ROOMS SOLD IN SELECTED MARKETS  
METROS IN VIRGINIA, VIRGINIA, AND THE UNITED STATES, 2019 TO 2022**



Sources: STR Trend Report January 2023, and Dragas Center for Economic Analysis and Policy. Staunton/Harrisonburg market includes both Staunton and Harrisonburg MSAs as STR considers these metros as representing one market.

## A Look at Labor shortage in the Hotel Industry

In a survey conducted by the American Hotel and Lodging Association (AHLA) in October 2022, Front Desk Feedback survey,<sup>6</sup> almost all hotels across the country experienced staffing shortages. Eighty-seven percent of the hoteliers surveyed indicated they are short-staffed, and 36% of them described the situation as severe. The survey also shows that 43% of the respondents classify housekeeping as the biggest and the most critical staffing challenge. In a May 2022 AHLA survey, the numbers were even higher, with 97% responding that they were short-staffed, 49% expressing a critical shortage, and 58% ranking housekeeping as their biggest challenge.

According to the U.S. Bureau of Labor Statistics, as shown in Table 1, 1.8 million individuals were employed in the accommodation industry nationwide in 2022. The number of workers in 2022 decreased by about 300,000, or 14.4% below 2019 when the industry had approximately 2.1 million workers.

Managers of hotels are still looking to fill many of the jobs lost during the pandemic, and to achieve that goal, they are offering higher wages. Despite the decline in the number of workers, total annual wages across the nation increased by 2%, or \$1.4 billion, from \$68.8 billion in 2019 to \$70.2 billion in 2022. The annual average weekly wage jumped from \$643 a week in 2019 to \$766 a week in 2022, an increase of 19.1% or \$123 per week. Annual average wages per employee increased by 19.2% or \$6,401 between 2019 and 2022, rising from \$33,424 to \$39,825. According to the AHLA October 2022 survey, 81% of hotels increased wages, 64% offered greater flexibility with hours, and 35% expanded benefits in order to attract potential hires and retain existing workers. Even with these incentives, 91% of hotel manager respondents stated that they were unable to fill open positions.

	2019	2022	Change From 2019 to 2022	Percent Change From 2019 to 2022
<b>Annual Establishments</b>	72,270	76,631	4,361	6.0%
<b>Annual Average Employment</b>	2,058,547	1,762,182	-296,365	-14.4%
<b>Total Annual Wages (In Billions)</b>	\$68.8	\$70.2	\$1.4	2.0%
<b>Annual Average Weekly Wage</b>	\$643	\$766	\$123	19.1%
<b>Annual Average Wages per Employee</b>	\$33,424	\$39,825	\$6,401	19.2%

Source: Quarterly Census of Employment and Wages - Bureau of Labor Statistics. [https://data.bls.gov/cew/apps/table\\_maker/v4/table\\_maker.htm#type=18&from=2019&to=2022&qtr=1&own=5&ind=721&area=US000&supp=1](https://data.bls.gov/cew/apps/table_maker/v4/table_maker.htm#type=18&from=2019&to=2022&qtr=1&own=5&ind=721&area=US000&supp=1)

Nonetheless, the future is still looking bright, with Table 2 showing a steady year-over-year reduction in hotel staffing shortage from 2019 to 2022. In 2021, the hotel industry saw an annual employment increase of 7.1% and another 17.7% increase in 2022. In just two years (2021 and 2022), the industry recuperated 363,820 or 55.1% of the 660,185 jobs lost during the 2020 pandemic shock. The trend is continuing in 2023 with an additional gain of 7.6% or 133,318 hires just in the first eight months of 2023.<sup>7</sup>

<sup>6</sup> AHLA Front Desk Feedback survey of nearly 200 hoteliers, conducted October 3, 2022. <https://www.ahla.com/news/87-surveyed-hotels-report-staffing-shortages>

<sup>7</sup> Source: Quarterly Census of Employment and Wages - Bureau of Labor Statistics. [https://data.bls.gov/timeseries/CES7072100001?amp%253bdata\\_tool=XGtable&output\\_view=data&include\\_graphs=true](https://data.bls.gov/timeseries/CES7072100001?amp%253bdata_tool=XGtable&output_view=data&include_graphs=true)

<b>TABLE 2</b>				
<b>ANNUAL HOTEL EMPLOYMENT AND WAGES UNITED STATES, 2019 - 2022</b>				
<b>Year</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>
<b>Annual Establishments</b>	72,270	73,185	74,555	76,631
<b>Annual Average Employment</b>	2,058,547	1,398,362	1,497,119	1,762,182
<b>Annual Average Weekly Wage</b>	\$643	\$681	\$746	\$766
<b>Annual Average Employment Change Over the Year</b>	39,774	-660,185	98,757	265,063
<b>Annual Average Employment % Change Over the Year</b>	2.00%	-32.10%	7.10%	17.70%
<b>Annual Average Weekly Wages Change Over the Year</b>	\$25	\$38	\$65	\$20
<b>Annual Average Weekly Wages % Change Over the Year</b>	4.00%	5.90%	9.50%	2.70%

Source: Quarterly Census of Employment and Wages - Bureau of Labor Statistics.  
[https://data.bls.gov/cew/apps/table\\_maker/v4/table\\_maker.htm#type=18&from=2019&to=2022&qtr=1&own=5&ind=721&area=US000&supp=1](https://data.bls.gov/cew/apps/table_maker/v4/table_maker.htm#type=18&from=2019&to=2022&qtr=1&own=5&ind=721&area=US000&supp=1)

<b>TABLE 3</b>				
<b>HOTEL EMPLOYMENT AND WAGES VIRGINIA, 2019 AND 2022</b>				
	<b>2019</b>	<b>2022</b>	<b>Change From 2019 to 2022</b>	<b>Percent Change From 2019 to 2022</b>
<b>Annual Establishments</b>	1,884	2,077	193	10.2%
<b>Annual Average Employment</b>	46,566	38,333	-8,233	-17.7%
<b>Total Annual Wages (In Billions)</b>	\$1.32	\$1.29	-\$0.032	-2.4%
<b>Annual Average Weekly Wage</b>	\$546	\$648	\$102	18.7%
<b>Annual Average Wages per Employee</b>	\$28,405	\$33,671	\$5,266	18.5%

Source: Quarterly Census of Employment and Wages - Bureau of Labor Statistics.  
[https://data.bls.gov/cew/apps/table\\_maker/v4/table\\_maker.htm#type=18&from=2019&to=2022&qtr=1&own=5&ind=721&area=51000&supp=1](https://data.bls.gov/cew/apps/table_maker/v4/table_maker.htm#type=18&from=2019&to=2022&qtr=1&own=5&ind=721&area=51000&supp=1)

Table 4 summarizes the hotel employment and wage data in Virginia for 2019 and 2022. In 2022, the hotel industry in Virginia added an additional 5,732 jobs, a 17.6% increase in hiring compared to 2021. Over the same period, the industry experienced a 10.2% increase in annual average weekly wages from \$588 in 2021 to \$648 in 2022.

