


# VIRGINIA'S METROPOLITAN AREAS: MOVING FORWARD

*If something could be shown to be and not to be at the same time, it would be intermediate between what purely is and what in every way is not, and that neither knowledge nor ignorance would be set over it, but something intermediate between ignorance and knowledge ... and now the thing we call opinion has emerged.*

– Plato, “The Republic, Book 5”



**D**iscerning the performance of Virginia’s metropolitan area economies may remind one of an introductory philosophy class in college. Much like Plato’s prisoners in the cave attempting to use shadows and sounds to determine the true nature of objects behind them, we must take pieces of information and attempt to understand the true nature of the metro area economies. While dim at first, the picture becomes clearer over time.

This decade has indeed challenged observers of Virginia’s metropolitan areas. The lingering aftermath of the Great Recession was multiplied in several metros by federal budget sequestration and the subsequent caps on federal discretionary spending.<sup>1</sup> The evolving nature of the Commonwealth’s economy and shifts in population have concentrated output and population in the “urban crescent” of Hampton Roads, Northern Virginia and Richmond. If an independent observer in 2015 opined on the prospects of Virginia’s regions, such declarations would likely have bent more toward pessimism than optimism. As more recent data have become available, these opinions would have gradually evolved, becoming increasingly, dare we say, hopeful.

<sup>1</sup> For the purposes of this chapter, a metropolitan area conforms to the Office of Management and Budget’s 2018 delineations of metropolitan statistical areas. We do not include the Kingsport-Bristol-Bristol, TN-VA, MSA in our analysis due to a lack of economic data.

**Many of the economic performance indicators suggest that Virginia's metropolitan areas are enjoying their third (or more) consecutive year of economic growth. Recently released data show that Virginia's metropolitan areas grew in real (inflation-adjusted) terms in 2018, and individual employment has increased in each of the areas. The unemployment rate is below 3% across Virginia's metros. Average wages grew in 2017, 2018 and in the first quarter of 2019. Although population growth was uneven across the metros, each was more populated in 2018 than in 2010. Putting these pieces of data together suggests that Virginia's metros are generally in a better place than they were in 2015.**

Yet, the road ahead is neither straight nor lacking potential hazards. Northern Virginia and Hampton Roads are closely tied to the size and composition of federal government spending. Even though the federal government plans to spend more in 2020 than 2019 (especially on defense), the question remains: How long can these increases go on? Residents have continued to leave in pursuit of both better economic opportunities and quality of life in other states. While these losses are offset in some metro areas by international migration, whether the United States continues to be a welcoming home to international migrants remains an increasingly contentious question. The growing importance of services and the relative decline of agriculture and manufacturing in the Virginia economy call into question the economic base of some metro areas. These challenges await the new Virginia General Assembly and lawmakers at the local government level.

To explore how Virginia is faring at the metropolitan level, we examine a number of measures of economic performance: median household income, poverty, employment, wages and population. Each of these measures is available on a more frequent basis than gross domestic product (GDP) and they provide a more current picture of the economic activity in each metro area. We also present the most recent (but lagged) data for metropolitan area GDP. From these measures, we work to construct a clearer picture of the health of Virginia's metro area economies.

One difficulty in comparing metropolitan statistical areas (MSAs) is that different government agencies and departments use different definitions for these areas. From the Bureau of Labor Statistics (BLS), for example, some data are available for Northern Virginia, which is the Virginia portion of the Washington-Arlington-Alexandria, DC-VA-MD-WV, MSA. Other data from the BLS are only available for the entire Washington-Arlington-Alexandria MSA. The Bureau of Economic Analysis (BEA) provides economic data on the performance of MSAs. However, the BLS, BEA and the U.S. Census may use a different basis to define which counties and independent cities are in specific MSAs. Individual MSAs also see additions and subtractions of counties and cities over time. In 2018, for example, the Office of Management and Budget (OMB) added Camden County in North Carolina, and Virginia's Southampton County and city of Franklin to the Virginia Beach-Norfolk-Newport News MSA.<sup>2</sup> The reader should be aware of these geographical differences and exercise care when examining data from different sources, even if those sources are from the same department or agency.

## Uneven Growth In Household Incomes

Between the decennial censuses, the U.S. Census Bureau conducts surveys of the nation's population to learn more about where people are living and working, and what they are earning, as well as to get answers to a host of other questions. The American Community Survey (ACS) is one such product, surveying more than 3.5 million Americans each year.<sup>3</sup> The responses not only inform us of the changing nature of the U.S. population, but also are used to distribute hundreds of billions in federal and state

<sup>2</sup> <https://www.whitehouse.gov/wp-content/uploads/2018/09/Bulletin-18-04.pdf>.

<sup>3</sup> U.S. Census Bureau (2019), American Community Survey, <https://www.census.gov/programs-surveys/acs/about.html>.

dollars each year. Given the substantial lags in data relating to economic activity (a subject we touch on later in this chapter) at the metropolitan and county levels, we draw upon data from the ACS to see how Virginia's metros have fared so far this decade.

Table 1 presents real (inflation-adjusted) median household income for Virginia and its metropolitan areas. From 2010 to 2018, real median household income in the United States increased by 7.2%, reflecting improving economic conditions. Over the same period, Virginia's real median household income increased only by 3.6%, mirroring the anemic performance of the Commonwealth's economy in the first half of the decade. Four metro areas (Blacksburg, Charlottesville, Lynchburg and Winchester) saw gains in real median household income that exceeded the national average, and another four exceeded the state average (Richmond, Roanoke, Staunton and Washington, D.C.). Only one metro, Hampton Roads, saw almost no change in real median household income this decade.

Of interest is the 21% growth in median household income in the Winchester MSA. Graph 1 presents real median household income from 2010 to 2018 for this metro area. What should be readily apparent is that real household income in the Winchester metro area has been quite volatile. In fact, this area had the highest measure of variability for real median household income from 2010 to 2018 among Virginia's metros, suggesting that we should pay more attention to the overall trend rather than one specific year.<sup>4</sup>

**What lessons can be taken from the real median household income data? First, the data can be volatile, especially in less populated metropolitan areas where sample sizes may be small. Second, almost all of Virginia's metros had increases in real median household income this decade, but Virginia and several metro areas lagged the nation. This suggests that non-metro areas of Virginia performed poorly relative to the state's metro areas. The variation in household incomes also supports the argument that economic development in Virginia**

**should take regional variations into account. Improving primary and secondary education, expanding access to broadband and continuing to make wise investments in infrastructure are necessary to promote economic development across the Commonwealth.**

**TABLE 1**

**REAL MEDIAN HOUSEHOLD INCOME IN THE PAST 12 MONTHS: 2010, 2018 AND PERCENTAGE CHANGE FROM 2010 TO 2018, VIRGINIA'S METROPOLITAN STATISTICAL AREAS, VIRGINIA AND THE UNITED STATES**

