The State of the Region

HAMPTON ROADS 2015

CENTER FOR ECONOMIC ANALYSIS AND POLICY | OLD DOMINION UNIVERSITY


VIRGINIA BEACH-NORFOLK-
NEWPORT NEWS, VA-NC
METROPOLITAN STATISTICAL AREA
Gloucester County
Mathews County
James City County
Williamsburg
York County
Newport News
Poquoson
Hampton
Isle of Wight County
Norfolk
Portsmouth
Virginia Beach
Suffolk
Chesapeake
VIRGINIA
NORTH CAROLINA
Gates County
Currituck County

October 2015

Dear Reader:

This is Old Dominion University's 16th annual State of the Region report. While it represents the work of many people connected in various ways to the university, the report does not constitute an official viewpoint of Old Dominion, or its president, John R. Broderick. The report maintains the goal of stimulating thought and discussion that ultimately will make Hampton Roads an even better place to live. We are proud of our region's many successes, but realize that it is possible to improve our performance. In order to do so, we must have accurate information about "where we are" and a sound understanding of the policy options open to us.

The 2015 report is divided into seven parts:

Running in Place? Our "So-So" Regional Economy: 2015 has been another "Goldilocks" year – not too hot, not too cold – economically speaking. We grew faster than the rest of Virginia, but slower than the U.S. It appears that 2016 will reprise this scenario.

Defense Expenditures in Hampton Roads: Digging Deeper: While defense expenditures are decelerating, in FY 2015, Newport News (dominated by Huntington Ingalls) received $1.13 billion in new defense contract awards, while Virginia Beach received $838 million, Norfolk $774 million and Hampton $166 million. Atlantic Diving, headquartered in Virginia Beach, was our second-largest contractor with $206 million.

The Port of Virginia: A Primer: The economic importance of the Port of Virginia has increased as it is handling record cargo volumes and now is recording positive net operating income. The Port is challenged to find ways to deal effectively with congestion and logistical problems in and around the Port as well as to secure the funds necessary to modernize its infrastructure and equipment.

The Third Economic Sector: Nonprofit Organizations in Hampton Roads and the United Way: A total of 2,009 nonprofit organizations in Hampton Roads filed tax returns with the IRS in 2012. This does not include most churches. Collectively, these organizations are big business: their revenues approached $9.6 billion.

Early Childhood Care and Education: Should They Be Our No. 1 Economic Development Strategy? Investments in early childhood care and preschool programs generate higher rates of return on public dollars than investments in conventional economic development programs that emphasize either attracting new firms, or public-private partnerships to build arenas and hotels.

Is Hampton Roads Facing a Shortage of Nurses? Our region does not face a debilitating shortage of nurses. With a few tweaks to our policies, we will have a sufficient number of nurses to meet our needs in the years to come.

The Economics of Casino Gambling in Hampton Roads: The experience of other cities tells us that casino gambling would not have a large economic effect upon Hampton Roads. Further, casino gambling brings with it a variety of other costs that must be considered. The net effect may be close to zero.

The Strome College of Business and the university continue to provide support for this report. However, it would not appear without the vital backing of the private donors whose names appear below. They believe in Hampton Roads and the power of rational discussion to improve our circumstances, but are not responsible for the views expressed in the report.

The Aimee and Frank Batten Jr. Foundation
Jane Batten
R. Bruce Bradley
Ramon W. Breeden Jr.
Arthur A. Diamonstein
George Dragas Jr.
Edward L. Hamm Jr.
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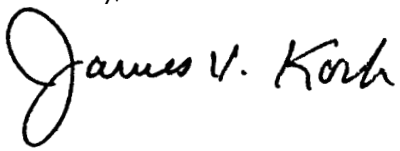
Sincerely,



James V. Koch

Board of Visitors Professor of Economics
and President Emeritus

Table of Contents

Running In Place? Our "So-So" Regional Economy

RUNNING IN PLACE? OUR "SO-SO" REGIONAL ECONOMY

In 2014, the real, inflation-adjusted growth rate of the Hampton Roads economy was 1.34 percent. Perhaps we should be grateful. This was higher than our annual regional rate of growth in five out of the past six years. As Table 1 discloses, twice during the 2008-14 time period we experienced negative growth rates and in only one year was our growth rate close to 2 percent.

Nevertheless, Table 1 (and Graph 1) clearly reveals that we've known much better times. Between 2000 and 2007, for example, our regional growth rate never fell below 2.6 percent and in one year (2003) was a magnificent 5.46 percent.

Our prediction for 2015 is a 1.17 percent growth rate for the economy in Hampton Roads, which we believe will be below both the national growth rate and that of Virginia (which we estimate to be 1.56 percent). By the end of 2015, our nominal gross regional product (GRP) will have grown to $92.84 billion, a considerable number. If Hampton Roads were a separate country, we would have the 60th-largest economy in the world.

TABLE 1

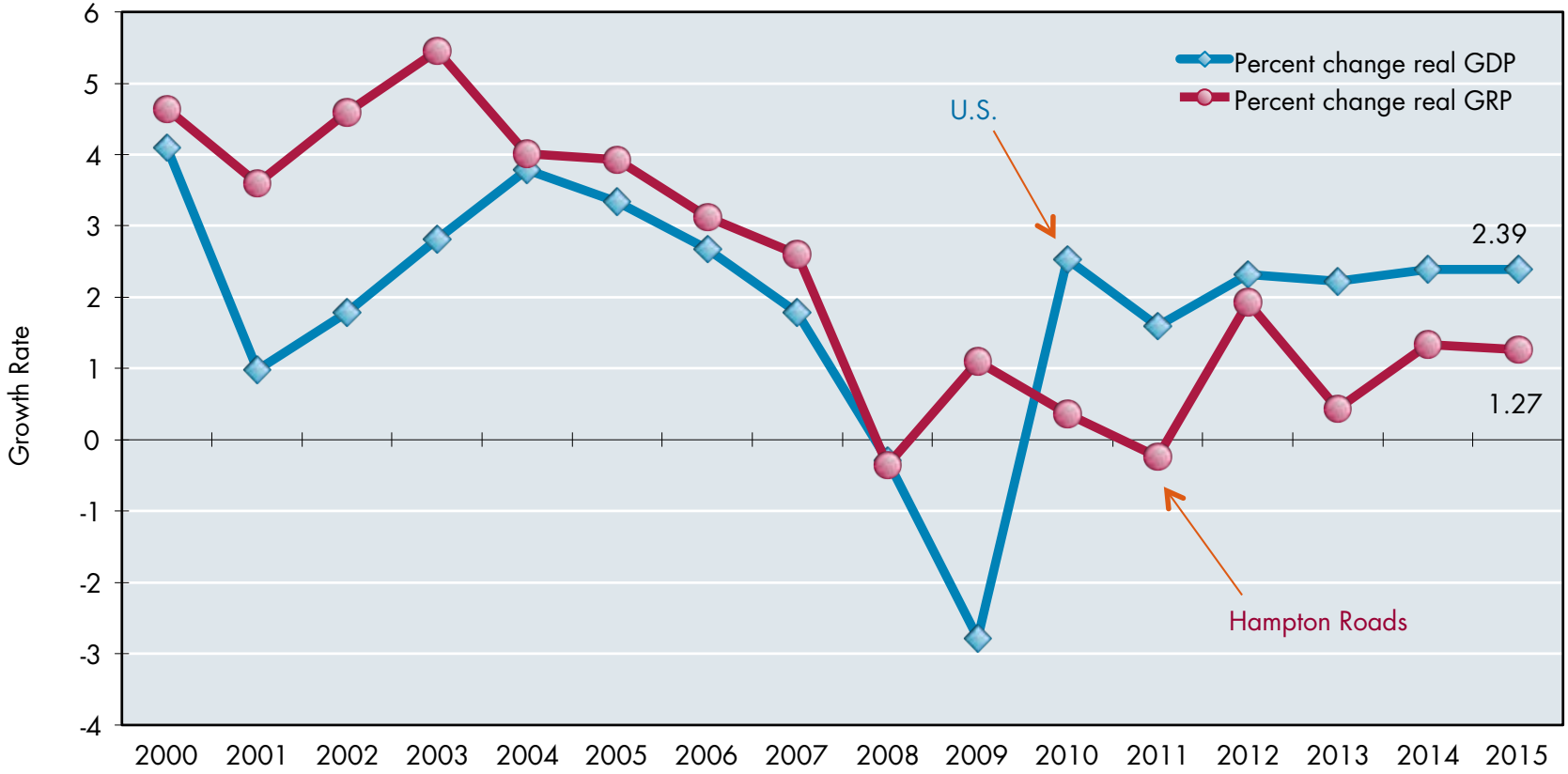
ESTIMATED HAMPTON ROADS GROSS REGIONAL PRODUCT (GRP) NOMINAL AND REAL (PRICE ADJUSTED), 2000-2015

YEAR	NOMINAL GRP BILLIONS OF $	REAL GRP (2009=100) BILLIONS OF $	REAL GRP GROWTH RATE PERCENT
2000	50.35	61.49	4.64
2001	53.35	63.70	3.60
2002	56.66	66.63	4.59
2003	60.95	70.27	5.46
2004	65.14	73.09	4.01
2005	69.88	75.96	3.93
2006	74.27	78.34	3.12
2007	78.24	80.38	2.60
2008	79.48	80.08	-0.36
2009	80.96	80.96	1.10
2010	82.24	81.25	0.36
2011	83.74	81.06	-0.24
2012	86.89	82.62	1.93
2013	88.57	82.98	0.44
2014	91.09	84.09	1.34
2015	92.84	85.17	1.27

Source: Old Dominion University Economic Forecasting Project. Data incorporate U.S. Department of Commerce personal income revisions through September 2014. Base year is 2009. Real GRP is calculated using the GDP price deflator.

GRAPH 1

RATE OF GROWTH OF GDP (U.S.) AND GRP (HAMPTON ROADS), 2000-2015



Sources: Bureau of Economic Analysis and the Old Dominion University Economic Forecasting Project. Data on GDP incorporates latest BEA revisions in September 2014. Real GRP for Hampton Roads is calculated by using the GDP price deflator.

Income Growth

As Graph 2 discloses, growth in median household income – 50th percentile household income – has stalled in Hampton Roads and actually was lower in 2014 than in 2008. This roughly mirrors national results, though the median household income of all Americans has edged upward slightly in recent years.

Median household income is a concept that frequently is used as an overall measure of economic welfare even though it has some deficiencies. Let's examine several of these problems. First, it is not adjusted for the cost of living. If it were, then we would see that "real" median household income has declined nearly everywhere since 2008.

Second, median household income doesn't control for the fact that the average size of households has declined significantly in recent decades. In 1967, the average size of an American household was 3.28; by 2013, it had fallen to 2.54 (Carpe Diem Blog, Feb. 4, 2015). Smaller households result in a smaller number of individuals earning income, and this exerts a downward influence on median household income.