Table 3 presents hotel employment and wages in the Commonwealth for 2019 and 2022. The picture in the state of Virginia is similar to that of the nation. In 2019, the hotel industry in the Commonwealth employed 46,566 persons. In 2022, the number stood at 38,333 employees. The industry is still 17.7% or 8,233 jobs short of the pre-pandemic level of 2019. To attract potential future employees, Virginia's hotel managers are offering higher compensation, with annual average wages 18.5% higher in 2022 compared to 2019.

**TABLE 4**  
**ANNUAL HOTEL EMPLOYMENT AND WAGES**  
**VIRGINIA, 2019 - 2022**

Year	2019	2020	2021	2022
<b>Annual Establishments</b>	1,884	1,890	1,950	2,077
<b>Annual Average Employment</b>	46,566	31,593	32,601	38,333
<b>Annual Average Weekly Wage</b>	\$546	\$546	\$588	\$648
<b>Annual Average Employment Change Over the Year</b>	-378	-14,973	1,008	5,732
<b>Annual Average Employment % Change Over the Year</b>	-0.8%	-32.2%	3.2%	17.6%
<b>Annual Average Weekly Wages Change Over the Year</b>	\$26	0	\$42	\$60
<b>Annual Average Weekly Wages % Change Over the Year</b>	5.0%	0.0%	7.7%	10.2%

Source: Quarterly Census of Employment and Wages - Bureau of Labor Statistics. [https://data.bls.gov/cew/apps/table\\_maker/v4/table\\_maker.htm?type=18&from=2019&to=2022&qtr=1&own=5&ind=721&area=51000&supp=1](https://data.bls.gov/cew/apps/table_maker/v4/table_maker.htm?type=18&from=2019&to=2022&qtr=1&own=5&ind=721&area=51000&supp=1)

Hotel managers are adapting to changes in the post-pandemic labor market, and they are adopting new strategies to mitigate the staffing shortage. These strategies of higher wages, better benefits, and flexible hours are paying off. Employment in the hotel industry is increasing year-over-year and is expected to continue over the near future, assuming no major economic or political disruption. Investors are optimistic, and the hotel industry is expanding beyond the 2019 pre-pandemic levels. Supply of rooms in the Commonwealth increased by 0.8% from 2019 to 2022, and national supply of rooms increased by 2.7% during the same time period. However, we also see that demand for rooms, as measured by rooms sold in the Commonwealth and the nation declined by 3.2% and 2.3%, respectively. The industry also faces stiff competition from online short-term rental entities such as Airbnb and Vrbo. In the next section, we explore the competitive state of the hotel industry with the emergence of new accommodation options, particularly the alternative online short-term lodging services.

# The Impact of Airbnb and Vrbo on the Hotel Industry

Airbnb (Air Bed and Breakfast) and Vrbo (Vacation Rentals by Owner) are the two largest and most popular platforms in the global industry for short-term online vacation rental, connecting millions of travelers with accommodations across more than 220 countries around the world. It is almost redundant to say that the emergence of such companies has disrupted both the demand and the supply sides and, consequently, affected the revenue and the profit performance in the hotel industry. This phenomenon presents both challenges and opportunities for the hotel industry. Before we explain, let us first provide a brief history of Airbnb and Vrbo.

The story of Airbnb began in 2007 in San Francisco, California, when three friends (Brian Chesky, Nathan Blecharczyk, and Joe Gebbia) decided to make ends meet by providing guests with an air mattress and homemade breakfast, hence the original name “Air Bed & Breakfast” or Airbnb. The idea gained traction, and in 2008, they officially launched the platform, allowing individuals to rent out their spaces to travelers on a short-term basis.

Airbnb’s innovative model quickly gained momentum, enabling hosts to list their spare space and guests to discover and book accommodations worldwide. On December 10, 2020, the company went public through an Initial Public Offering (IPO), trading on the National Association of Securities Dealers Automated Quotations Stock Market (NASDAQ) under the symbol “ABNB.” In 2022, Airbnb facilitated over 4 million host listings for 393.7 million booking nights.<sup>8</sup> Today, the company is valued at more than \$80 billion in market capitalization.

Vrbo (Vacation Rentals by Owner) was started back in 1995 by a husband-and-wife team Dave and Lynn Clouse as a website for homeowners to list their vacation properties for rent. The platform thrived in the early 2000s, providing an alternative to traditional short-term accommodation. In 2006, another vacation rental platform (HomeAway) acquired Vrbo but continued to operate it as a separate brand. The acquisition allowed Vrbo to thrive further and in 2015, Expedia acquired HomeAway for approximately \$3.9 billion, signaling the growing importance of the vacation rental market. Today, Expedia Group, with its subsidiary Vrbo, has a market capitalization value of more than \$14 billion.<sup>9</sup>

There is no doubt that Airbnb and Vrbo are two of the most popular short-term online vacation rental platforms in the world, and their emergence has impacted the hotel industry’s performance. Graph 13 depicts hotels, and Airbnb and Vrbo nominal rental revenue in the Commonwealth for the period between 2018 and 2022. The data for Airbnb and Vrbo is provided by AirDNA, a private company not associated with Airbnb or Vrbo.<sup>10</sup> It is clear from the data that nominal rental revenue of Airbnb and Vrbo have steadily increased from 2018 to 2022, even during the economic downturn of 2020. These entities saw their revenue increase from \$357 million in 2018 to almost triple that amount in 2022 with \$905 million. The hotel industry’s revenue, on the other hand, was more volatile and experienced a sharp decline during the recession of 2020, going from \$4.05 billion in 2018, down to \$2.1 billion in 2020, and back up to \$4.27 billion in 2022.

Graph 14 shows the steady rise of Airbnb and Vrbo in Virginia. In August 2019, monthly Airbnb and Vrbo revenues were approximately \$69.9 million. By July 2020, peak monthly revenues had reached \$75.4 million. By 2021, the revenues had jumped again to \$102.1 million and in July 2022, Airbnb and Vrbo revenues set another record of \$110.3 million.

