Full Speed Ahead: The Regional Economy Continues To Improve

FULL SPEED AHEAD: THE REGIONAL ECONOMY CONTINUES TO IMPROVE

Failure is simply the opportunity to begin again, this time more intelligently.
– Henry Ford

Every challenge is also an opportunity for change. An optimist will see a glass as half full, a pessimist will see it as half empty and a pragmatist will ask why no one is filling up the glass. Patience is its own reward. The road less traveled has made all the difference. The tortoise will eventually beat the hare. The proverbial check is in the mail.

Over the last decade, numerous clichés have been uttered to illustrate the performance (or lack thereof) of the Hampton Roads economy. While other regions in the country have prospered, Hampton Roads has had to wait outside the promised land, looking toward Washington, D.C., or Richmond to provide the needed economic spark. After a lost decade, however, the regional economy is not only growing, it is accelerating and appears to be poised for continued growth in 2020.

By now, the causes of our region's anemic economic performance from 2007 to 2016 are well documented and ingrained in our collective consciousness. Hampton Roads' dependence on federal spending, normally a strength in economic downturns, became a vulnerability with the passage of discretionary spending caps (commonly referred to as sequestration) in 2011. The lingering impact of the Great Recession and the slowdown in federal spending in the region reverberated through the housing market, depressing prices and increasing the number of distressed properties. The large number of distressed properties delayed the recovery of the housing sector.

Consequently, private-sector job creation in Hampton Roads lagged the state and the nation. Domestic outmigration increased as residents sought their economic fortunes elsewhere. Throughout these trying times, a lack of regional cooperation hindered efforts to leverage our strengths and allowed competitors to amplify our weaknesses. We watched as other regions sprang ahead in terms of economic growth.

Yet, like a fighter who picks himself up off the mat, the story does not end in 2016. Economic data illustrate that the Hampton Roads economy has recovered from the twin blows of the Great Recession and defense sequestration. The number of residents in the labor force is higher now than any point this century. Unemployment is nearing 3% and the number of jobs continues to rise. Manufacturing, once seen as a sector that had fallen on hard times, is rapidly expanding and adding jobs. Housing prices continue to increase as distressed properties approach prerecession lows and inventories continue to shrink. This year's inaugural Something in the Water festival in Virginia Beach, April 26-28, not only highlighted the importance of the region's travel and tourism industry but also, for the first time perhaps in a long time, made Hampton Roads the place to be.

Most of the economic news is positive but we would be remiss if we did not point out that challenges remain. Private-sector job creation here lags that of peer metropolitan areas in the United States. Business growth continues to lag in many parts of our region, highlighting the concentration of economic activity in the "Seven Cities." Population growth has slowed dramatically this decade and younger residents are seeking their fortunes elsewhere. While potentially disheartening, these challenges present opportunities for us to work together to make the region an even better place to live and work.

The peaks and valleys of the economic data represent the economic map of our region. We need to understand where we stand before beginning the journey to where we want to be. The purpose of this chapter is to review the economic data to help us determine whether the economy is moving full steam ahead into smooth waters or whether storm clouds are gathering on the horizon.

The Office of Management and Budget (OMB) defines a core-based statistical area (CBSA) as a geographical region anchored by an urban center of at least 10,000 residents plus adjacent counties that have socioeconomically integrated with the urban center through commuting ties.[1] The OMB has two categories of CBSAs: metropolitan statistical areas and micropolitan statistical areas. Metropolitan statistical areas (MSAs) have at least one urbanized area with a population of 50,000 or more residents. Virginia Beach-Norfolk-Newport News is one of 384 MSAs in the continental United States. In September 2018, the OMB updated the cities and counties that comprise the Virginia Beach-Norfolk-Newport News MSA (also known as the Hampton Roads MSA) to include Camden County in North Carolina and Southampton County and the city of Franklin in Virginia.[2] The Hampton Roads MSA now consists of the cities of Chesapeake, Franklin, Hampton, Newport News, Norfolk, Poquoson, Portsmouth, Suffolk, Virginia Beach and Williamsburg. The counties in the MSA are Camden, Currituck and Gates in North Carolina, and Gloucester, Isle of Wight, James City, Mathews, Southampton and York in Virginia. Where possible, we will present data reflecting the new definition of the Hampton Roads MSA; however, some agencies and departments, including the Bureau of Labor Statistics (BLS) and Bureau of Economic Analysis (BEA), continue to use older definitions of the MSA in the presentation of socioeconomic data.

1 https://www.govinfo.gov/content/pkg/FR-2010-06-28/pdf/2010-15605.pdf.
2 https://www.whitehouse.gov/wp-content/uploads/2018/09/Bulletin-18-04.pdf.

Improving Growth Following A Lost Decade

We estimate that real (inflation-adjusted) economic activity in Hampton Roads grew 2.2% from 2017 to 2018, more than doubling the previous year's rate of growth (Table 1).[3] Our current forecast is that growth will accelerate to 2.4% in 2019. Increases in federal spending, continued growth in the hotel and tourism industry and increased traffic through the Port of Virginia have contributed to the recovery in economic performance, following a lost decade of anemic growth.

Compared to Virginia and the United States, however, Hampton Roads' economic performance left much to be desired over the last decade. Graph 1 illustrates that, after a relatively slow start at the beginning of the century, regional economic growth outpaced that of the U.S. between 2001 and 2006 and, briefly, the Commonwealth in 2007. While the region fared better in the Great Recession than the nation, the tables turned with the nation accelerating and passing Hampton Roads in 2010. We forecast that by the end of 2019, the Hampton Roads economy will be almost 23% larger than in 2001. However, the national economy will be almost 44% larger over the same period.

TABLE 1

NOMINAL AND REAL (INFLATION-ADJUSTED) GROSS DOMESTIC PRODUCT (IN THOUSANDS OF DOLLARS): HAMPTON ROADS, 2001-2019*

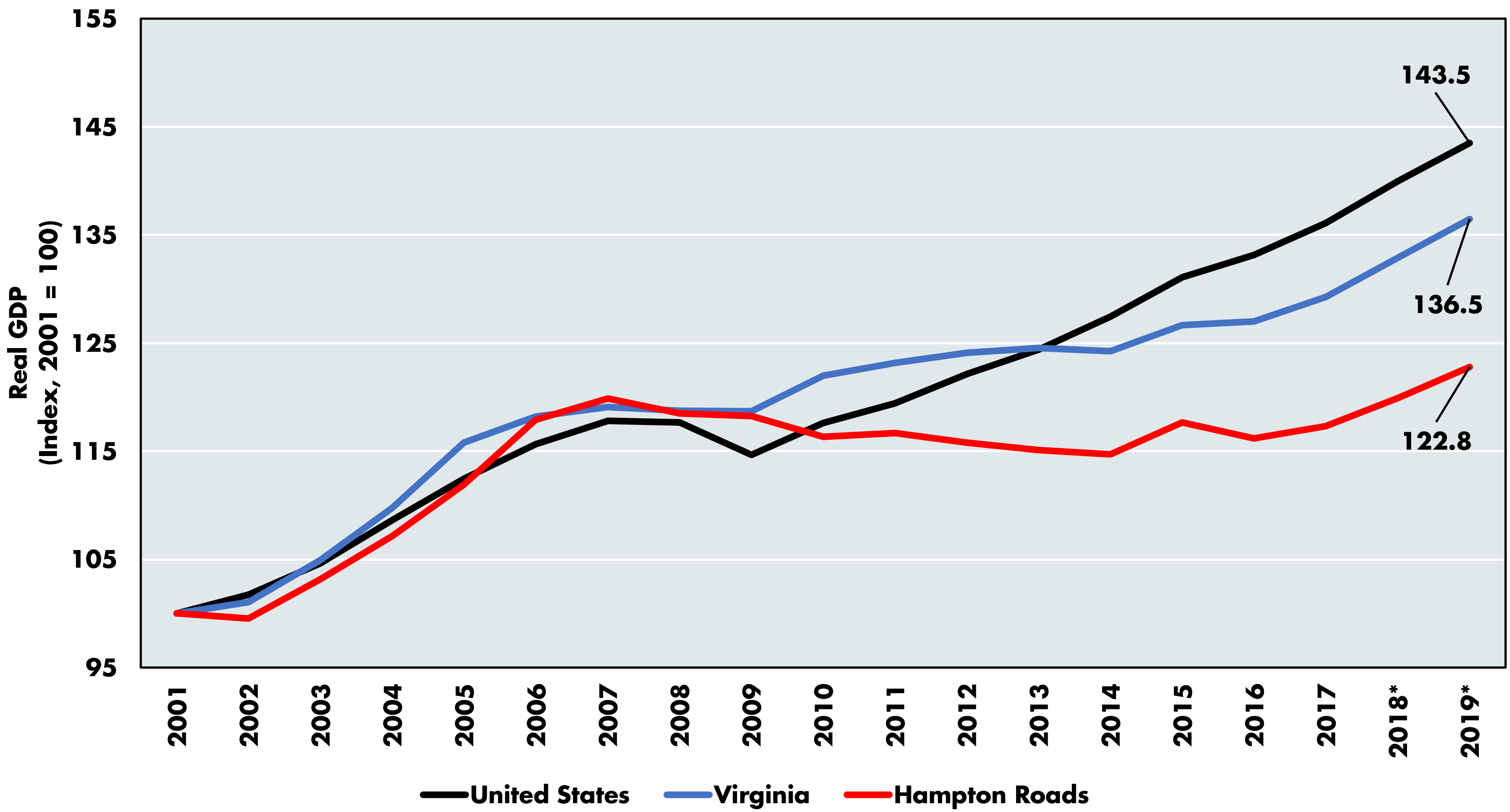
	Nominal GDP	Real GDP (Base Year – 2009)	Year-Over-Year Change in Real GDP
2001	$56,158	$69,736	--
2002	$57,558	$69,410	-0.5%
2003	$61,481	$71,944	+3.7%
2004	$65,638	$74,715	+3.9%
2005	$70,889	$78,036	+4.4%
2006	$77,003	$82,209	+5.3%
2007	$81,041	$83,585	+1.7%
2008	$81,146	$82,623	-1.2%
2009	$82,470	$82,470	-0.2%
2010	$82,107	$81,132	-1.6%
2011	$83,355	$81,363	+0.3%
2012	$84,485	$80,740	-0.8%
2013	$85,414	$80,263	-0.6%
2014	$87,088	$79,998	-0.3%
2015	$91,725	$82,058	+2.6%
2016	$92,321	$81,022	-1.3%
2017	$94,855	$81,821	+1.0%
2018*	$99,219	$83,621	+2.2%
2019*	$103,783	$85,628	+2.4%

Sources: Bureau of Economic Analysis and the Dragas Center for Economic Analysis and Policy, Old Dominion University. *2018 represents our estimate while 2019 represents our forecast. Base year of real GDP is 2009.

3 As we have noted in previous reports, the regional GDP estimates of the Bureau of Economic Analysis (BEA) should be viewed with caution. The BEA estimates are significantly lagged, as the advance estimates for 2018 will only be released in December 2019. The estimates are also frequently subject to significant revision.

GRAPH 1

INDEX OF REAL GROSS DOMESTIC PRODUCT: UNITED STATES, VIRGINIA AND HAMPTON ROADS, 2001-2019*



Sources: Bureau of Economic Analysis. Real GDP in 2009 chained dollars. (For more information on chained indices, see: https://www.bea.gov/resources/methodologies/chained-dollar-indexes.) *2018 estimate and 2019 forecast provided by the Dragas Center for Economic Analysis and Policy, Old Dominion University. Base year of the index is 2001.

In Table 2, we present the annual average growth in real GDP for the U.S., Virginia and selected metropolitan areas since the turn of the century. Between 2001 and 2009, average economic growth in Hampton Roads exceeded that of the nation and several peers. During the current decade, however, among the selected metro areas, only the Memphis region performed worse than Hampton Roads. The sliver of good news is that the improved performance of the regional economy in 2018 and 2019 should reflect favorably on Hampton Roads when the GDP data become available in the coming years.

TABLE 2

AVERAGE ANNUAL GROWTH IN REAL GROSS DOMESTIC PRODUCT, UNITED STATES, VIRGINIA AND SELECTED METROPOLITAN STATISTICAL AREAS

Metropolitan Statistical Area	Average Growth 2001-2009	Average Growth 2010-2017
United States	+1.7%	+2.1%
Virginia	+2.2%	+0.8%
Charlotte-Concord-Gastonia, NC-SC	+2.7%	+3.4%
Cincinnati, OH-KY-IN	+0.7%	+1.7%
Cleveland-Elyria, OH	-0.1%	+2.1%
Fresno, CA	+3.0%	+2.0%
Jacksonville, FL	+1.5%	+2.4%
Memphis, TN-MS-AR	+0.2%	+0.0%
Nashville-Davidson-Murfreesboro-Franklin, TN	+2.0%	+5.0%
Raleigh, NC	+2.6%	+3.5%
Richmond, VA	+0.5%	+1.9%
San Diego-Carlsbad, CA	+2.2%	+2.2%
Virginia Beach-Norfolk-Newport News	+2.1%	+0.1%

Sources: Bureau of Economic Analysis and the Dragas Center for Economic Analysis and Policy, Old Dominion University. Real GDP in 2009 chained dollars. Annual growth rate is the compound annual growth rate.

Economic Performance At The City And County Level

Measuring economic performance at the local level typically is a difficult undertaking because of the many factors specific to the time period and region in question. The inflows and outflows of military personnel and ships that distinguish Hampton Roads are but one example. Nevertheless, in 2018 the BEA released prototype estimates of GDP for counties in the United States for 2012 through 2015.[4] Though significantly lagged, these estimates provide comparable measures of economic activity across counties in the United States. While by no means perfect, these estimates provide insight into economic activity at the local level in Hampton Roads.[5]

Table 3 illustrates that, in real (inflation-adjusted) terms, the cities and counties of the Hampton Roads MSA generated about $93.5 billion in output in 2015. Of the metropolitan areas in the Commonwealth, only Northern Virginia produced a higher share of economic activity. Three metro regions – Hampton Roads, Northern Virginia and Richmond – accounted for almost three-quarters of Virginia's real GDP in 2015.

Within Hampton Roads, Virginia Beach accounted for over a quarter of the value of economic activity in 2015, followed by Norfolk (22.9%), Newport News (12.4%) and Chesapeake (10.6%). Adding Hampton (6.9%), Portsmouth (5.6%) and Suffolk (4.7%) to this list yields the overall contribution of the Seven Cities. These cities generated almost 90 cents of every $1 of economic activity in Hampton Roads in 2015.

4 Bureau of Economic Analysis, Prototype Estimates of County Level GDP, 2018, https://www.bea.gov/data/gdp/gdp-county.

5 We must caveat our discussion with two points. First, these estimates (as with the metro-level estimates) are likely to be revised annually. Second, the county-level and metro estimates are not directly comparable; that is, the county estimates do not sum to the metro estimates. For a discussion of the methodology and comparison of the county and MSA GDP estimates, see https://apps.bea.gov/scb/2019/03-march/0319-county-level-gdp.htm.

TABLE 3

REAL GROSS DOMESTIC PRODUCT (IN THOUSANDS OF 2012 DOLLARS): CITIES AND COUNTIES OF HAMPTON ROADS, 2012 AND 2015

Location	2012 Real GDP	2015 Real GDP	Annual Growth in Real GDP	Percentage of Hampton Roads 2015 Real GDP
Camden	$162,714	$160,211	-0.4%	+0.2%
Chesapeake	$9,320,962	$9,886,452	+1.5%	+10.6%
Currituck	$692,994	$633,004	-2.2%	+0.7%
Gates	$117,702	$129,803	+2.5%	+0.1%
Gloucester	$702,155	$711,559	+0.3%	+0.8%
Hampton	$6,326,584	$6,425,656	+0.4%	+6.9%
Isle of Wight	$1,326,816	$1,362,260	+0.7%	+1.5%
James City & Williamsburg	$3,991,029	$3,716,340	-1.8%	+4.0%
Mathews	$112,178	$106,717	-1.2%	+0.1%
Newport News	$11,568,021	$11,572,706	+0.0%	+12.4%
Norfolk	$20,659,234	$21,373,985	+0.9%	+22.9%
Portsmouth	$4,988,844	$5,259,462	+1.3%	+5.6%
Southampton & Franklin	$545,672	$532,240	-0.6%	+0.6%
Suffolk	$3,926,925	$4,425,996	+3.0%	+4.7%
Virginia Beach	$24,158,365	$25,043,602	+0.9%	+26.8%
York & Poquoson	$2,000,619	$2,160,947	+1.9%	+2.3%
Hampton Roads	$90,600,814	$93,500,940	+0.8%	--

Sources: Bureau of Economic Analysis, Prototype Estimates of County Level GDP, and the Dragas Center for Economic Analysis and Policy, Old Dominion University. Real GDP in 2012 chained dollars. Percentages may not sum to 100 percent due to rounding. When necessary, the BEA combines localities to produce GDP estimates. Estimated annual growth is the compound annual growth rate. September 2018 definition of the Virginia Beach-Norfolk-Newport News MSA.

Per Capita Personal Income

People earn personal income from wages, their own businesses, dividends, interest, rents and government benefits. Rising personal income is typically a signal of improving economic conditions and a predictor of rising consumer spending. Examining longer-term trends in personal income can help us determine whether a region is picking up the pace or slowing down.

Graph 2 illustrates how per capita personal income in Hampton Roads changed little from 2008 to 2014 and then started to increase in 2015. In 2017, personal income in Hampton Roads was about 91% of the national average and 86% of the Commonwealth average. While this might seem to be bad news, real per capita personal income in Hampton Roads increased by 8.5% from 2008 to 2017, 1.7 percentage points higher than the 5.8% increase for the Commonwealth for the same period. In 2017, real per capita personal income in Hampton Roads grew by 2.1%, exceeding the rate of growth for the U.S. (1.8%) and Virginia (1.8%).

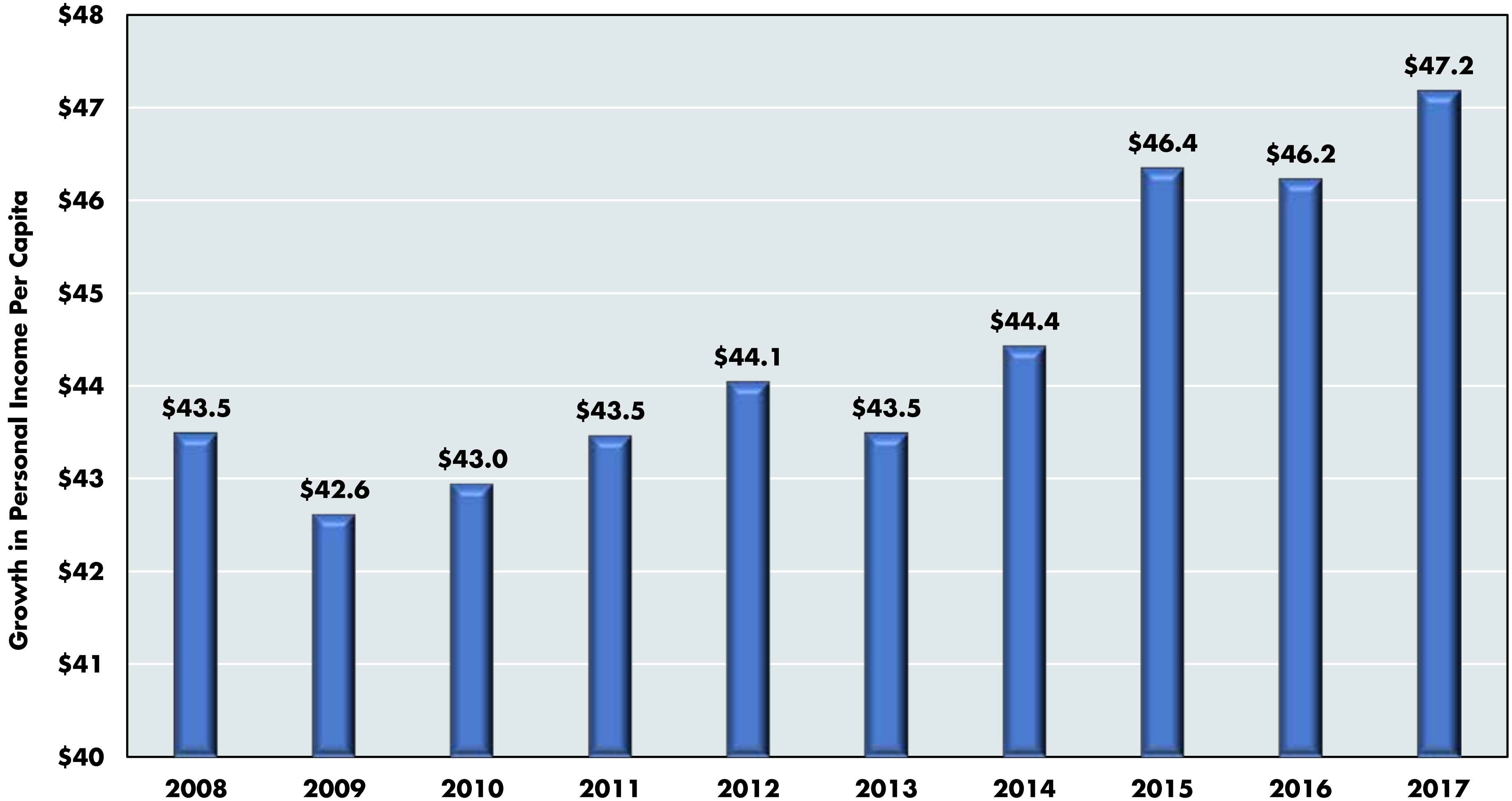
One potential caveat to this good news is the relatively slow rate of population growth in Hampton Roads. Faster-growing regions observe increases in personal income and population and thus may have slower rates of per capita personal income growth. The region's performance has improved when compared to earlier this decade, but there is also room for improvement.