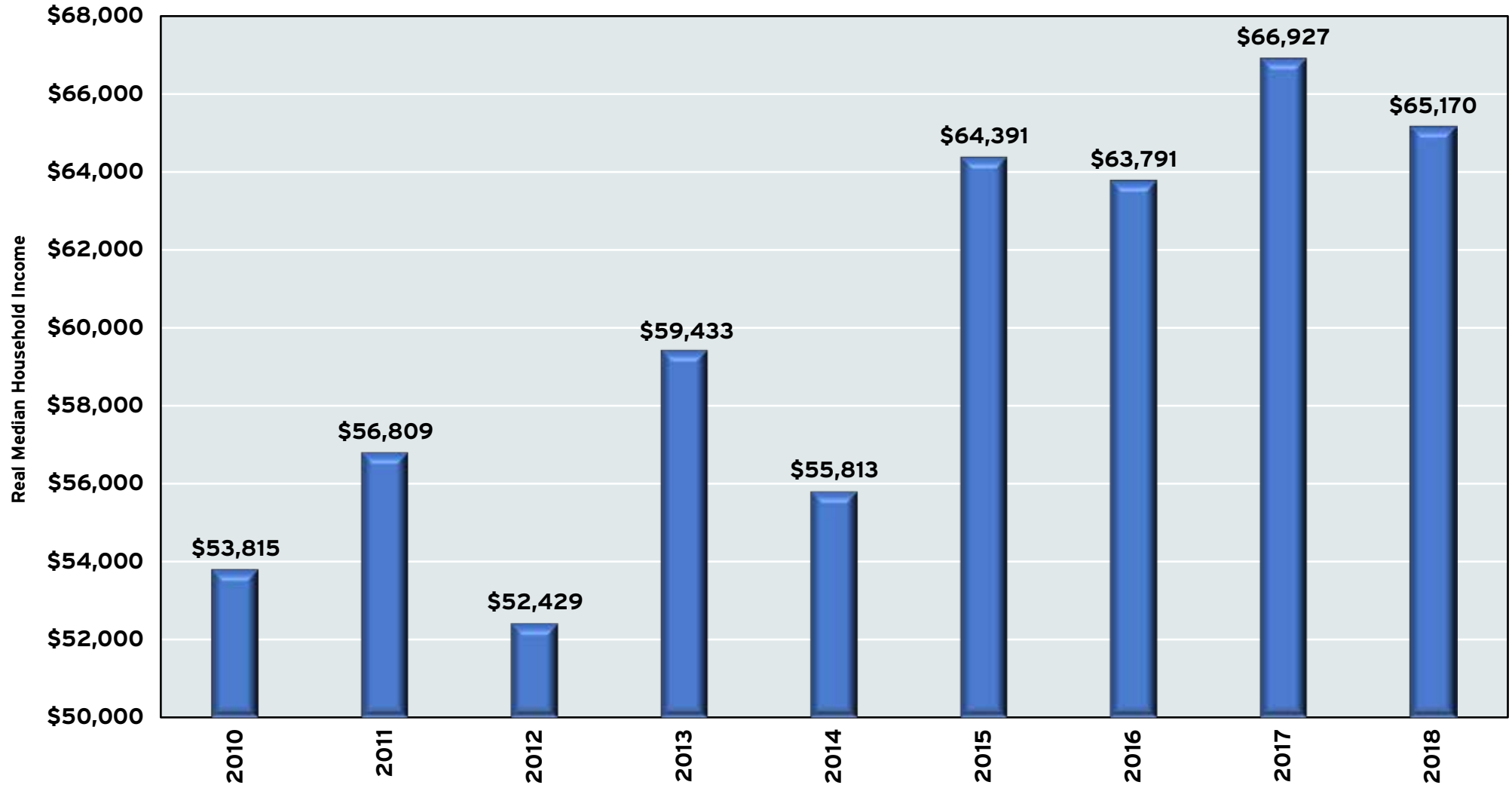
	2010	2018	PERCENT CHANGE
United States	\$57,762	\$61,937	7.2%
Virginia	\$70,029	\$72,577	3.6%
Blacksburg	\$46,314	\$50,313	8.6%
Charlottesville	\$65,567	\$71,052	8.4%
Harrisonburg	\$52,155	\$53,046	1.7%
Lynchburg	\$47,608	\$51,143	7.4%
Richmond	\$63,855	\$67,703	6.0%
Roanoke	\$52,595	\$55,151	4.9%
Staunton*	\$49,767	\$52,625	5.8%
Hampton Roads	\$66,152	\$65,604	-0.1%
Washington-Arlington-Alexandria	\$97,555	\$102,180	4.5%
Winchester	\$53,815	\$65,170	21.1%

Sources: U.S. Census Bureau, 2018 American Community Survey, Bureau of Labor Statistics and the Dragas Center for Economic Analysis and Policy, Old Dominion University. We estimate the real value of median household income in 2019 dollars using the BLS's research price index with a base date of January 2019. For more information about the research price index, see <https://www.bls.gov/cpi/research-series/home.htm>. Hampton Roads is the Virginia Beach-Norfolk-Newport News MSA and Washington-Arlington-Alexandria is the Washington-Arlington-Alexandria, DC-VA-MD-WV, MSA. \*Data for the Staunton-Waynesboro MSA are for 2013 instead of 2010, due to data availability.

<sup>4</sup> We estimate the standard deviation of real median income for each metropolitan area. The standard deviation for the Winchester-Waynesboro MSA was \$5,382, significantly higher than the next metro (Blacksburg = \$3,638) and the larger metro areas, all of which had standard deviations under \$2,500.

**GRAPH 1**

**REAL MEDIAN HOUSEHOLD INCOME IN THE PAST 12 MONTHS:  
WINCHESTER METROPOLITAN STATISTICAL AREA, 2010-2018**



Sources: U.S. Census Bureau, 2018 American Community Survey, Bureau of Labor Statistics and the Dragas Center for Economic Analysis and Policy, Old Dominion University. We estimate the real value of median household income in 2019 dollars using the BLS's research price index with a base date of January 2019.

# Poverty In Virginia's Metro Areas

A growing economy should lead to a reduction in the number of people living in poverty. That, in a nutshell, is the argument for policies to promote economic growth. The Census Bureau establishes dollar values for poverty, which vary by family size and composition. Via the Census and ACS surveys, the Census Bureau asks respondents about their income in the previous 12 months. If a family's total income is less than the dollar value of the appropriate threshold, then that family and every individual in it are classified as being in poverty.<sup>5</sup>

Table 2 presents estimates of the percentage of persons living in poverty in Virginia's metropolitan areas in 2010 and 2018, as well as the percentage of households receiving Supplemental Nutrition Assistance Program (SNAP) benefits (more commonly known as food stamps). In Virginia and the U.S., both the number of individuals in poverty and the percentage of households receiving food stamp benefits have fallen this decade.

Across Virginia's metropolitan areas, the picture is somewhat blurry. In some metros, the percentage of individuals in poverty increased from 2010 to 2018. In other areas, the changes in the poverty rate were relatively small and within the margin of error (Blacksburg, for example). In still other areas, the changes in the poverty rate were sufficiently large to conclude that an increase or decrease did occur.

**It should be no surprise that the poverty rate and the percentage of households receiving food stamp benefits are highly correlated. Surprisingly, though, with the exceptions of Lynchburg and Roanoke, the percentage of households receiving food stamps is largely unchanged across Virginia's metropolitan areas. Why? Real incomes have not grown dramatically over this economic expansion. More Virginians are working now than ever before, but their earnings have not risen significantly this decade.**

**TABLE 2  
POVERTY RATE AND HOUSEHOLDS RECEIVING FOOD STAMPS IN  
2010 AND 2018, VIRGINIA'S METROPOLITAN STATISTICAL AREAS,  
VIRGINIA AND THE UNITED STATES**

	<b>2010 POVERTY RATE</b>	<b>2018 POVERTY RATE</b>	<b>2010 SNAP RATE</b>	<b>2018 SNAP RATE</b>
<b>United States</b>	<b>15.3%</b>	<b>13.1%</b>	<b>11.9%</b>	<b>11.3%</b>
<b>Virginia</b>	<b>11.1%</b>	<b>10.7%</b>	<b>8.6%</b>	<b>7.9%</b>
<b>Blacksburg</b>	<b>22.2%</b>	<b>22.5%</b>	<b>8.0%</b>	<b>8.4%</b>
<b>Charlottesville</b>	<b>12.3%</b>	<b>13.9%</b>	<b>6.8%</b>	<b>6.4%</b>
<b>Harrisonburg</b>	<b>19.9%</b>	<b>16.4%</b>	<b>7.4%</b>	<b>7.4%</b>
<b>Lynchburg</b>	<b>16.2%</b>	<b>14.6%</b>	<b>13.7%</b>	<b>10.3%</b>
<b>Richmond</b>	<b>11.6%</b>	<b>11.3%</b>	<b>9.8%</b>	<b>9.2%</b>
<b>Roanoke</b>	<b>13.7%</b>	<b>13.4%</b>	<b>10.8%</b>	<b>9.2%</b>
<b>Staunton*</b>	<b>11.3%</b>	<b>12.0%</b>	<b>8.9%</b>	<b>10.2%</b>
<b>Hampton Roads</b>	<b>10.6%</b>	<b>11.2%</b>	<b>8.6%</b>	<b>8.7%</b>
<b>Washington- Arlington- Alexandria</b>	<b>8.4%</b>	<b>7.6%</b>	<b>5.9%</b>	<b>6.5%</b>
<b>Winchester</b>	<b>12.5%</b>	<b>12.6%</b>	<b>7.8%</b>	<b>7.9%</b>

Sources: U.S. Census Bureau, 2018 American Community Survey, and the Dragas Center for Economic Analysis and Policy, Old Dominion University. Hampton Roads is the Virginia Beach-Norfolk-Newport News MSA and Washington-Arlington-Alexandria is the Washington-Arlington-Alexandria, DC-VA-MD-WV, MSA. \*Data for the Staunton-Waynesboro MSA are for 2013 instead of 2010, due to data availability.

<sup>5</sup> We estimate the number of persons in poverty using the 2018 1-year ACS data. For consistency, we use national estimates from ACS data instead of the Census Bureau's Current Population Survey Annual Social and Economic Supplement. For more information, see <https://www.census.gov/newsroom/press-releases/2019/acs-1year.html>.