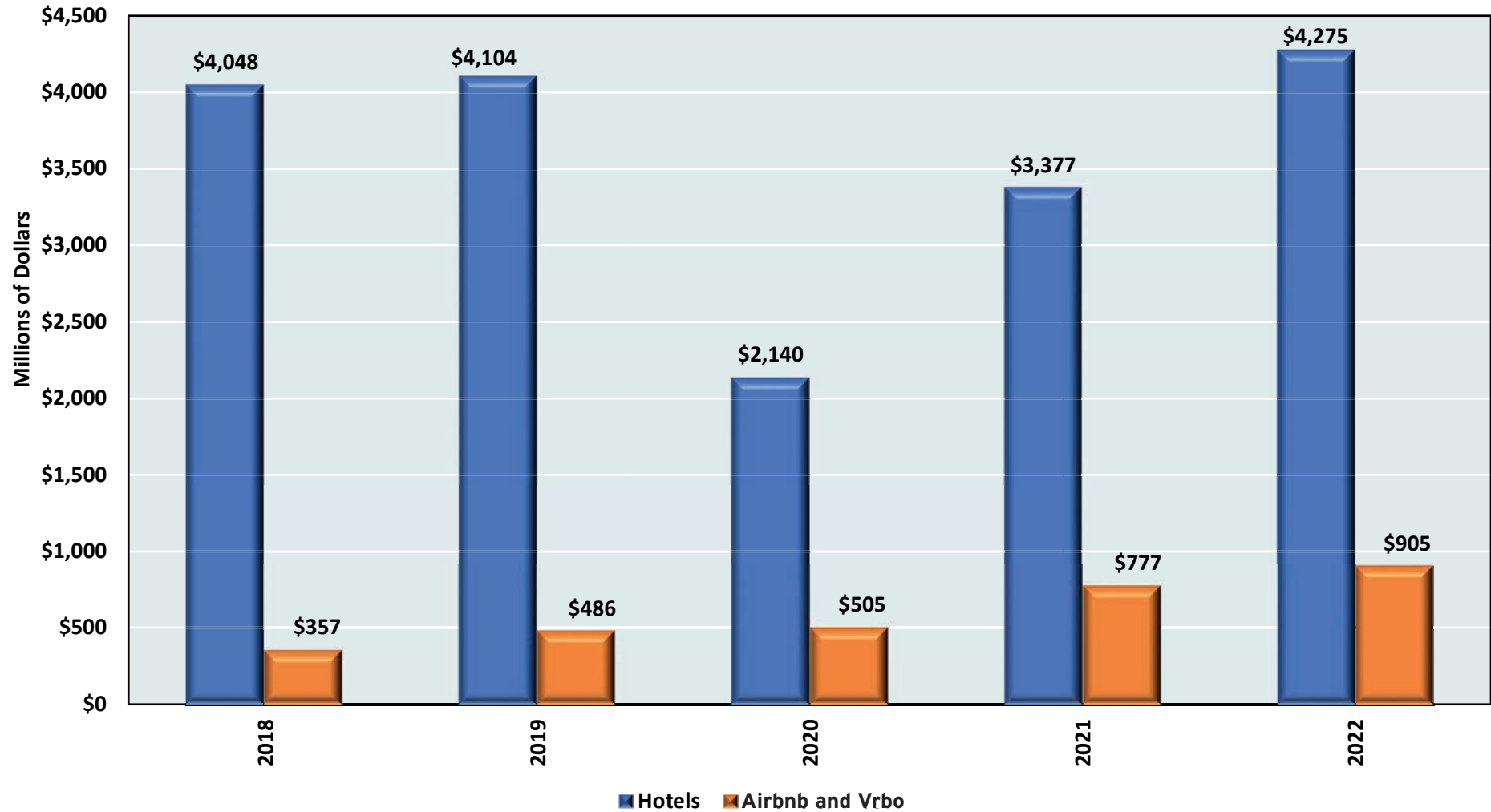
<sup>8</sup> Source: Airbnb Shareholders Letter Q4, 2022. [https://s26.q4cdn.com/656283129/files/doc\\_financials/2022/q4/Airbnb\\_Q4-2022-Shareholder-Letter\\_Final.pdf](https://s26.q4cdn.com/656283129/files/doc_financials/2022/q4/Airbnb_Q4-2022-Shareholder-Letter_Final.pdf)

<sup>9</sup> Source: Yahoo Finance, <https://finance.yahoo.com/quote/EXPE?p=EXPE>

<sup>10</sup> As Airbnb and Vrbo do not provide open access to their data, AirDNA tracks the performance of listings and predicts whether properties are booked or not. For more information, see [www.AirDNA.co/methodology](http://www.AirDNA.co/methodology).