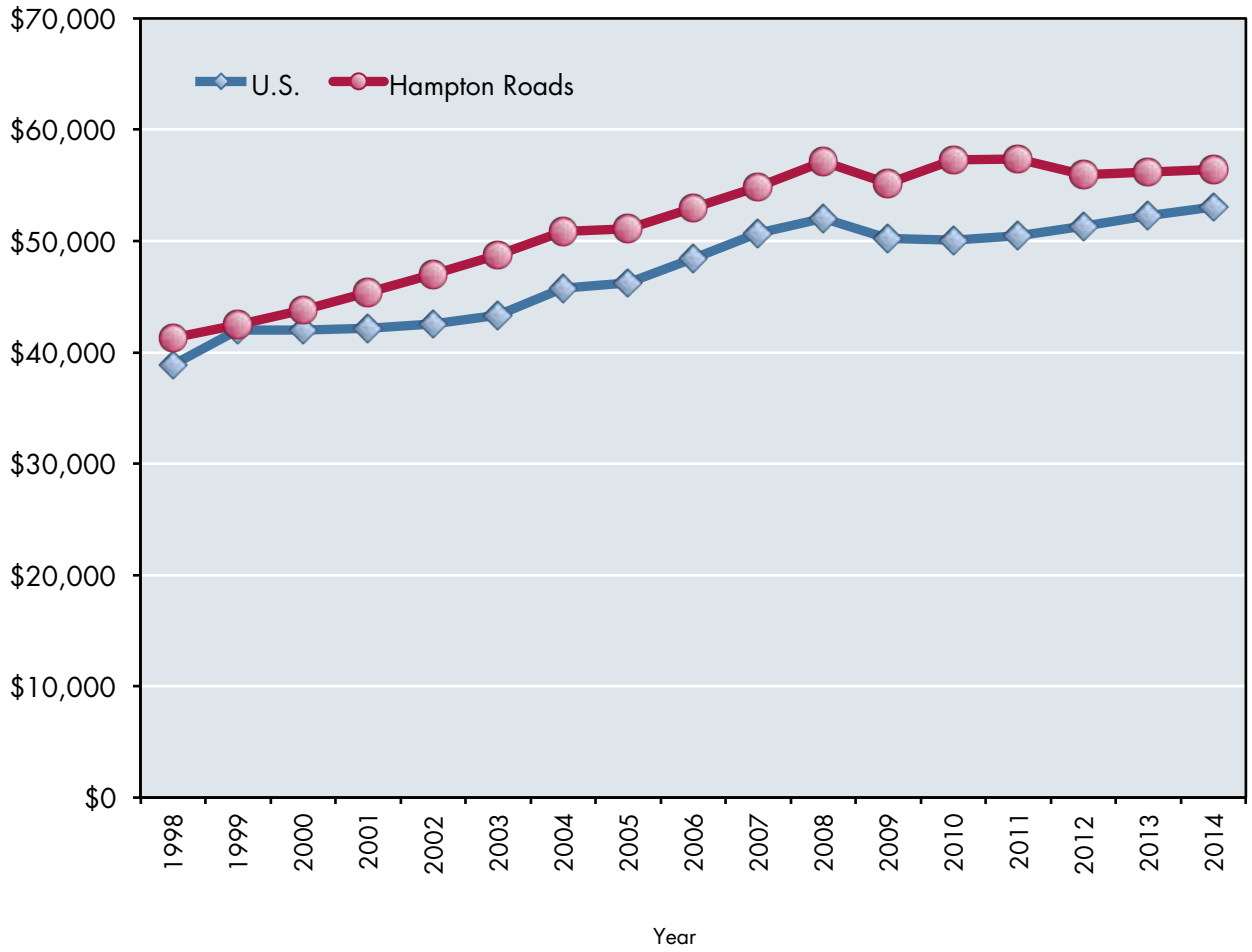
Third, median household income does not include either the value of employee fringe benefits (which have become an increasingly important aspect of compensation) or the value of supplements such as SNAP, the Supplemental Nutrition Assistance Program (food stamps), and TANF, Temporary Assistance for Needy Families.

Fourth, median household income does not always reflect the increased quality of the goods and services that households are consuming. Personal computers and cellphones provide an apt illustration. The quality and power of these items have skyrocketed in recent years even while their prices have fallen dramatically. A dollar spent on similar items in 2015 provides much more value to a household than it did 10 years ago. Median household income ignores this.

These omissions mean that median household income, despite its popularity as a concept, is a less than perfect measure of the economic prosperity of the American household. Even so, despite its imperfections, median household income does provide us with valuable information, and by consensus economists frequently utilize it as a measure of the economic welfare of the typical household. This has led to the conclusion that the economic welfare of the typical household has not increased very much (and may have declined) in recent years. Hampton Roads does not constitute an exception in this regard.

GRAPH 2

COMPARISON OF *MEDIAN* HOUSEHOLD INCOME: HAMPTON ROADS AND THE U.S., 1998-2014



Sources: U.S. Census Bureau and the Old Dominion University Economic Forecasting Project

Jobs

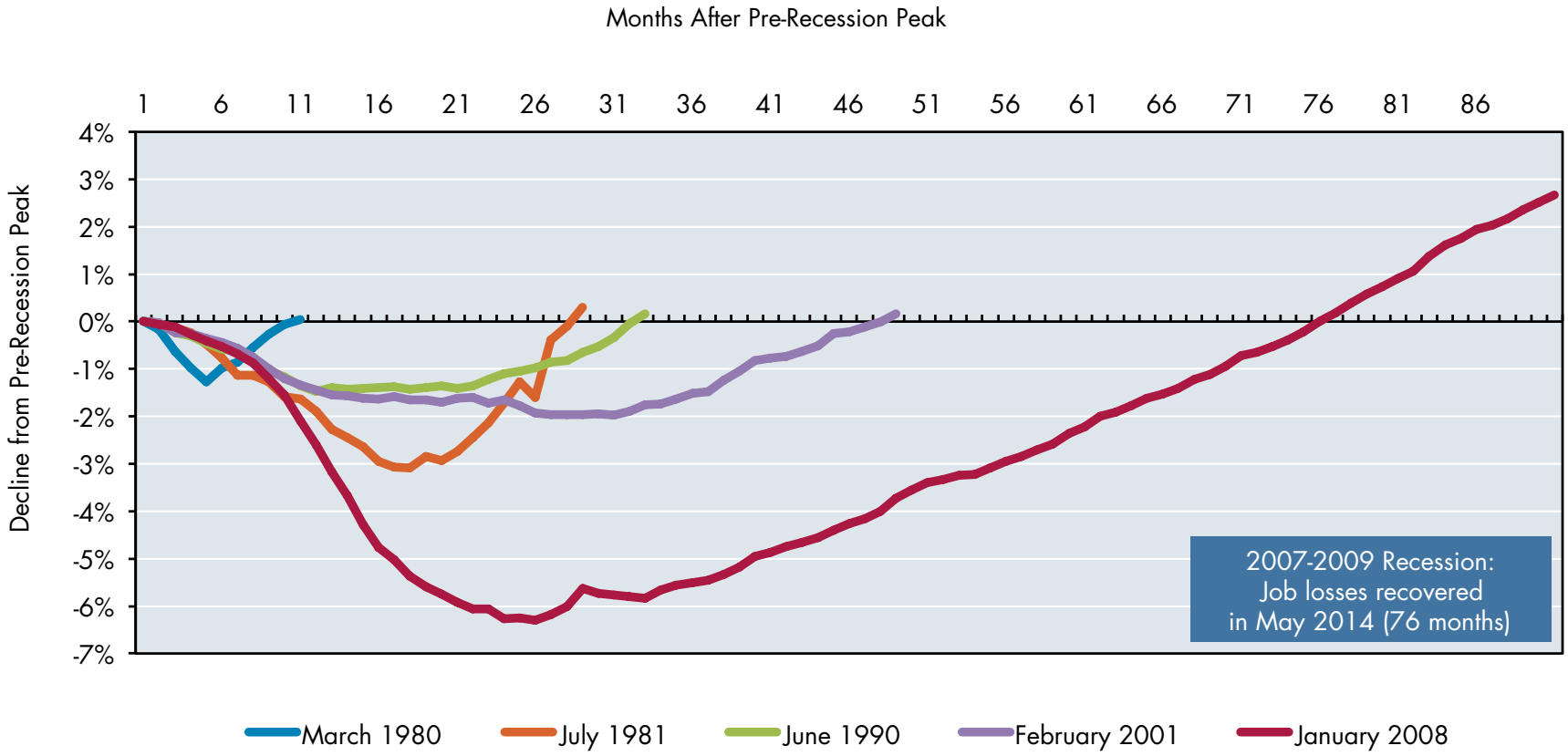
Graph 3 tells us that our national economic recovery from the 2007-09 recession was slow indeed – it took more than six years (76 months) to recover all of the jobs lost. Graph 4, which focuses on Hampton Roads, reveals that our region has yet to recover all of the jobs it lost in the Great Recession. We're still about 22,000 jobs short of gaining back the jobs that went away (see Graph 5).

Virginia's economic recovery, while better than that of Hampton Roads in terms of jobs, has not been robust. The Commonwealth has generated only 29,700 additional jobs over and above its pre-recession level. Northern Virginia, however, is above its pre-recession peak by more than 75,000 jobs. Richmond has gained back the jobs it lost. Hence, it is the vast area of Virginia outside the Urban Crescent (the "Rural Horseshoe") that has sustained outsized job losses.

Graph 6 describes in broad terms the occupations that have gained or lost jobs since 2007. The health care/social assistance sector added more jobs than all of the other sectors combined, while construction shed the most jobs over this time period. It is interesting to note that since 2007, public-sector employers in Hampton Roads (federal, state and local) have regained all of the jobs they shed in the Great Recession; however, private-sector job growth has lagged and therefore is responsible for the overall decline in the number of jobs in our region.

GRAPH 3

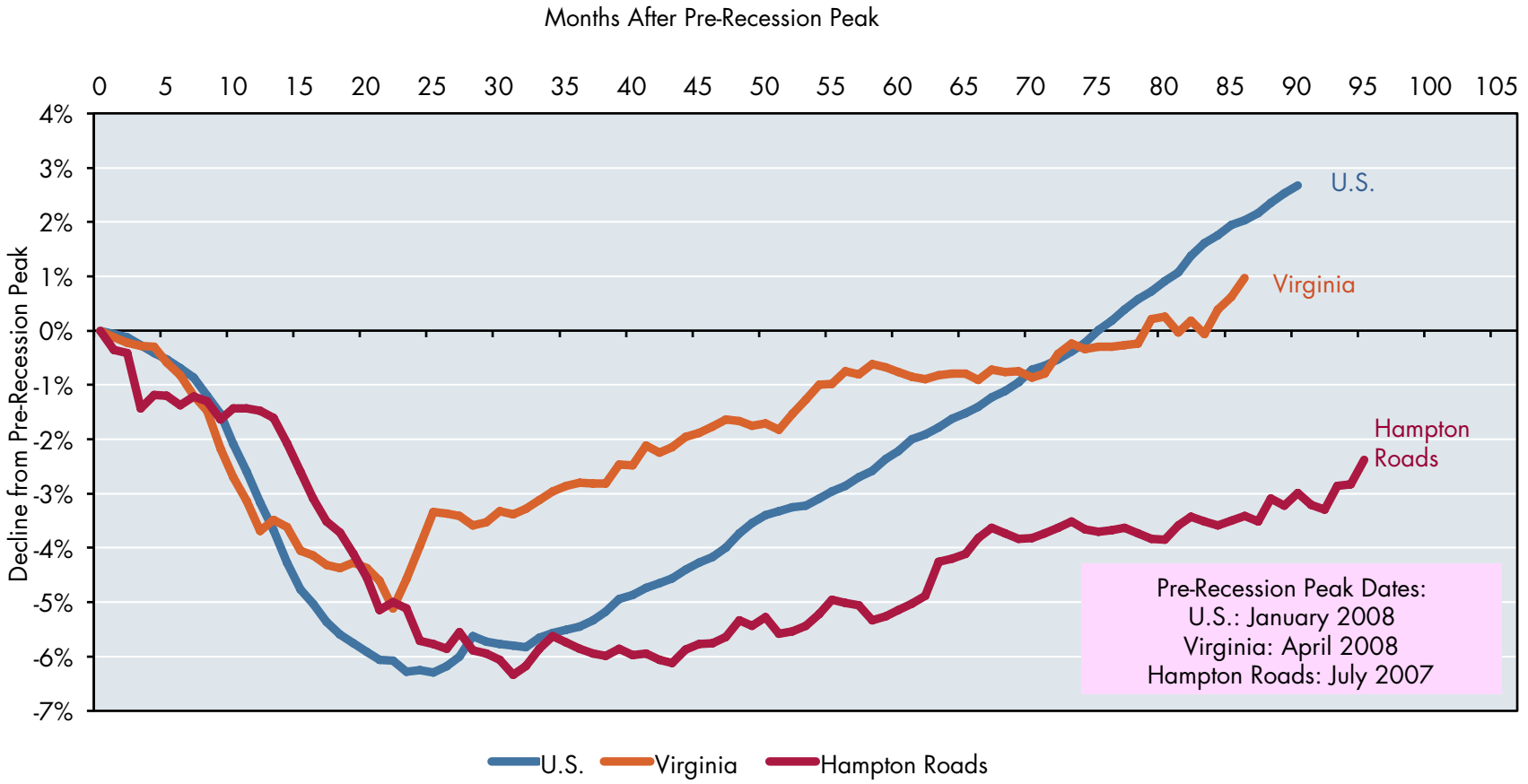
COMPARING THE GREAT RECESSION TO OTHERS: JOB RECOVERY IN THE U.S.