We compare the performance of Hampton Roads to peer and aspirational metropolitan areas in the United States in Graph 3.[6] For most of the decade, our region lagged its peers, but there may be a change underway. In 2017, Hampton Roads outperformed many of its peers in the growth of personal income. With the upticks in defense spending, activity at the Port and tourism, it is likely that the increases in personal income were sustained into 2018 and 2019. If so, the region could finally start to close the gap created by the anemic growth in the early part of the decade.

6 The metropolitan area estimates are only available from 2008 to 2017, while the county-level estimates are available from 1969 to 2017.

GRAPH 2

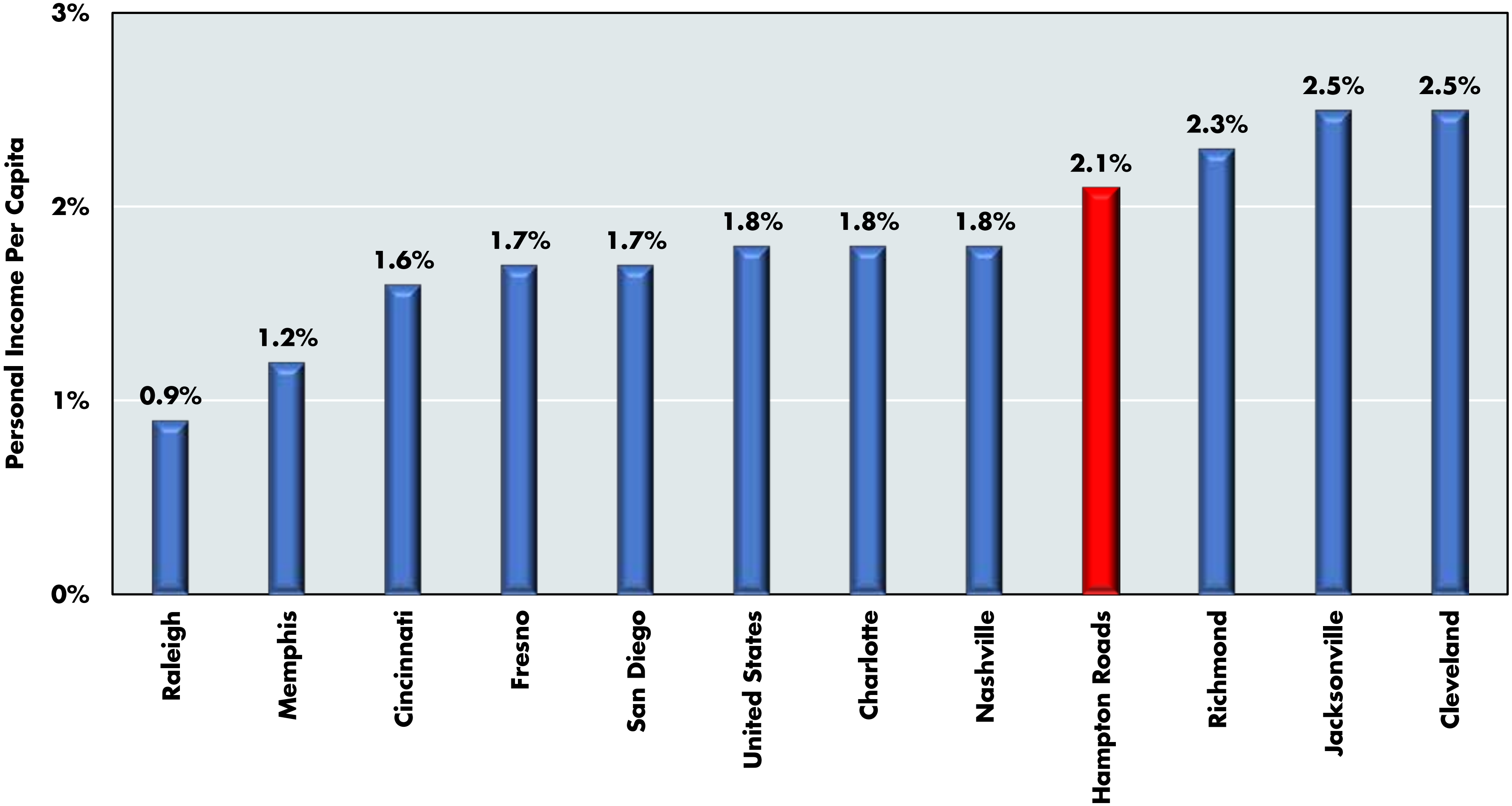
REAL PER CAPITA PERSONAL INCOME (IN THOUSANDS OF DOLLARS): HAMPTON ROADS, 2008-2017



Sources: Bureau of Economic Analysis, Personal Income Per Capita by Metropolitan Area, and the Dragas Center for Economic Analysis and Policy, Old Dominion University. Base year is 2012.

GRAPH 3

ANNUAL GROWTH IN PER CAPITA PERSONAL INCOME: UNITED STATES AND SELECTED METROPOLITAN AREAS, 2016-2017



Sources: Bureau of Economic Analysis, Personal Income Per Capita by Metropolitan Area, and the Dragas Center for Economic Analysis and Policy, Old Dominion University. Base year is 2012.

Employment Growth Improves But Lags The State And Nation

In 2018, more people were in the labor force working or looking for work in Hampton Roads than at any other point in history. 2018 also set records for the highest number of jobs on record and approached the record for the lowest observed unemployment rate. Let's look at the details.

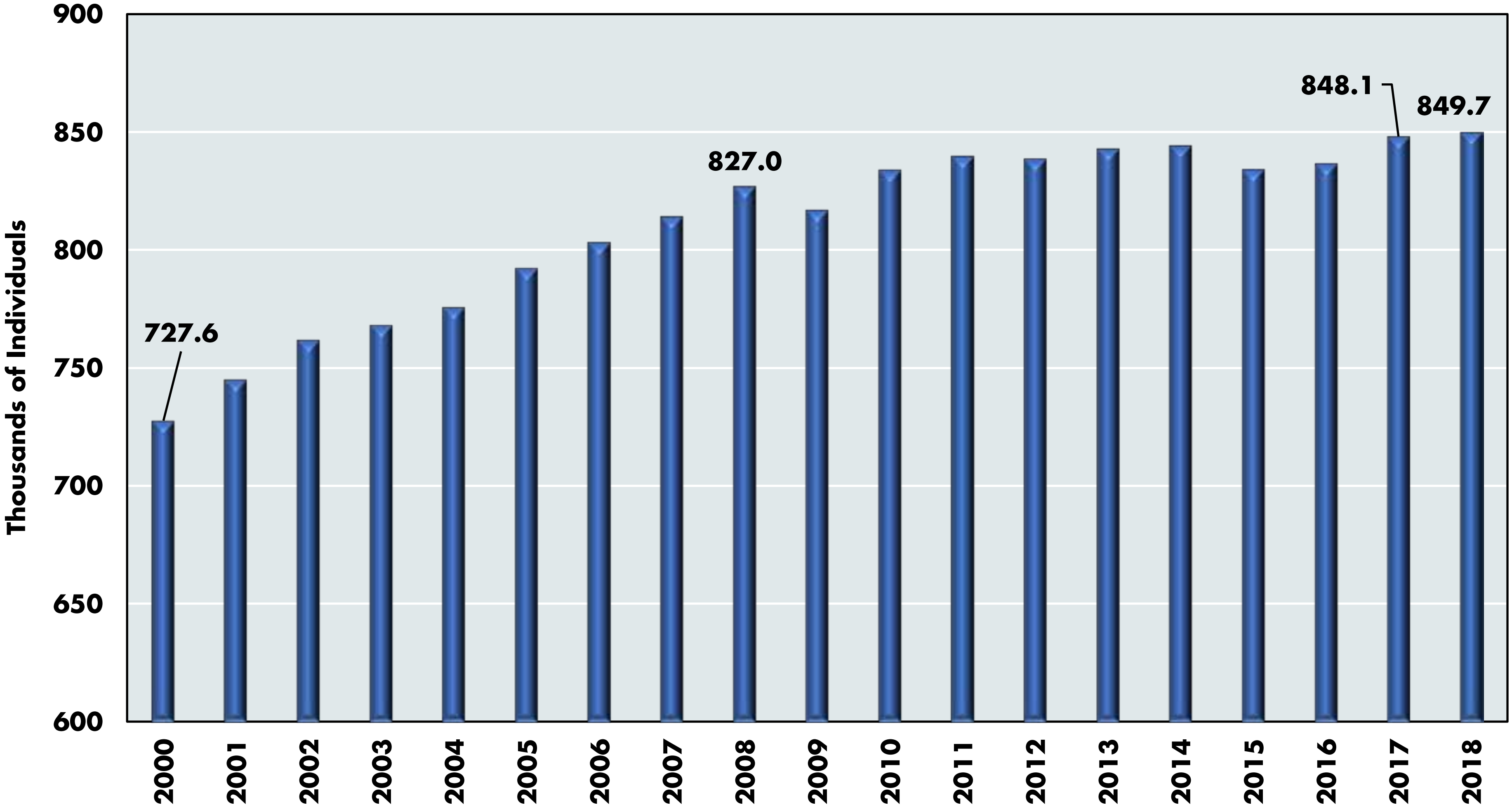
Graph 4 illustrates the number of individuals who were either working or actively looking for work in Hampton Roads from 2000 to 2018. While the number of people in the labor force hit a record in 2018, year-over-year labor force growth was fewer than 2,000 individuals for a metropolitan area with more than 1.7 million residents.

Graph 5 displays how individual employment changed in the region from 2000 to 2018. From 2008 to 2009, employment in Hampton Roads declined by more than 30,000 people and the recovery was painfully slow. Only in 2014 did individual employment exceed prerecession levels, and with sustained growth in recent years, the number of individuals employed averaged 822,000 in 2018.

While the labor force has grown over time, the number of people who were employed grew faster than the labor force, thus the number of unemployed in Hampton Roads has continued to fall over the decade. Graph 6 reveals that the average annual unemployment rate in Hampton Roads peaked at 7.6% in 2010. Since then, the average unemployment rate has steadily declined, reaching 3.3% in 2018. In mid-summer of 2019, the regional unemployment rate neared 3% and approached the record low observed in 2000.

GRAPH 4

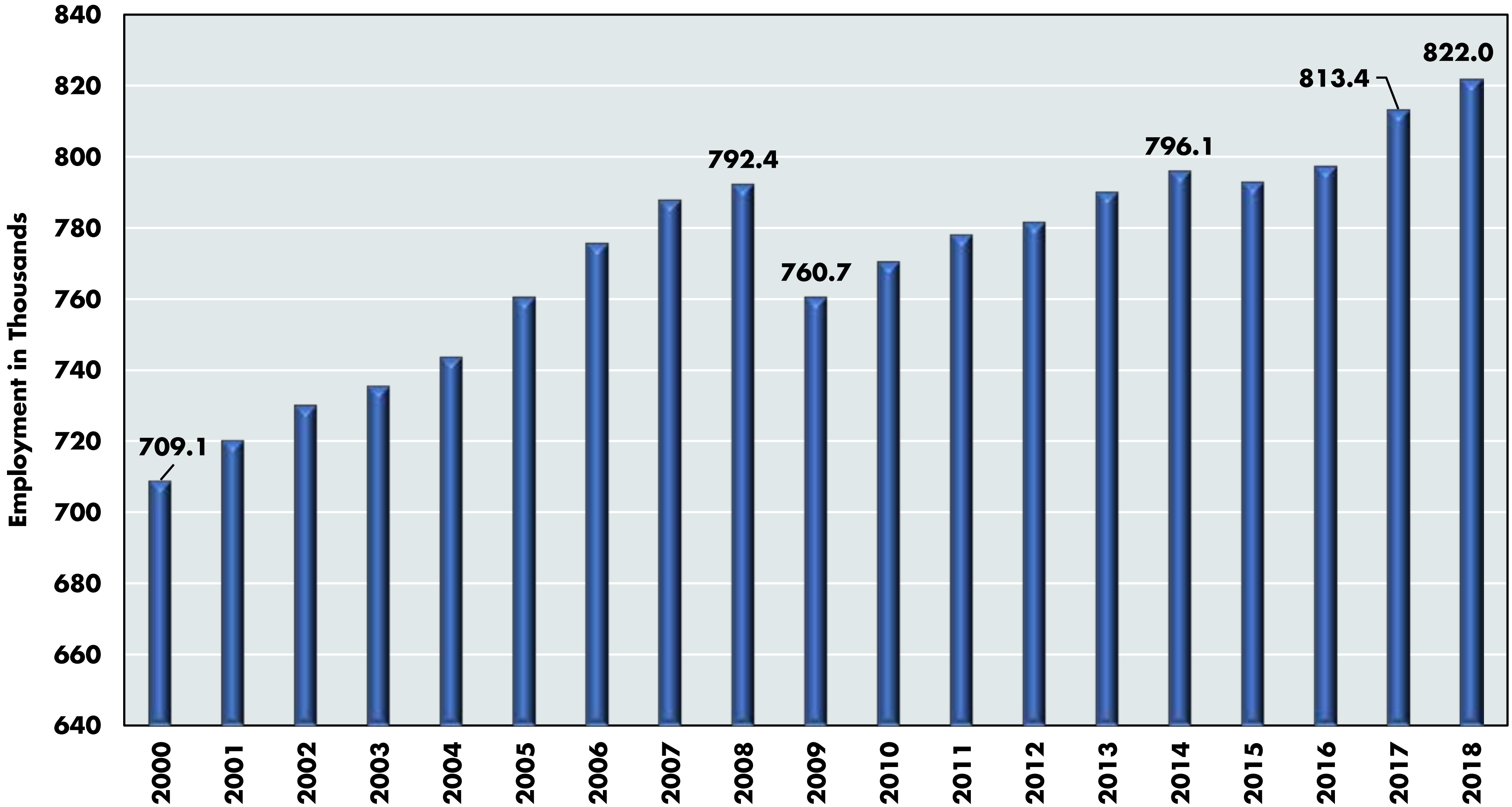
CIVILIAN LABOR FORCE IN HAMPTON ROADS, 2000-2018



Sources: Bureau of Labor Statistics and the Dragas Center for Economic Analysis and Policy, Old Dominion University. Annual averages of non-seasonally adjusted data.

GRAPH 5

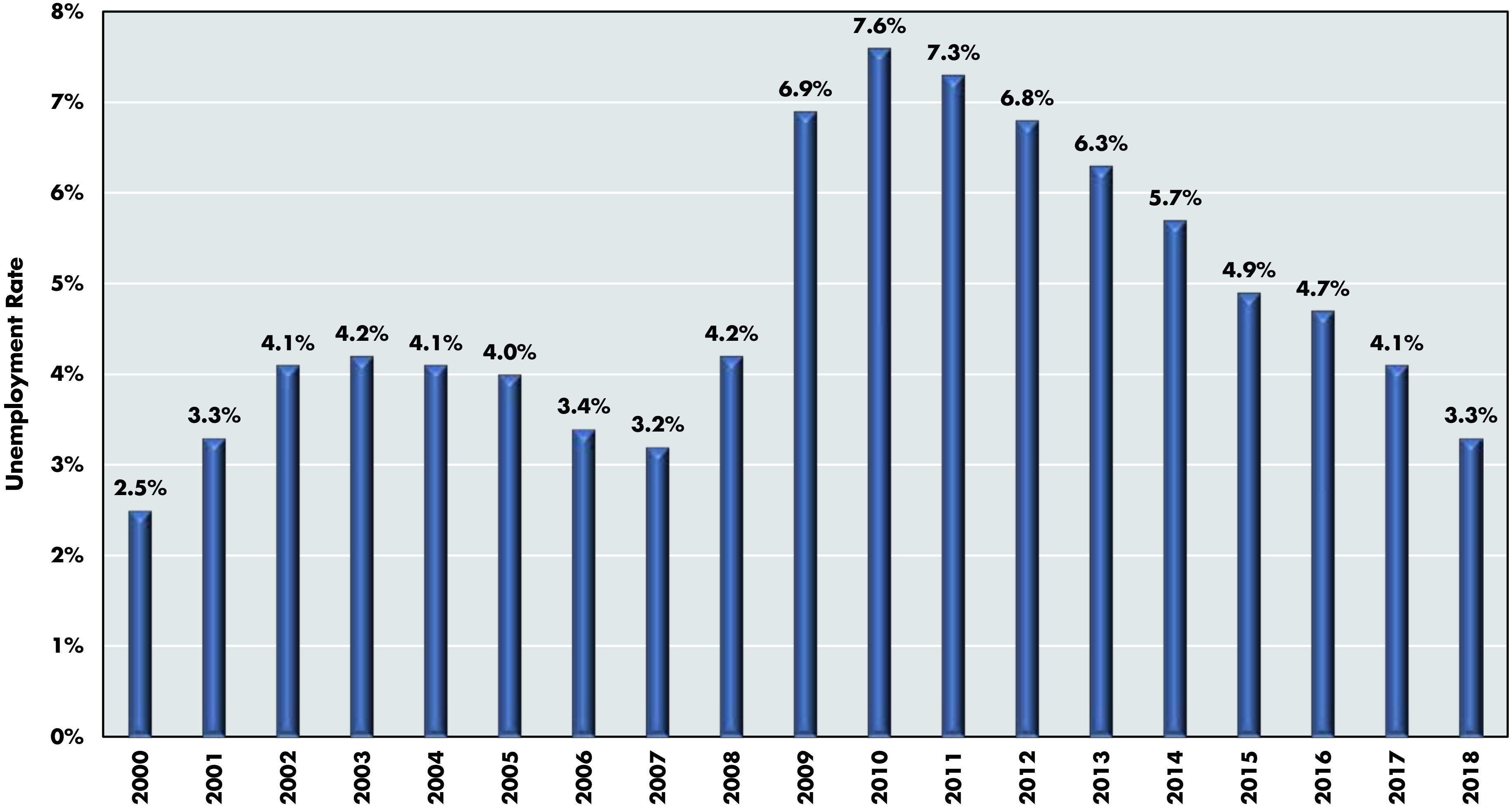
AVERAGE INDIVIDUAL EMPLOYMENT IN HAMPTON ROADS, 2000-2018



Sources: Bureau of Labor Statistics and the Dragas Center for Economic Analysis and Policy, Old Dominion University. Annual averages of non-seasonally adjusted data.