GRAPH 13

HOTEL AND AIRBNB AND VRBO NOMINAL RENTAL REVENUE  
VIRGINIA, 2018-2022

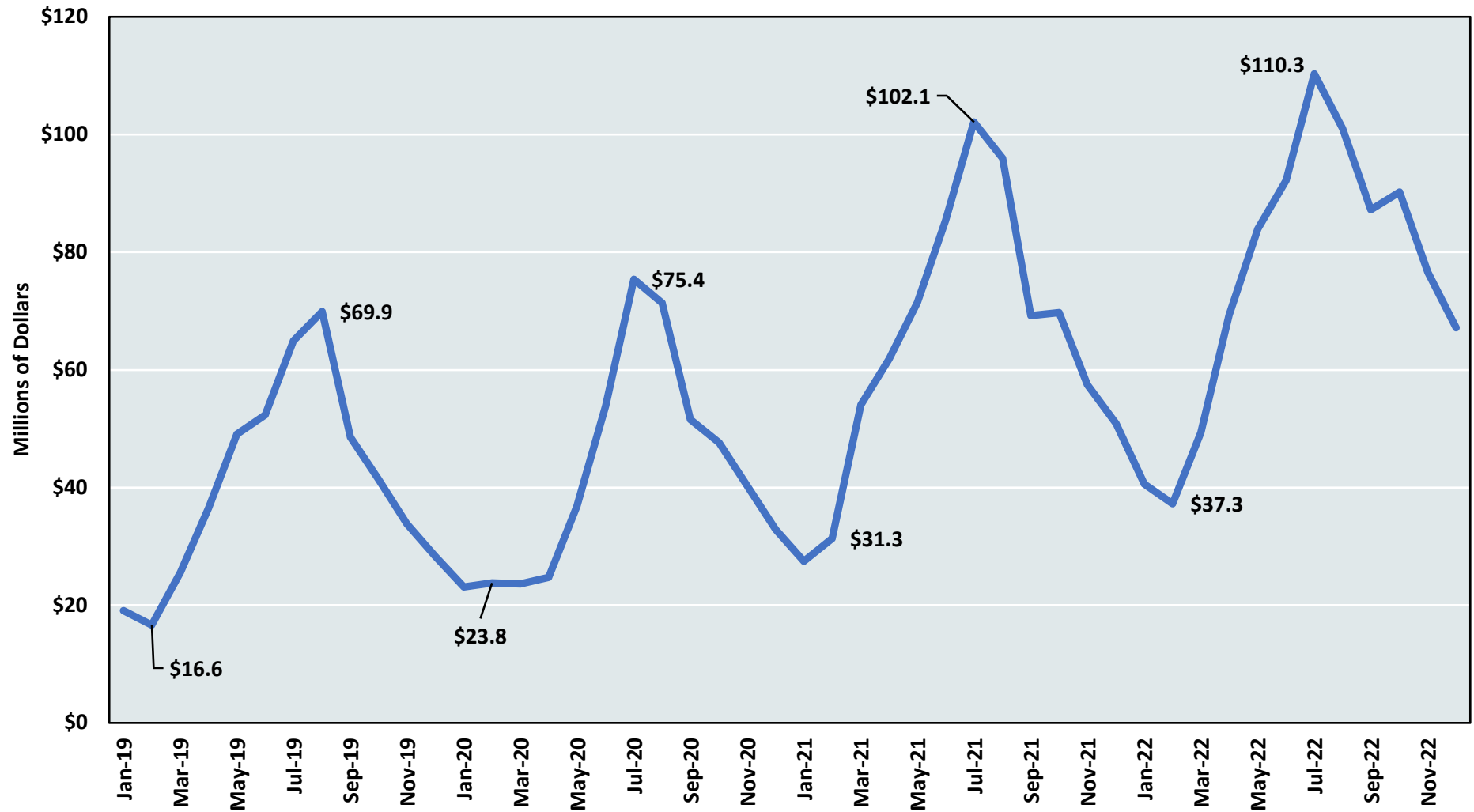


Sources: STR Trend Report January 2023, AirDNA data received in January 2023, and Dragas Center for Economic Analysis and Policy. AirDNA data exclude shared rooms.



**GRAPH 14**

**NOMINAL MONTHLY AIRBNB AND VRBO REVENUES  
COMMONWEALTH OF VIRGINIA, JANUARY 2019 - DECEMBER 2022**



Sources: AirDNA data received in January 2023 and Dragas Center for Economic Analysis and Policy. AirDNA data exclude shared rooms.

We can further visualize the growth of Airbnb and Vrbo in the Commonwealth when we look at the ratio of their revenues to the traditional hotel industry. As shown in Graph 15, in August 2019, Airbnb and Vrbo revenues were only equal to 17.5% of the traditional hotel industry's revenue. By May 2020, Airbnb and Vrbo revenues were equivalent to 35.4% of the hotel industry's revenue. The sudden increase in the ratio of Airbnb and Vrbo revenues to hotel revenues in 2020 was not driven by an expansion of Airbnb and Vrbo properties. The collapse of hotel occupancy and revenues in the spring of 2020 while Airbnb and Vrbo revenues remained relatively constant creates the false impression that Airbnb and Vrbo revenues markedly increased during the initial months of the pandemic. As the hotel industry in the Commonwealth has continued to recover, the ratio of Airbnb and Vrbo revenues to traditional hotel revenues has returned to normal, yet increasing, levels. In August 2021, Airbnb and Vrbo revenues represented 25.0% of the traditional hotel industry. By December 2022, Airbnb and Vrbo revenues slightly increased to 25.5% of the hotel industry's revenue.

As with the hotel industry data, there is substantial variation of Airbnb and Vrbo revenues at the regional market level. Graphs 16 and 17 depict the market shares of hotels and Airbnb and Vrbo revenues for Virginia metropolitan areas in 2019 and 2022, respectively. In 2019, the largest market share for Airbnb and Vrbo was Hampton Roads with 34.2%, followed by the Northern Virginia market with 18.1% and all other areas<sup>11</sup> with 16.6%. The lowest market share was in Roanoke with 1.7%. For the hotel industry, the highest market share was undoubtedly in the Northern Virginia market with 42.8%. The Hampton Roads area came in second with 22.3% while the smallest market share was in Lynchburg with 1.4%.

In 2022, the highest market share for Airbnb and Vrbo was in all other areas of Virginia (outside the eight major metro areas) with 25.7%, followed closely by the Hampton Roads market with 23.6%. The smallest market share was in Roanoke with 2.1%. For the hotel industry, the largest market share was in the Northern Virginia

market with 34.1%. The Hampton Roads market registered the second highest market share with 25.9%, while Lynchburg had the lowest market share with 1.7%.

A quick comparison between Airbnb and Vrbo revenues market share in 2019 and 2022 in Graph 18 shows a shift in the demand for short-term rentals towards more rural and smaller market areas. All other areas (Virginia market less major eight metropolitan areas) registered an increase in market share from 16.6% in 2019 to 25.7% in 2022. Lynchburg's market share also increased from 5.8% in 2019 to 6.4% in 2022. The Staunton/Harrisonburg market share also went up from 3.7% to 5.1% between 2019 and 2022. Hampton Roads' market share decreased from 34.2% in 2019 to 23.6% in 2022. However, Northern Virginia Airbnb and Vrbo market share remained almost unchanged with 18.1% in 2019 and 18.5% in 2022. The COVID-19 pandemic shifted the preferences of consumers from city-oriented destinations to more isolated and less crowded markets for short-term rentals.