Sources: Bureau of Labor Statistics and the Old Dominion University Economic Forecasting Project

GRAPH 4

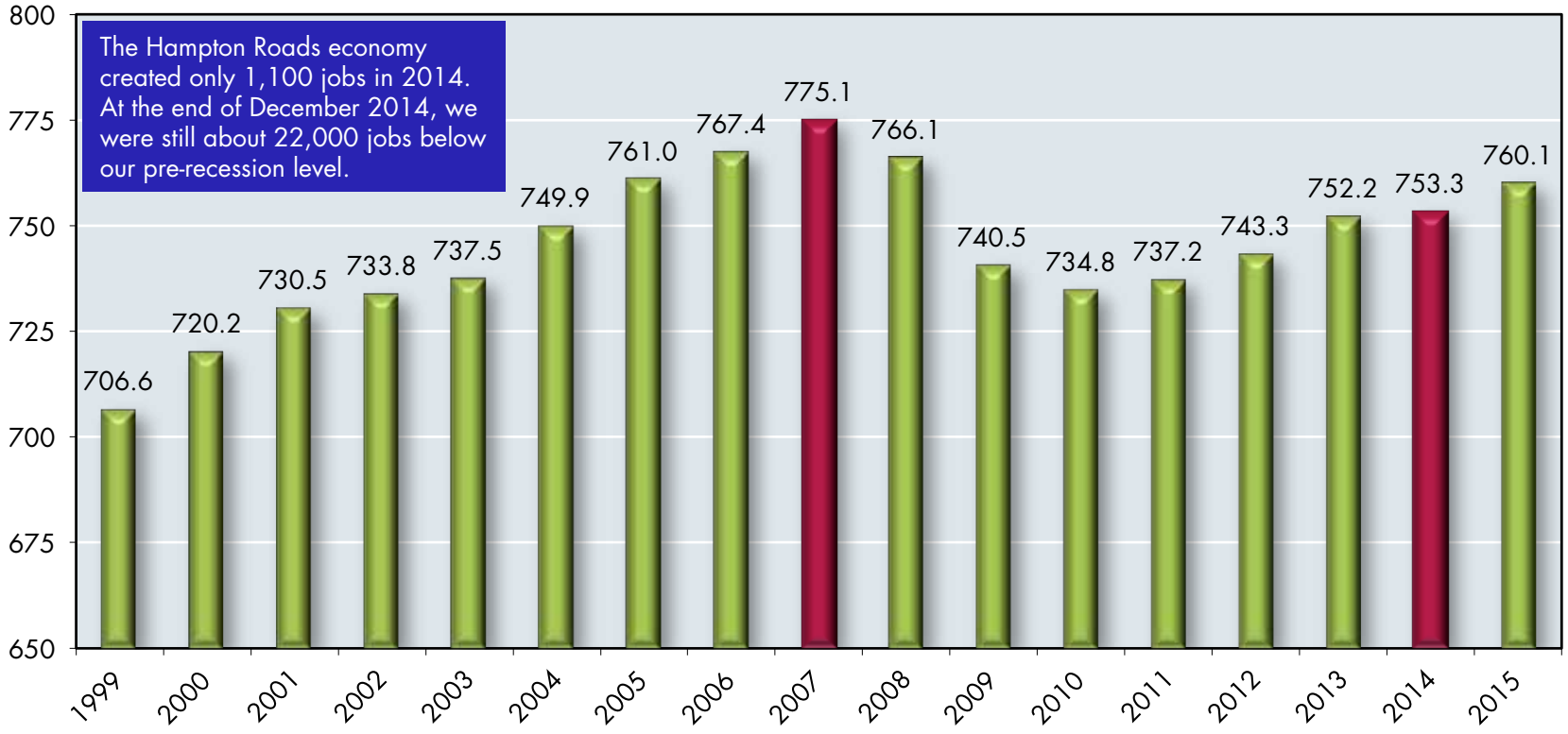
RECESSION RECOVERY IN THE U.S., VIRGINIA AND HAMPTON ROADS MEASURED BY TOTAL JOBS RESTORED, 2007-2015*



Sources: Bureau of Labor Statistics and the Old Dominion University Economic Forecasting Project. *Data for Virginia and Hampton Roads are through June 2015.

GRAPH 5

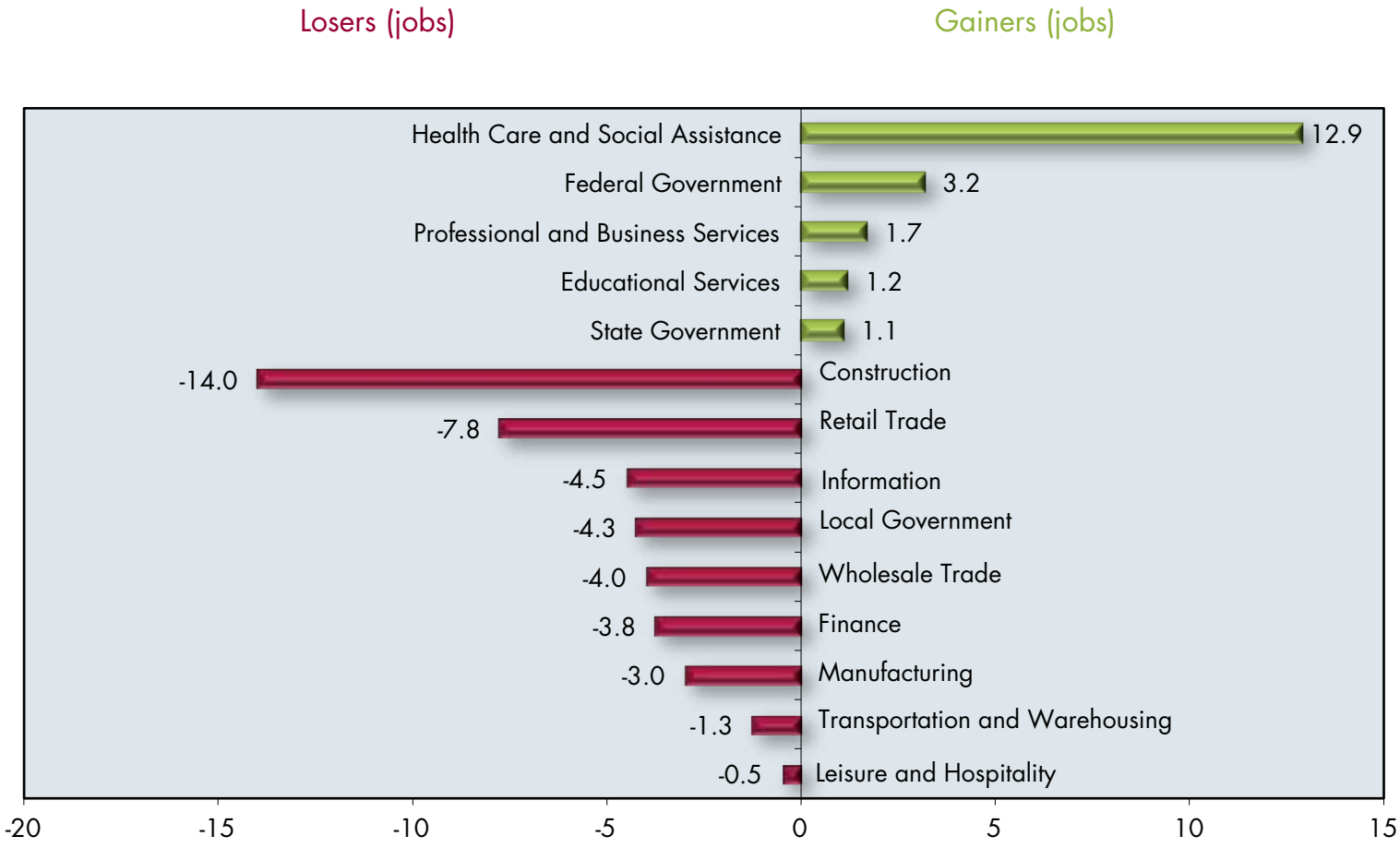
ANNUAL CIVILIAN EMPLOYMENT (JOBS) IN HAMPTON ROADS, 1999-2015



Sources: U.S. Department of Labor CES data and the Old Dominion University Economic Forecasting Project. Data are not seasonally adjusted.

GRAPH 6

JOB GAINS AND LOSSES (IN THOUSANDS) IN HAMPTON ROADS, 2007 AND 2014



Sources: U.S. Department of Labor CES data and the Old Dominion University Economic Forecasting Project. Data are not seasonally adjusted.

Defense Spending

Between 2000 and 2012, direct Department of Defense (DOD) spending in Hampton Roads increased by an average of 5.6 percent annually. This provided a powerful economic thrust for our region. **Unfortunately, times have changed and we expect DOD spending in Hampton Roads in 2015 to be 3.2 percent below the peak we observed in 2012.** Graph 7, which depicts these changes, offers a powerful visual explanation of how the growth of our regional economy has slowed.

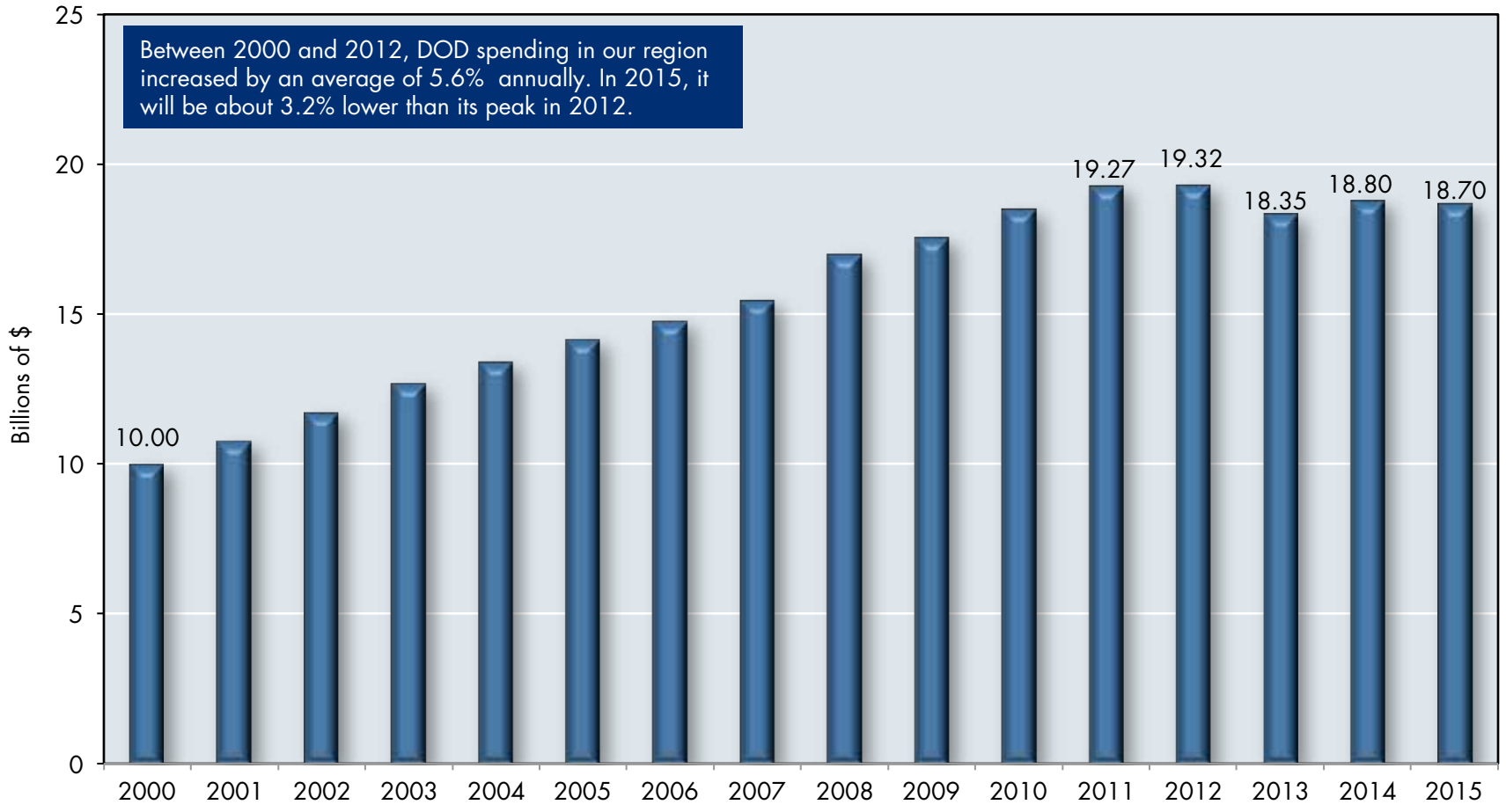
The upshot of declining DOD spending is that it has forcibly diversified the Hampton Roads economy. We estimate that only 39.3 percent of our regional economic activity could be attributed directly and indirectly to defense spending in 2014 (see Graph 8). This is down from 44.9 percent in 2011 and our all-time high of 49.5 percent in 1984. Thus, we have diversified our economy, but not as the result of strong private-sector growth. Instead, the reason is declining DOD spending.