## Labor Markets Show Signs Of Growth In 2019

Are more people working in Virginia's metropolitan areas? There are two broad measures we can examine to answer this question: individual employment and nonfarm payrolls (jobs). Employment data capture responses by individuals to the questions of whether they are employed, looking for work or have abandoned attempts at finding employment. Nonfarm payroll data measure the number of jobs there are in an economy. A person who has two jobs would appear once in the employment data but twice in the jobs data.<sup>6</sup> One of the advantages of labor market data is that this information is more current than many other measures of economic activity.

Let's look first at the individual employment data. The Bureau of Labor Statistics (BLS) asks people about their employment status. If an individual is employed or looking for work, the BLS reports that he or she is in the labor force.<sup>7</sup> If a metropolitan area economy is growing, this should be reflected in the labor force data.

For most of the current decade, there has not been consistent growth in the civilian labor force across Virginia's metropolitan areas. In 2018, the civilian labor force expanded in some metro areas (Charlottesville, Richmond, Staunton, Hampton Roads, Northern Virginia and Winchester) and contracted in others. The story appears to have changed, however, in 2019. Data through October 2019 suggest that there were more people working or looking for work in Virginia's metros than for the same period in 2018.

Graph 2 displays the annual growth in individual employment for Virginia's metropolitan areas for 2017 and 2018. Individual employment points to an uptick in economic activity. More people reported that they were employed in 2017 than 2016, and likewise in 2018 than 2017. The growth in employment, however, has tapered in 2019.

**One factor that may have contributed to the slower pace of individual employment growth is the relative absence of slack in metropolitan area labor markets. Because individual employment has grown faster than the civilian labor force, unemployment rates have declined across Virginia's metros over the past year. Graph 3 illustrates that by October 2019, unemployment rates had fallen below 3% across the metros and several were approaching 2% unemployment. For Virginians in the labor force, the prospects of finding a job or moving to a new job are quite favorable. The challenge for Virginia businesses is to find skilled labor in an environment where almost everyone in the labor force is gainfully employed.**

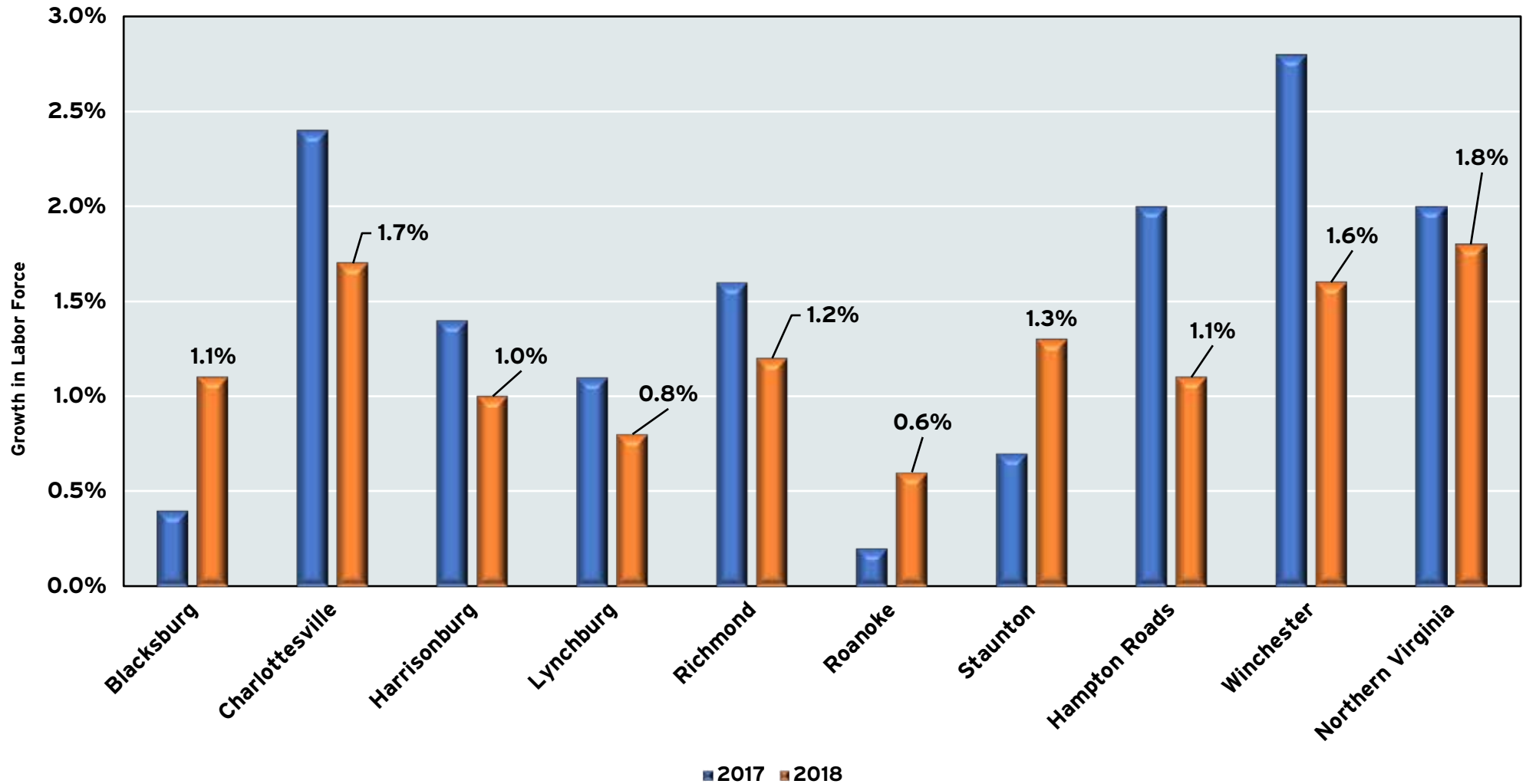


<sup>6</sup> The Current Population Survey (CPS) covers households and asks whether an individual was employed or actively seeking employment. The Current Establishment Survey (CES) covers businesses and reports the number of jobs. An individual who is employed with two jobs would be counted once in the CPS and twice in the CES.

<sup>7</sup> The civilian labor force consists of employed persons and unemployed persons. The Bureau of Labor Statistics defines employed individuals as "persons who did any work for pay or profit during the survey reference week; persons who did at least 15 hours of unpaid work in a family-operated enterprise; and persons who were temporarily absent from their regular jobs because of illness, vacation, bad weather, industrial dispute, or various personal reasons." The BLS classifies individuals as unemployed "if they do not have a job, have actively looked for work in the prior 4 weeks, and are currently available for work. Persons who were not working and were waiting to be recalled to a job from which they had been temporarily laid off are also included as unemployed." For more information, see <https://www.bls.gov/cps/lfcharacteristics.htm>.