GRAPH 6

AVERAGE UNEMPLOYMENT RATE: HAMPTON ROADS, 2000-2018



Sources: Bureau of Labor Statistics and the Dragas Center for Economic Analysis and Policy, Old Dominion University. Annual averages of non-seasonally adjusted data.

More Jobs Is Good News

There is a subtle but important difference between employment data and jobs data. Individuals are the source of employment data while employers are the source of jobs data. Regardless of how many or what kinds of jobs I may have, I can only be counted as employed once. On the other hand, if I have two jobs with two different employers, these jobs are reported and counted separately. Our expectation is that the number of jobs will be greater than the number of people employed, although the rise of the "gig economy" has blurred the lines as to whether an individual is an employee, a contractor or in some other type of arrangement.

It should be no surprise that as the number of people employed has increased, the number of jobs in Hampton Roads has risen as well. While it took five years for individual employment to recover to levels seen prior to the Great Recession, it was almost a decade before Hampton Roads recovered all the jobs lost due to the recession and sequestration (Graph 7). The recovery proceeded slowly, in fits and starts. Only recently could the recovery in jobs be labeled as an expansion, and there are promising signs that job growth has continued in 2019.

While the number of jobs has grown every year since 2010, the pace of job growth has lagged that of the nation and the state (Graph 8). To put this in perspective, for every job added in Hampton Roads over the last decade, Virginia added almost three jobs and the nation added more than four jobs. Recent changes in federal spending, however, may help Hampton Roads close the gap in the coming years.

Graph 9 illustrates that education and health services, federal civilian employment, leisure and hospitality, and professional and business services jobs have led the way over the past decade. The growth of local institutions of higher education, EVMS and Sentara has, in part, driven these job gains.

The largest losses have come in local government, information, financial activities, and trade, transport and utilities. The job losses in the information industry and the trade, transport and utilities industries are concerning, given the regional goal of becoming a hub for cybersecurity and information technology. Investments in the workforce in these areas will need to be closely monitored to see if there is a return over the coming years.

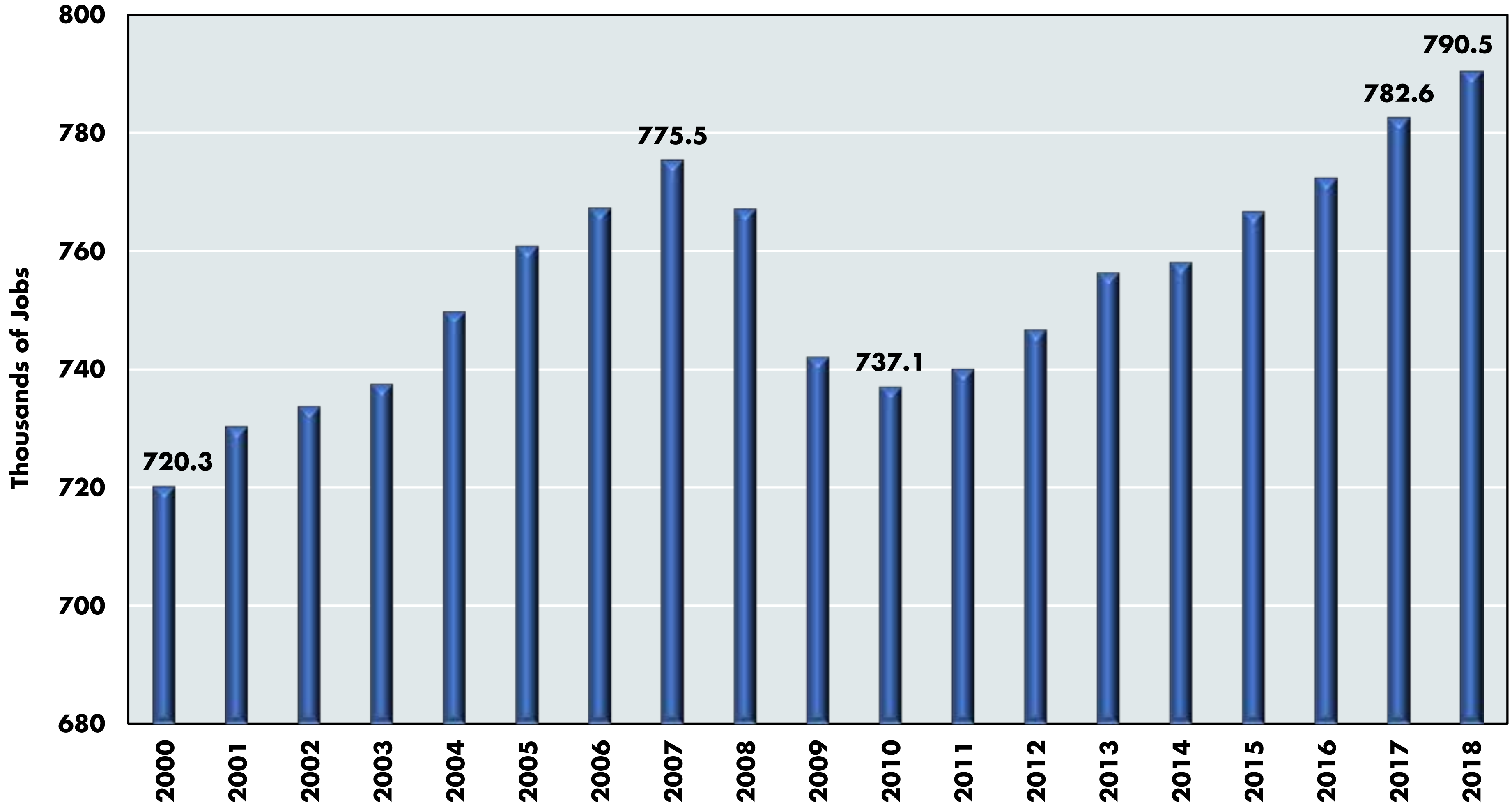
If we look at more recent data, we find a remarkable turnaround story with regard to manufacturing. Earlier in the decade, thousands of manufacturing jobs were lost in Hampton Roads. As illustrated in Graph 10, the manufacturing sector added more than 4,000 jobs in 2018. In fact, manufacturing was the fastest-growing employment sector in Hampton Roads in 2018, followed by professional and business services, and education and health services. **With continued hiring in 2019, it is likely that the manufacturing industry will not only finally recover all the jobs lost as a result of the Great Recession and sequestration, but also set new highs for employment. This is good economic news as the average annual pay for manufacturing jobs in 2018 was $63,296, almost $16,000 more than the average annual pay for all jobs in Hampton Roads in 2017.[7]**

No pun intended, the good news concerning jobs must be tempered with the realization that we still have work to do. Most new jobs created in Virginia this decade have not come from Hampton Roads but from Northern Virginia, Richmond and other metropolitan areas. Job growth in our region is near the bottom of the list when compared to peer and aspirational metro areas. To put this into perspective, since the recession, Charlotte has added about 10 jobs on average for every job created in Hampton Roads. Slower job growth reduces the attractiveness of a region and creates a stronger incentive for residents to seek their economic fortunes elsewhere. Now is not the time to rest on our proverbial laurels, it's time to find ways to improve economic resiliency, diversity and the capacity of the workforce.

7 The average annual pay for covered employment in Hampton Roads in 2018 was $47,474. (Most employers are required to make payments into unemployment insurance programs. Work for these employers is considered "covered employment.")

GRAPH 7

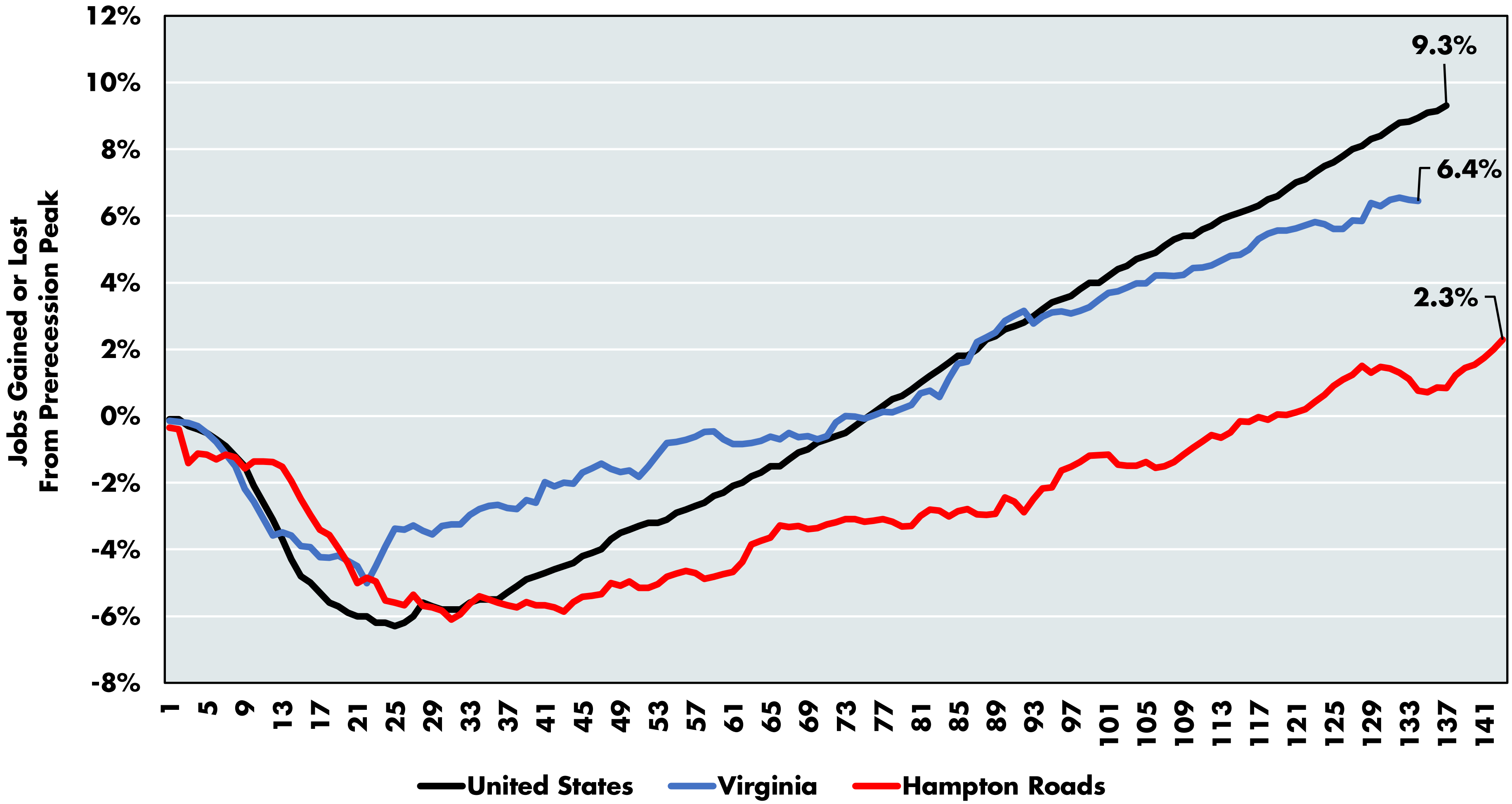
AVERAGE NONFARM PAYROLLS: HAMPTON ROADS, 2000-2018



Sources: Bureau of Labor Statistics and the Dragas Center for Economic Analysis and Policy, Old Dominion University. Annual averages of non-seasonally adjusted data.

GRAPH 8

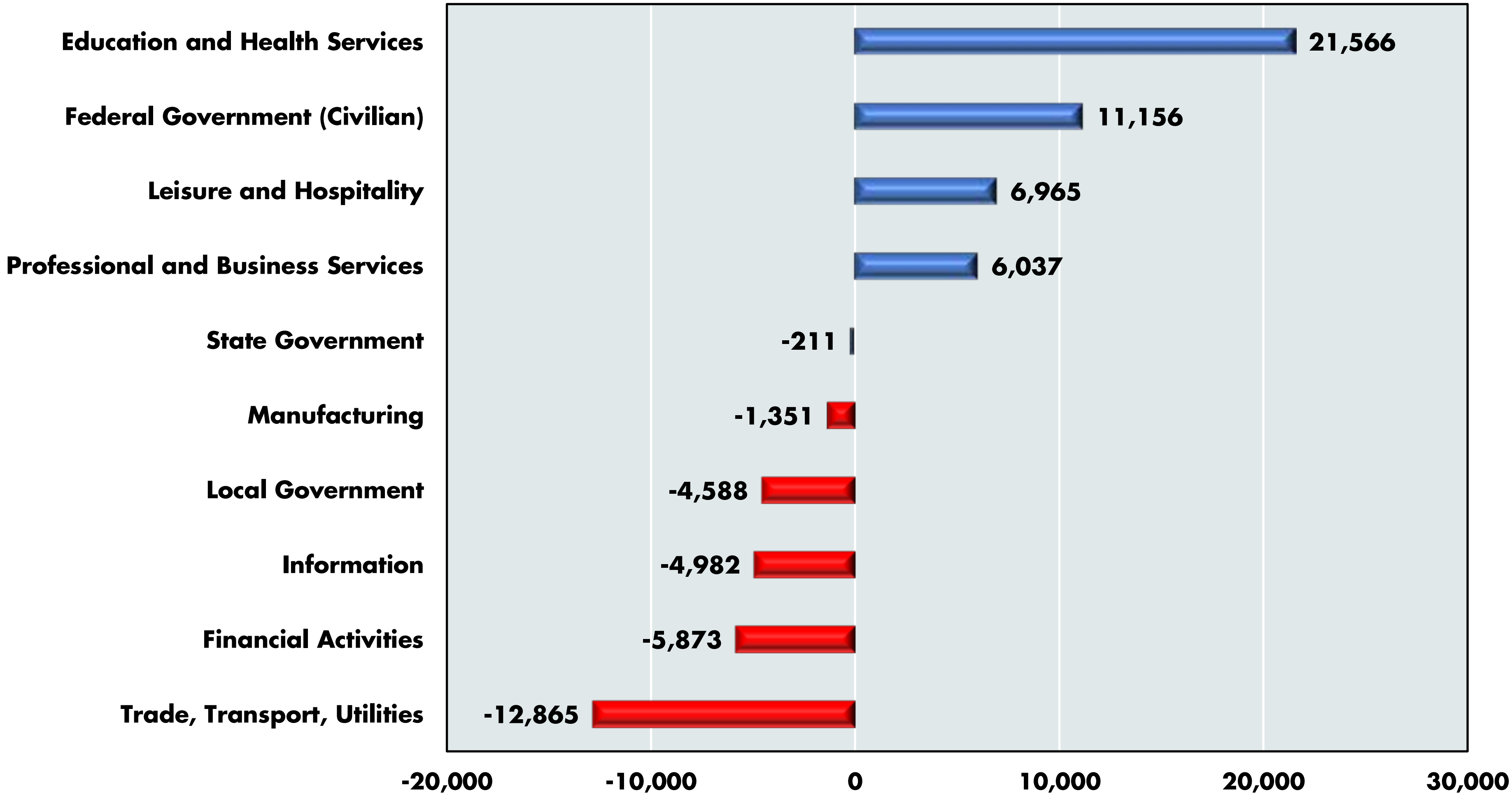
PERCENTAGE CHANGE IN NONFARM PAYROLLS COMPARED TO PRERECESSION PEAK: UNITED STATES, VIRGINIA AND HAMPTON ROADS, 2008-2019*



Sources: Bureau of Labor Statistics and the Dragas Center for Economic Analysis and Policy, Old Dominion University. Peak prerecession dates are January 2008 (United States), April 2008 (Virginia) and July 2007 (Hampton Roads). Data for U.S. through June 2019, Virginia and Hampton Roads through June 2019. U.S. data are preliminary for the last two months. Virginia and Hampton Roads data are preliminary for the last month. Seasonally adjusted data.

GRAPH 9

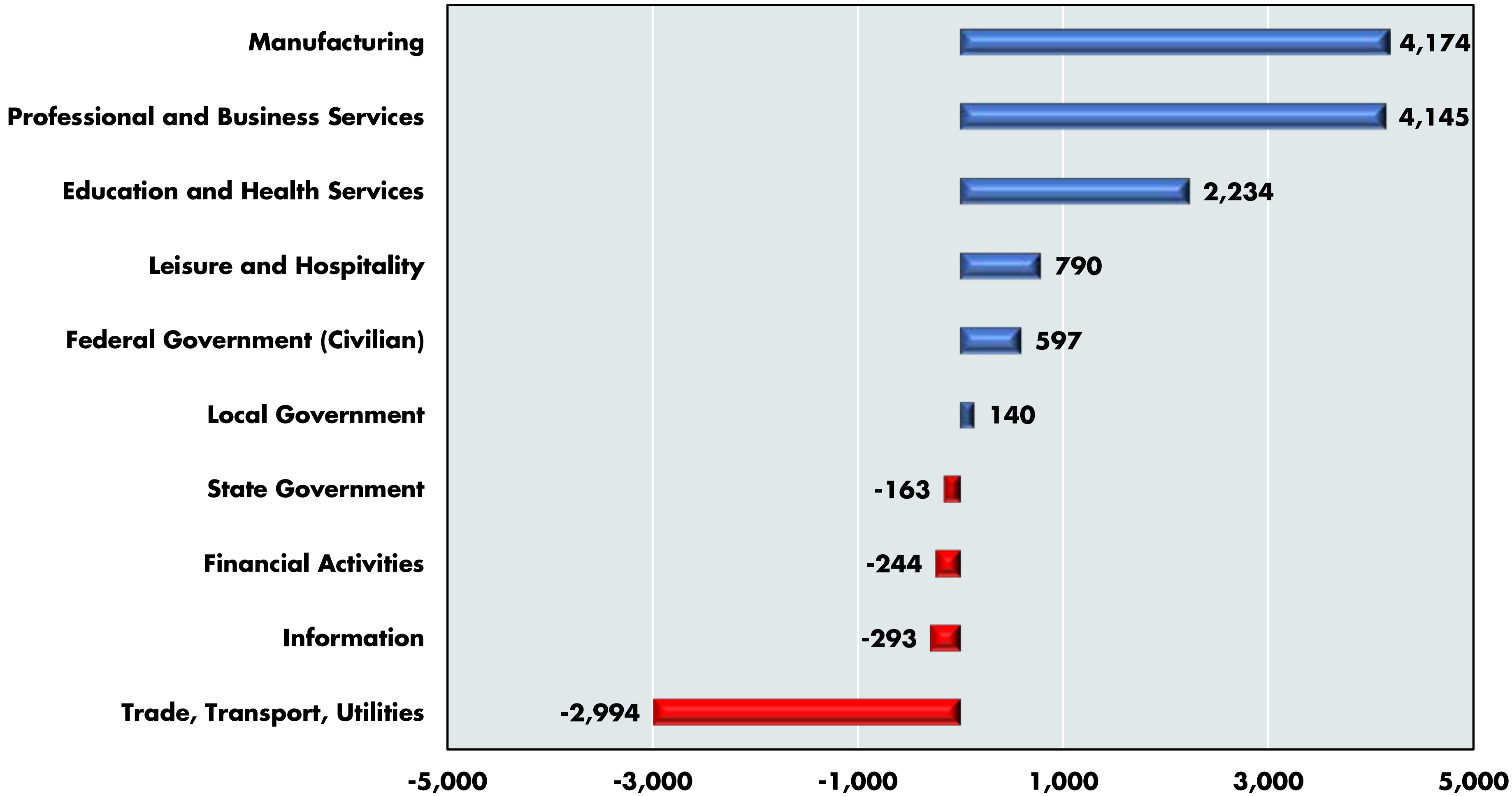
CHANGE IN ANNUAL COVERED EMPLOYMENT (JOBS) IN SELECTED SECTORS: HAMPTON ROADS, 2007-2018



Sources: Bureau of Labor Statistics and the Dragas Center for Economic Analysis and Policy, Old Dominion University. Annual data are from the Quarterly Census of Employment and Wages. Fourth quarter 2018 data are preliminary. Due to nondisclosure requirements, we use third quarter 2018 data for financial activities. Data are based on classification of industrial activity defined by the North American Industry Classification System (NAICS). NAICS classifies industries into sectors, which are reported in this graph.