It has been our fate as a region to experience periodic ups and downs in DOD spending. Currently, DOD spending is contracting and our estimate is that it will account for only about 37 percent of our regional economic activity in 2015. A major driver of this change is the evolution that has occurred in the compensation of active-duty military personnel, civilian DOD personnel and federal government employees. Each of these employee segments is critically important to the economy of Hampton Roads. Table 2 reveals that total active-duty military compensation (wages plus all fringe benefits, including housing) grew 61.6 percent in our region during the past decade, but actually declined by 6.9 percent between 2010 and 2013. This reflects both a decline in the number of such individuals posted in our region and the much more moderate increases in the compensation of these individuals.

The bottom line, economically speaking, is that our region has lost one of its major growth engines – we no longer enjoy rising *total* military and federal employee compensation. Indeed, Table 3 examines *average* compensation per employee and it is apparent that a change in the mix of military and federal employees in our region has led to lower average compensation per employee as well.

GRAPH 7

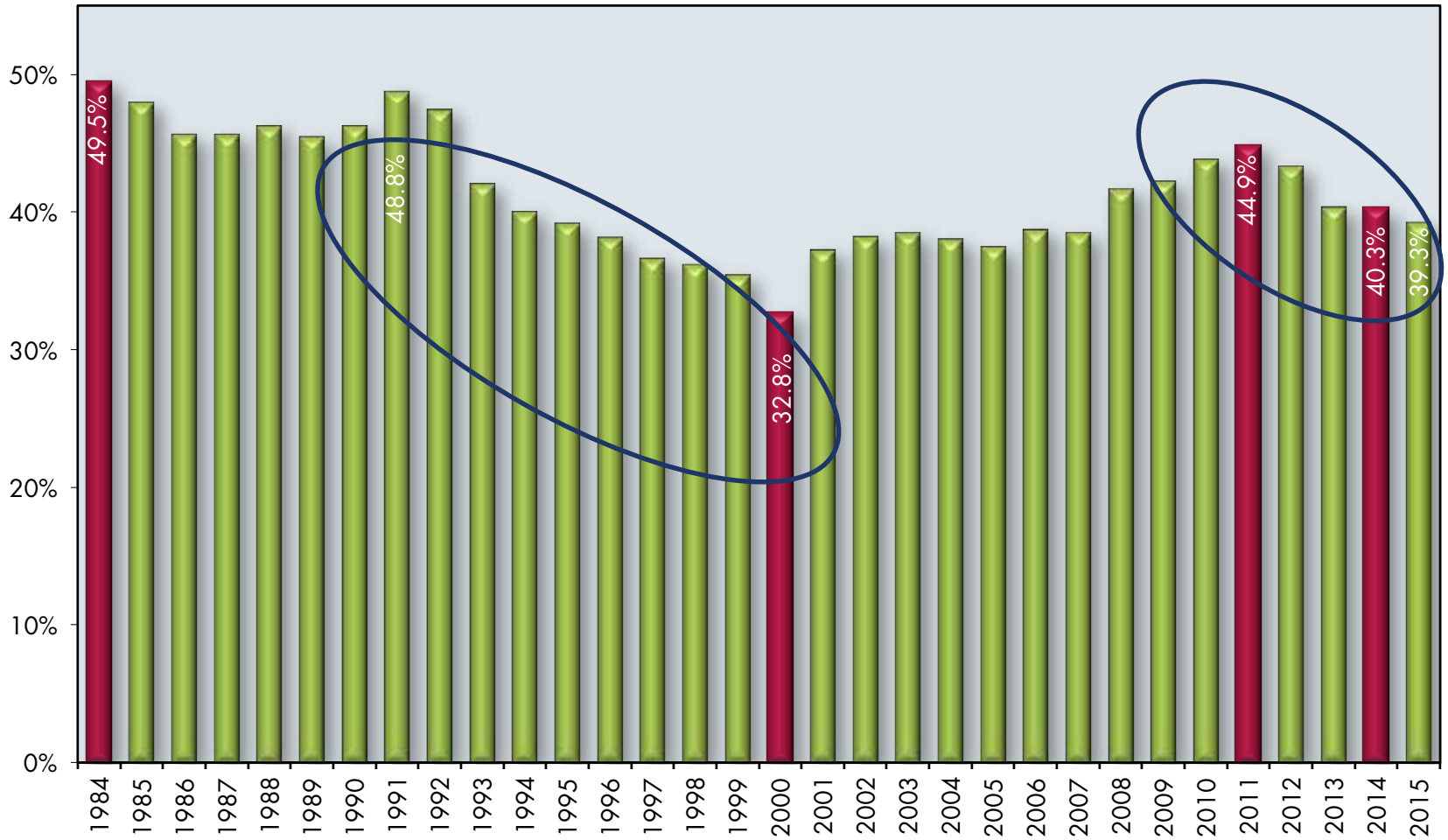
ESTIMATED DIRECT DOD SPENDING* IN HAMPTON ROADS, 2000-2015



Sources: U.S. Department of Defense and the Old Dominion University Economic Forecasting Project. *Includes federal civilian and military personnel and procurement.

GRAPH 8

HAMPTON ROADS GROSS REGIONAL PRODUCT ATTRIBUTABLE TO DOD SPENDING, 1984-2015



Sources: U.S. Department of Defense, U.S. Department of Commerce and the Old Dominion University Economic Forecasting Project

TABLE 2

GROWTH IN EMPLOYMENT AND TOTAL COMPENSATION* (WAGES, SALARIES AND FRINGE BENEFITS) FOR MILITARY, FEDERAL CIVILIAN GOVERNMENT AND PRIVATE NONFARM SECTORS, HAMPTON ROADS, 1991-2000, 2001-2010 AND 2010-2013

	Percent Change 1991-2000	Percent Change 2001-2010	Percent Change 2010-2013	Percent Change 2012-2013
Military Employment	-21.3%	-13.6%	-9.2%	-2.2%
Military Compensation	5.9%	61.6%	-6.9%	-4.7%
Federal Civilian Government Employment	-20.6%	13.3%	1.1%	-1.6%
Federal Civilian Government Compensation	11.0%	68.6%	4.2%	-2.3%
Private Nonfarm Employment	22.3%	5.3%	3.3%	1.5%
Private Nonfarm Compensation	69.3%	36.4%	9.3%	2.7%

Sources: U.S. Bureau of Economic Analysis (BEA) and the Old Dominion University Economic Forecasting Project. *BEA calls compensation as earnings.

TABLE 3

ESTIMATED AVERAGE COMPENSATION* (WAGES, SALARIES AND FRINGE BENEFITS) FOR SELECTED CATEGORIES IN HAMPTON ROADS, 2001, 2012 AND 2013

	Earnings in 2001	Earnings in 2012	Earnings in 2013	Percent Change 2001-2010	Percent Change 2010-2013	Percent Change 2012-2013
Military	$47,077	$92,741	$90,364	87.1%	2.6%	-2.6%
Federal Civilian Govt. Employees	$63,631	$98,299	$97,596	48.8%	3.1%	-0.7%
State and Local Govt. Employees	$40,251	$55,406	$56,067	37.1%	1.6%	1.2%
Private Nonfarm	$29,415	$39,860	$40,330	29.6%	5.8%	1.2%

Sources: U.S. Bureau of Economic Analysis (BEA) and the Old Dominion University Economic Forecasting Project. *BEA calls compensation as earnings.

SEQUESTRATION

If it can be said that there exists a public "dirty word" in the economic lexicon of Hampton Roads, then that word probably is "sequestration." The sequestration process approved by the U.S. Congress a few years back sequestered (removed) funds that otherwise would have been spent by the federal government on a wide range of activities, including defense.

Graph 9 illustrates the impact of sequestration on DOD discretionary spending. This is DOD spending that is separate from most expenditures made as a part of special operations, such as those in the Middle East and Afghanistan. The blue line indicates what DOD spending would have been without any sequestration reductions. The red line depicts the level of DOD spending after the sequestration (reduction) agreement. The total sequestration reduction in DOD spending amounted to $483 billion through the federal government's FY 2012 year.

The green line in Graph 9 represents sequestration relief ($31.6 billion in restored spending) that was agreed to by Congress for FY 2014 and FY 2015. The area of the purple trapezoid reflects this $31.6 billion restoration, which will disappear in FY 2016 unless Congress comes to an agreement to maintain such spending.

If sequestration continues, then the "cap" it places on discretionary DOD spending will increase slightly to $523.1 billion in FY 2016 – only 0.35 percent. This is a recipe for continuing economic stagnancy in Hampton Roads, even though most of the proposed cuts will focus on the U.S. Army and U.S. Air Force.

A portion of the decline in DOD spending in Hampton Roads relates specifically to a significant reduction in the number active-duty military personnel posted in our region. Since the turn of the century, this number peaked at 113,400 in 2003 and declined every year since then to 86,500 in 2013 (see Graph 10). There are several reasons for this:

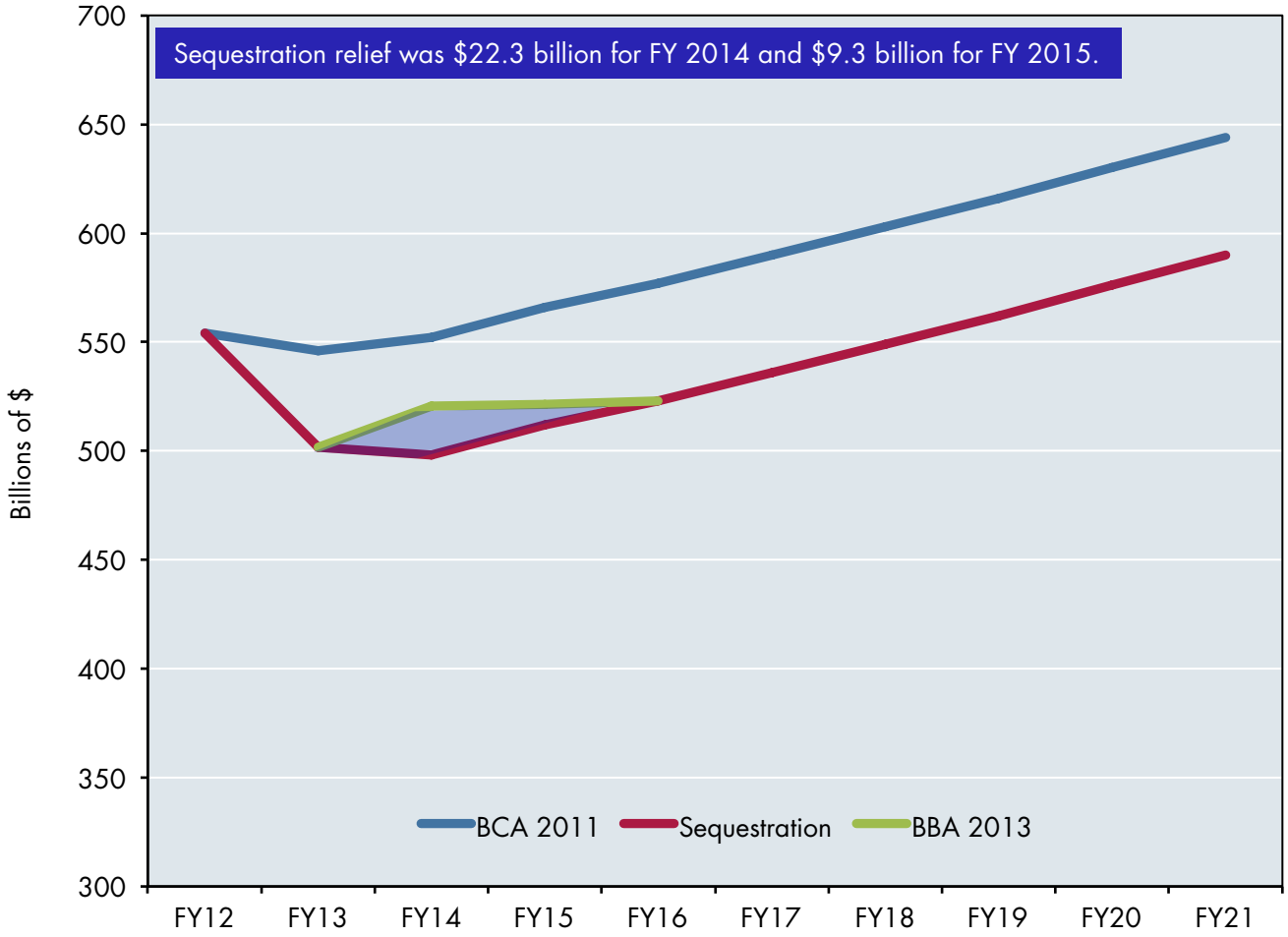
- Stagnant or declining DOD expenditures in Hampton Roads, coupled with higher compensation rates, necessarily translates to a need for fewer people.
- The increasing cost of major assets and equipment (such as aircraft carriers and airplanes) means that the DOD cannot purchase as many of these items. Fewer ships and planes also result in the need for fewer people.
- A refocusing of the defense posture of the United States away from the Atlantic and toward the Pacific Rim has drained personnel from our region.