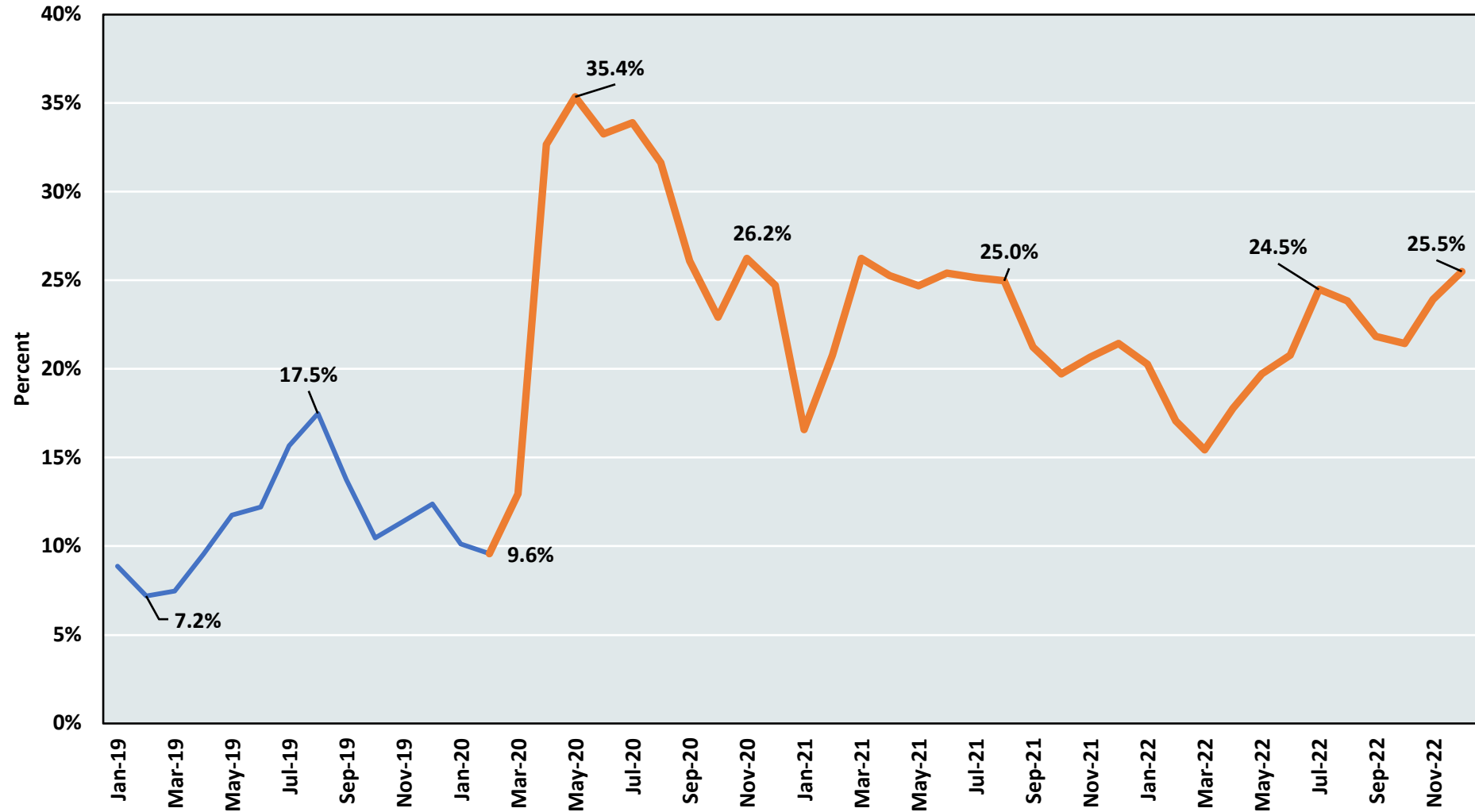
In Graph 19, we construct an Index for Airbnb and Vrbo revenues across the eight major metropolitan areas and the other areas in Virginia (outside the eight metro areas). The index has a base value of 100 corresponding to the official start of the economic downturn in February 2020<sup>12</sup>. Graph 19 shows that the index values for major metropolitan areas and the other areas in Virginia were much closer before the COVID-19 pandemic (January 2018 to February 2020). From February 2020 to December 2022, we see a wider gap, with the index value for other areas in Virginia being progressively much higher in value compared to the index for major metropolitan markets.

<sup>11</sup> All Other Areas represent the Commonwealth market minus the major eight metropolitan areas of Northern Virginia, Hampton Roads, Charlottesville, Richmond, Lynchburg, Blacksburg, Staunton and Harrisonburg, and Roanoke.

<sup>12</sup> The index measures the change in revenue from the base month of February 2020 revenue and it is calculated as: Index at time t = (Revenue at time t / Revenue in Feb 2020) x 100

**GRAPH 15**

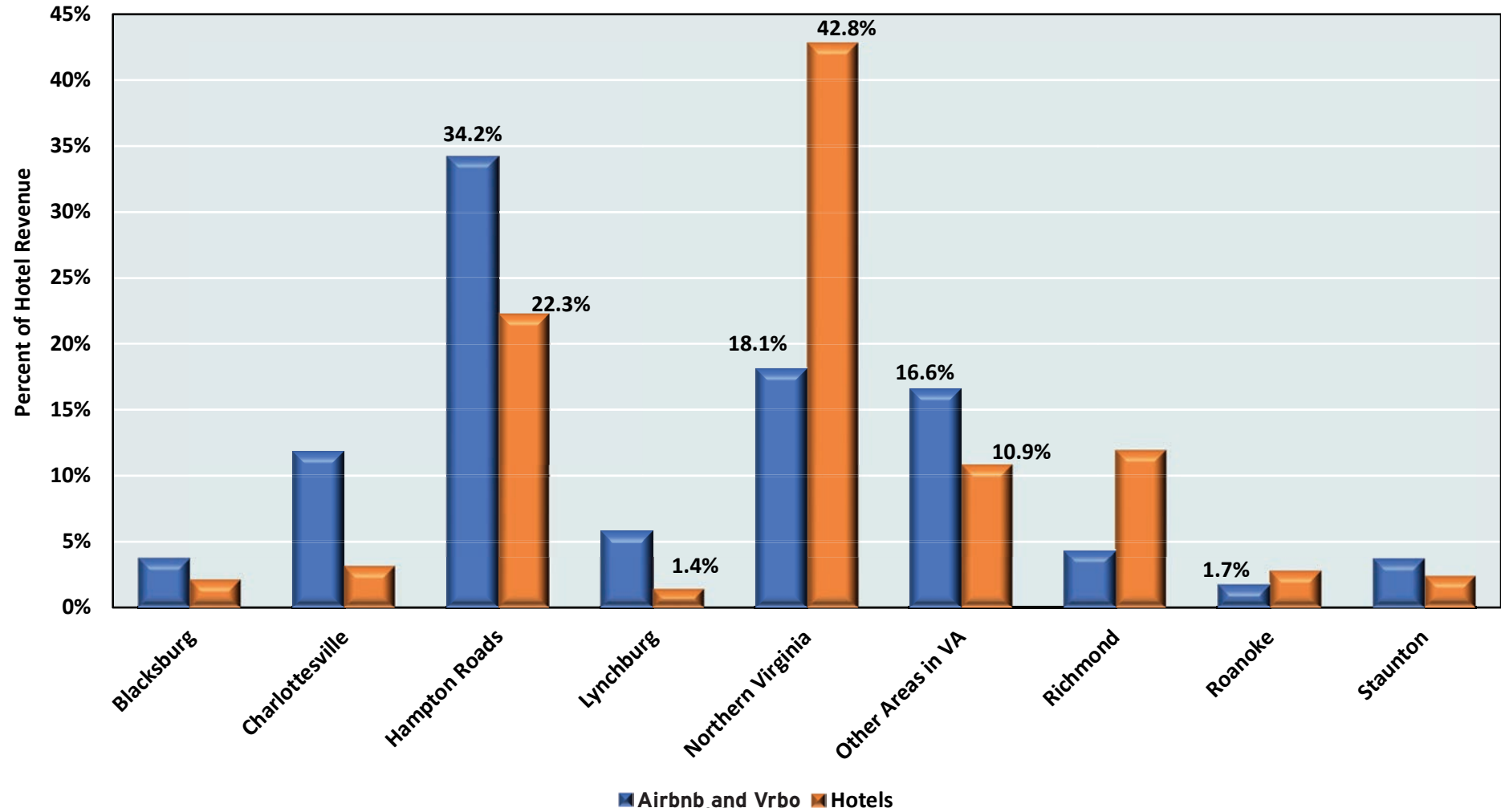
**AIRBNB AND VRBO REVENUE AS A PERCENT OF HOTEL REVENUE  
VIRGINIA, JANUARY 2019 - DECEMBER 2022**