**GRAPH 2**

**ANNUAL CHANGE IN INDIVIDUAL EMPLOYMENT:  
VIRGINIA'S METROPOLITAN STATISTICAL AREAS, 2017 AND 2018**

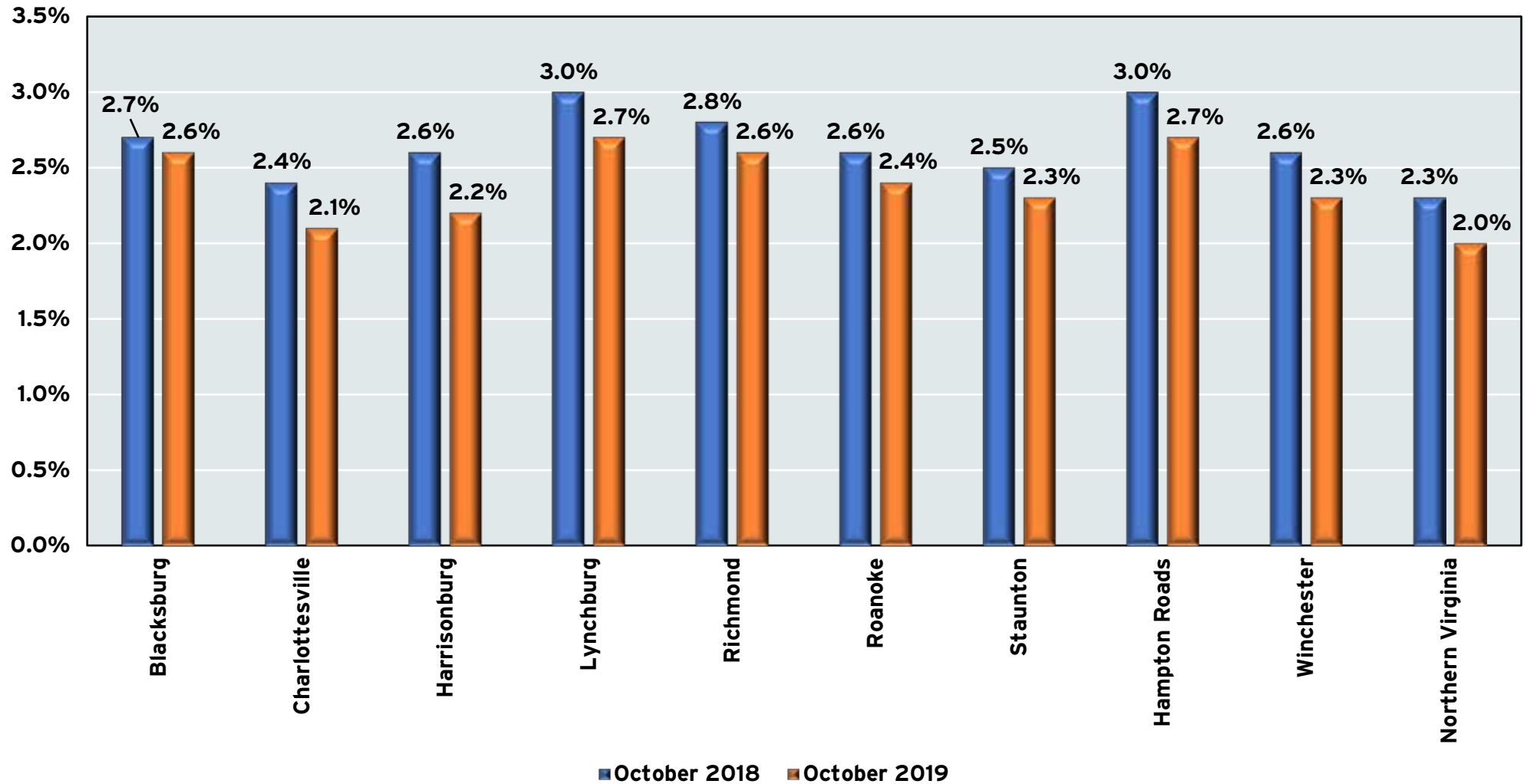


Source: Bureau of Labor Statistics, Local Area Unemployment Statistics, non-seasonally adjusted data. Hampton Roads refers to the Virginia Beach-Norfolk-Newport News MSA. Northern Virginia refers to the Virginia portion of the Washington-Arlington-Alexandria, DC-VA-MD-WV, MSA.



**GRAPH 3**

**UNEMPLOYMENT RATE:  
VIRGINIA'S METROPOLITAN STATISTICAL AREAS, OCTOBER 2018 AND OCTOBER 2019**



Source: Bureau of Labor Statistics, Local Area Unemployment Statistics, non-seasonally adjusted data, October 2019. Hampton Roads refers to the Virginia Beach-Norfolk-Newport News MSA. Northern Virginia refers to the Virginia portion of the Washington-Arlington-Alexandria, DC-VA-MD-WV, MSA.

The slowdown in the growth of individual employment in 2019 echoes the challenge of the national and state economies: finding a sufficient number of workers to sustain economic growth. Labor force participation rates have not recovered from the Great Recession across the Commonwealth. As the number of unemployed individuals in the labor force has declined (which is good news), the growth in individual employment has faltered because disaffected workers have not rejoined the labor force in large numbers (which is bad news). The aging of the workforce, a spatial mismatch between available workers and opportunities, the impact of the opioid crisis and the impact of an expanded social safety net on reservation wages<sup>8</sup> may inhibit labor force participation. The challenge moving forward is how to re-engage these disaffected workers, once again, so that they become productive members of society.

## Are There More Jobs In Virginia's Metropolitan Areas?

The most accurate estimates of job growth come from the BLS Quarterly Census of Employment and Wages (QCEW). The QCEW captures about 98% of all wage and salary jobs in the United States, where jobs are defined as full- or part-time positions that are covered by state and federal unemployment insurance law.<sup>9</sup> A drawback of the QCEW is that the data arrive with a significant lag, usually five to six months after the end of the quarter.

Table 3 presents job growth for Virginia's metropolitan areas in 2017 and 2018. Also shown is the job growth rate for the first quarter of 2019 compared to the same period in 2018. While the jobs data lack a coherent story in 2017, each of Virginia's metros exhibited job growth in 2018. The

<sup>8</sup> The reservation wage is the lowest wage rate at which an individual is willing to accept employment. Lizhong Peng, Xiaohao Guo and Chad Meyerhoefer (2018) found that Medicaid expansion has led to a "statistically significant decrease in employment of 1.3 percent one year after Medicaid expansion. This disemployment effect is transitory and appears to primarily occur in low-wage sectors. In particular, employment returns to pre-expansion levels within two years." In other words, immediately after Medicaid expansion, reservation wages appeared to temporarily increase. For more information, see <https://www.nber.org/papers/w25105>.

<sup>9</sup> For more information, see <https://www.bls.gov/cEW/>.

	<b>2017</b>	<b>2018</b>	<b>FIRST QUARTER 2019</b>
<b>Blacksburg</b>	<b>0.1%</b>	<b>1.4%</b>	<b>1.2%</b>
<b>Charlottesville</b>	<b>2.2%</b>	<b>1.4%</b>	<b>1.2%</b>
<b>Harrisonburg</b>	<b>1.2%</b>	<b>0.6%</b>	<b>1.6%</b>
<b>Lynchburg</b>	<b>0.7%</b>	<b>0.8%</b>	<b>1.1%</b>
<b>Richmond</b>	<b>1.3%</b>	<b>0.8%</b>	<b>1.2%</b>
<b>Roanoke</b>	<b>-0.5%</b>	<b>0.5%</b>	<b>0.3%</b>
<b>Staunton</b>	<b>-0.5%</b>	<b>1.4%</b>	<b>2.0%</b>
<b>Hampton Roads</b>	<b>1.1%</b>	<b>1.3%</b>	<b>0.4%</b>
<b>Winchester</b>	<b>2.0%</b>	<b>1.9%</b>	<b>1.9%</b>
<b>Washington-Arlington-Alexandria</b>	<b>1.2%</b>	<b>1.0%</b>	<b>0.9%</b>

Source: Bureau of Labor Statistics, Quarterly Census of Employment and Wages, 2019. Data reflect year-over-year percentage change, except for 2019 Q1, which represents the percentage change from 2018 Q1. Hampton Roads refers to the Virginia Beach-Norfolk-Newport News MSA. Northern Virginia refers to the Virginia portion of the Washington-Arlington-Alexandria, DC-VA-MD-WV, MSA.

first-quarter data for 2019 suggest that the job growth has continued, although at a slower pace for some metro areas.

While the QCEW presents the most accurate jobs data, it is, as previously noted, subject to considerable lag. We can examine the BLS's Current Establishment Survey (CES), which uses a sample of employers to estimate job gains and losses in the United States. While the CES is more current than the QCEW, it may be less accurate and subject to significant revisions, as it relies on a sample of employers in contrast to the QCEW, which captures almost all employers in the country. The BLS, for example, recently announced that the preliminary national estimate of nonfarm payrolls for March 2019 would be revised downward by 501,000 jobs

(-0.3%) in 2020.<sup>10</sup> Sometimes these revisions go back several years and can lead to different conclusions regarding the health of job markets.

The CES data suggest that job growth has slowed in some metropolitan areas in 2019 to the same period last year (Blacksburg, Richmond, Hampton Roads and Northern Virginia). In other metros, job growth has accelerated in 2019 (Charlottesville, Harrisonburg, Lynchburg, Roanoke, Staunton and Winchester).

With over 80% of all metropolitan area jobs and approximately 70% of all jobs in the Commonwealth, Northern Virginia, Hampton Roads and Richmond typically drive job growth in Virginia. If job growth slows in these areas, it will typically slow for the Commonwealth. What explanations are there for the apparent slowdown in hiring?

There are two possible explanations for slowing job growth in the larger metropolitan areas. First, economic activity may be slowing. However, individual employment is growing, job growth was positive in the first quarter of 2019 and increases in federal spending should have boosted economic activity, especially in Northern Virginia and Hampton Roads. Second, as we suggested earlier, job growth may be slowing because employers are unable to find qualified employees to fill vacant positions. Reports from employers indicate that this may indeed be the case. National-level data indicate that voluntary job quits were at a postrecession high in July 2019. The number of open positions in the U.S. reached a postrecession high in January 2019 and remained near historic levels through the summer of 2019.

**The national-level data also reveal more nonfarm job openings than unemployed individuals. In other words, there were more open positions than people looking for work. In October 2019, there were more than 1.2 job openings per unemployed individual in the United States. Virginia's unemployment rate also was 2.7% in October 2019. At the metro level in Virginia, unemployment rates are below 3% and approaching 2% in some areas.**

## Metropolitan Area Wages

With labor markets having tightened across the Commonwealth, one might expect that wage growth has followed suit. Nationally, real wages have increased this decade, but at a significantly slower pace when compared to earlier economic expansions. The tepid growth in wages for many Americans has led to calls for raising the federal minimum wage to \$15 an hour, expanding the social safety net and increasing taxes on high-income and high-wealth taxpayers. We ask whether there is evidence of wage growth in Virginia's metropolitan areas.