The DOD budgetary picture for Hampton Roads is not completely bleak, however. There is some good news for 2015 and beyond. Congress stated its intention to maintain 11 large aircraft carriers in the fleet; continued funding for construction of the Gerald R. Ford and for refueling and overhaul of the George Washington; rejected requests to close bases; provided funding for two Virginia-class submarines in 2015; limited the number of guided missile cruisers that can be deactivated; provided $190 million in funding for DOD construction projects for Hampton Roads; and provided a 1 percent pay raise for most military and civilian government employees. In June 2015, the DOD announced that Huntington Ingalls had been awarded a $3.35 billion contract for the design and construction of new aircraft carrier John F. Kennedy.

Each of these developments will preserve employment in our region. Given our continued dependence on DOD spending, it is appropriate to observe that things could have been much worse for Hampton Roads where sequestration is concerned.

GRAPH 9

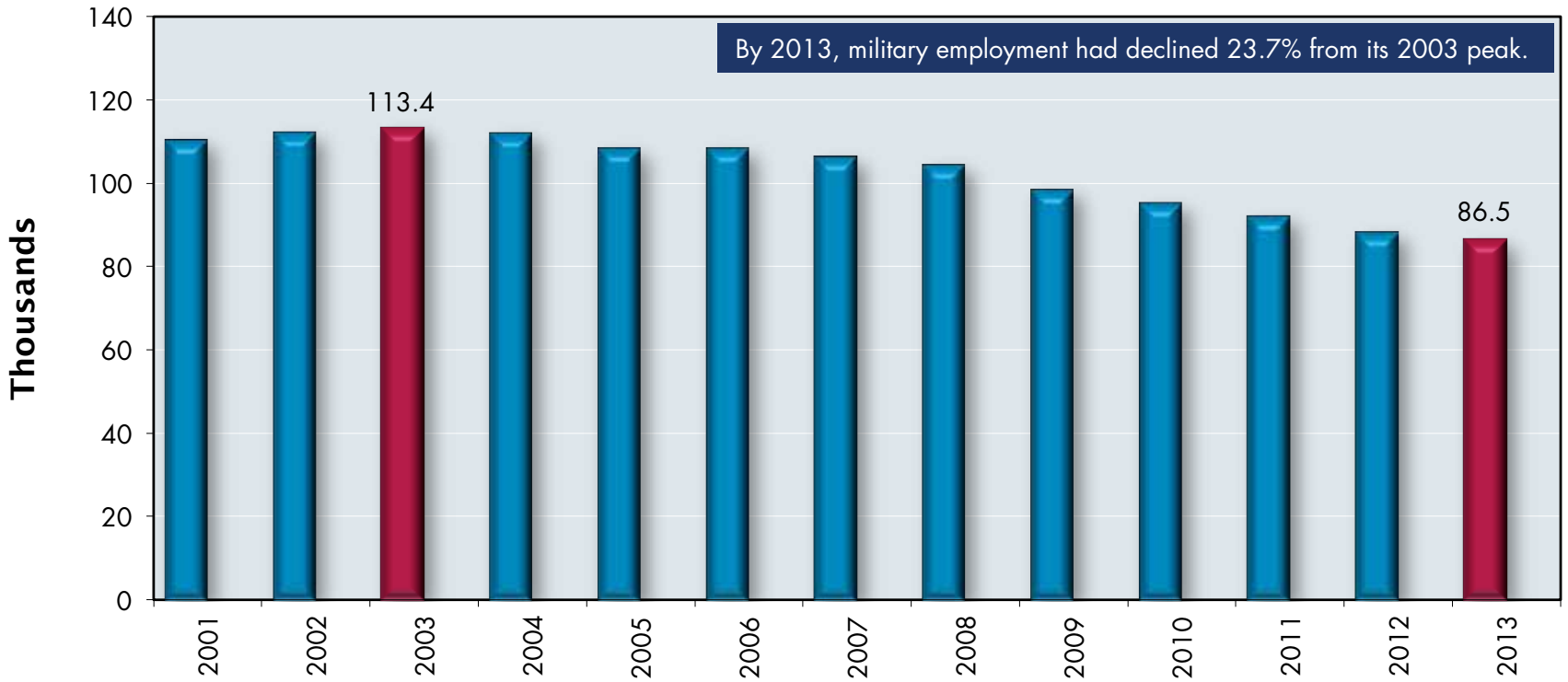
CAPS ON DEPARTMENT OF DEFENSE DISCRETIONARY SPENDING, FY 2012 TO FY 2021



Sources: Budget Control Act 2011, budget requests for FY14, Congressional Budget Office Sequestration Update Report and the Old Dominion University Economic Forecasting Project

GRAPH 10

MILITARY EMPLOYMENT IN HAMPTON ROADS, 2001-2013



Sources: Bureau of Economic Analysis and the Old Dominion University Economic Forecasting Project

Comparing Hampton Roads To Others

We've already seen that Hampton Roads has yet to recover all of the jobs that it lost in the Great Recession. How do we compare to other Atlantic Coast metropolitan regions in this regard? The answer, as one can see in Table 4, is "not so well." Regions such as Charlotte and Raleigh have absolutely left Hampton Roads in their dust insofar as job creation is concerned. Between 2007 and 2014, while we lost 21,800 jobs, Charlotte gained 42,700 jobs and Raleigh augmented 37,400 jobs. If we back up to 2004 to include times that were more attractive for Hampton Roads, the growth in our total regional jobs was only 0.46 percent, well below Virginia's 5.2 percent or the country's 5.54 percent.

Even though Hampton Roads has not been creating many new jobs, our rate of unemployment has been falling and is well below the U.S. average. Graph 11 compares our unemployment rates to those of the United States since 2000 and it is apparent we have consistently reported a lower rate of unemployment than the nation as a whole.

How can this be? Part of the answer is lower labor force participation in our region. One is not counted as unemployed if one either is employed or has stopped actively looking for a job. We appear to have a large proportion of people who fall into this latter category. One collateral piece of supporting evidence is provided in Graph 12, which reveals a significant decline in the number of individuals applying for unemployment benefits. One has to be seeking a job in order to claim unemployment benefits.

We do not have the space here to address the falling labor force participation rate issue in detail; however, this "drop out of the labor force" phenomenon cannot be seen as good news for our region. It results in sharply diminished economic prospects for the individuals who have "dropped out" and also generates increased social costs relating to welfare payments and criminal activity.

TABLE 4

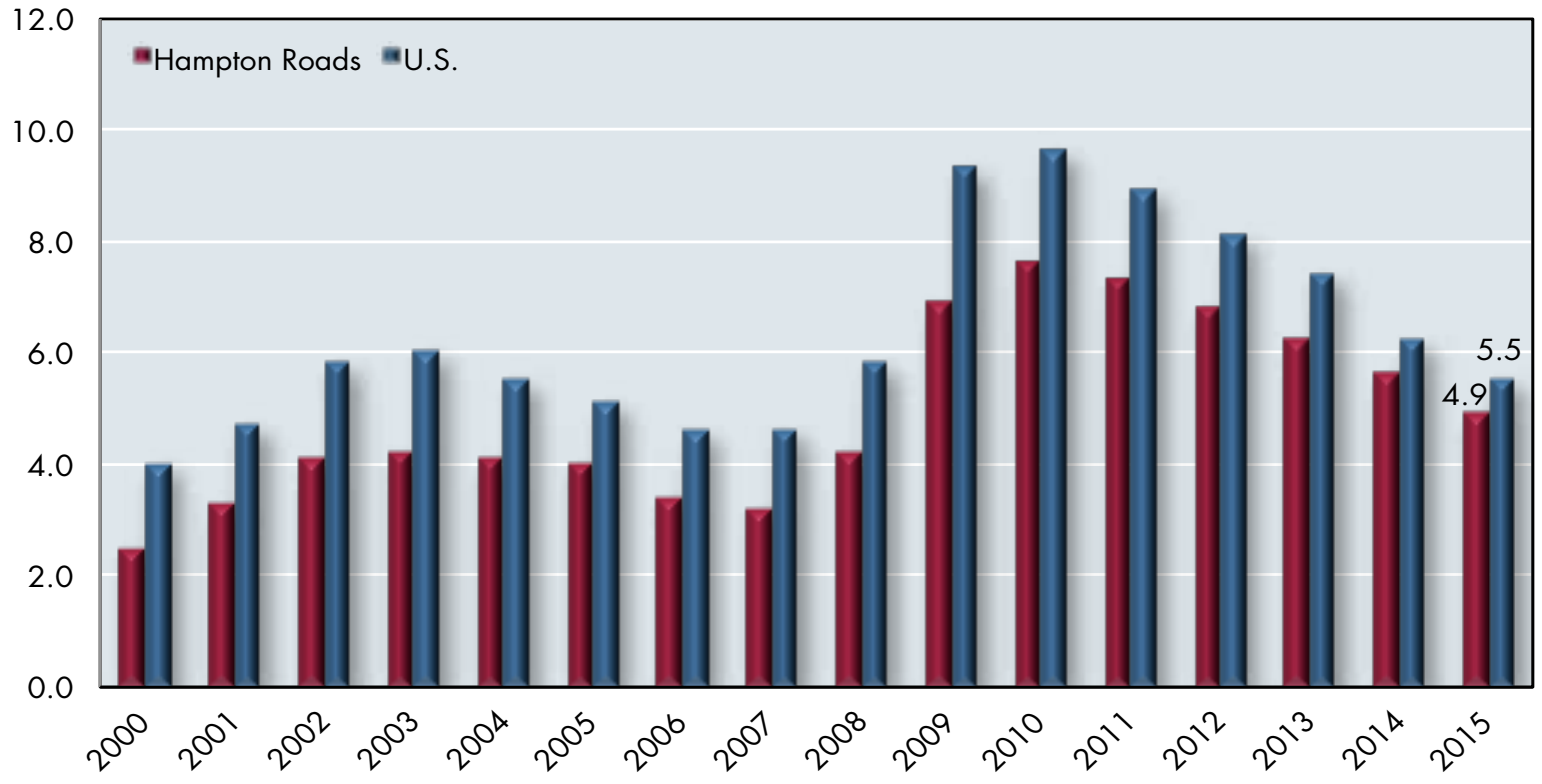
COMPARING CIVILIAN JOB GAINS AND LOSSES IN HAMPTON ROADS TO OTHER REGIONS, VIRGINIA AND THE U.S., 2004-2014 (IN THOUSANDS)

Area	2004-07	2007-14	2004-14 Change and Percent of Total	
Hampton Roads	25.2	-21.8	3.4	(0.46%)
Charlotte	98.2	42.7	140.9	(15.26%)
Durham*	24.9	8.4	33.3	(12.93%)
Jacksonville	55.2	-8.2	47.0	(8.16%)
Raleigh*	73.2	37.4	110.6	(24.63%)
Richmond	28.9	8.3	37.2	(6.26%)
U.S.	6,187.7	1,105.9	7,293.6	(5.54%)
Virginia*	184.0	2.7	186.7	(5.20%)
North Carolina	307.4	0.7	308.1	(8.04%)

Sources: U.S. Department of Labor CES seasonally unadjusted data and the Old Dominion University Economic Forecasting Project. *Peak employment in Durham, Raleigh and Virginia occurred in 2008. Changes for these areas are shown for 2004 through 2008 and 2008 through 2014.