Sources: STR Trend Report January 2023, AirDNA data received in January 2023, and Dragas Center for Economic Analysis and Policy. AirDNA data exclude shared rooms.

**GRAPH 16**

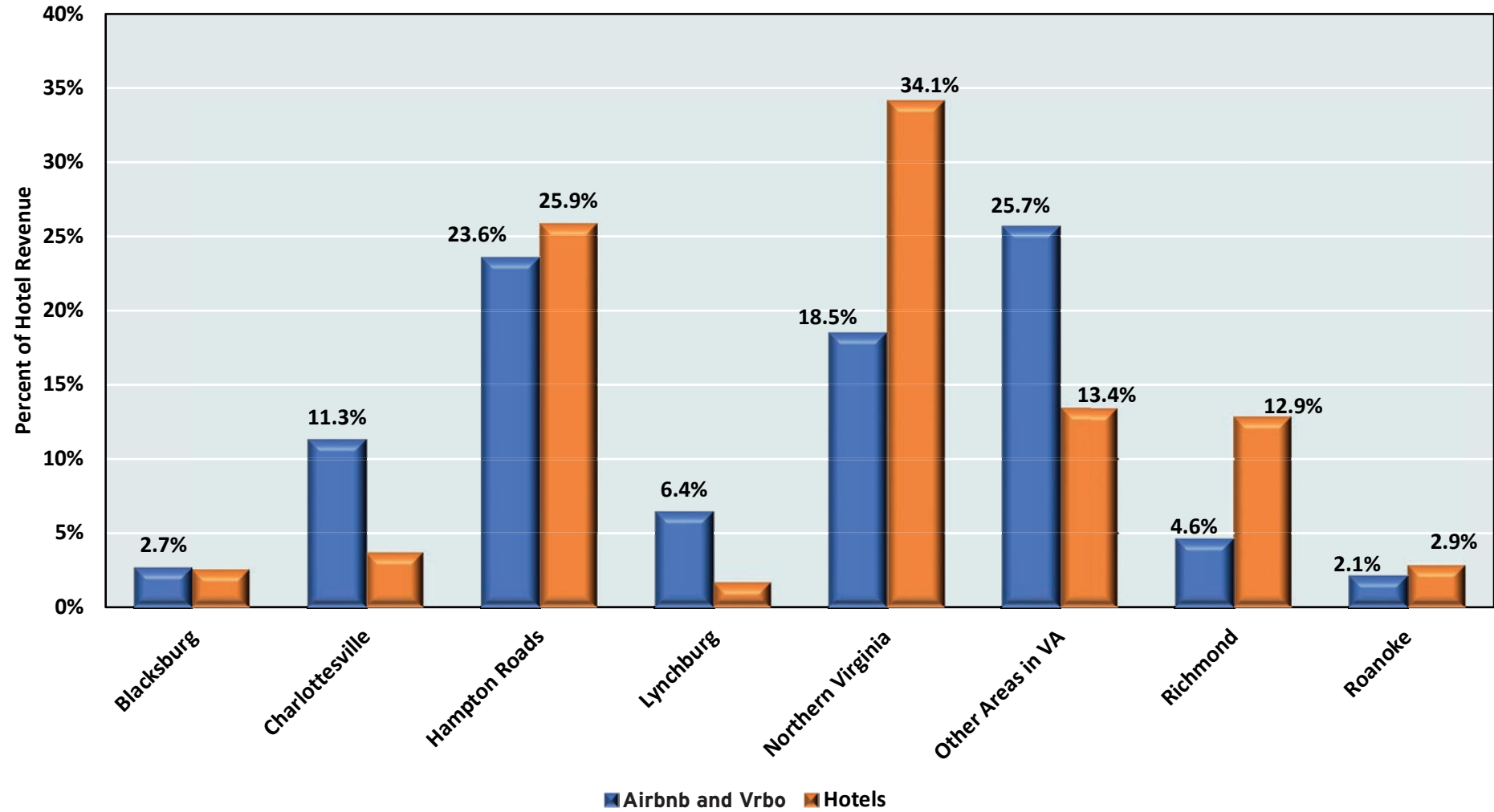
**ESTIMATED SHARES OF HOTEL AND AIRBNB AND VRBO REVENUES FOR METROPOLITAN AREAS VIRGINIA, 2019**



Sources: STR Trend Report January 2023, AirDNA data received in January 2023, and Dragas Center for Economic Analysis and Policy. AirDNA data exclude shared rooms. Staunton and Harrisonburg MSAs are combined here as STR considers these metros to represent one market.