GRAPH 10

CHANGE IN ANNUAL COVERED EMPLOYMENT (JOBS) IN SELECTED SECTORS: HAMPTON ROADS, 2017-2018



Sources: Bureau of Labor Statistics and the Dragas Center for Economic Analysis and Policy, Old Dominion University. Annual data are from the Quarterly Census of Employment and Wages. Fourth quarter 2018 data are preliminary. Due to nondisclosure requirements, we use third quarter 2018 data for financial activities. Data are based on classification of industrial activity defined by the North American Industry Classification System (NAICS). NAICS classifies industries into sectors, which are reported in this graph.

Federal Spending And Employment

The primary driver of the regional economy is federal and, more specifically, Department of Defense (DOD) spending. From the construction of ships and submarines in Newport News to the operation of naval air squadrons in Virginia Beach, the DOD plays a significant role in the regional economy. Graph 11 illustrates estimated direct DOD spending in Hampton Roads. From 2000 to 2012, this spending almost doubled, from $10 billion to $19.8 billion. The passage of the Budget Control Act of 2011 (BCA 2011) and the imposition of discretionary spending caps, however, resulted in an approximate $1 billion decline in direct DOD spending in FY 2013. It took four years for direct spending to recover to FY 2012 levels. Direct spending is forecast to increase to $22.1 billion in FY 2019, fueling economic growth in the region.

On Aug. 2, 2019, President Trump signed the Bipartisan Budget Act of 2019 (BBA 2019) into law. Much like prior BBAs, it is a two-year agreement that raises defense and nondefense discretionary spending caps for FY 2020 and FY 2021. For national defense, BBA 2019 increased the spending caps by $90.3 billion and $81.3 billion for FY 2020 and FY 2021, respectively. Under current law, there are no caps on defense and nondefense discretionary spending for FY 2022 and beyond. Sequestration, essentially, is dead. [8]

With the national defense spending caps increasing to an estimated $738 billion in FY 2020 and $740 billion in FY 2021, DOD expenditures on maintenance, operations, personnel and procurement should continue to rise in Hampton Roads in the near term. These additional federal dollars will fuel faster economic growth in the region in 2020 and, barring unforeseen circumstances, into 2021.

The outcome of the 2020 presidential election and whether the current economic expansion continues past 2020 will likely determine if there will be a retrenchment of defense spending in the early 2020s. We only have to look at the decline and subsequent stagnation of defense spending earlier this decade to understand how a future drawdown would impact regional economic growth.

One component of federal spending is the employment of federal civilian employees and military personnel. Graph 12 presents the composition and federal employment in Hampton Roads from 2001 to 2017. First, as a share of total federal employment, the number of military personnel employed in the region has declined from a peak of approximately 110,000 in 2003 to slightly over 81,000 in 2017. Over the same period, federal civilian employment increased by about 11,000. Hampton Roads had the largest number of military personnel and the second-largest number of federal civilian employees among Virginia's metros in 2017. The slow decline in military personnel, however, is concerning given that military personnel are supported by civilian employees and contractors and indirectly create numerous jobs in the regional economy. Technological advances (which reduce the number of personnel needed to operate ships and airplanes), changes in national security strategy, the increasing cost of military personnel and weapons systems, and the impact of climate change on military infrastructure in Hampton Roads all pose threats to the level of military personnel in the future.

Graph 13 illustrates that the total compensation of federal civilian employees and military personnel (wages, salaries, benefits) reached $14.2 billion in 2017. The average annual compensation for a federal civilian employee in Hampton Roads in 2017 was $113,908, 2.7 times greater than the average compensation of $42,660 for private nonfarm employees locally. Average compensation for military personnel in 2017 was $93,988, about 2.2 times greater than the average private compensation for the region.

For every lost military job, the private sector would need to create more than two jobs on average to replace the lost compensation. If federal civilian employment were to decline, the private sector would need to create almost three jobs on average to replace the lost compensation. The military personnel and federal civilian employees are "economic gold" for our region, providing not only high skills and abilities, but also earning higher than average compensation.

8 The DOD base budget is at least 90% of national defense (budget function 050) expenditures. Overseas contingency operations are not subject to the discretionary spending caps.

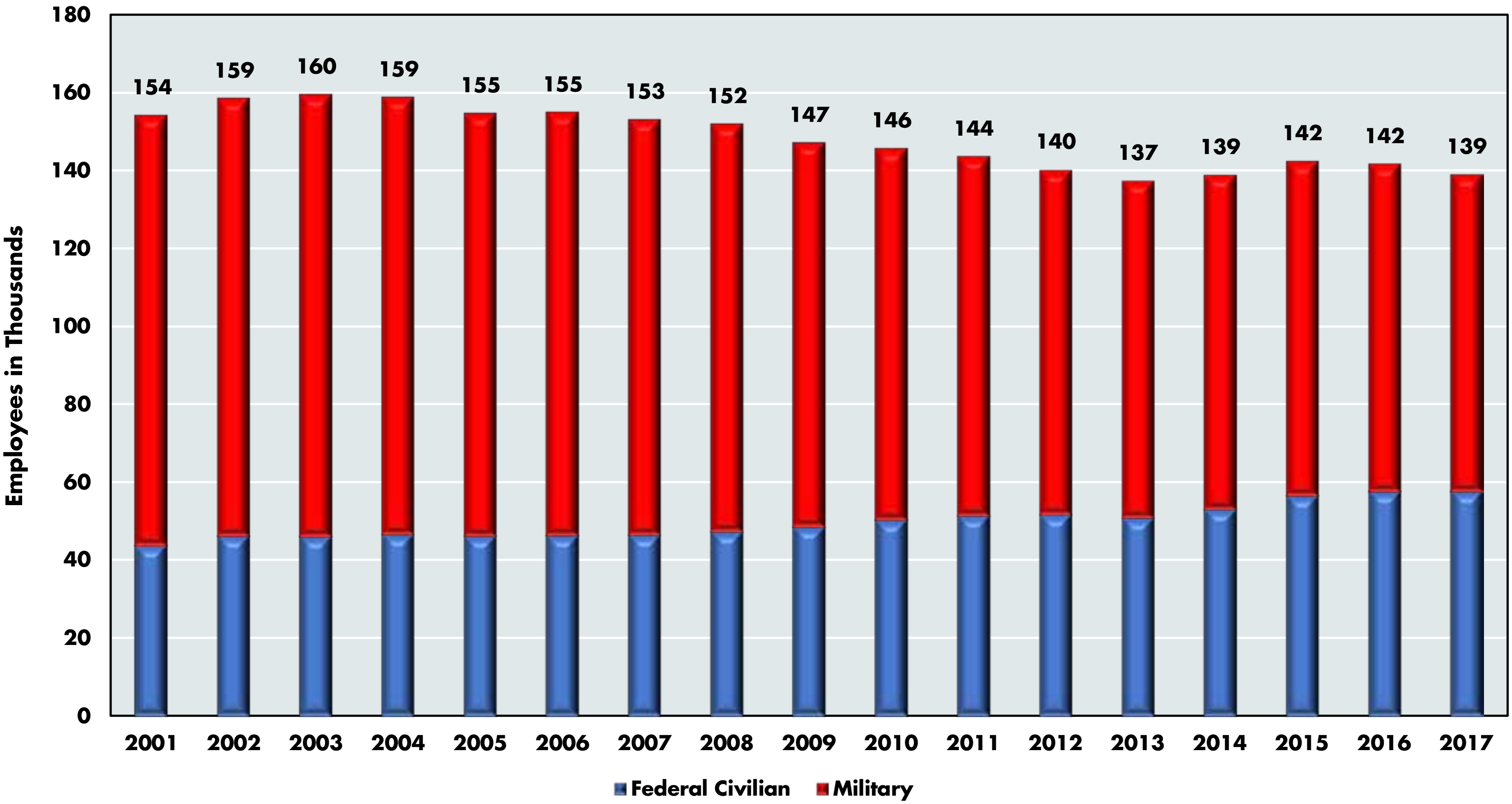
GRAPH 11

ESTIMATED DIRECT DEPARTMENT OF DEFENSE SPENDING: HAMPTON ROADS, 2000-2019

Sources: Department of Defense and the Dragas Center for Economic Analysis and Policy, Old Dominion University

GRAPH 12

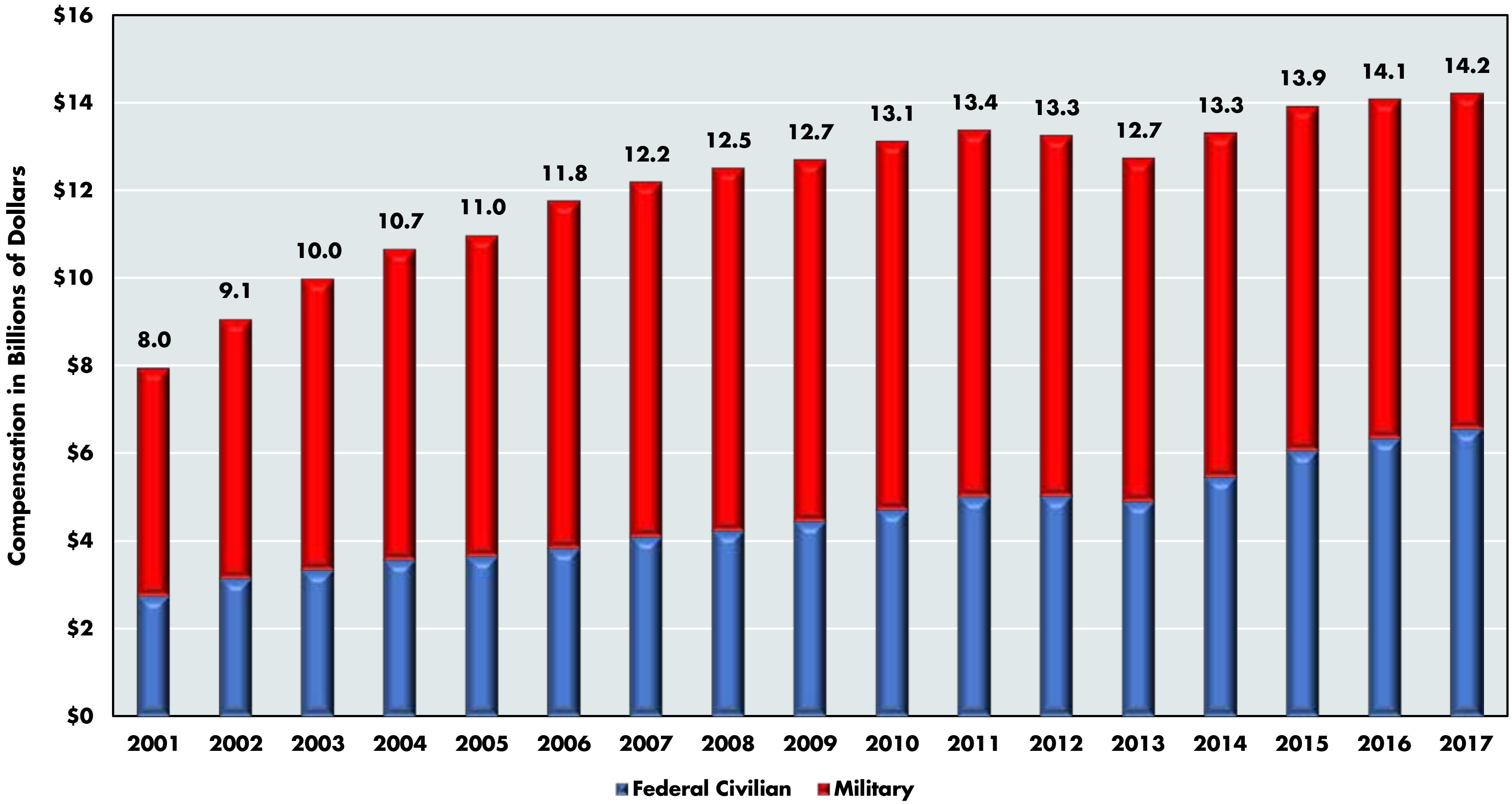
MILITARY AND FEDERAL CIVILIAN EMPLOYMENT: HAMPTON ROADS, 2001-2017



Sources: Bureau of Economic Analysis, CAEMP25N, Total Full-Time and Part-Time Employment by NAICS Industry, and the Dragas Center for Economic Analysis and Policy, Old Dominion University. Employment obtained by county and summed to the September 2018 metropolitan area definition.

GRAPH 13

MILITARY AND FEDERAL CIVILIAN TOTAL COMPENSATION (IN BILLIONS OF NOMINAL DOLLARS): HAMPTON ROADS, 2001-2017



Sources: Bureau of Economic Analysis, CAEMP25N, Total Full-Time and Part-Time Employment by NAICS Industry, and the Dragas Center for Economic Analysis and Policy, Old Dominion University. Compensation includes wages, salaries, employer-provided benefits and employer contributions to social insurance programs. Compensation obtained by county and summed to the September 2018 metropolitan area definition.

Troubling Signs In Establishment Data

An establishment is the single physical location where business is conducted or where services or industrial operations are performed. A region's economic activity is not only reflected in the value of output and the number of people employed by businesses, but also in whether the number of establishments is growing over time. Regions displaying robust economic growth will display gains in output, employment and establishments. Regions that are performing relatively poorly will display slow growth or declines in output, employment and establishments.

At the start of the century, establishment growth in Hampton Roads reflected the region's improving economic performance with the number of establishments peaking at slightly more than 40,000 in 2007 (Graph 14). As one might expect, the number of establishments declined during the Great Recession but there still hasn't been a complete recovery. At the end of 2016 (the most recent data), there were still about 2,220 fewer establishments than prior to the Great Recession.

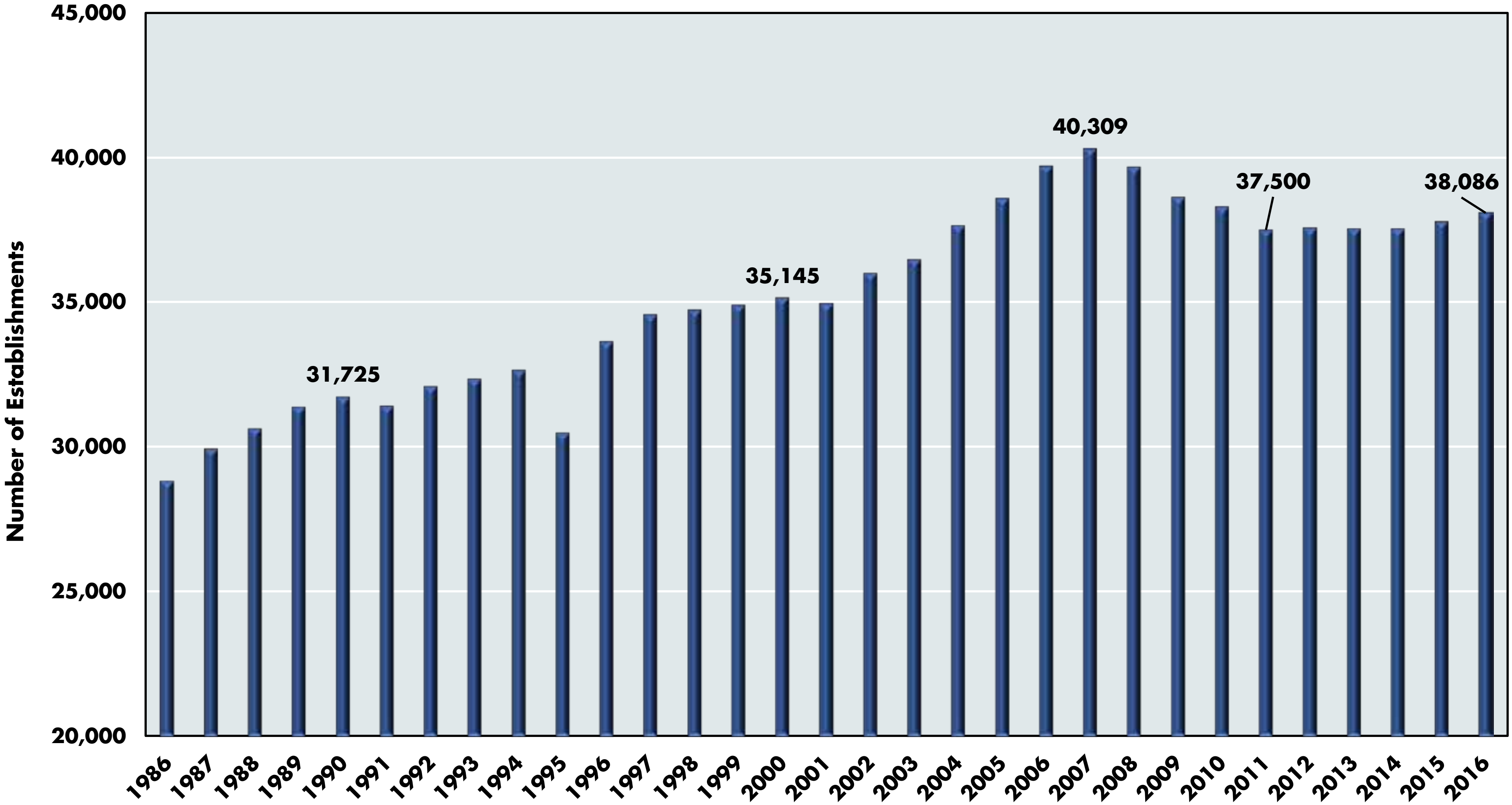
A downturn in establishment growth is not only occurring in our region, but also in Virginia and the United States. Table 4 displays the annual average growth in establishments for the nation, state and jurisdictions in the Hampton Roads metropolitan area. While our region outperformed the nation in the first decade of the century, neither Virginia nor Hampton Roads performed as well as the nation in the first six years of the current decade. Given the recent upticks in economic activity in the Commonwealth and the region, however, it may turn out that the number of establishments surged in the state and Hampton Roads in 2017 and 2018.

Focusing on the current decade, only Currituck County, Suffolk and Williamsburg had establishment growth rates in excess of the national average. Williamsburg's establishment growth rate of 2.1% from 2010 to 2016 was over three times greater than the state average and over twice the national average. However, this is a recovery from a severe contraction in the previous two decades rather than an expansion from previous growth.

Of particular concern is the contraction in the number of establishments in a majority of localities in Hampton Roads. The loss of establishments in these jurisdictions is another sign of lagging economic activity and, in many cases, corresponds to slow (or declining) population and employment growth. When individuals do not start new businesses, the outlook for future economic growth is cloudy.

GRAPH 14

NUMBER OF BUSINESS ESTABLISHMENTS: HAMPTON ROADS, 1986-2016



Sources: U.S. Census Bureau, County Business Patterns, and the Dragas Center for Economic Analysis and Policy, Old Dominion University

TABLE 4

ANNUAL AVERAGE BUSINESS ESTABLISHMENT GROWTH, UNITED STATES, VIRGINIA AND HAMPTON ROADS

	Annual Business Establishment Growth, 1990-1999	Annual Business Establishment Growth, 2000-2009	Annual Business Establishment Growth, 2010-2016
United States	+1.4%	+0.6%	+0.8%
Virginia	+1.7%	+1.1%	+0.6%
Hampton Roads	+1.1%	+1.1%	-0.1%
Camden County	+3.9%	+2.0%	+0.3%
Currituck County	+6.2%	+3.1%	+1.3%
Gates County	+0.3%	+0.0%	-1.2%
Gloucester County	+2.3%	+1.2%	-0.8%
Isle of Wight County	+1.6%	+2.2%	-0.1%
James City County	+12.8%	+5.4%	+0.7%
Mathews County	+0.5%	-1.2%	-0.5%
Southampton County	+2.8%	-1.6%	-1.1%
York County	+5.5%	+2.4%	-0.6%
Chesapeake	+3.4%	+2.0%	+0.0%
Franklin	-2.4%	+2.5%	-1.7%
Hampton	+0.0%	-0.2%	-0.3%
Newport News	+0.4%	+0.3%	+0.1%
Norfolk	-1.2%	+0.8%	-1.5%
Poquoson	+0.5%	+2.5%	-1.8%
Portsmouth	-0.6%	+0.9%	-1.0%
Suffolk	+0.7%	+2.9%	+1.0%
Virginia Beach	+1.7%	+0.7%	+0.5%
Williamsburg	-4.7%	-5.5%	+2.1%

Sources: U.S. Census Bureau, County Business Patterns, and the Dragas Center for Economic Analysis and Policy, Old Dominion University. Annual growth rate is the compound annual growth rate.