GRAPH 11

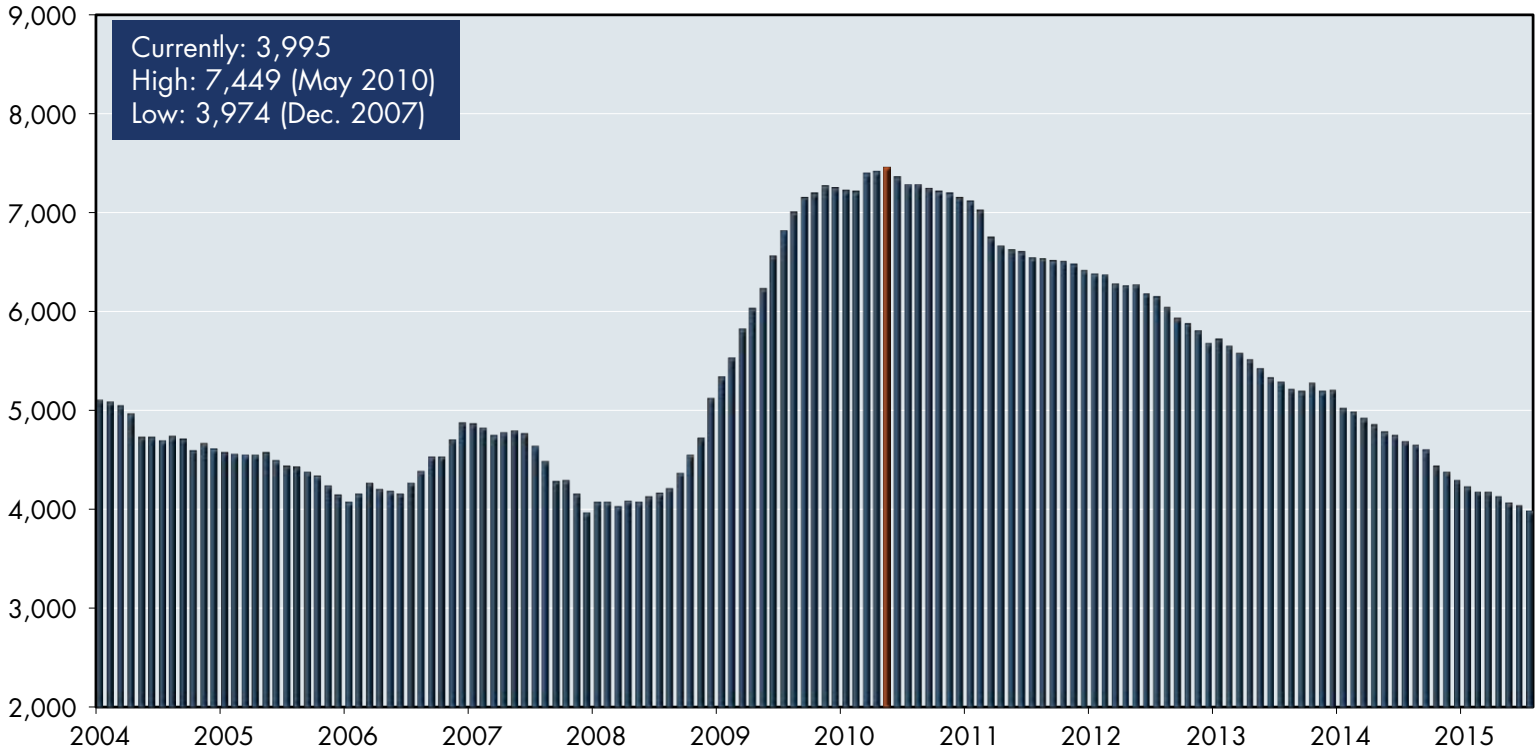
HAMPTON ROADS AND U.S. UNEMPLOYMENT RATES, 2000-2015



Sources: U.S. Department of Labor and the Old Dominion University Economic Forecasting Project. Data are not seasonally adjusted. Revised data April 18, 2014.

GRAPH 12

MONTHLY INITIAL UNEMPLOYMENT CLAIMS FOR HAMPTON ROADS, JANUARY 2004 THROUGH JULY 2015 (12-MONTH MOVING AVERAGE)



Sources: Virginia Employment Commission and the Old Dominion University Forecasting Project

Comparing Our Major Cities

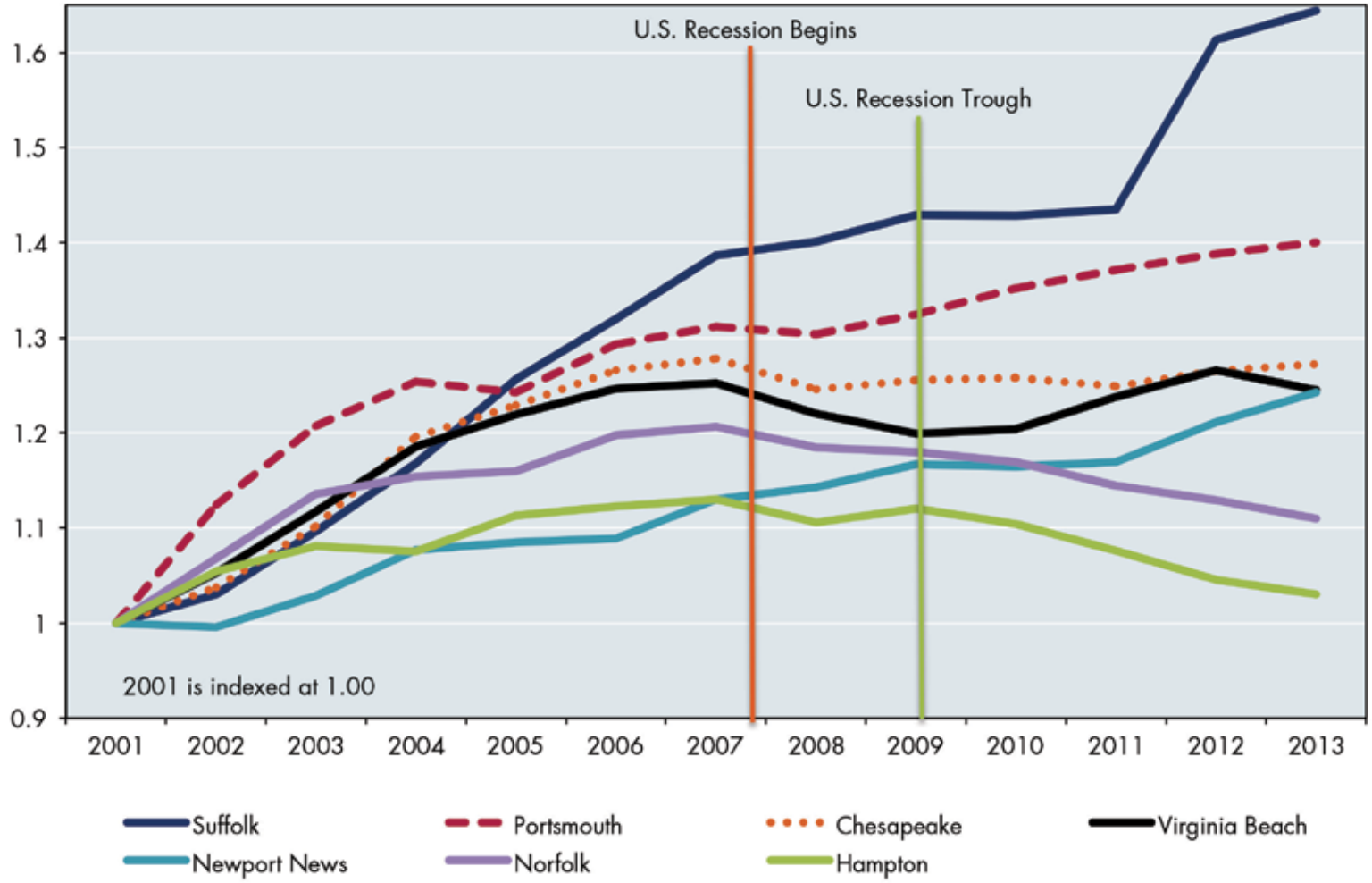
The economies of some of our cities are growing, while others have been stagnant or even contracting. Graph 13 reports the growth in "real" (after inflation has been considered) nonfarm earnings of each of our largest seven cities between 2001 and 2013. All of the cities' growth rates are indexed to 1.00 in 2001. **One can see that Suffolk, energized by considerable population growth, experienced a 63 percent increase in its total, after inflation, nonfarm income between 2001 and 2013. A bit more surprising, perhaps, is the performance of Portsmouth, which recorded a 40 percent increase during the same period. Prior to the imposition of tolls, Portsmouth's economic base was growing rather nicely.**

In general, total incomes in western Hampton Roads cities grew faster than those in eastern Hampton Roads and on the Peninsula since the turn of the century.

Graph 14 abbreviates the window of comparison to 2009 to 2013. Suffolk remains in first place, but now is followed by Newport News and Portsmouth. Note that total, after inflation, nonfarm incomes earned in Norfolk and Hampton actually declined – and not by a little bit, either. Norfolk's decline was about 6 percent and Hampton's about 8 percent. In real terms, these two cities' economies have contracted since the Great Recession.

GRAPH 13

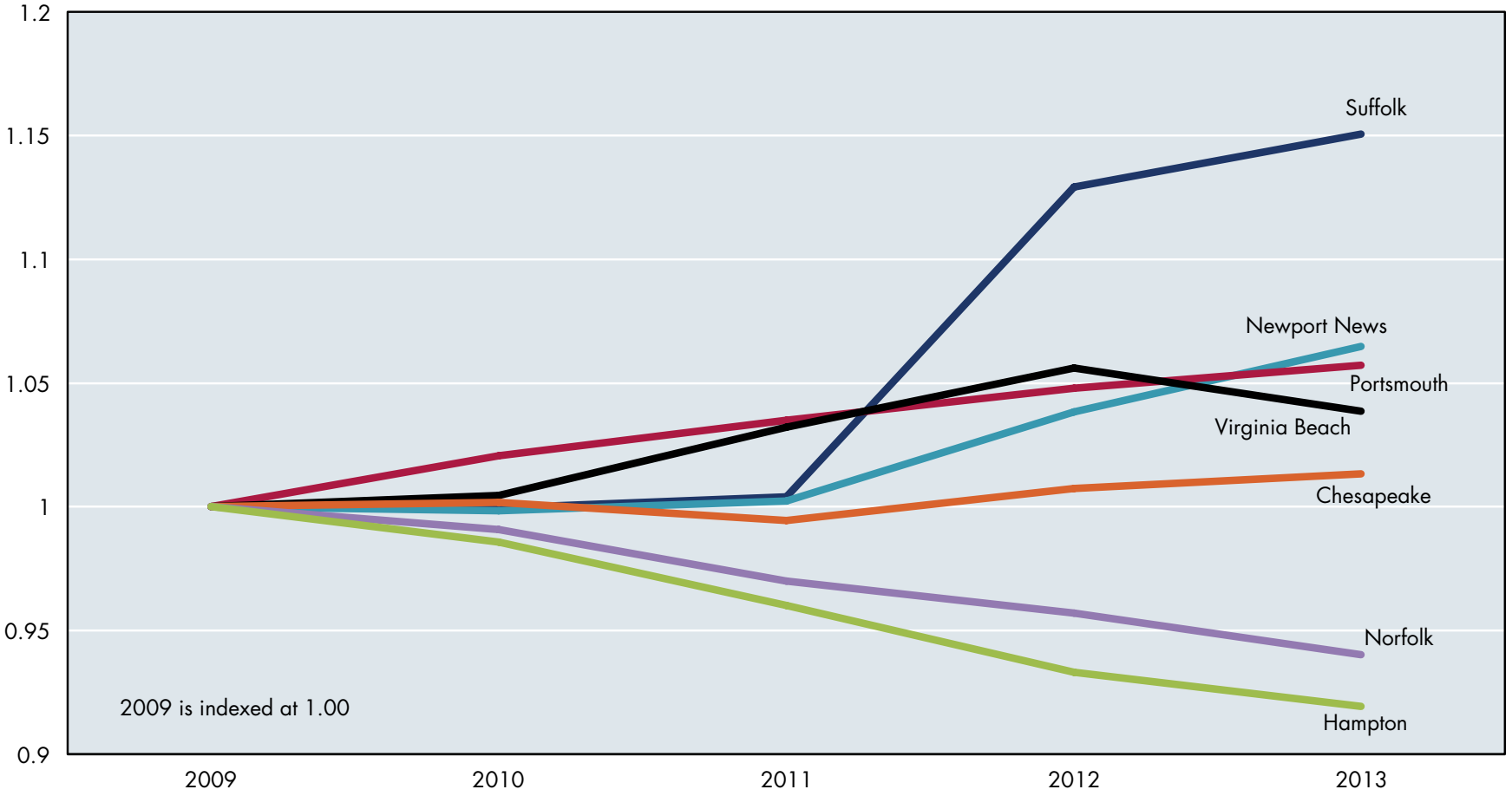
INDEXED NONFARM EARNINGS, LARGEST CITIES, CONSTANT DOLLARS, 2001-2013



Source: Bureau of Economic Analysis, U.S. Department of Commerce

GRAPH 14

INDEXED NONFARM EARNINGS, LARGEST CITIES, CONSTANT DOLLARS, 2009-2013



Source: Bureau of Economic Analysis, U.S. Department of Commerce

Tourism And Hotels

In 2014, total hotel revenues in Hampton Roads still had not recovered to the record $714.4 million level our region recorded in 2007 (see Graph 15). We may finally surpass the 2007 level in 2015.