**GRAPH 17**

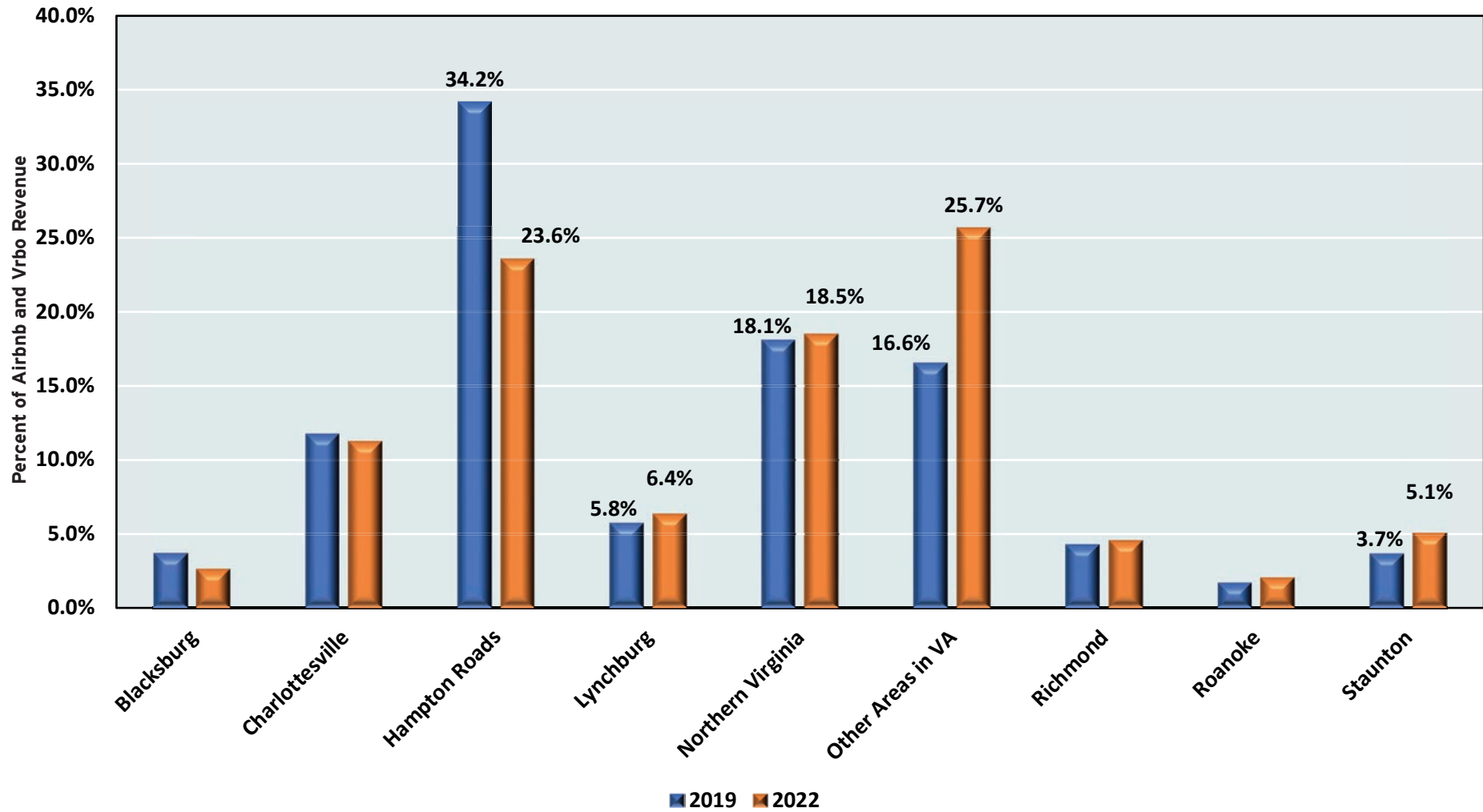
**ESTIMATED SHARES OF HOTEL AND AIRBNB AND VRBO REVENUES FOR METROPOLITAN AREAS VIRGINIA, 2022**



Sources: STR Trend Report January 2023, AirDNA data received in January 2023, and Dragas Center for Economic Analysis and Policy. AirDNA data exclude shared rooms.

**GRAPH 18**

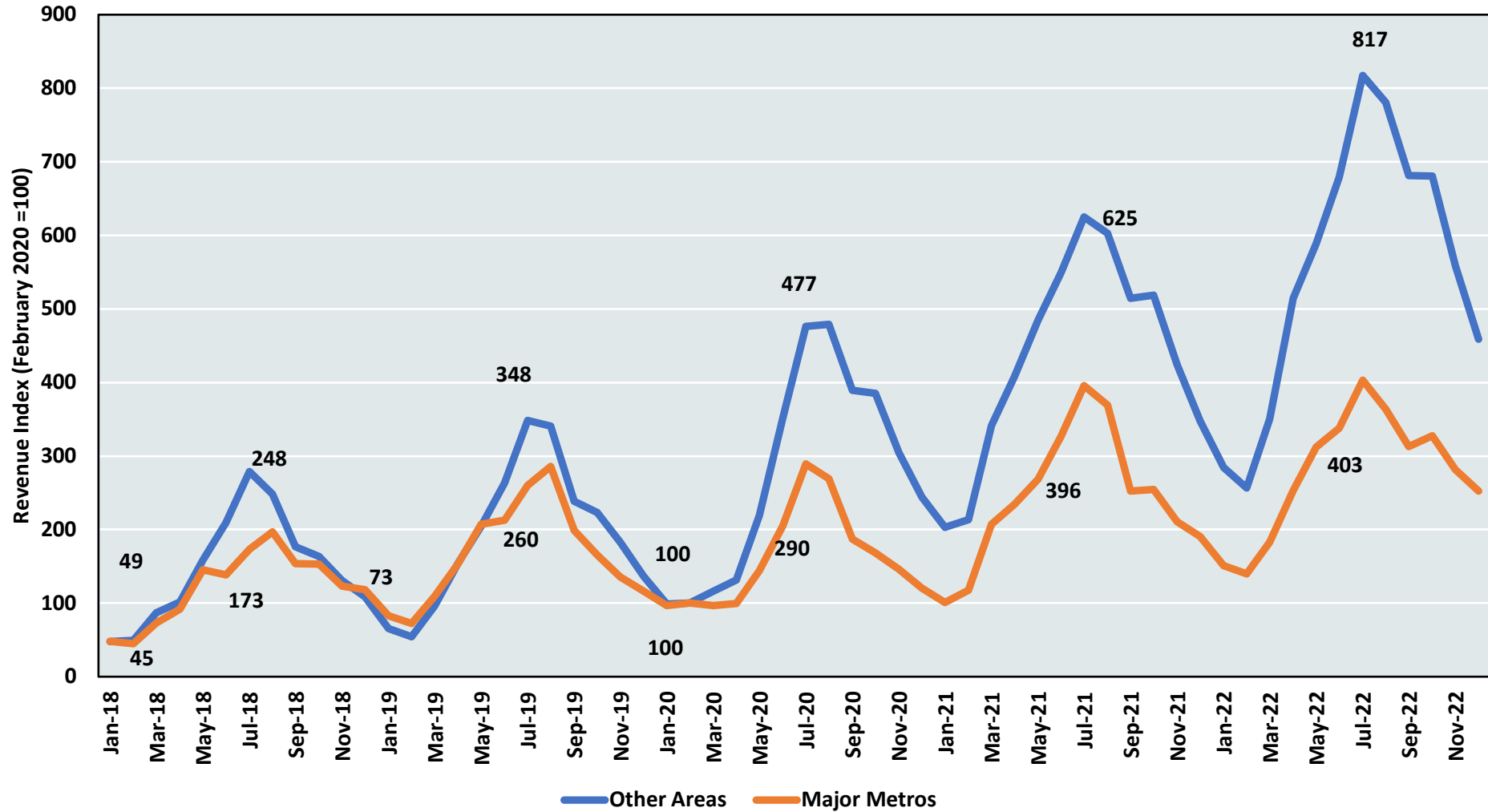
**ESTIMATED SHARES AIRBNB AND VRBO REVENUES FOR METROPOLITAN AREAS VIRGINIA, 2019 AND 2022**