We turn again to the QCEW to obtain the most accurate estimates of wage growth. Table 4 presents growth in total nominal wages from 2016 through the first quarter of 2019. Several observations emerge from the data. First, nominal (not adjusted for inflation) wages have increased over time in each of the Commonwealth's metropolitan areas. Second, wage growth appears to be sustained over time in some areas. Average wages increased by more than 3% in Charlottesville, Harrisonburg, Lynchburg and Winchester in 2017, 2018 and the first quarter of 2019. Even though average wages only increased by 0.5% in Blacksburg in the first quarter of 2019, this is on the heels of a 6.2% increase in 2018.

**Overall, the labor market data suggest that economic activity improved in Virginia's metropolitan areas in 2018 and into 2019. More Virginians were working or looking for work in the fall of 2019 than in the fall of 2018. Unemployment rates across Virginia's metros continued to decline in 2019 and were approaching 2% in several metros in October 2019. Total and average wages have shown signs of growth, as one might expect with increasingly tight labor markets. The challenge now is finding enough skilled workers to sustain economic growth into 2020.**

<sup>10</sup> For more information, see Bureau of Labor Statistics, "CES Preliminary Benchmark Announcement," Aug. 21, 2019, <https://www.bls.gov/web/empsit/cesprelbnk.htm>.

**TABLE 4**

**GROWTH IN TOTAL NOMINAL WAGES IN VIRGINIA'S METROPOLITAN AREAS, 2016, 2017, 2018 AND 2019 Q1**

	2016	2017	2018	2019 Q1
Blacksburg	1.2%	2.9%	6.2%	0.5%
Charlottesville	2.0%	6.0%	4.3%	3.3%
Harrisonburg	3.3%	3.1%	4.5%	3.9%
Lynchburg	1.9%	3.8%	3.2%	3.7%
Richmond	2.5%	4.7%	2.7%	1.7%
Roanoke	2.4%	0.9%	3.1%	3.9%
Staunton	3.5%	3.1%	4.7%	3.4%
Hampton Roads	1.2%	3.8%	3.5%	2.2%
Winchester	4.0%	5.1%	4.1%	5.1%
Northern Virginia	2.9%	4.2%	4.3%	1.9%

Source: Bureau of Labor Statistics, Quarterly Census of Employment and Wages, 2019. Data reflect year-over-year percentage change, except for 2019 Q1, which represents the percentage change from 2018 Q1. Hampton Roads refers to the Virginia Beach-Norfolk-Newport News MSA. Northern Virginia refers to the Virginia portion of the Washington-Arlington-Alexandria, DC-VA-MD-WV, MSA.

## Changes In Population

Even though Virginia’s economic performance lagged that of the nation for much of the decade, the percentage increase in Virginia’s total population was greater than that of the nation. As illustrated in Table 5, from 2010 to 2018, Virginia’s total population increased by 6.2%, 0.4 percentage points more than the United States. As with much of the data in this chapter, the picture is less clear at the metropolitan area level.

Population increased more in a number of metros than in the Commonwealth as a whole or the nation. Among the smaller metros, Charlottesville, Harrisonburg and Winchester grew appreciably faster than the state. For the larger metropolitan areas, Richmond and Northern Virginia grew faster than the state and nation. Roanoke and Hampton Roads were among the slowest-growing metros in the state from 2010 to 2018.

**TABLE 5**

**TOTAL POPULATION AND PERCENTAGE CHANGE IN TOTAL POPULATION, VIRGINIA'S METROPOLITAN STATISTICAL AREAS, VIRGINIA AND THE UNITED STATES**

	2010	2018	PERCENT CHANGE
United States	309,326,085	327,167,434	5.8%
Virginia	8,023,680	8,517,685	6.2%
Blacksburg	178,501	184,029	3.1%
Charlottesville	218,978	235,232	7.4%
Harrisonburg	125,398	135,277	7.9%
Lynchburg	252,981	263,353	4.1%
Richmond	1,209,896	1,306,172	8.0%
Roanoke	308,593	314,172	1.8%
Staunton	118,311	123,007	4.0%
Hampton Roads	1,671,174	1,715,687	2.6%
Northern Virginia	2,707,291	3,032,950	12.0%
Winchester	128,675	139,810	8.7%

Source: U.S. Census Bureau, 2018 Population Estimates. Hampton Roads consists of the Virginia portion of the Virginia Beach-Norfolk-Newport News MSA and Northern Virginia consists of the Virginia portion of the Washington-Arlington-Alexandria, DC-VA-MD-WV, MSA. We use the 2018 Census geographical delineation files to assign counties and independent cities to the Virginia portion of Hampton Roads and Northern Virginia.

Table 6 displays the components of population change for Virginia’s metropolitan areas from 2010 to 2018. The U.S. Census Bureau breaks population change into two broad components: the natural increase in the population and net migration. The natural increase in the population is equal to births minus deaths. Net migration consists of domestic migration and international migration. For example, if more people move into a metro area from other countries than depart the metro area for other countries, then net international migration is positive (and vice versa). Turning first to the Commonwealth, the natural increase in the population from 2010 to 2018 was positive, indicating that more Virginians were born than died during this period. Even though net domestic migration was negative, it was more than compensated by net positive international migration.

TABLE 6

**COMPONENTS OF POPULATION CHANGE, 2010-2018:  
VIRGINIA'S METROPOLITAN STATISTICAL AREAS AND VIRGINIA**

	NATURAL INCREASE	NET DOMESTIC MIGRATION	NET INTERNATIONAL MIGRATION	POPULATION CHANGE
United States	10,714,959	--	7,694,370	18,409,329
Virginia	314,663	-62,763	263,741	515,641
Blacksburg	1,073	-655	5,387	5,775
Charlottesville	5,332	4,629	6,655	16,531
Harrisonburg	3,846	1,900	4,341	10,056
Lynchburg	1,869	5,237	3,671	10,694
Richmond	37,299	33,664	27,235	98,083
Roanoke	-677	649	5,730	5,702
Staunton	-134	3,760	918	4,511
Hampton Roads	71,855	-61,005	36,759	47,444
Northern Virginia	217,172	-43,627	167,095	342,540
Winchester	3,183	6,282	1,889	11,957

Source: U.S. Census Bureau, 2018 Population Estimates. Hampton Roads consists of the Virginia portion of the Virginia Beach-Norfolk-Newport News MSA and Northern Virginia consists of the Virginia portion of the Washington-Arlington-Alexandria, DC-VA-MD-WV, MSA. We use the 2018 Census geographical delineation files to assign counties and independent cities to the Virginia portion of Hampton Roads and Northern Virginia. The total change in the population includes a residual estimated by the Census Bureau. Data current as of Nov. 27, 2019, and subject to revision.

**Graph 4 reveals that the annual level of net international migration was positive for Virginia from 2010 to 2018. Net international migration peaked in 2015 but has declined in each succeeding year. It appears that the Commonwealth has been an attractive destination for individuals moving from other countries. As illustrated in Table 6, international migration has offset domestic outmigration in Northern Virginia and partly offset domestic outmigration in Hampton Roads.**

**More troubling is that net domestic migration for Virginia was negative from 2010 to 2018. Examining the annual data in Graph 5,**