The Port Of Virginia: Increasing Profits, Troubled Waters?

At the beginning of the decade, the Port was spending more money on operations than it was receiving in revenue. Quite simply, it was losing money. General cargo tonnage and 20-foot equivalent container unit (TEU) traffic had fallen due to the Great Recession. More troubling, the Port was losing market share to its major competitors on the East Coast, including the ports of New York-New Jersey and Savannah, Georgia. Staying the course was not a remedy for what ailed the Port.

However, the Port of Virginia has undergone a financial transformation. Operating revenue has more than doubled from approximately $209 million in 2010 to $537 million in 2018 (Graph 15).[9] The net position of the Virginia Port Authority, which is the broadest measure of assets and liabilities, also exceeded $620 million at the end of FY 2018, well above any level this decade. Recent data for FY 2019 suggest that total TEUs increased by 3.9% and loaded import TEUs were up by 5.2%, but loaded export TEUs were down 4%.[10] While the increase in loaded TEU imports is good news, the decline in loaded TEU exports may be a signal of the economic impact of the trade conflicts with Virginia's major trading partners.

Unlike other parts of the regional economy, which are closely tied to decisions on defense spending in Washington, D.C., the Port is highly integrated into the global economy. While the regional economy was limping along in the early years of the decade, the global economy rebounded sharply from the financial crisis and continued global growth has led to sustained increases this decade in cargo traffic (Graph 16).

However, cargo tonnage did not grow from 2017 to 2018 due to capacity constraints at the Port and the ongoing trade conflicts with China and other major trading partners. Even if the ongoing trade conflicts abate by the end of 2019, it may take years to recover from the loss of market share to foreign competitors.

The Port of Virginia also faces well-funded competition from other ports on the Eastern Seaboard. While total trade volumes have increased over the last decade, these gains have not been evenly distributed among the Port of Virginia and its competitors. Savannah has gained market share this decade while New York-New Jersey has lost market share (Graph 17). Charleston, South Carolina, has seen a slight increase in the percentage of TEU traffic over the same period. The Port of Virginia, on the other hand, saw market share rise to a high of 18.3% in 2013 before falling back to 16.6% in May of 2019. While a decline of approximately 1.6 percentage points may not sound like much, when there are millions of TEUs loaded every year on the East Coast, the decline in market share represents a significant loss of potential traffic.

Wisely, the Port of Virginia has not been standing still as change has buffeted the shipping industry. Recently, the Port installed four new 170-foot-tall ship-to-shore cranes to speed the offloading and loading of container ships. **From 2011 to mid-2019, the average number of TEUs per container vessel increased by a staggering 85% at the Port (Graph 18). Ships are getting larger and ports that invest in processing larger ships will, over time, be rewarded with more cargo traffic. The Port and the Commonwealth must continue to make investments to accommodate larger ships.**

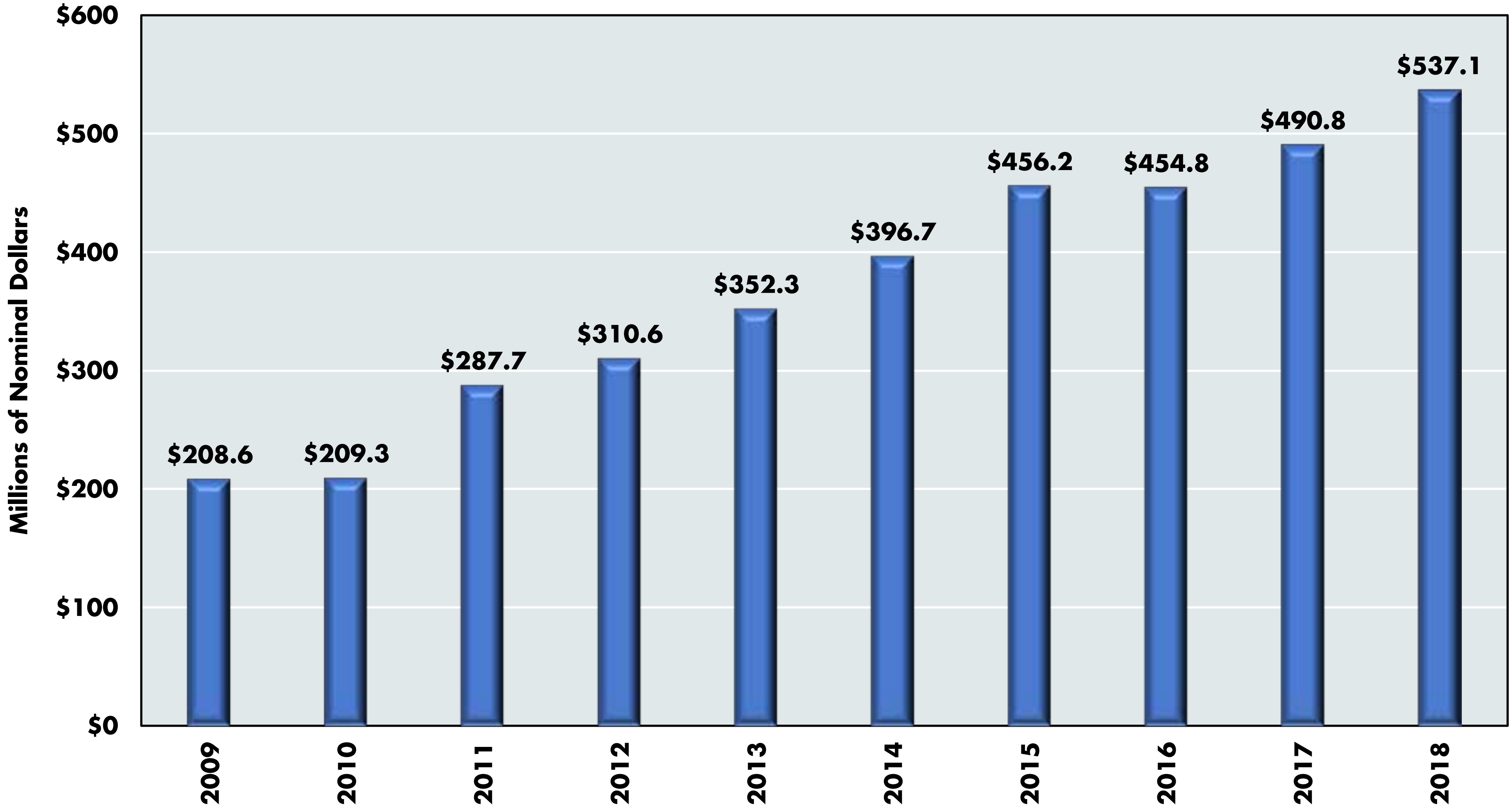
We cannot forecast fair winds and following seas for the Port of Virginia in the near term. While a resolution to the ongoing and threatened trade conflicts would bring a sense of relief, how exports and imports would recover over time is unknown. Would foreign businesses that have found suppliers in other nations readily return to buying goods and services from American farmers and businesses? We do know that tariffs are paid for by American importers and then either absorbed (lowering profits), passed along to consumers (increasing prices) or both. At some point, the increased inefficiencies from tariffs will act as a drag on the U.S. economy.

9 We recognize that financial statements may be revised in the light of new leases and accounting standards, and refer readers to the latest reports available on the Virginia Port Authority's website.

10 Port of Virginia, June 23, 2019, "FY 2019 Yield Cargo Record, Completion of Construction at VIG, Progress on Multiple Projects."

GRAPH 15

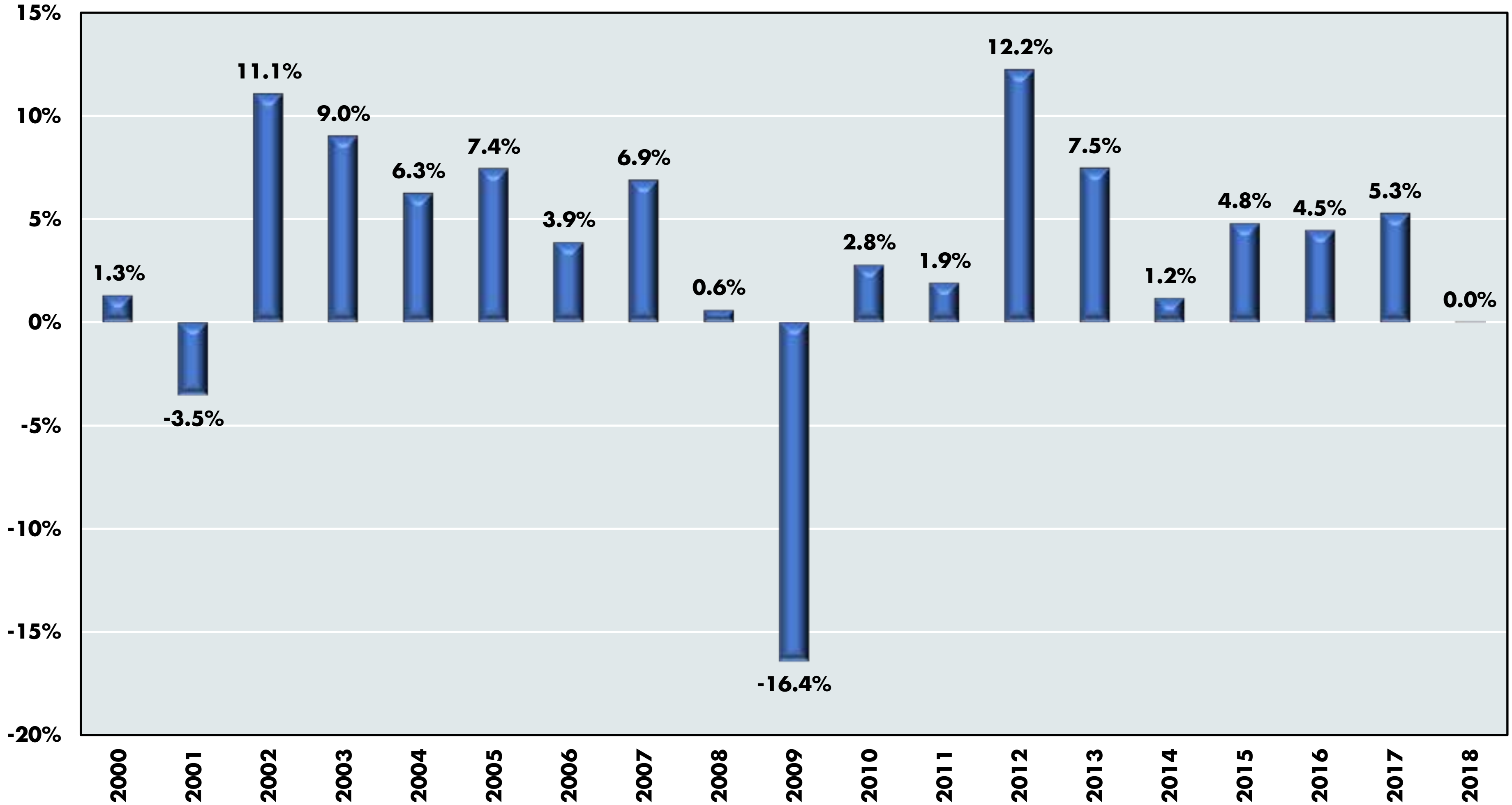
TOTAL OPERATING REVENUES: VIRGINIA PORT AUTHORITY, FY 2009-FY 2018



Source: Virginia Port Authority, 2018 Comprehensive Annual Financial Report

GRAPH 16

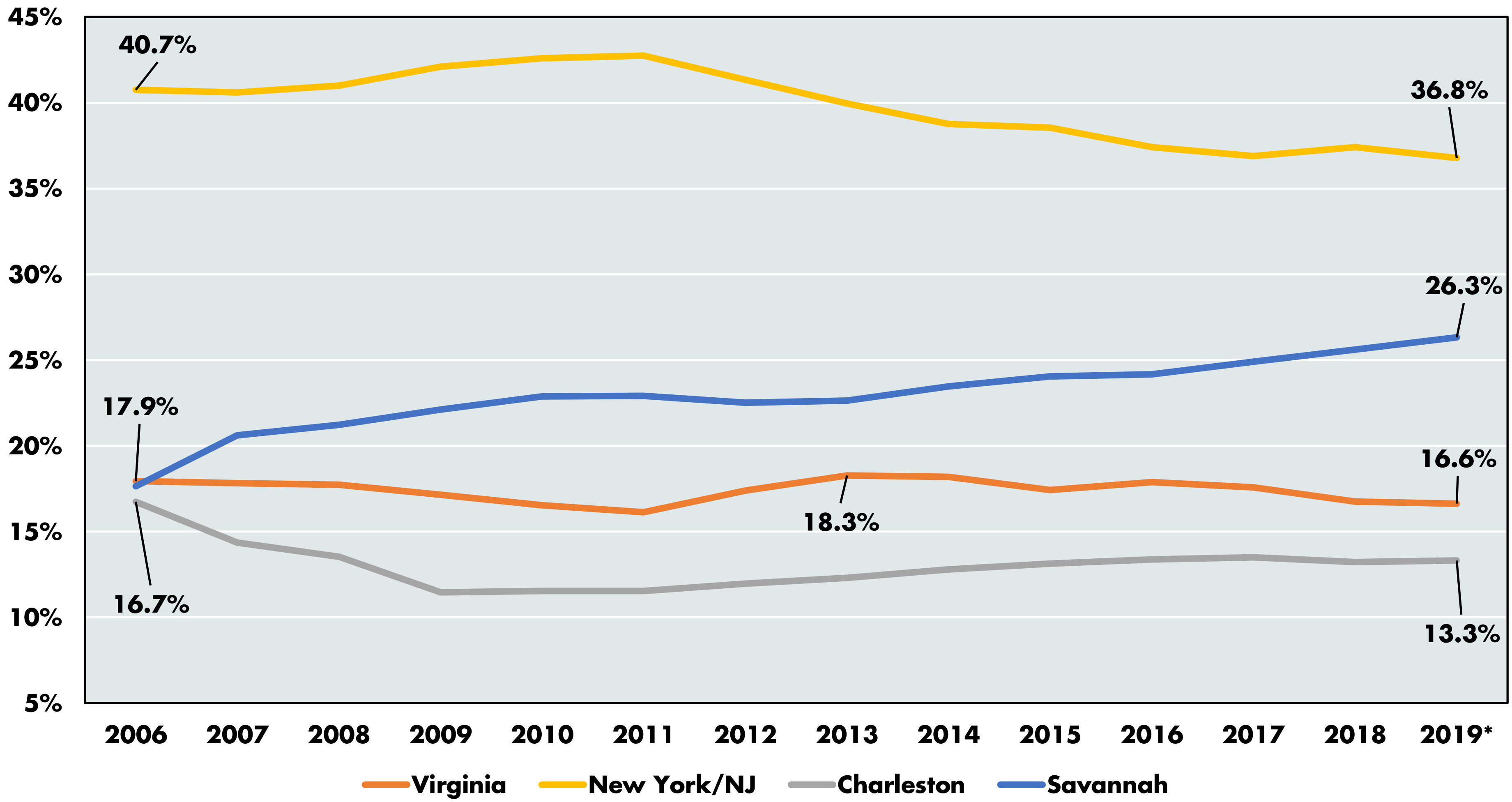
ANNUAL CHANGE IN GENERAL CARGO TONNAGE: PORT OF VIRGINIA, 2000-2018



Source: Virginia Port Authority, Comprehensive Finance Reports, various years

GRAPH 17

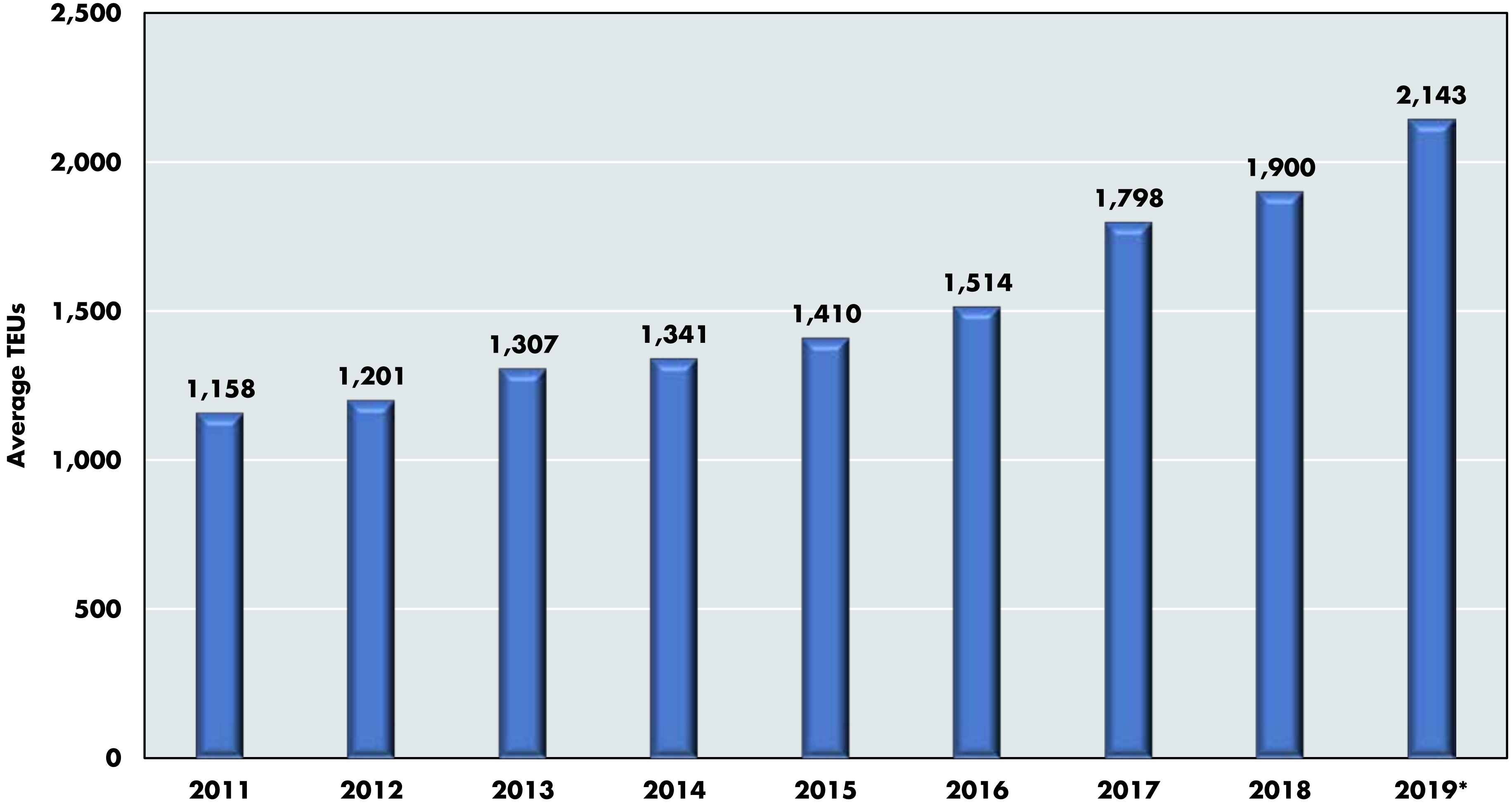
SHARES OF LOADED 20-FOOT EQUIVALENT CONTAINER UNITS (TEUS): SELECTED PORTS ON THE EAST COAST, 2006-2019



Sources: American Association of Port Authorities, port websites and the Dragas Center for Economic Analysis and Policy, Old Dominion University. Market shares are based on TEUs for Baltimore, Boston, Charleston, Virginia, New York/New Jersey and Savannah. *For 2019, data are through May 2019.