While the recovery of our travel and tourism industry from the Great Recession has been sluggish, there have been important underlying changes occurring in that market. Graph 16 reports that the Historic Triangle (Williamsburg) has lost significant tourism market share since 1999. One of the major beneficiaries has been Virginia Beach, which now claims 41.3 percent of the overall regional travel and tourism market.

Experienced analysts prefer an alternative measure of the health of the travel and tourism market – REVPAR – because it takes into account both the supply and demand sides of the market. REVPAR stands for revenue per available room and measures the average number of dollars earned per available room on the market. Table 5 discloses that REVPAR rose 13.3 percent in the United States between 2007 and 2014, but fell by 6.8 percent in Hampton Roads, 12.2 percent in Norfolk/ Portsmouth, 16.2 percent in Williamsburg and 17.2 percent in Chesapeake/Suffolk during the same time period.

Lower demand for hotel and motel rooms explains the Norfolk/Portsmouth and Williamsburg numbers, but not those for Chesapeake/Suffolk. Neither Norfolk/Portsmouth nor Williamsburg added many new hotel and motel rooms and therefore their REVPAR declines represent a decrease in the demand for their properties. In the case of Chesapeake/Suffolk, however, the story is different. As Graph 17 reveals, the number of occupied hotel and motel rooms in those two cities increased noticeably in recent years, but not nearly as fast as the supply of rooms, which ballooned from 1,405 in 2007 to 1,986 in 2014. Simply put, there was overbuilding of hotel and motel capacity in Chesapeake/Suffolk. These cities likely will be able to grow out of this problem, though it may take the remainder of this decade for them to do so. It is doubtful that either Williamsburg or Norfolk/ Portsmouth can count on this occurring.

All things considered, it is not an auspicious time to be adding new hotels and motels. The single exception to this dictum may be Virginia Beach because of the gradually growing demand for tourism there.

TABLE 5

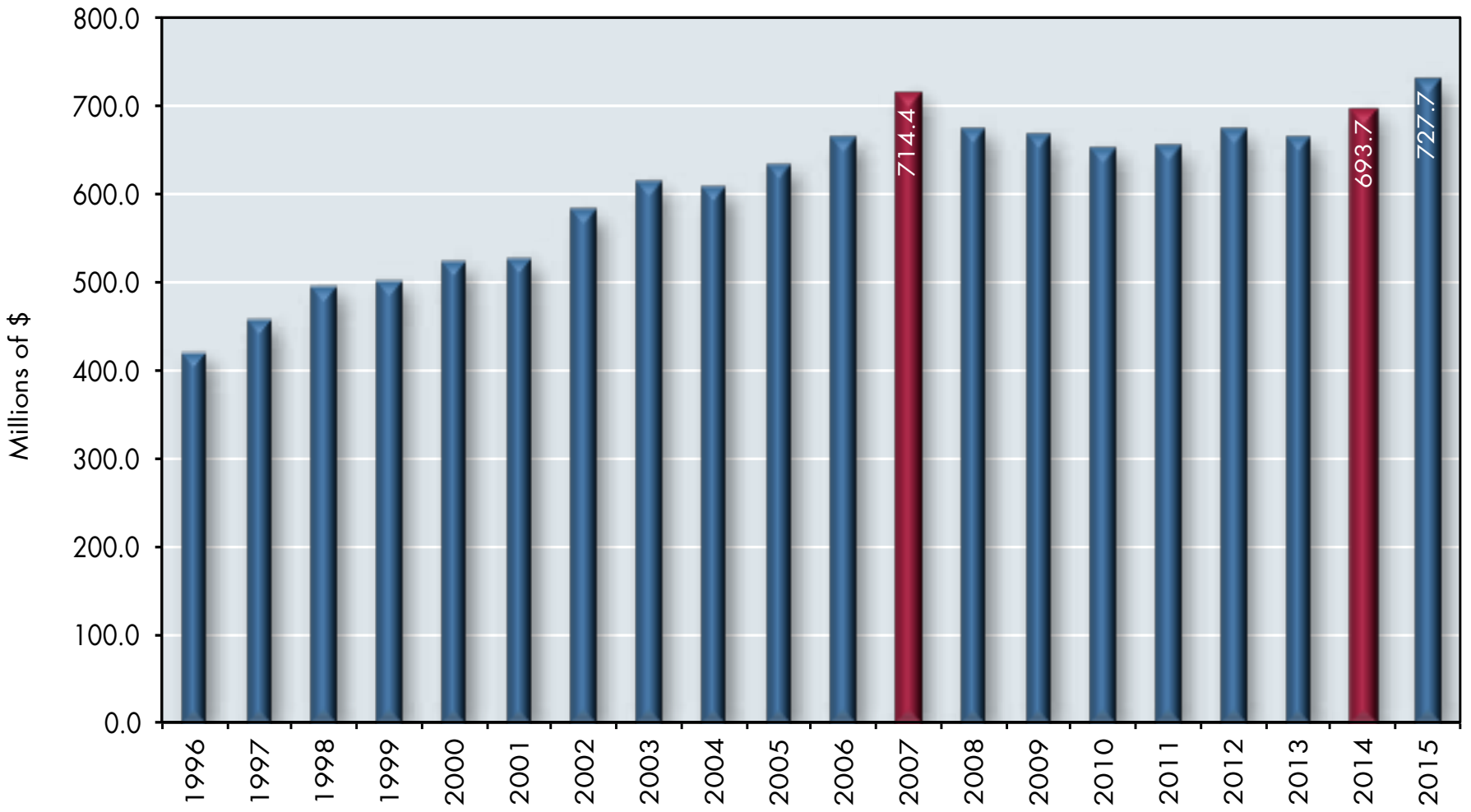
REVPAR IN SELECTED MARKETS, 2007 AND 2014

	2007	2014	Percentage Change
U.S.	**$65.54**	**$74.28**	**+13.3%**
Virginia	$61.95	$59.42	-4.1%
Hampton Roads	**$52.90**	**$49.30**	**-6.8%**
Myrtle Beach	$54.07	$64.12	+ 18.7%
Coastal Carolina	$55.83	$61.22	+ 9.7%
Ocean City	**$71.74**	**$72.38**	**+0.9%**
Virginia Beach	**$64.64**	**$67.22**	**+ 3.9%**
Newport News/ Hampton	$41.49	$37.69	-9.2%
Norfolk/Portsmouth	$54.05	$47.48	-12.2%
Williamsburg	$47.53	$39.81	-16.2%
Chesapeake/Suffolk	$52.90	$43.78	- 17.2%

Source: Smith Travel Research Trend Report, Jan. 21, 2015, and the Old Dominion University Economic Forecasting Project

GRAPH 15

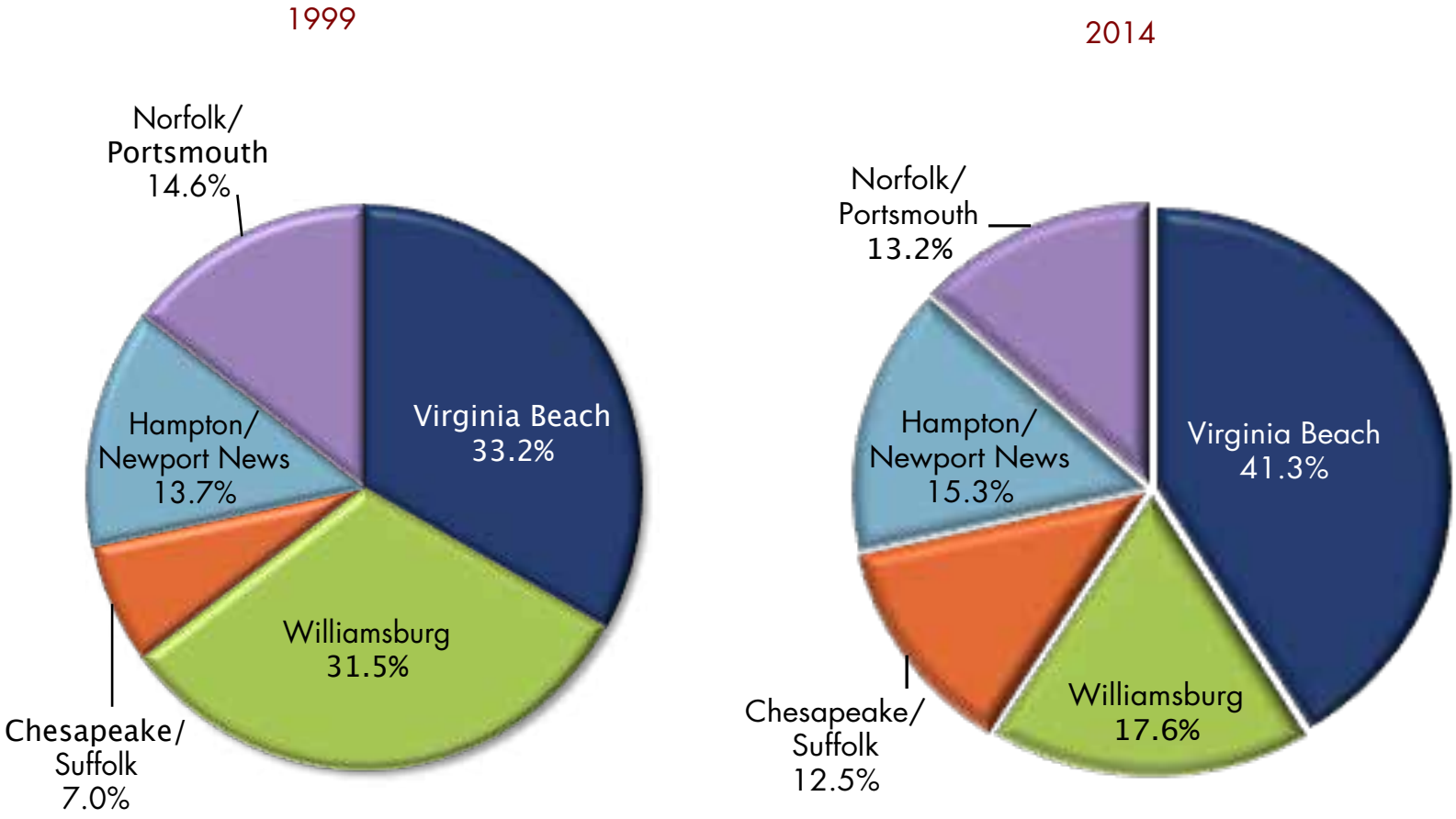
HOTEL REVENUE IN HAMPTON ROADS, 1996-2015



Sources: Smith Travel Research Trend Report, Jan. 21, 2015, and the Old Dominion University Economic Forecasting Project