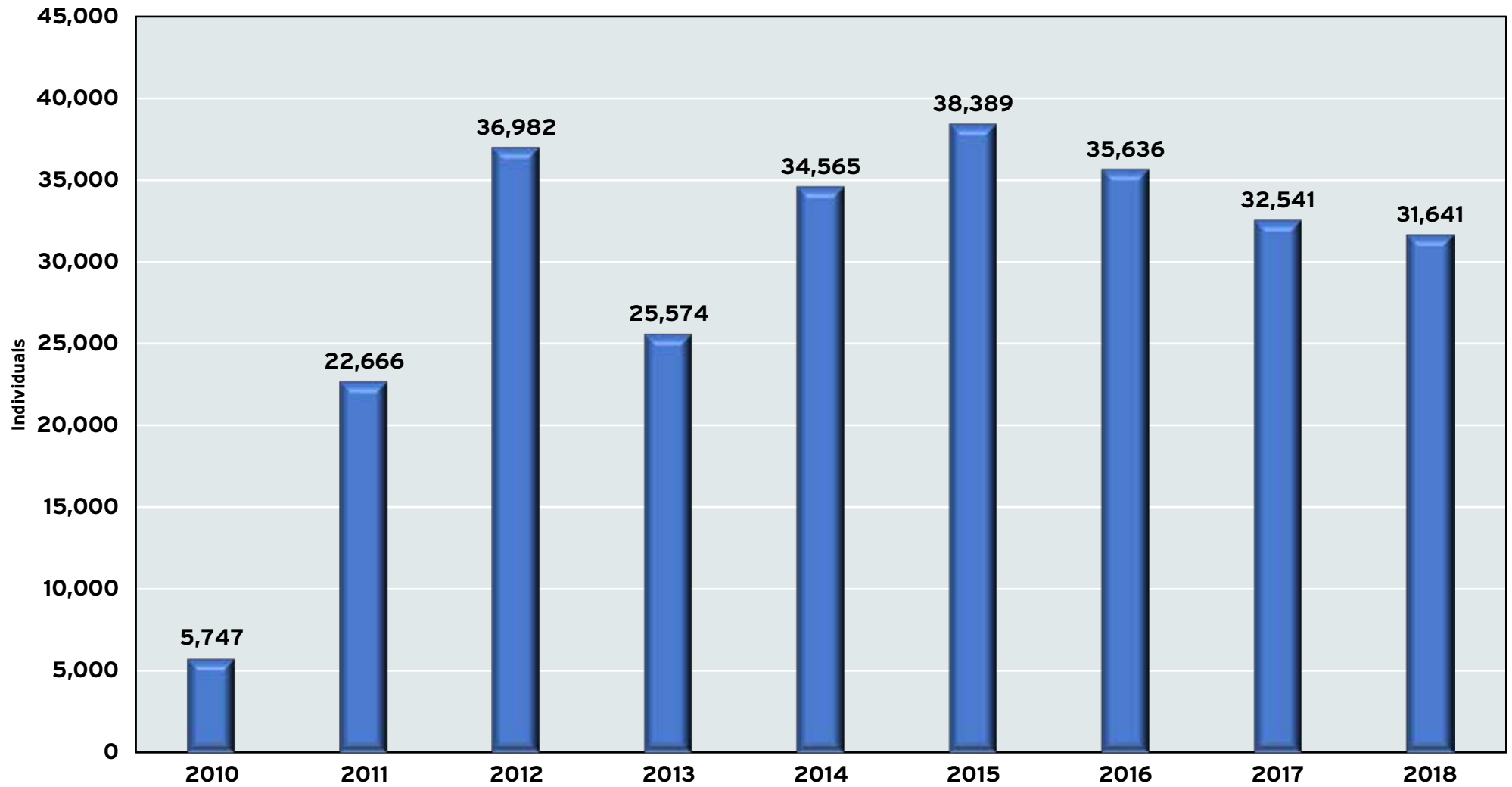
**we find that net domestic migration was positive from 2010 to 2013. From 2014 to 2018, however, more Virginians left for other states than residents of other states came to Virginia. Only two metropolitan areas, Washington-Arlington-Alexandria and Hampton Roads, experienced net domestic outmigration during this period. Let's take a look at the annual data for these two metro areas.**

Graph 6 displays the components of population change and the change in total population for the Virginia portion of Hampton Roads from 2010 to 2018. While the Hampton Roads population has grown this decade, the annual growth has been paltry. The largest increase in the population came in 2012, when it increased by 11,073 (less than 1% of the total population). More recently, the natural increase in the population fell from its high of 10,133 in 2012 to 6,553 in 2018.

Turning to migration, international migration has been positive every year this decade and domestic migration has been negative every year. In two years, international migration was sufficient to offset domestic outmigration (2012 and 2014). In the other years, thousands more residents of Hampton Roads left for other domestic destinations than arrived from international locales. Relatively poor economic performance this decade appears to have contributed to the slow rate of population growth in Hampton Roads.

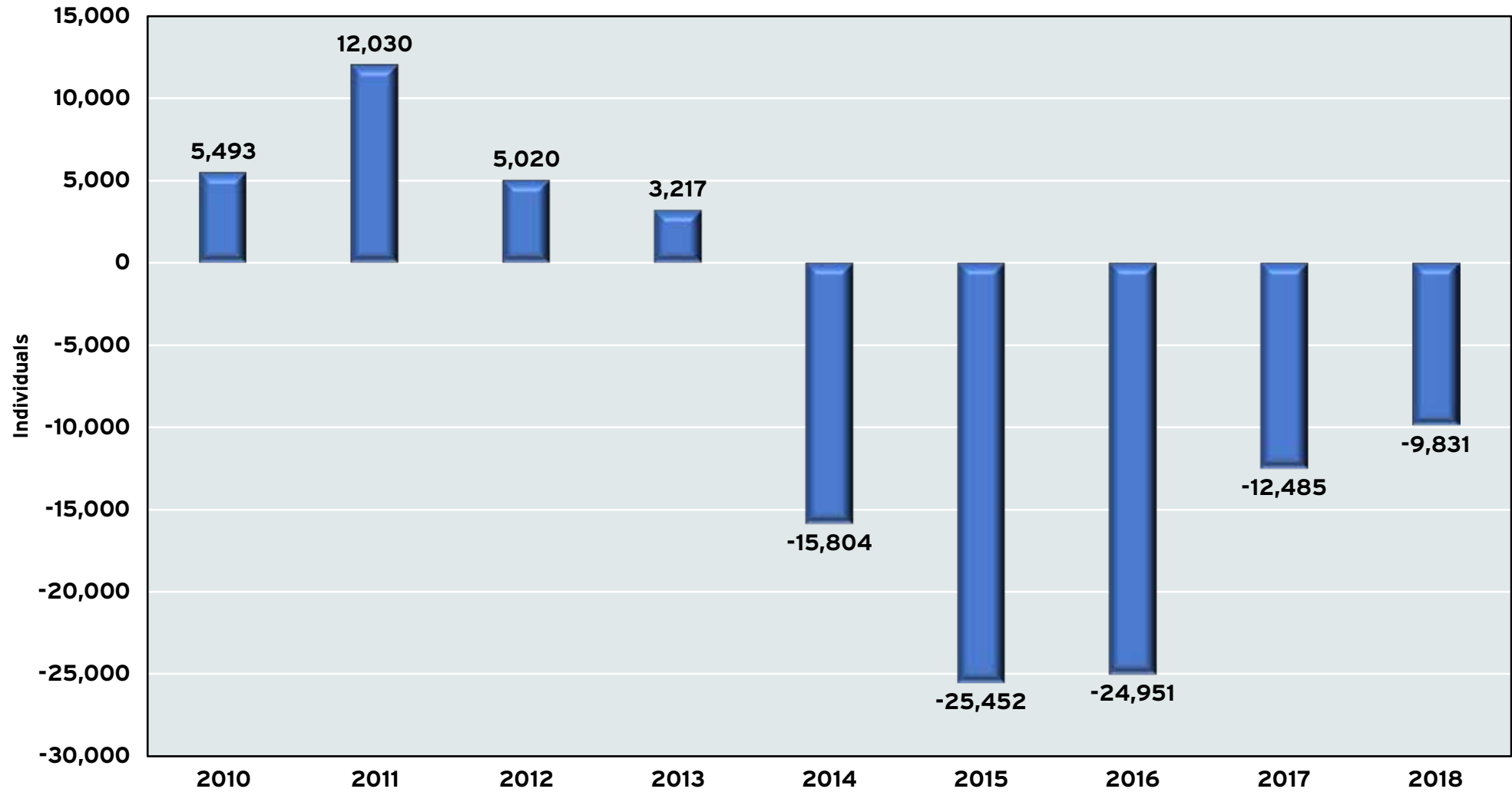
A different story emerges for the Northern Virginia portion of the Washington-Arlington-Alexandria metropolitan area in Graph 7. The natural increase in the population, with the exception of 2010, has been above 20,000 individuals annually. While net domestic migration was positive from 2010 to 2013, it turned negative in 2014 and has remained negative since. The good news is that net international migration has more than offset the outflow of residents of Northern Virginia to other destinations.