GRAPH 18

AVERAGE TEUS PER CONTAINER VESSEL CALL: PORT OF VIRGINIA, 2011-2019*



Sources: Virginia Port Authority and the Dragas Center for Economic Analysis and Policy, Old Dominion University. *For 2019, data are through May 2019.

For now, however, we can say that the costs of tariffs have been unevenly spread across the country. Compared to states that are heavily engaged in agriculture or automobile production, Virginia has not been heavily damaged.

The Port also must contend with slowing global economic growth. Not only has Europe slowed, but China and many other Asian countries also are experiencing downturns in the rate of growth. As growth slows in a country, its demand for imported goods nearly always declines, and hence, trade, slacks off. The challenge for the Port and, by extension, the Commonwealth, is to continue to make investments in increasing capacity, improving efficiency and dredging the shipping channel. These investments would strengthen a key pillar of the Hampton Roads economy.

Housing: It's A Seller's Market

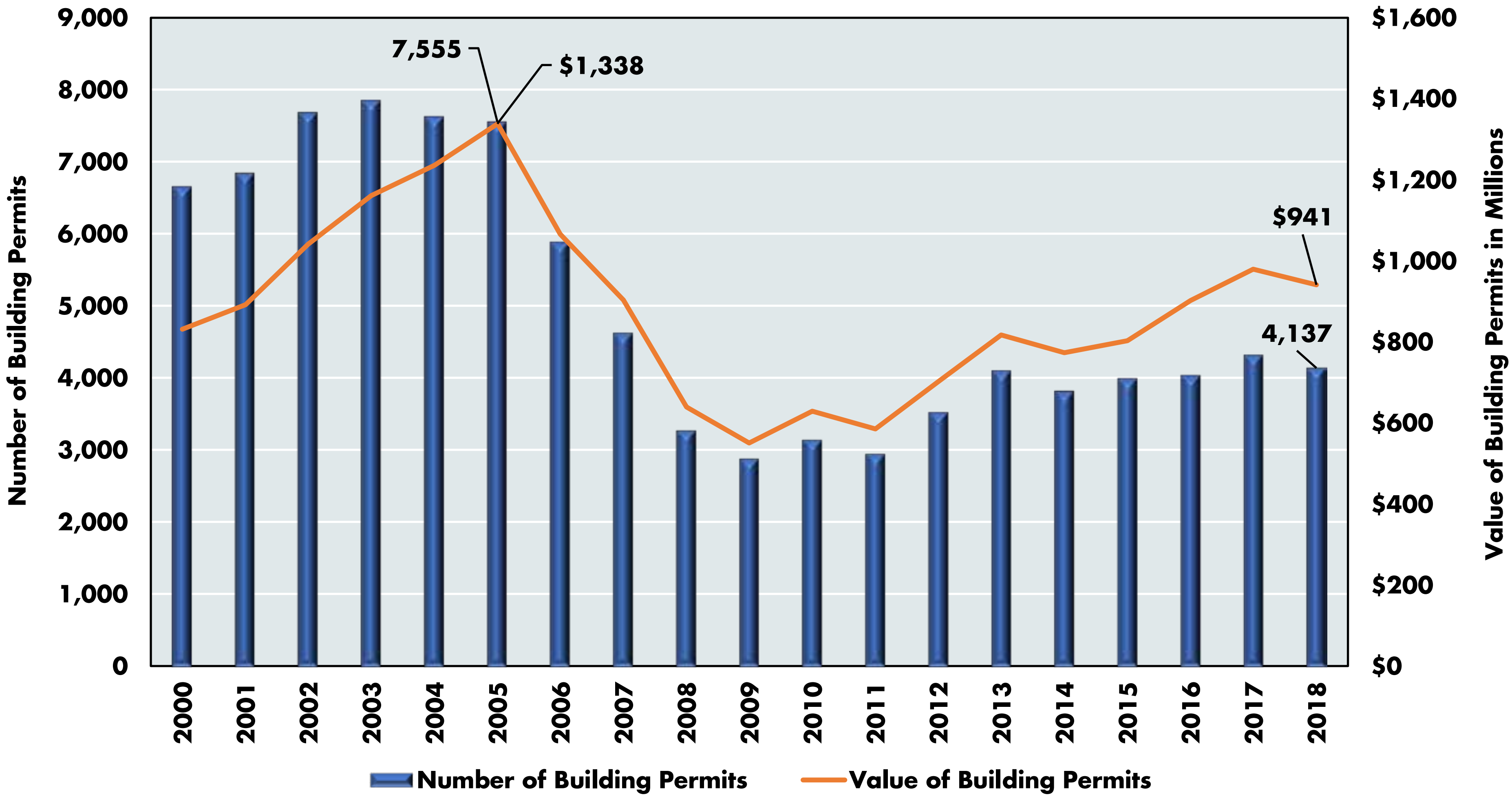
In many ways, Hampton Roads is distinctive. From the region's relationship to the military to coping with sea level rise, Hampton Roads is different from many other large metropolitan areas in the United States. The real estate market provides an example. It was slow to recover from the Great Recession but now is experiencing surges in sales and median sales prices. Let's take a closer look at what's happening to residential housing in Hampton Roads.

Like many other markets in the U.S., the construction of single-family residential housing has undergone a structural change since the Great Recession. The number of single-family building permits started falling in 2005 and continued to decline through 2009. Unlike previous declines in residential construction, there has not been a rebound in residential construction activity this decade (Graph 19). The total number of single-family building permits in Hampton Roads was 45% lower in 2018 than in 2005 and the value of the permits was 30% lower over the same period.

With a relatively stagnant regional economy in the first part of the decade, single-family home sales recovered, but slowly. Sales of existing homes dominated the market this decade, easily outpacing the growth in new-construction sales (Graph 20). Without a marked increase in supply, the market for existing homes slowly cleared over time. The median sales price of existing homes peaked at $223,000 in 2007. At its nadir, the median sales price of existing homes was $180,000 in 2011. It took another seven years for the price of existing homes to eclipse the prerecession peak. In 2018, the median sales price was $225,000 and more recent data in 2019 suggest that prices have continued to increase.

GRAPH 19

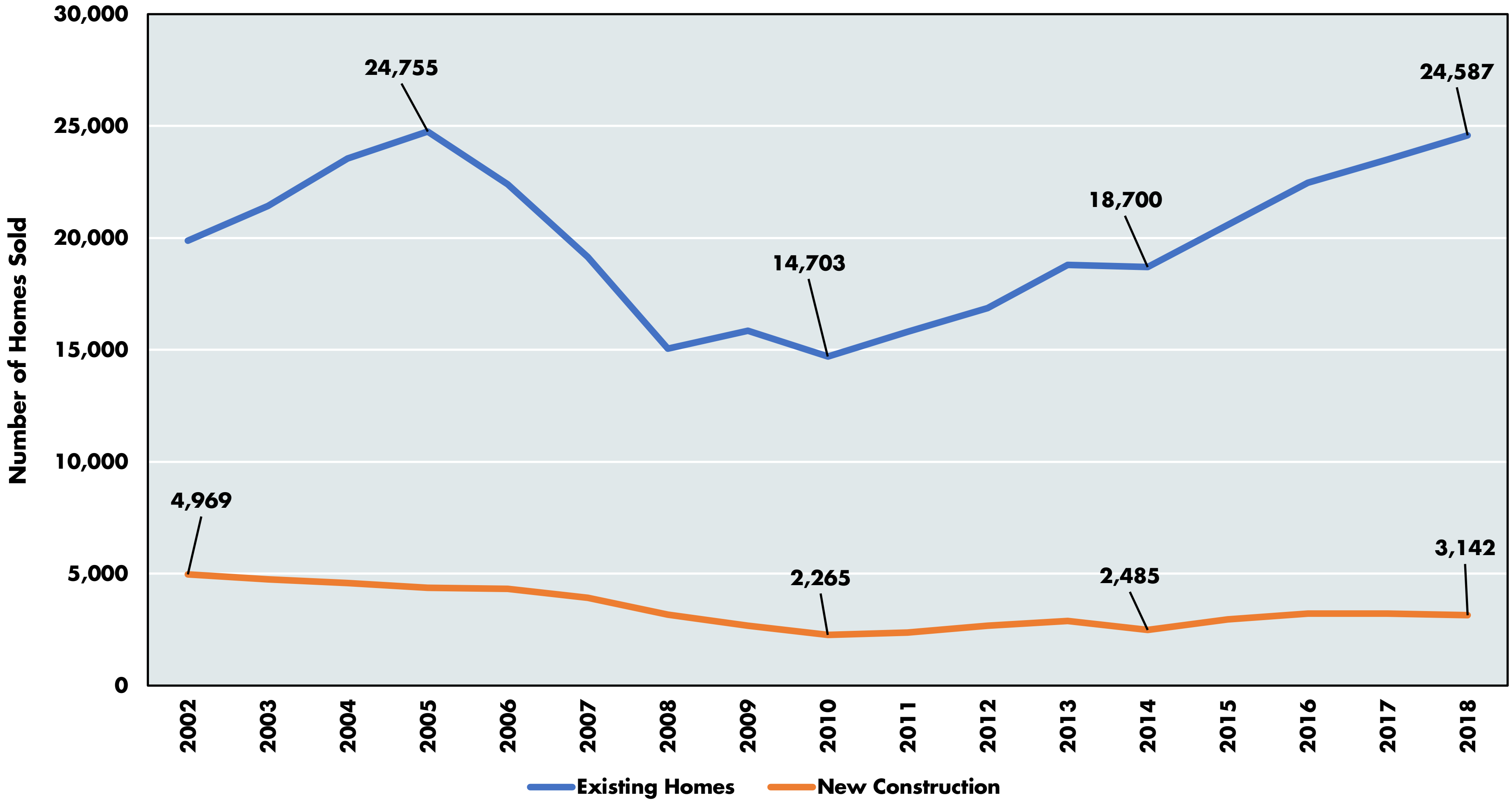
NUMBER AND VALUE OF ONE-UNIT SINGLE-FAMILY RESIDENTIAL BUILDING PERMITS: HAMPTON ROADS, 2000-2018



Source: U.S. Census Bureau, Building Permits Survey by Metropolitan Area (2019)

GRAPH 20

SALES OF EXISTING AND NEW-CONSTRUCTION SINGLE-FAMILY HOMES: HAMPTON ROADS, 2002-2018



Sources: Real Estate Information Network (REIN) and the Dragas Center for Economic Analysis and Policy, Old Dominion University. Figures reported here represent only those properties that are listed through REIN by REIN members and may not represent all new construction activity in our region.

Table 5 shows that the median sales price of existing homes in 2018 finally exceeded the prices observed prior to the Great Recession. The increase is nothing to crow about – only 1% in nominal terms – but is welcome news for homeowners (albeit not so welcome news for home buyers). Within Hampton Roads, the recovery in housing prices has been uneven. Some jurisdictions (Chesapeake, Virginia Beach and Williamsburg, for example) are seeing strong growth in sales and prices. Other localities continue to struggle. Invariably, economic activity and population growth are tightly correlated with housing demand. Jurisdictions that are increasing in population and business activity are more likely to have higher housing demand and sales prices.

With so many other regions experiencing annual double-digit growth in the median sales prices of existing homes, why has it taken so long for Hampton Roads to recover? First, about one-third of home sales in our region are financed with a Veterans Administration loan. These loans typically require a smaller down payment and thus buyers have less "skin" in the game. Second, with slower economic and population growth, demand for housing has not increased as fast as in other regions, so it has taken the market longer to clear out distressed properties. Short sales and bank-owned properties sell at a substantial discount and depress market prices.

While the number of residential foreclosure filings was at its lowest point in a decade in 2018, it still was twice the level observed in 2007 and almost seven times higher than 2006 (Graph 21). Foreclosure filings are still well above prerecession levels and may be a signal of the financial weakness of homeowners in the region and their vulnerability to a significant economic downturn.

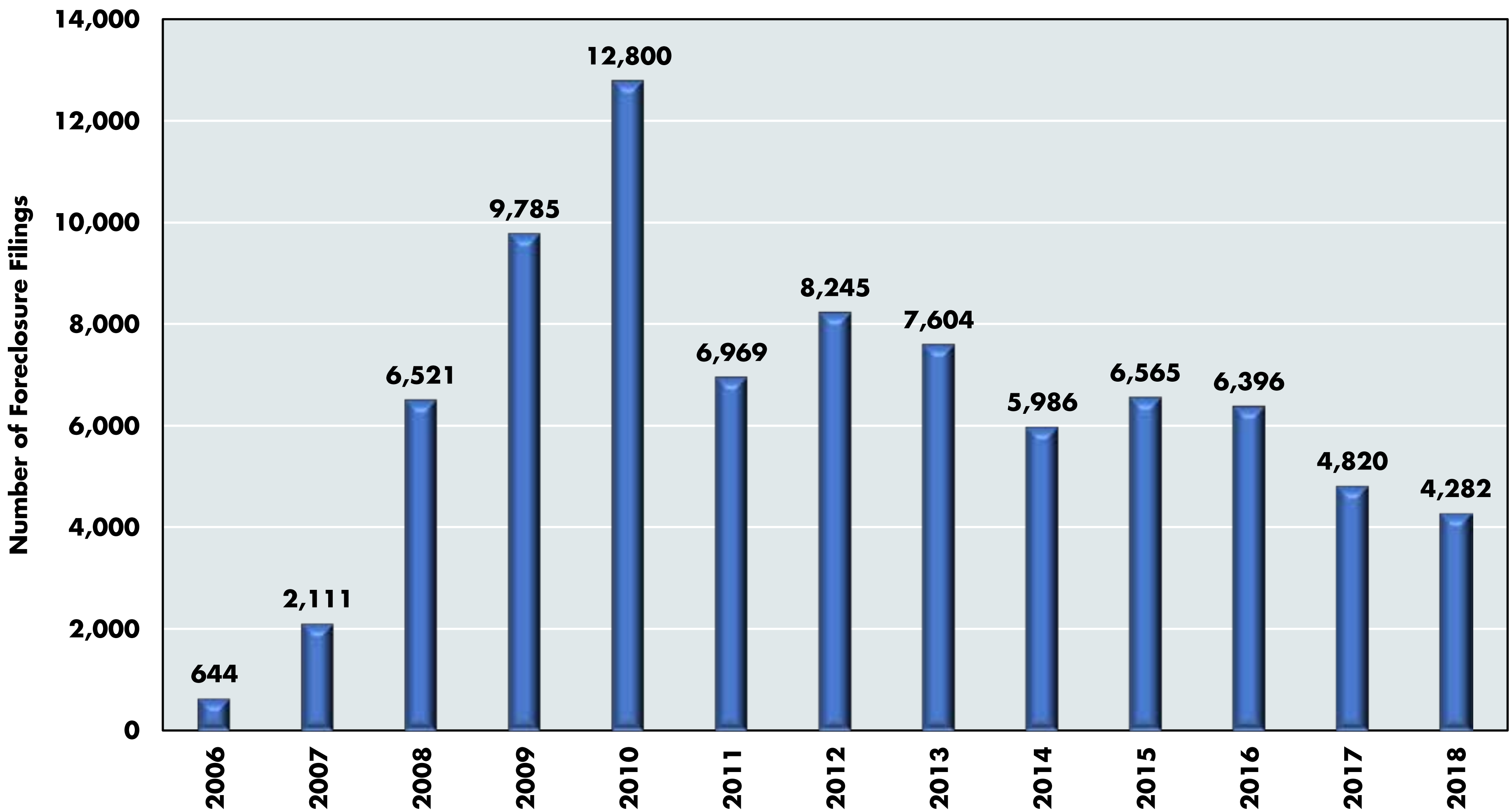
TABLE 5
MEDIAN SALES PRICE OF EXISTING RESIDENTIAL HOUSING: SELECTED CITIES IN HAMPTON ROADS, 2007 AND 2018

	Median Sales Price 2007	Median Sales Price 2018	Percent Change in Median Sales Price
Chesapeake	$250,100	$254,900	+1.9%
Norfolk	$195,000	$192,000	-1.5%
Portsmouth	$165,500	$149,900	-9.4%
Suffolk*	$257,500	$243,000	-5.6%
Virginia Beach	$245,000	$254,900	+4.0%
Hampton	$180,000	$165,900	-7.8%
Newport News	$199,250	$179,000	-10.2%
Williamsburg**	$284,450	$291,500	+2.5%
Hampton Roads	$223,000	$225,000	+0.9%

Sources: Real Estate Information Network and the Dragas Center for Economic Analysis and Policy, Old Dominion University. *Median price in Suffolk peaked in 2006 at $263,950. **Williamsburg represents Poquoson, Williamsburg, James City County, York County and Gloucester County.

GRAPH 21

NUMBER OF RESIDENTIAL FORECLOSURE FILINGS: HAMPTON ROADS, 2006-2018



Sources: Attom Data Solutions (formerly known as RealtyTrac) and the Dragas Center for Economic Analysis and Policy, Old Dominion University. Filings include Notice of Trustee Sale and Real Estate Owned (owned by the lender).

Is The Cost Of Housing "Reasonable" In Hampton Roads?

Hampton Roads often sells itself as an affordable place to live with a high quality of life. Undoubtedly, if one has commuted in Washington, D.C., Los Angeles or a number of other major metropolitan areas, our traffic seems almost bearable. And horror stories abound of expensive housing costs in many large cities, such as San Francisco, where the cost of renting a one-bedroom can exceed $4,000 a month.[11] The 2019 Home Affordability Report by Unison provides data to compare how long it would take an individual earning the median level of income to save for a down payment on a residence.[12] In the 2019 report, the most expensive metro area in the U.S. was the Santa Cruz-Watsonville MSA, with a median home value of $728,336 and median income of $69,525. Assuming that an individual earning the median income in the Santa Cruz-Watsonville MSA could save 5% annually for a down payment, it would take 42 years for this person to save enough for a 20% down payment. Even with a 20% down payment, the mortgage payment for principal and interest would be over $3,500 a month.

Clearly, owning a home in Hampton Roads is not nearly as challenging as it is in the Santa Cruz-Watsonville MSA. But just how affordable is a residence in our region? Graph 22 compares Hampton Roads with peer and aspirational metropolitan areas. An individual earning the median annual income in our region and saving 5% of his or her income would need approximately 16 years to save enough for a 20% down payment. In 2018, the median housing value in Hampton Roads was the second highest among the peer metros, while median income was fourth highest.

However, Hampton Roads was not the most expensive metropolitan area in Virginia. By far, the costliest was the Washington, D.C., metro area, where the median housing value was almost $430,000. Median household income was nearly $100,000 for this metro area, so the median-income earner would need 17 years to accumulate enough for a 20% down payment. The Charlottesville MSA was also reported to have a 17 years to save index value, while Harrisonburg had a 16-year value. Among Virginia's metro regions, Martinsville had the lowest value (10 years) due to a median housing value of almost $93,000 and a median household income of around $37,000.