Sources: STR Trend Report January 2023, AirDNA data received in January 2023, and Dragas Center for Economic Analysis and Policy. AirDNA data exclude shared rooms. Staunton and Harrisonburg MSAs are combined here as STR considers these metros as representing one market.



**GRAPH 19**  
**INDEX OF AIRBNB AND VRBO REVENUE**  
**MAJOR METROS AND OTHER AREAS IN VIRGINIA, JANUARY 2018 - DECEMBER 2022**



Sources: AirDNA data received in January 2023 and Dragas Center for Economic Analysis and Policy. AirDNA data exclude shared rooms. Major metropolitan areas represent Blacksburg, Charlottesville, Hampton Roads, Lynchburg, Northern Virginia, Richmond, Roanoke, and Staunton and Harrisonburg.

There is no doubt that Airbnb and Vrbo continue to take market share away from the hotel industry at a steady and growing rate. Annual Airbnb and Vrbo revenue as a percentage of the hotel industry revenue went from 11.84% in 2019 to 21.17% in 2022, and this percentage increases during the peak summer season to more than 25%. However, the relationship between the short-term rental companies and the hotel industry is a bit more complex and requires clarification.

Blal et al. (2018)<sup>13</sup> looked at the effect of Airbnb on hotel sales growth in the San Francisco market area, concluding that total Airbnb volume and inventory do not impact hotel RevPAR. The result signifies that Airbnb offers a complementary service rather than a substitute service to the hotel industry. In a much larger study across the 50 largest cities in the United States, Farronato and Fradkin (2022)<sup>14</sup> found that between 42% to 63% of Airbnb bookings would not have resulted in hotel reservations if Airbnb did not exist. Simply put, Airbnb offers consumers accommodations that differ from the traditional hotel industry offerings.

In the same study, Farronato and Fradkin (2022) also observed that it is not the supply size of Airbnb listings that negatively impacted the hotel industry revenue, but the fact that Airbnb supply is twice more elastic than the hotel industry supply. The negative effect of Airbnb listings on hotel revenues occurred in cities where hotels had a constrained capacity. Because Airbnb supply is more elastic and the entry barriers are minimum, hosts are able to enter the market whenever there is an increase in demand and offer accommodations at much more competitive prices which negatively impacts hotel revenues. The impact is more acute for luxury hotels. Blal et al. (2018) also found that the higher the listing price on Airbnb, the higher the RevPAR of hotels, and the higher the average satisfaction score of an Airbnb property, the lower the RevPAR for the hotels.

Airbnb and Vrbo are not simply a substitute or a complement for the hotel industry. The short-term rental companies' impact on the hotel industry depends on the timing of the listing and the customer-

perceived value-to-price ratio. Hotel managers need to understand that it is not just a question of pricing strategy, but, more importantly, a question of service valuation. When it comes to lodging accommodation, modern customers are comparing not just the prices between hotel rooms and listings of other short-term rental companies, they also evaluate marginal costs and benefits of the service they receive.

## Future growth for the hotel industry

Despite inflationary pressures, Federal Reserve interest rate hikes, labor supply shortages, fears of recessionary expectation, and competition from alternative short-term lodging services, 2022 was a good year for the hotel industry. Not only did Virginia hotel industry nominal revenue grow by 26.6% in 2022 over 2021, but it also surpassed the pre-pandemic revenue level of 2019. RevPAR, ADR, and room supply all increased in 2022 compared to 2019. However, a new normalcy is shaping the future of the hotel industry. The hotel industry room occupancy rate in 2022 is still below its 2019 level by 4%. The short-term rental companies such as Airbnb and Vrbo are continuing to steadily increase their market shares. The decision to combat inflation simply by increasing prices will not work in the long term. Hotel managers need to find innovative ways to stimulate the demand and thereby increase occupancy rate. They also need to pay more attention to what customers are looking for and provide the needed services to gain their bookings.

The future is promising, the labor shortage is easing, the inflation rate is going down, business travel is picking up steam and leisure travel remains strong. All of these point to continued growth in 2023 and beyond, given the absence of major political disruption and geopolitical war entanglement.

<sup>13</sup> Blal, I., Singal, M., & Templin, J. (2018). Airbnb's effect on hotel sales growth. *International Journal of Hospitality Management*, 73, 85-92. Airbnb's effect on hotel sales growth - ScienceDirect

<sup>14</sup> Farronato, C., & Fradkin, A. (2022). The welfare effects of peer entry: The case of Airbnb and the accommodation industry. *American Economic Review*, 112(6), 1782-1817. The Welfare Effects of Peer Entry: The Case of Airbnb and the Accommodation Industry - American Economic Association (aeaweb.org)