**GRAPH 4**  
**NET INTERNATIONAL MIGRATION:**  
**VIRGINIA, 2010-2018**



Source: U.S. Census Bureau, 2018 Population Estimates

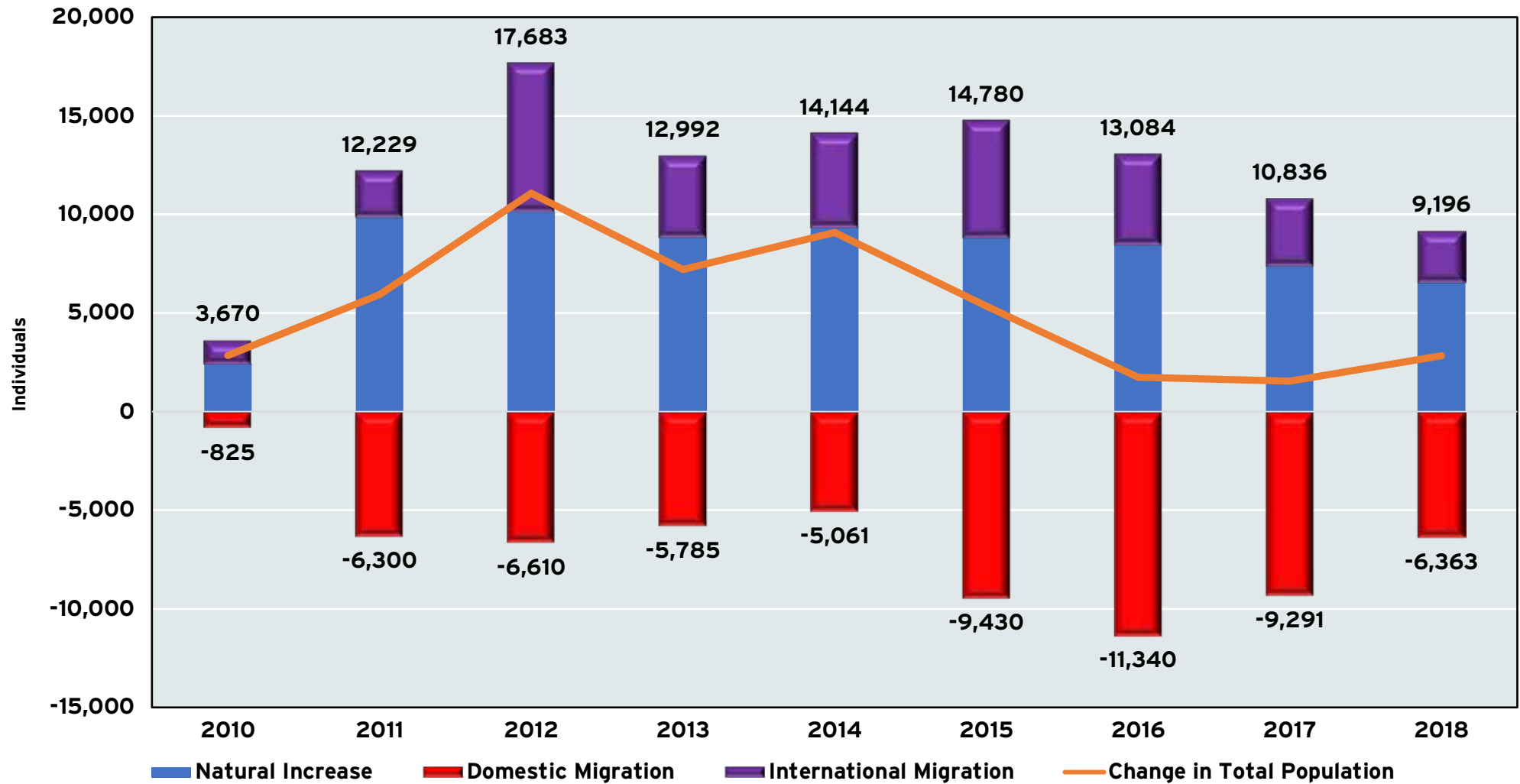
**GRAPH 5**  
**NET DOMESTIC MIGRATION:**  
**VIRGINIA, 2010-2018**



Source: U.S. Census Bureau, 2018 Population Estimates

**GRAPH 6**

**COMPONENTS OF POPULATION CHANGE AND CHANGE IN TOTAL POPULATION:  
VIRGINIA PORTION OF THE HAMPTON ROADS MSA, 2010-2018**

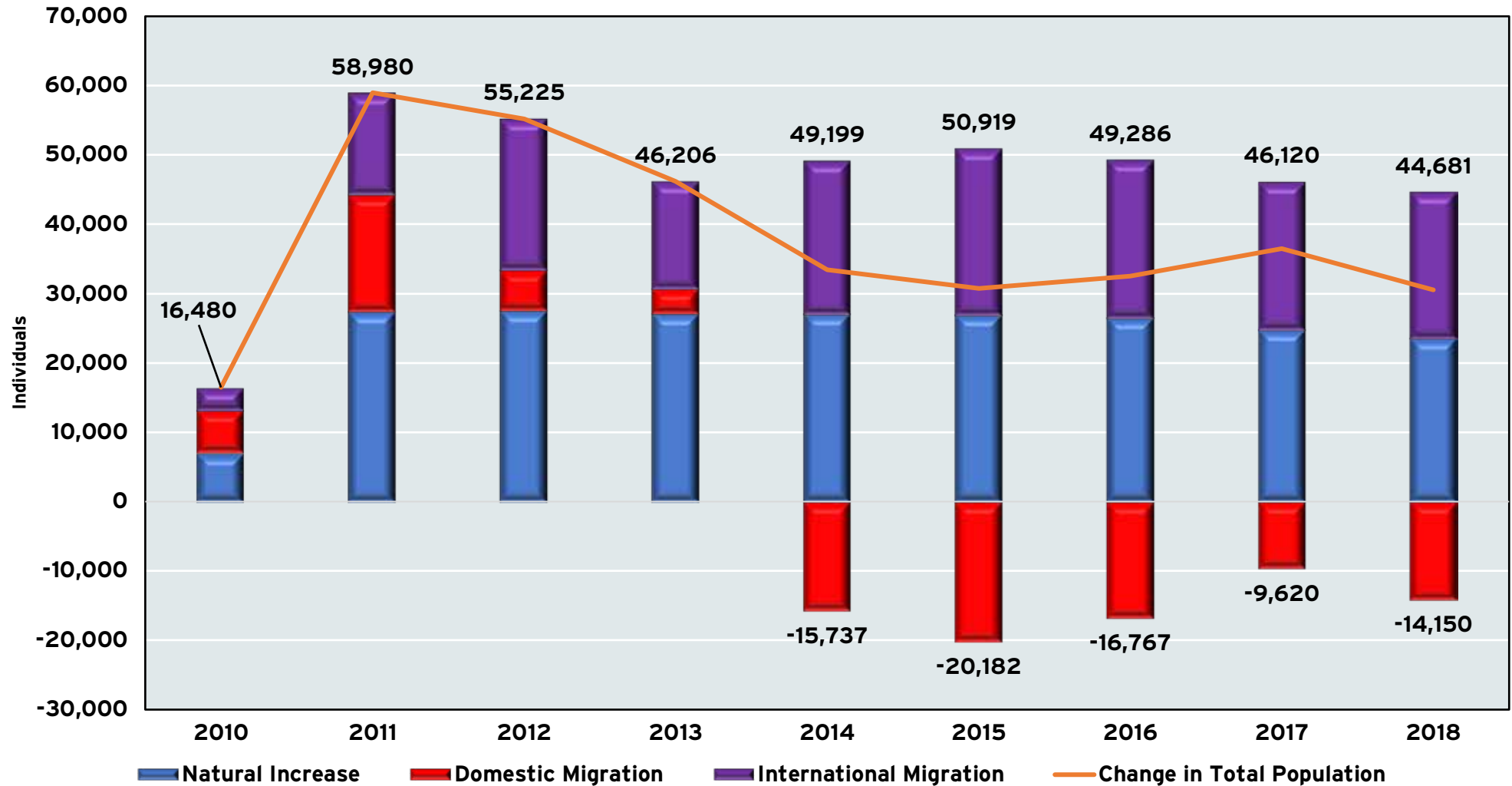


Source: U.S. Census Bureau, 2018 Population Estimates. Hampton Roads consists of the Virginia portion of the Virginia Beach-Norfolk-Newport News MSA. We use the 2018 Census geographical delineation files to assign counties and independent cities to Hampton Roads.