If owning a home is more expensive, then perhaps renting is the affordable alternative. In the 2018 State of the Region Report, we examined the expansion of multifamily housing in Hampton Roads and the increase in the quality of multifamily housing. Nationally, and in our region, multifamily housing vacancies have declined recently and are projected to decline in the coming years. Baby boomers are retiring and downsizing, in many cases from single-family to multifamily housing. At the same time, homeownership rates for younger generations are lower, in part due to increasing housing prices and increasing levels of student debt. **According to the U.S. Census Bureau, the rental vacancy rate for Hampton Roads fell from 8.2% in 2017 to 7.1% in 2018.[13] Lower vacancies coupled with higher demand have increased median rents in the region and the nation.**

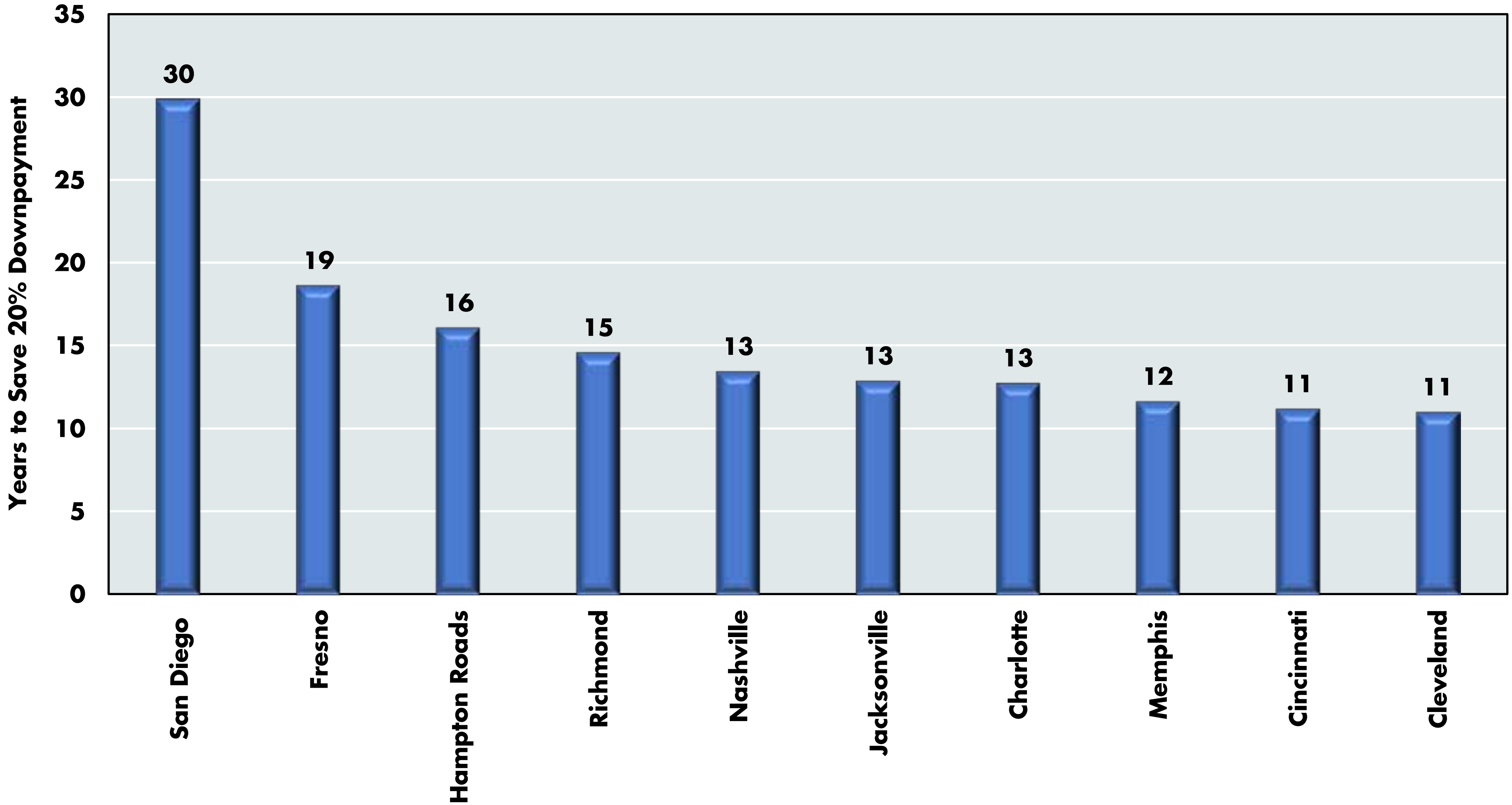
Graph 23 compares the real (inflation-adjusted) median rent and the housing payment for a three-bedroom home in Hampton Roads. When housing prices were increasing rapidly prior to the Great Recession, renting was relatively cheaper than owning. The steep decline and slow recovery of housing values after the recession meant that it became, on average, cheaper to own than rent. Even with the recent growth in median sales prices, the monthly cost of homeownership is still below monthly rent. Yet, while surveys suggest that many renters aspire to homeownership, their lack of savings and the time it takes to accumulate savings remain. For many, this has been an insurmountable barrier.

11 https://sf.curbed.com/2019/7/2/20678607/san-francisco-rent-comparisons-curbed-bayview-glen-park
12 https://contentimages.o-prod.unison.com/images/downloads/Unison_Affordability-Report_2019.pdf

13 U.S. Census Bureau, Housing Vacancies and Homeownership (2019), Table 6, Rental Vacancy Rates for the 75 Largest Metropolitan Areas in the United States.

GRAPH 22

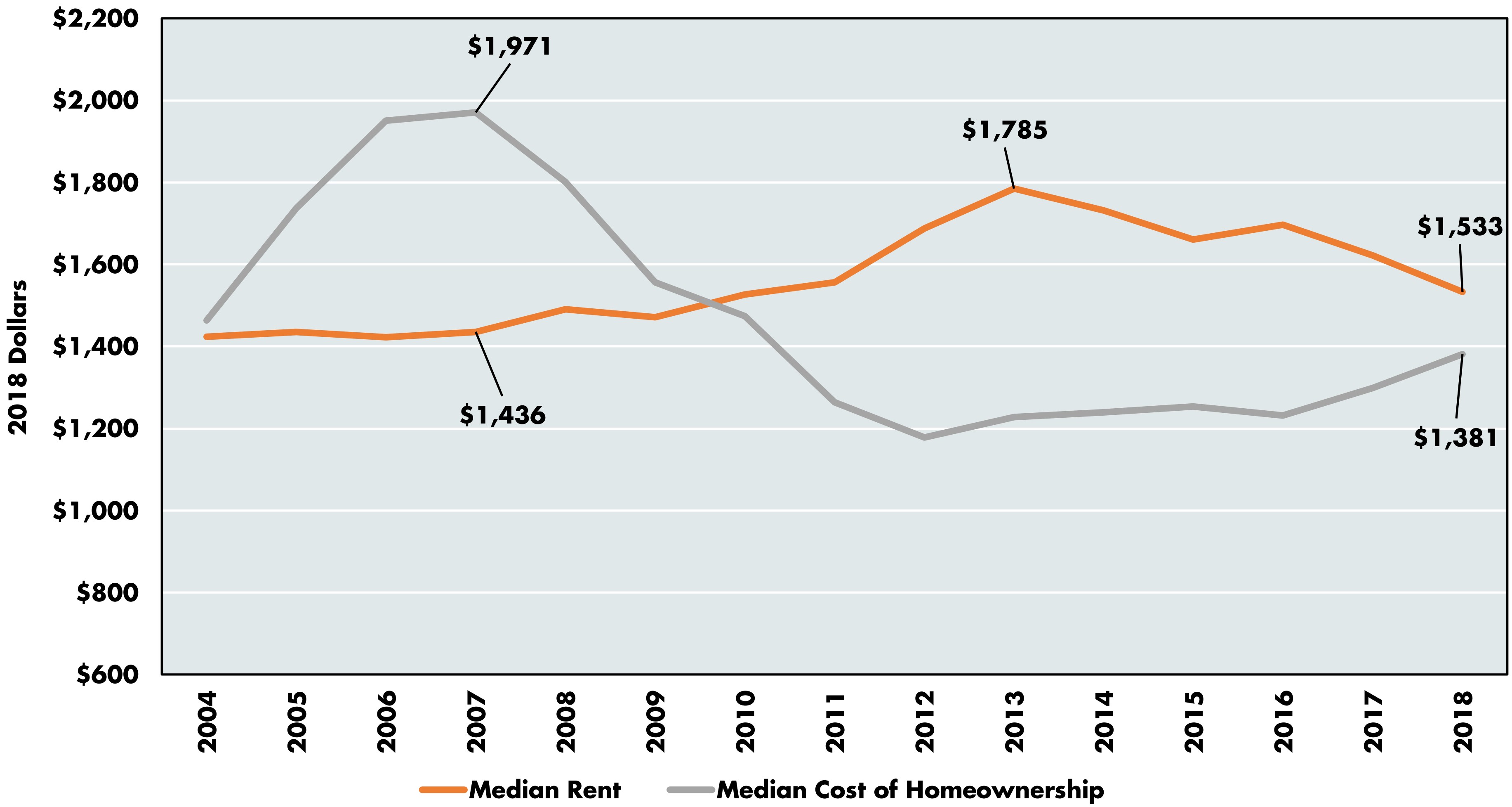
YEARS TO SAVE A 20% DOWN PAYMENT FOR A MEDIAN-INCOME EARNER: SELECTED METROPOLITAN AREAS, 2018



Source: Unison 2019 Home Affordability Report

GRAPH 23

MEDIAN RENT AND MEDIAN COST OF HOMEOWNERSHIP IN 2018 DOLLARS: THREE-BEDROOM HOUSE IN HAMPTON ROADS, 2004-2018



Sources: U.S. Department of Housing and Urban Development and the Dragas Center for Economic Analysis and Policy, Old Dominion University. Rent estimates are for the 50th percentile. It is assumed that the real estate tax rate is 1% and the tax reduction received by homeowners would compensate for homeowner's insurance and maintenance expenditures. Prevailing 30-year-average mortgage rate is used for each year. Consumer Price Index for Housing obtained from the Bureau of Labor Statistics.

The Hotel Sector Sets A Record Or Two

2018 was a good year for the hospitality and tourism industry in Hampton Roads and that was before the Something in the Water festival in 2019. As reported in Graph 24, the number of hotel rooms in the region increased by about 200 from 2017 to 2018, yet remained about 2,500 rooms below the peak of 2010. More importantly, the hotel occupancy rate continued to rise in 2018. Average occupancy rose to 63% in 2018, almost 10 percentage points higher than the low in 2013. As occupancy has risen steadily since 2014, it should be no surprise that hotel revenues have increased as well.

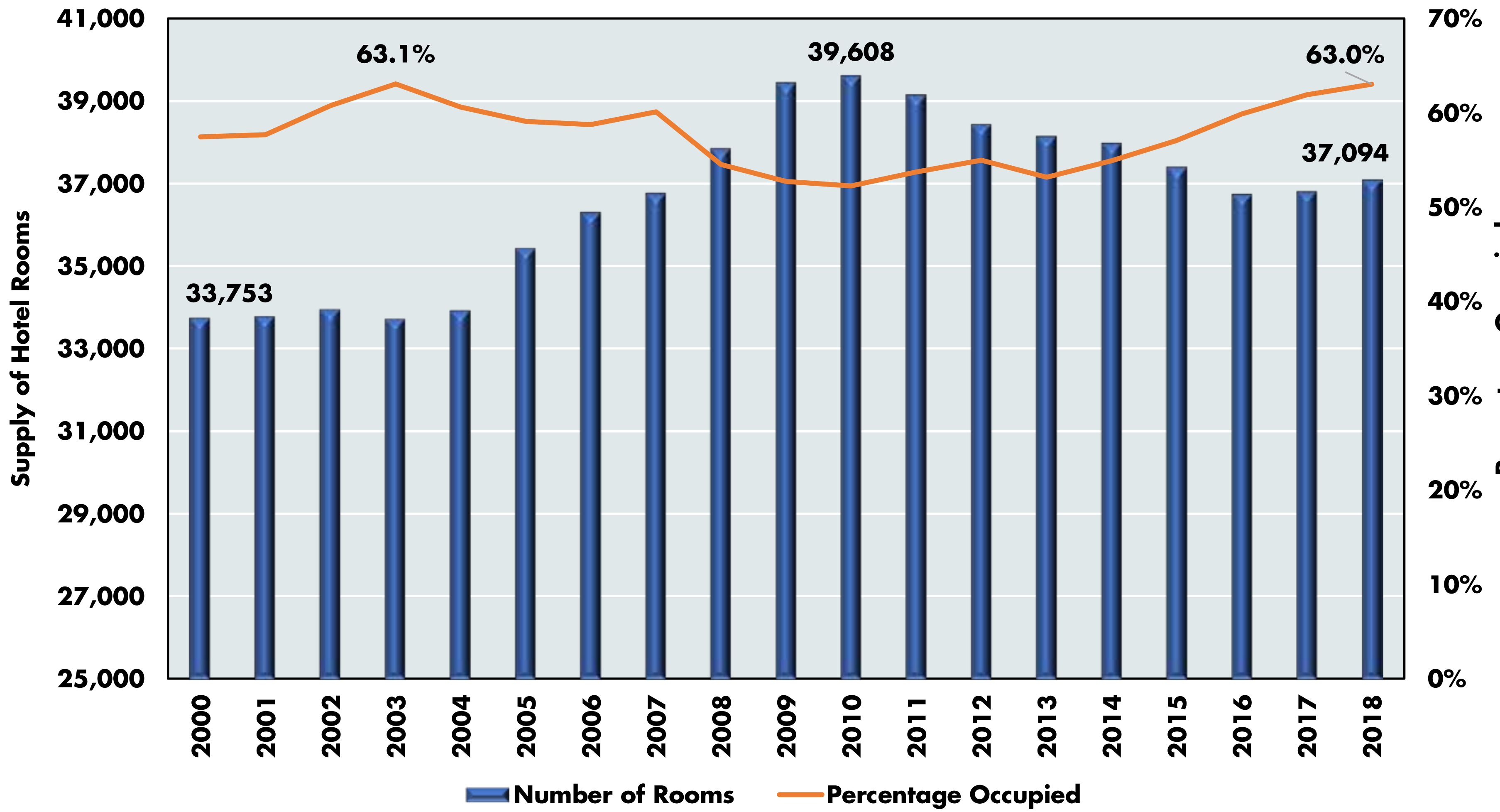
Accelerating economic growth in Virginia and the continuation of the economic expansion in the U.S. has led to an increasing number of tourists in Hampton Roads. Greater demand, reduced supply and, in many cases, higher room quality have meant that hotel revenues increased to record levels in 2018. As displayed in Graph 25, nominal (before inflation) hotel revenues exceeded $880 million in 2018. **Real (inflation-adjusted) hotel revenues were about $728 million in 2007 dollars, almost $20 million higher than the prerecession peak. 2018 was the fifth consecutive year of real hotel revenue growth, though we must express a note of caution that real revenue growth slowed to 2% in 2018.**

To examine whether the hotel sector has been improving or declining, we need a measure that captures revenue and the supply of rooms. The industry standard in this regard is Revenue per Available Room (RevPAR). If revenue increases but the supply of rooms does not, RevPAR increases as each available room is generating more revenue. On the other hand, if revenue increases but the supply of rooms increases at a greater rate, then RevPAR falls, as each available room is earning less money. RevPAR is a valuable metric because it incorporates demand and supply influences.

Graph 26 displays the year-over-year change in RevPAR for selected markets in Hampton Roads for 2018. The relatively slow growth in RevPAR in Virginia Beach, the region's largest city and tourist destination, suggests that the pricing power of hotels in this city may be under pressure. On the other hand, the Newport News-Hampton, Chesapeake-Suffolk and Norfolk-Portsmouth markets all demonstrated robust growth in RevPAR. The competition brought about by the introduction of The Main in downtown Norfolk has led other hotels to modernize their rooms. Higher-quality rooms command higher prices and, when coupled with higher occupancy, this leads to increases in RevPAR.

GRAPH 24

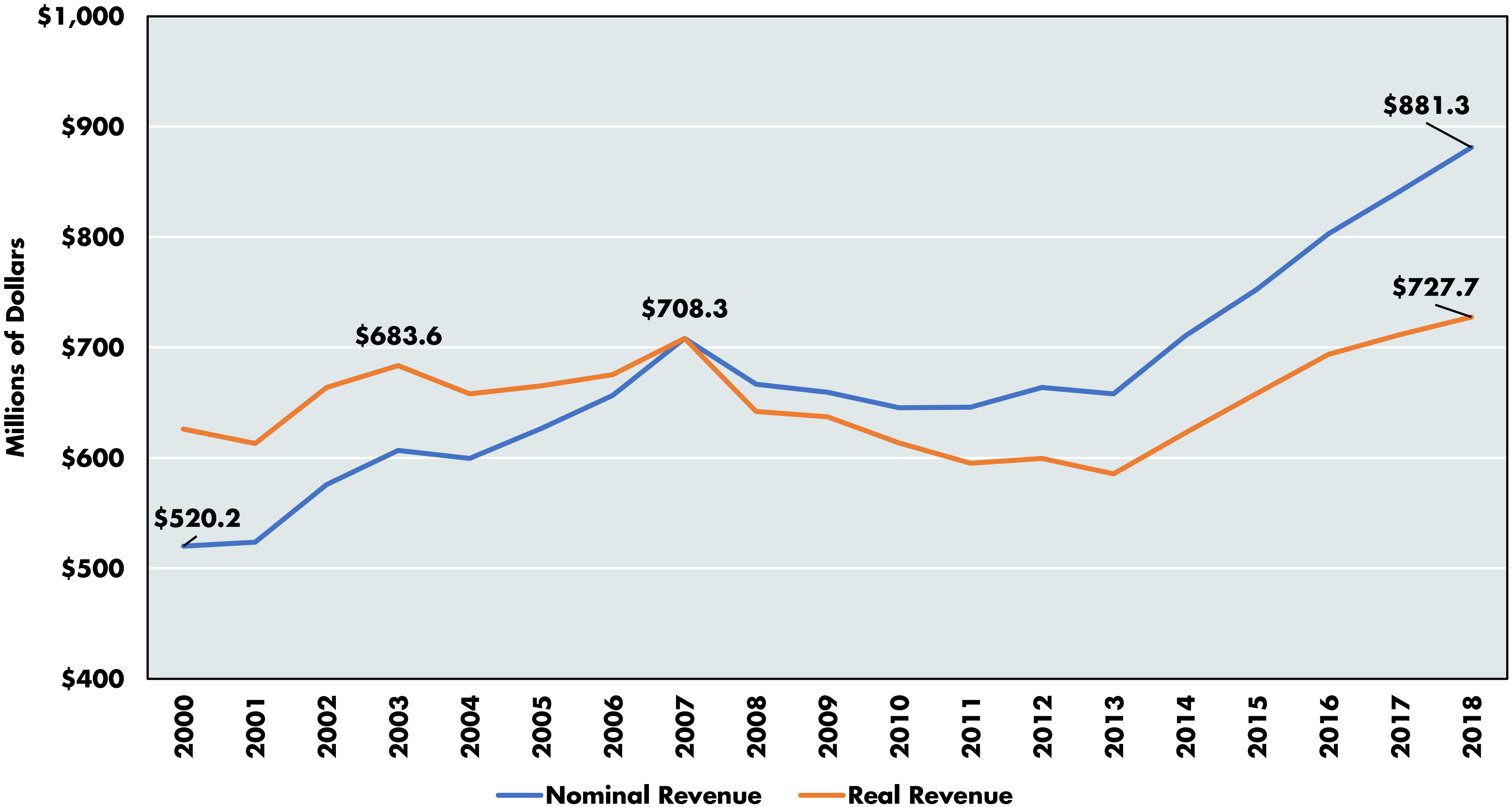
SUPPLY OF HOTEL ROOMS AND OCCUPANCY OF HOTEL ROOMS: HAMPTON ROADS, 2000-2018



Source: STR Trend Report, January 2019

GRAPH 25

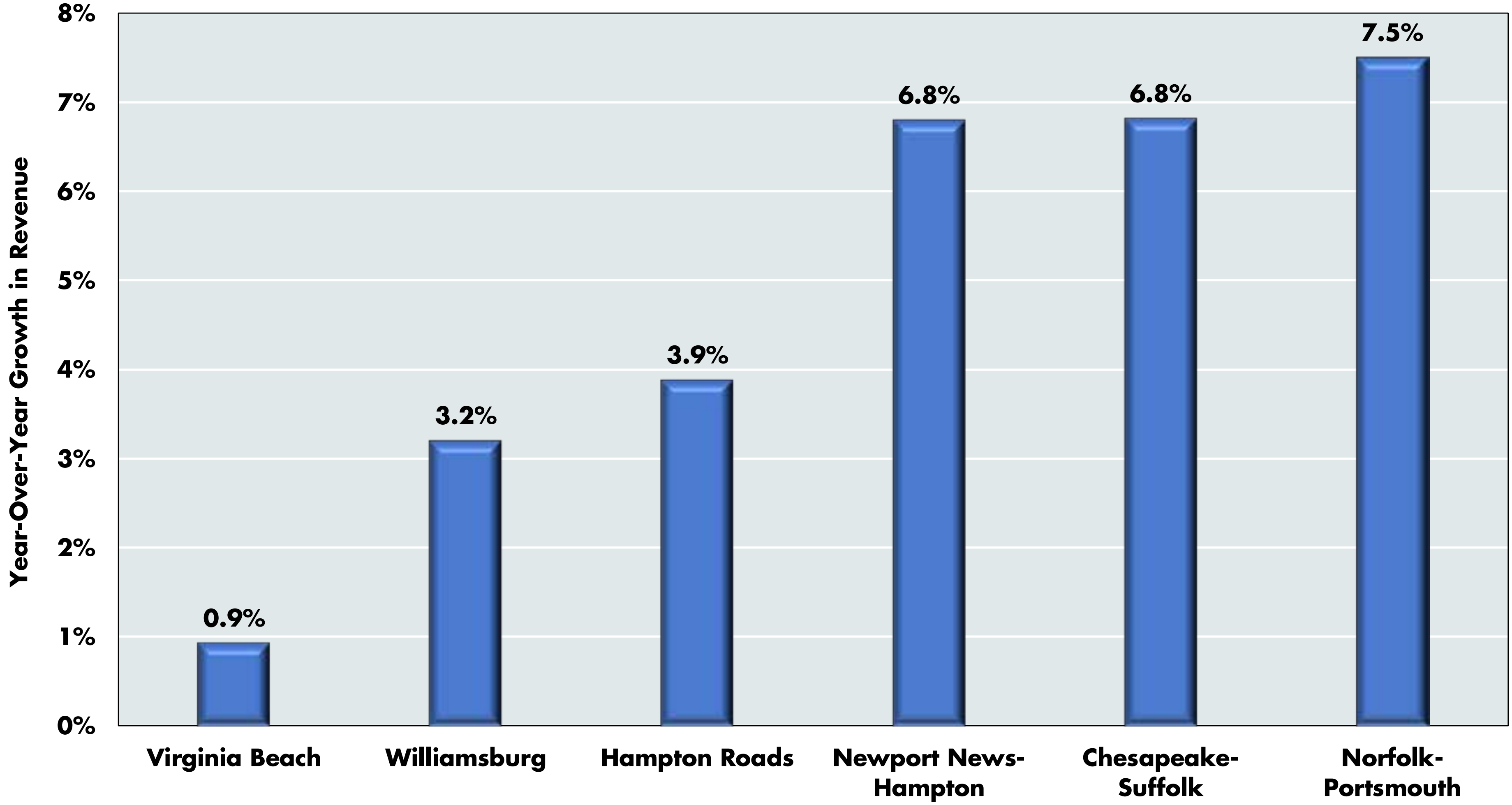
NOMINAL AND REAL HOTEL REVENUE: HAMPTON ROADS, 2000-2018



Sources: STR Trend Report, January 2019, Bureau of Economic Analysis, Consumer Price Index for all Urban Consumers (base year = 2007), and the Dragas Center for Economic Analysis and Policy, Old Dominion University

GRAPH 26

YEAR-OVER-YEAR CHANGE IN REVENUE PER AVAILABLE ROOM: SELECTED MARKETS AND HAMPTON ROADS, 2018



Sources: STR Trend Report, January 2019, and the Dragas Center for Economic Analysis and Policy, Old Dominion University

There May Be Something In The Water

The Something in the Water music festival was, by all accounts, a resounding success. There now exists an opportunity for the region to capitalize on this success by examining how other regions have turned local arts and music festivals into "must attend" events. Coachella (Indio, California), South by Southwest (Austin, Texas) and other festivals have put these locales "on the map" and Something in the Water is the best chance for Hampton Roads to join this select group.

One obvious impact of the 2019 Virginia Beach festival was the increase in demand for hotel rooms. What may come as a surprise is that demand increased not only in the resort city, but also across the region (Graph 27). Comparing the last weekends of April in 2018 and 2019, occupancy increased by double digits in the Newport News-Hampton, Williamsburg and Virginia Beach markets. The large change in occupancy is almost certainly due to Something in the Water, given that there were no other significant new events during this period.

Any increase in occupancy for the last weekend in April would, by itself, have been welcome news for hoteliers. However, not only did occupancy increase dramatically, but each market in Hampton Roads observed double-digit increases in revenues (Graph 28). Since hotel supply did not change much from year to year, this meant that RevPAR increased remarkably during the last weekend of April 2019 (Graph 29).

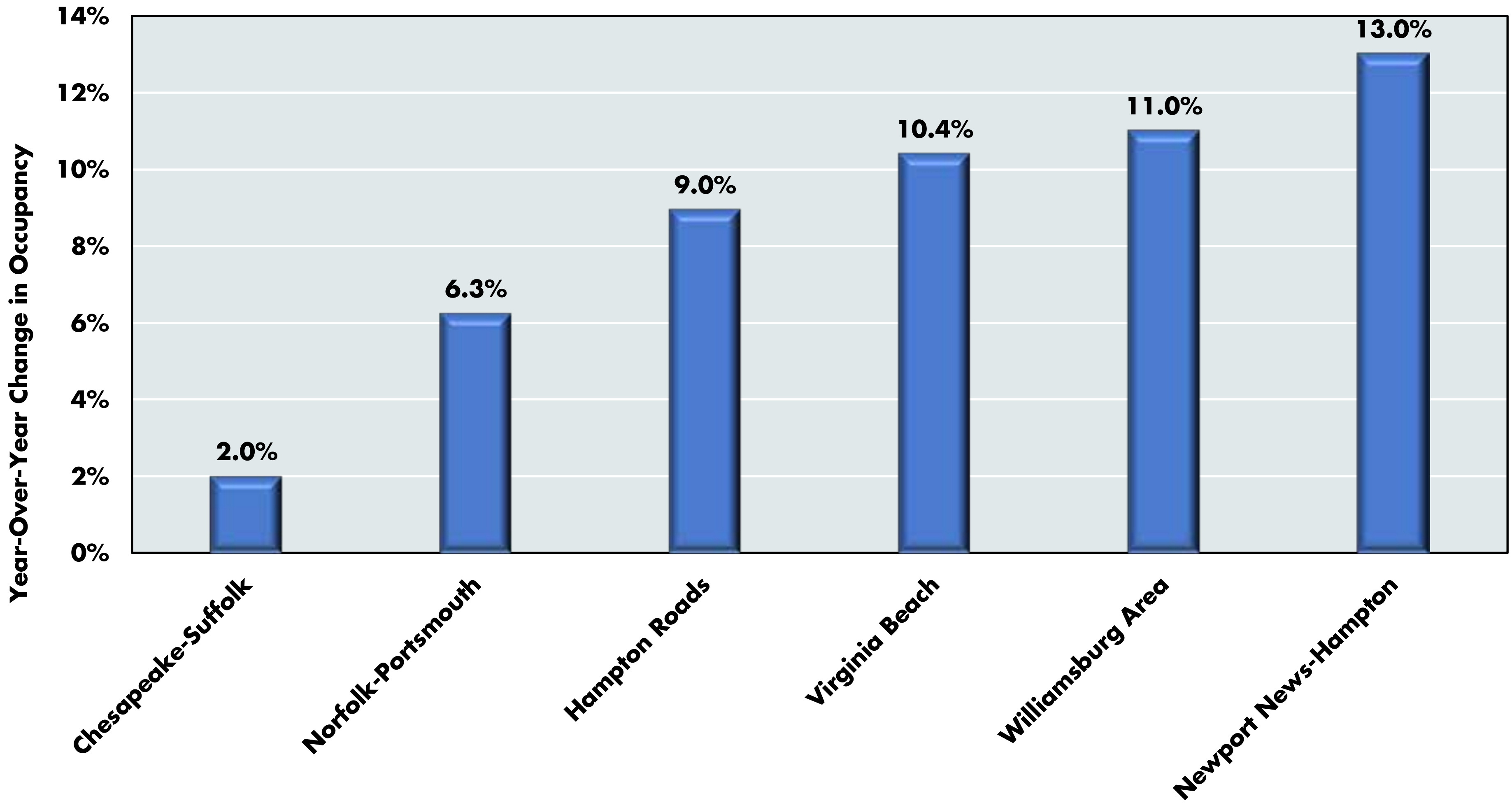
Something in the Water was more than music, it was big business. In contrast to many regional events that, economically speaking, do little more than recirculate money inside Hampton Roads, Something in the Water attracted a significant number of attendees from outside our region. These visitors bought tickets, stayed in hotels, ate at restaurants and spent other money locally. This injection of "new money" increased the overall economic impact of Something in the Water and bodes well for the future.

With the prospect of Something in the Water returning to Virginia Beach in 2020, the economic benefits to the region are unmistakable, and there is a strong economic incentive to work together to increase the visibility, hospitality and impact of the 2020 event. One only needs to examine how South by Southwest grew from about 700 attendees in the 1980s to tens of thousands in 2019 to understand the economic potential of Something in the Water. Not only do estimates suggest that South by Southwest's economic impact is in the hundreds of millions of dollars, but the benefits accrue to the entire Austin region.

One must, of course, take account of costs as well as benefits. It is fair to say that the costs of Something in the Water were not uniformly distributed across the region. With many of the events located at the Oceanfront, the costs of policing, emergency services and other services were borne primarily by Virginia Beach in 2019. But, because the benefits associated with the festival accrued to cities across the region, this represented an indirect subsidy by Virginia Beach taxpayers of residents in other Hampton Roads jurisdictions. Analyzing, understanding and mitigating these costs is a regional challenge that will not only foster future cooperation, but also increase the likelihood of the success of future events like Something in the Water.

GRAPH 27

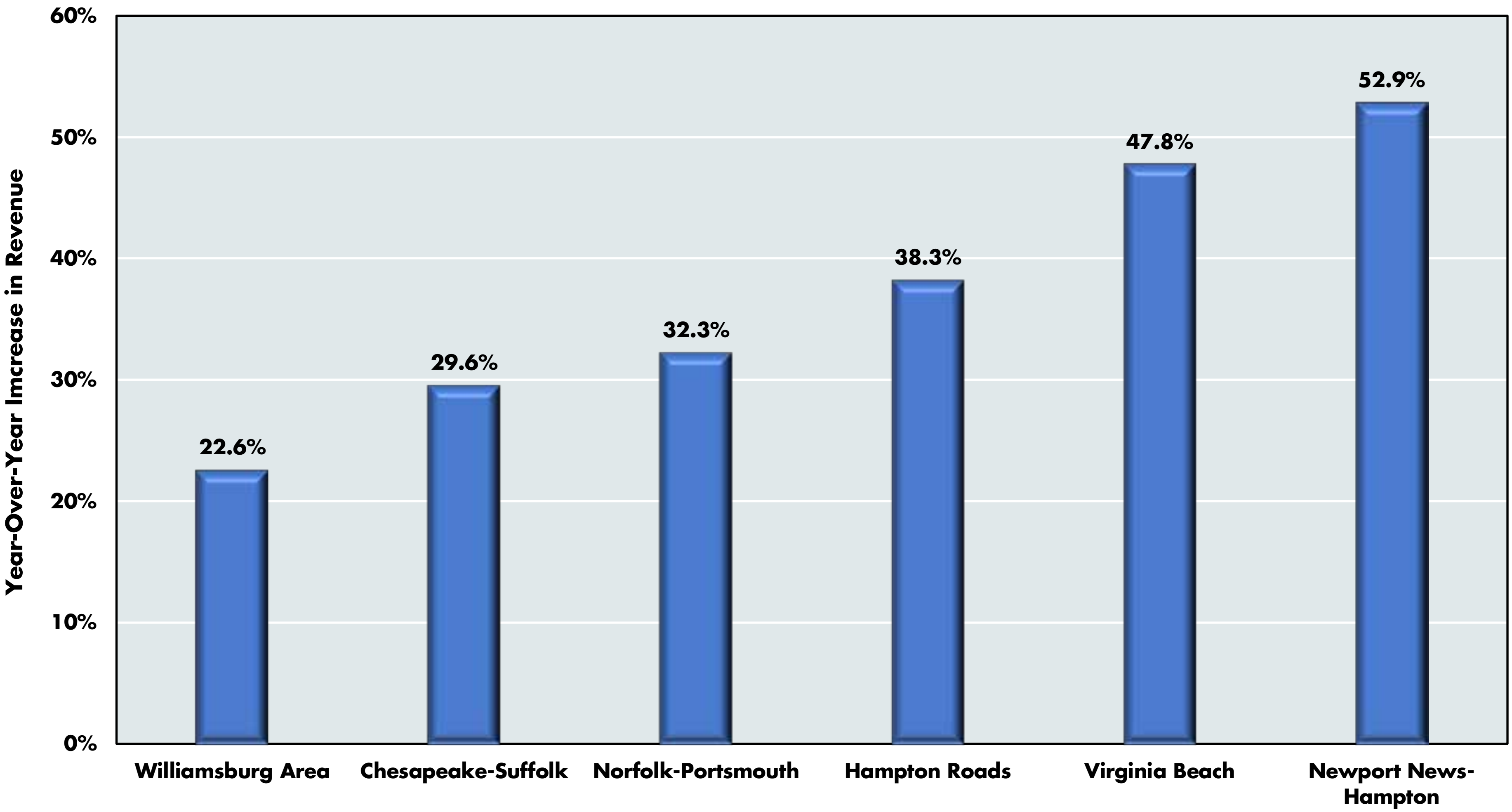
PERCENTAGE CHANGE IN HOTEL OCCUPANCY: LAST WEEKEND IN APRIL 2018 VERSUS LAST WEEKEND IN APRIL 2019, SELECTED MARKETS AND HAMPTON ROADS



Sources: STR Daily Trend Reports, May 2019, and the Dragas Center for Economic Analysis and Policy, Old Dominion University. Data reported for weekends represent averages for Thursday through Monday of each year.

GRAPH 28

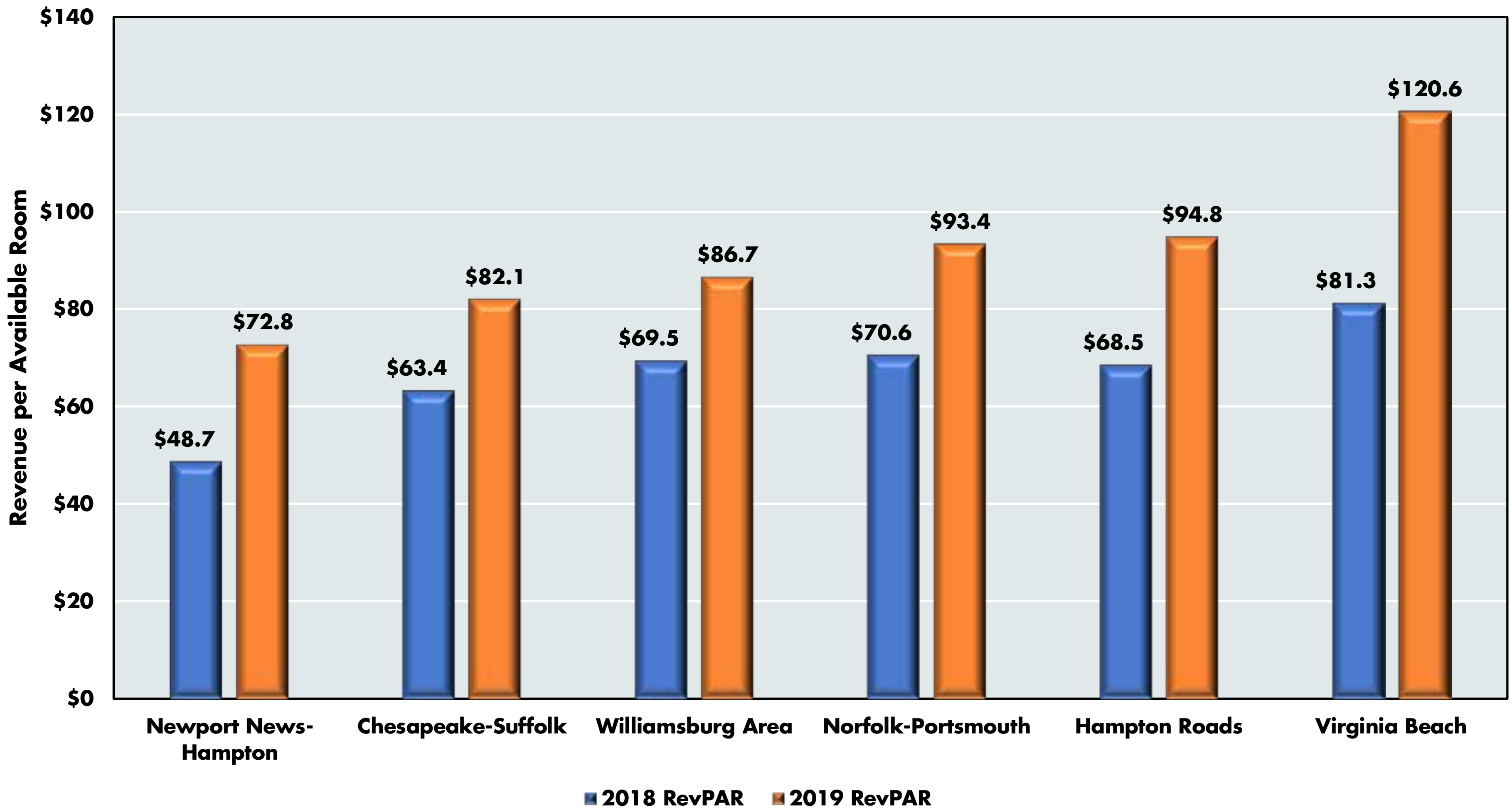
PERCENTAGE CHANGE IN HOTEL REVENUE: LAST WEEKEND IN APRIL 2018 VERSUS LAST WEEKEND IN APRIL 2019, SELECTED MARKETS AND HAMPTON ROADS



Sources: STR Daily Trend Reports, May 2019, and the Dragas Center for Economic Analysis and Policy, Old Dominion University. Data reported for weekends represent averages for Thursday through Monday of each year.

GRAPH 29

REVENUE PER AVAILABLE ROOM: LAST WEEKEND IN APRIL 2018 VERSUS LAST WEEKEND IN APRIL 2019, SELECTED MARKETS AND HAMPTON ROADS



Sources: STR Daily Trend Reports, May 2019, and the Dragas Center for Economic Analysis and Policy, Old Dominion University. Data reported for weekends represent averages for Thursday through Monday of each year.

Final Thoughts

2018 was a year to remember for Hampton Roads. Most of the economic indicators moved in the right direction and there are numerous signals that 2019 will improve upon the performance of 2018. Projected increases in defense spending, continuing growth in the travel and tourism industry and increasing revenues at the Port of Virginia have given a green light for the regional economy to grow into 2020.

Not all the news is record setting, however, and we do not lack for challenges. Job creation here continues to lag other metropolitan areas and the pace of the region in establishing new businesses has not recovered to prerecession levels. The interdependence of Hampton Roads with the DOD is a source of economic strength but also vulnerability. We should leverage our unique role in procurement and operations while also seeking opportunities to foster private-sector growth. We must continue to work on improving our economic resiliency, especially in the face of sea level rise. Each challenge represents an opportunity to work together to make Hampton Roads an even better place to live and do business.

If there are sources of uncertainty, these come from outside the region. Defense policy, for now, favors Hampton Roads. An emerging conflict in the Middle East or Asia, however, could see ships and personnel move out of the area for extended periods of time, or permanently. Continued trade conflicts could undermine gains by the Port of Virginia and weigh on the current economic expansion. The federal deficit is, for the lack of a better phrase, out of control and federal debt now exceeds $22 trillion. Yet, the U.S. economy has shown remarkable resiliency in the face of these and other challenges. While growth may slow at the national level in 2020, Hampton Roads is picking up speed and moving forward at a pace not seen for a decade. For now, the economic outlook is rosy.