**GRAPH 7**

**COMPONENTS OF POPULATION CHANGE AND CHANGE IN TOTAL POPULATION:  
VIRGINIA PORTION OF THE WASHINGTON-ARLINGTON-ALEXANDRIA MSA, 2010-2018**



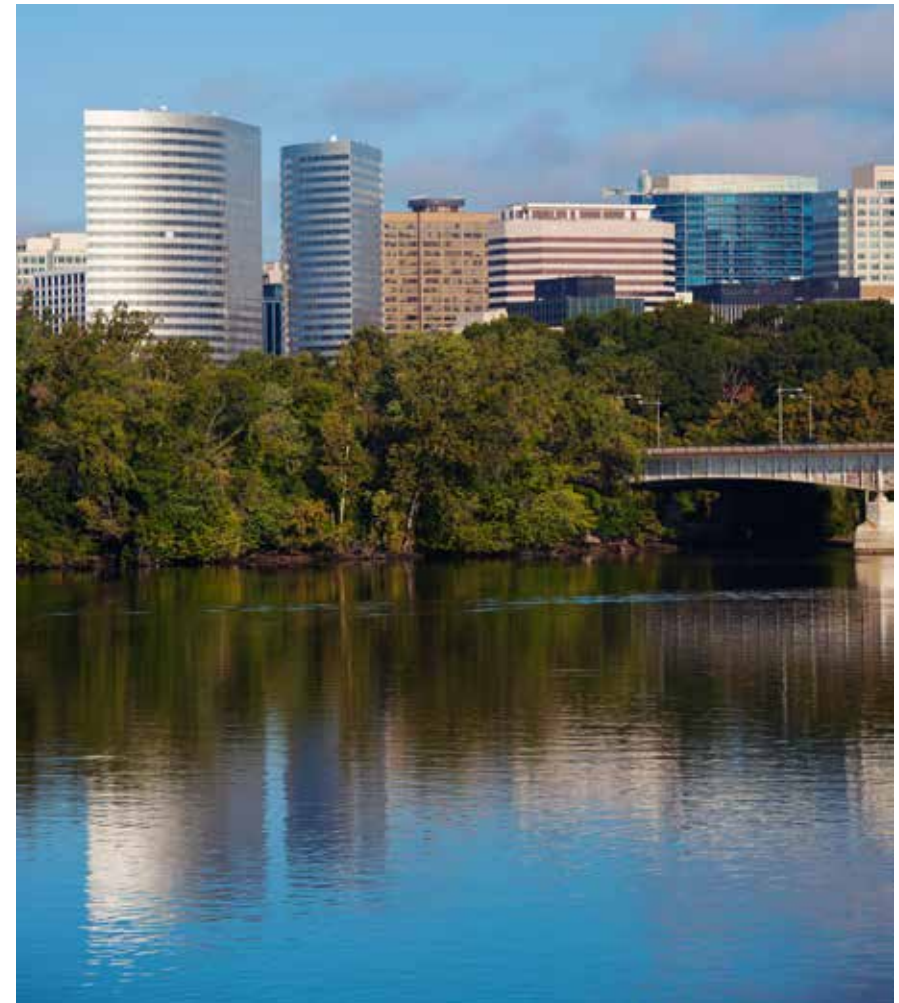
Source: U.S. Census Bureau, 2018 Population Estimates. Northern Virginia consists of the Virginia portion of the Washington-Arlington-Alexandria, DC-VA-MD-WV, MSA. We use the 2018 Census geographical delineation files to assign counties and independent cities to Northern Virginia.

Northern Virginia and Hampton Roads present a tale of two metros. Northern Virginia's economic performance, while not stellar, has been largely positive this decade. Hampton Roads, until recently, has struggled to generate economic growth. Job growth and rising incomes attracted international migrants to offset the outflow of residents in Northern Virginia and partly offset domestic outmigration in Hampton Roads. The challenge for both metro areas is to stem the outflow of residents to other locations. For Northern Virginia, this challenge partly rests on the matter of the cost of living. For Hampton Roads, the challenge largely rests on the region's ability to generate economic growth in the coming years.

## Real Gross Domestic Product: Waiting For New Data

Table 7 presents real (inflation-adjusted) rates of growth for gross domestic product, a measure of economic activity. The U.S. Department of Commerce's Bureau of Economic Analysis (BEA) produces the national, state, metropolitan area and county estimates of GDP, which provide a benchmark for economic activity over time. **The metro area estimates, especially those for 2018, should be viewed with an abundance of caution. Why? The BEA released the "advance" estimates for metropolitan-area GDP for 2018 in December 2019. The next revision to these estimates will be in December 2020, when the BEA releases the advance estimates for 2019 and revises its previous estimates. With such a lag, we advise the reader to examine the underlying trends and focus less on the estimates for a specific year, which are likely to change in the next release.**

**The data released in December 2019 suggest that economic growth has continued across Virginia's metros. In fact, 2018 was the first year in the decade that all of Virginia's metros exhibited positive economic growth. This good news is tempered by the realization that only the Charlottesville metro area has grown at approximately the same rate as the nation over the decade. The remaining metros have lagged, some considerably, behind the nation's economic performance.**



**TABLE 7**

**REAL (INFLATION-ADJUSTED) GROSS DOMESTIC PRODUCT:  
YEAR-ON-YEAR RATES OF GROWTH, 2010-2018  
VIRGINIA'S METROPOLITAN AREAS, VIRGINIA AND THE UNITED STATES**

	<b>Blacksburg</b>	<b>Charlottesville</b>	<b>Harrisonburg</b>	<b>Lynchburg</b>	<b>Richmond</b>	<b>Roanoke</b>	<b>Staunton</b>	<b>Virginia Beach - Norfolk - Newport News</b>	<b>Washington - Arlington - Alexandria</b>	<b>Winchester</b>	<b>Virginia</b>	<b>United States</b>
<b>2010</b>	0.6%	3.9%	-1.4%	2.7%	2.4%	1.3%	1.4%	0.1%	4.2%	4.7%	2.7%	2.6%
<b>2011</b>	3.9%	1.1%	-1.7%	-1.5%	2.9%	0.4%	-3.9%	-1.1%	2.2%	-0.7%	1.0%	1.6%
<b>2012</b>	0.5%	2.9%	-0.5%	-2.7%	2.2%	-0.2%	-5.4%	-1.1%	0.8%	-2.1%	0.8%	2.2%
<b>2013</b>	0.8%	-1.5%	1.8%	-0.4%	1.9%	1.4%	1.8%	0.6%	-0.5%	-1.4%	0.4%	1.8%
<b>2014</b>	1.5%	1.6%	-0.5%	-0.7%	-0.5%	-0.5%	0.7%	-0.9%	0.9%	0.0%	-0.2%	2.5%
<b>2015</b>	3.4%	4.3%	-0.1%	0.6%	2.2%	2.1%	3.0%	1.7%	2.3%	3.8%	2.0%	2.9%
<b>2016</b>	0.2%	2.3%	-0.8%	-0.5%	0.0%	-2.2%	0.0%	-0.6%	2.3%	0.7%	0.4%	1.6%
<b>2017</b>	1.6%	4.4%	3.2%	0.8%	1.9%	-0.3%	2.9%	1.1%	1.5%	2.6%	1.8%	2.4%
<b>2018</b>	3.8%	2.2%	1.4%	2.5%	1.9%	2.2%	1.2%	2.2%	2.7%	2.8%	2.6%	2.9%
<b>CAGR</b>	2.0%	2.1%	0.4%	-0.3%	1.5%	0.4%	0.0%	0.2%	1.5%	0.7%	1.1%	2.2%

Source: Bureau of Economic Analysis, 2019. Base year for real GDP for the United States is 2012. CAGR is the Compound Annual Growth Rate. Washington-Arlington-Alexandria is the Washington-Arlington-Alexandria, DC-VA-MD-WV MSA.

## Final Thoughts

If one were to borrow a title from Charles Dickens, the most recent story of Virginia's metropolitan areas might be "Great Expectations." While the first half of the current decade saw lackluster economic growth at the state and regional level, more recent data suggest that there was an uptick in economic activity in 2018 and 2019. However, growth is not distributed evenly across the metro areas, but the signs, for now, are largely positive.

Increases in defense spending will drive economic growth in Hampton Roads and Northern Virginia over the coming months. Many of the smaller metropolitan areas are exhibiting signs of robust economic activity. More individuals are employed, and jobs are up across Virginia's metros. Unemployment rates are below 3% and workers have seen some moderate increases in their pay. The challenge appears to be a lack of workers to sustain job growth. Whether higher reservation wages due to the social safety net, disability rates, the opioid crisis — or all these factors combined — are playing a role in low labor force participation is worthy of further discussion.

Each year we ask what the future holds. If Congress is able to pass appropriations bills in a timely manner in 2019, then increases in federal spending through September 2020 are likely to boost the fortunes of those metropolitan areas closely tied to the federal government. Increasing uncertainty about these bills and the country's ongoing trade conflicts are dampening prospects for 2020, however, and Virginia's metros may enter the new year facing substantial headwinds. Barring an unexpected shock, a reasonable conclusion is that growth will also slow in Virginia and among its metro areas in 2020.

**Virginia can act to improve regional outcomes. We continue to offer the following suggestions. Targeted investments in infrastructure are necessary to promote economic development and attract new businesses. Improving the quality of education, including investments in physical infrastructure, is necessary 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 also 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 the Commonwealth acts, they bear repeating. Here's hoping that there are those throughout the Commonwealth who are listening.**