GRAPH 16

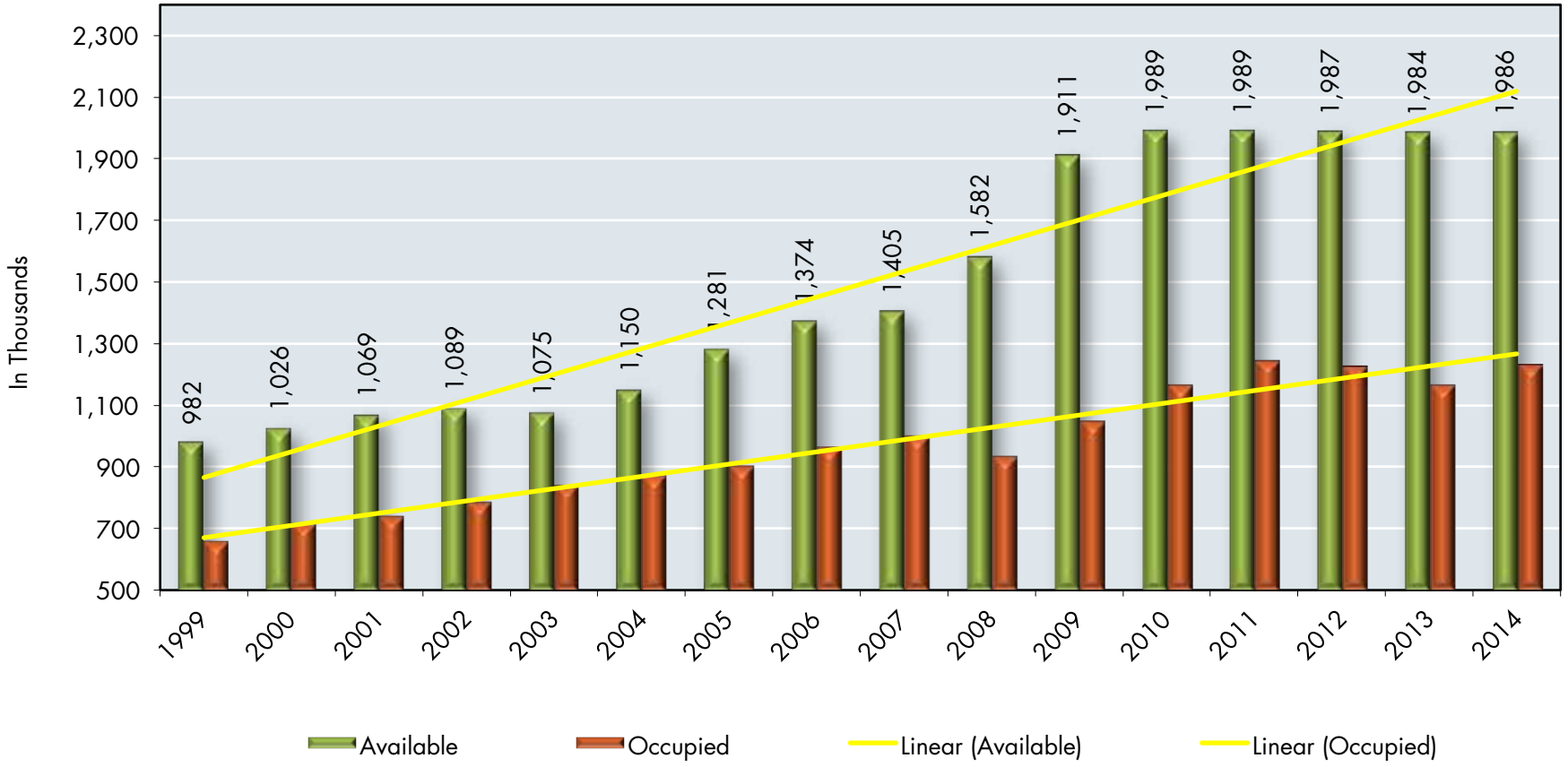
ESTIMATED CITY HOTEL MARKET SHARES IN HAMPTON ROADS AS INDICATED BY INDUSTRY REVENUES, 1999 AND 2014



Sources: Smith Travel Research Trend Report, Jan. 21, 2015, and the Old Dominion University Economic Forecasting Project

GRAPH 17

HOTEL ROOM NIGHTS IN CHESAPEAKE/SUFFOLK MARKET, 1999-2014



Sources: Smith Travel Research Trend Report, Jan. 21, 2015, and the Old Dominion University Economic Forecasting Project

Residential Housing

After a 90 percent increase in the median sales price of existing residential homes between 2002 and 2007, house prices declined by 19 percent between 2007 and 2011. Since then, there has been modest recovery, **but the 2015 median sales price still is likely to be more than $20,000 below the $223,000 peak attained in 2007.** Table 6 supplies these data.

Pricewise, the nadir of the local residential housing market occurred in 2011. Since then, there have been improvements. Graph 18 shows both a declining average number of days an existing home was on the market before selling and an increasing total number of sales in Hampton Roads since 2011. Additionally, one can see in Graph 19 that residential housing foreclosures continue to wane and in Graph 20 that active listings of distressed homes – those that either are REO (bank owned) or short sales, continue to decline. **However, REO sales and short sales together still accounted for 21.9 percent of all existing home sales in Hampton Roads in 2014.**

The impact of REO and short sales on housing prices is almost uniformly negative. The median prices of REO existing home sales was only 49.5 percent of the median price of non-distressed sales in 2014, while the median price of short sale homes was 71.3 percent of the median price of non-distressed sales (see Table 7).

These changes noted, the improvements that have occurred in the Hampton Roads housing market have not been vast. **This is a market that continues to limp toward recovery and, if anything, that recovery slowed a bit in 2014.**

The good news on the housing front is that homes in our region certainly are more affordable now than during the middle of the previous decade. In Table 8 we compute the average mortgage payment that an individual would have to make if he or she purchased a median-priced existing home, paid 1 percent in real estate taxes and had a prevailing 30-year mortgage on the entire value of their home for each year. Note that the average mortgage rate for 2014 was 4.17 percent as opposed to 6.34 percent in 2007.

Meanwhile, the median monthly rent for a three-bedroom apartment in Hampton Roads has increased significantly since 2007, reflecting a tightening supply-and-demand situation for rental housing in our region. Table 8 reveals that the median monthly rent for a three-bedroom apartment in 2014 was $1,562, which was $438 per month more than the representative mortgage payment per month. A home purchase, then, was a superior choice versus renting for those whose credit and financial means enabled them to purchase a home.

Graph 21 expresses housing affordability in terms of the percentage of the median household income in our region that would be required if one were to purchase a home. **Viewed historically, buying a home in Hampton Roads now is almost as affordable as it has been for nearly 40 years.**

TABLE 6

MEDIAN SALES PRICE OF EXISTING RESIDENTIAL HOMES IN HAMPTON ROADS, 2000-2015*

Year	Median Price	Percentage Change Year to Year
2002	$116,900	+7.3%
2003	$130,000	**+11.2%**
2004	$156,500	**+20.4%**
2005	$192,000	**+22.7%**
2006	$214,900	**+11.9%**
2007	**$223,000**	**3.8%**
2008	$219,000	**-1.8%**
2009	$207,000	**-5.5%**
2010	$203,900	**-1.5%**
2011	$180,000	**-11.7%**
2012	**$185,000**	**+2.78%**
2013	**$190,000**	**+2.70%**
2014	**$193,205**	**+1.70%**
2015*	**$203,000**	**+6.84%***

90% Increase from 2002-07

19% Decrease from 2007-11

Sources: Real Estate Information Network Inc. and the Old Dominion University Economic Forecasting Project. *Data for 2015 are through July 2015 and are compared to median price ($190,000) through July 2014.

TABLE 7

MEDIAN PRICE OF EXISTING SHORT SALES, REOS AND NON-DISTRESSED RESIDENTIAL HOMES SOLD IN HAMPTON ROADS, 2006-2015*

Year	Non-Distressed Sales	Short Sales	Short Sales Price % Non-Distressed Price	REO Sales	REO Price % Non-Distressed Sales
2006	$214,900	$230,000	107.0	$ 82,500	38.4
2007	$224,000	$239,950	107.1	$140,000	62.5
2008	$220,000	$215,000	97.7	$160,500	73.0
2009	$215,000	$215,000	100.0	$150,000	69.8
2010	$220,000	$208,000	94.6	$133,000	60.5
2011	$205,000	$190,000	92.7	$115,000	56.1
2012	$208,000	$167,250	80.4	$110,000	52.9
2013	$213,000	$160,000	75.1	$109,625	51.5
2014	$214,000	$152,580	71.3	$106,000	49.5
2015*	$221,450	$152,950	69.1	$110,000	51.9

Sources: Real Estate Information Network Inc. and the Old Dominion University Economic Forecasting Project. Information deemed reliable but not guaranteed. REOs represent bank-owned homes. *Data for 2015 are through July 2015.

TABLE 8

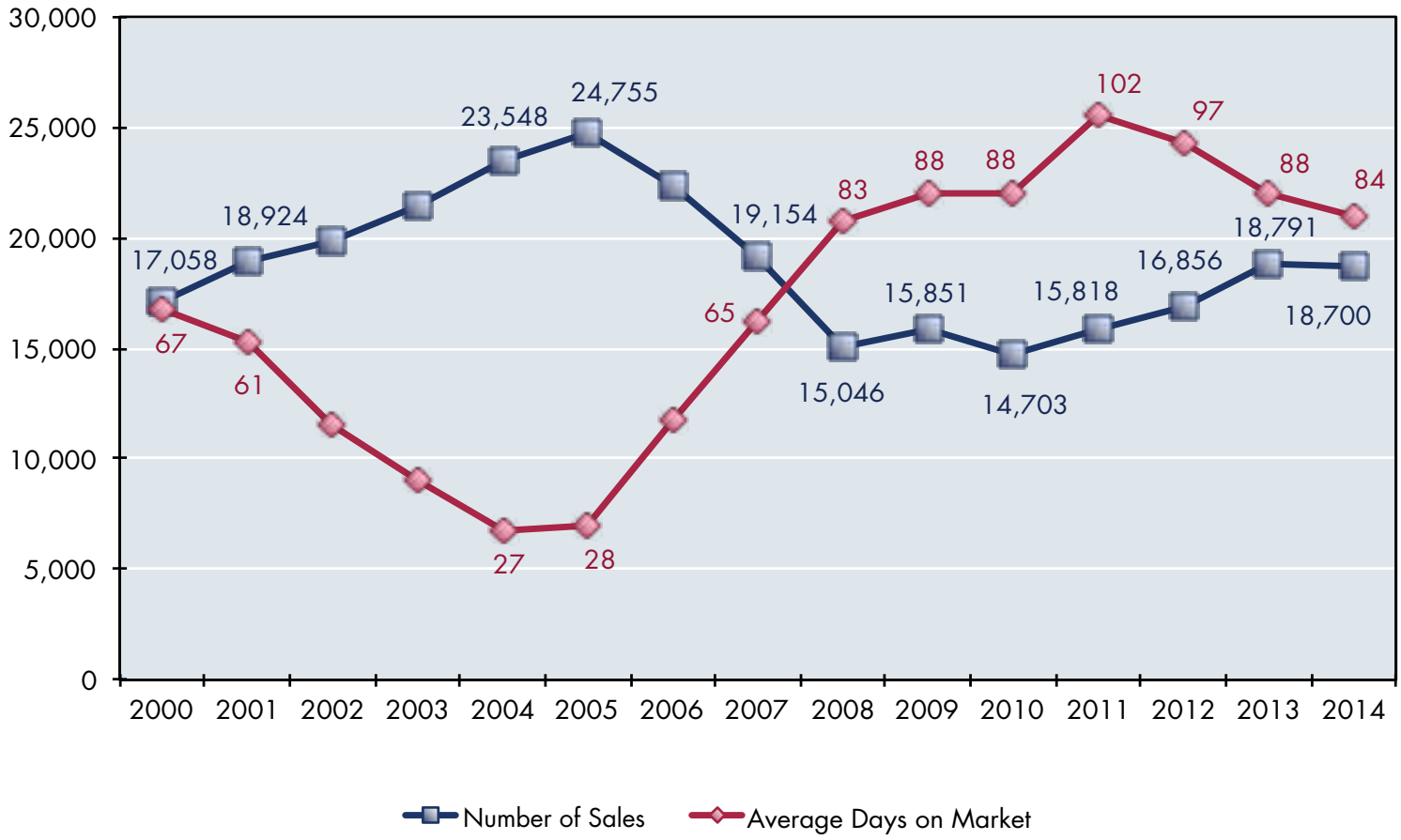
ESTIMATED APARTMENT RENTAL AND PRINCIPAL, INTEREST AND TAXES FOR A HOUSE PAYMENT IN HAMPTON ROADS, 2001-2014

Year	Median Monthly Rent for a Three-Bedroom Apartment	PI&T Monthly for a Median-Priced House	Ratio of Monthly Rent to PI&T
2001	$ 882	836	1.05
2002	911	861	1.06
2003	1,037	890	1.16
2004	1,044	1,073	0.97
2005	1 ,087	1,315	0.83
2006	1,118	1,533	0.73
2007	1,164	1,598	0.73
2008	1,247	1,507	0.83
2009	1,236	1,307	0.95
2010	**1,277**	**1,233**	**1.04**
2011	**1,319**	**1,071**	**1.23**
2012	**1,454**	**1,015**	**1.43**
2013	**1,570**	**1,080**	**1.45**
2014	**1,562**	**1,124**	**1.39**

Sources: HUD and the Old Dominion University Economic Forecasting Project. It is assumed that the real estate tax rate is 1 percent and the tax reduction received by homeowners would compensate for homeowners' insurance and maintenance expenditures.

GRAPH 18

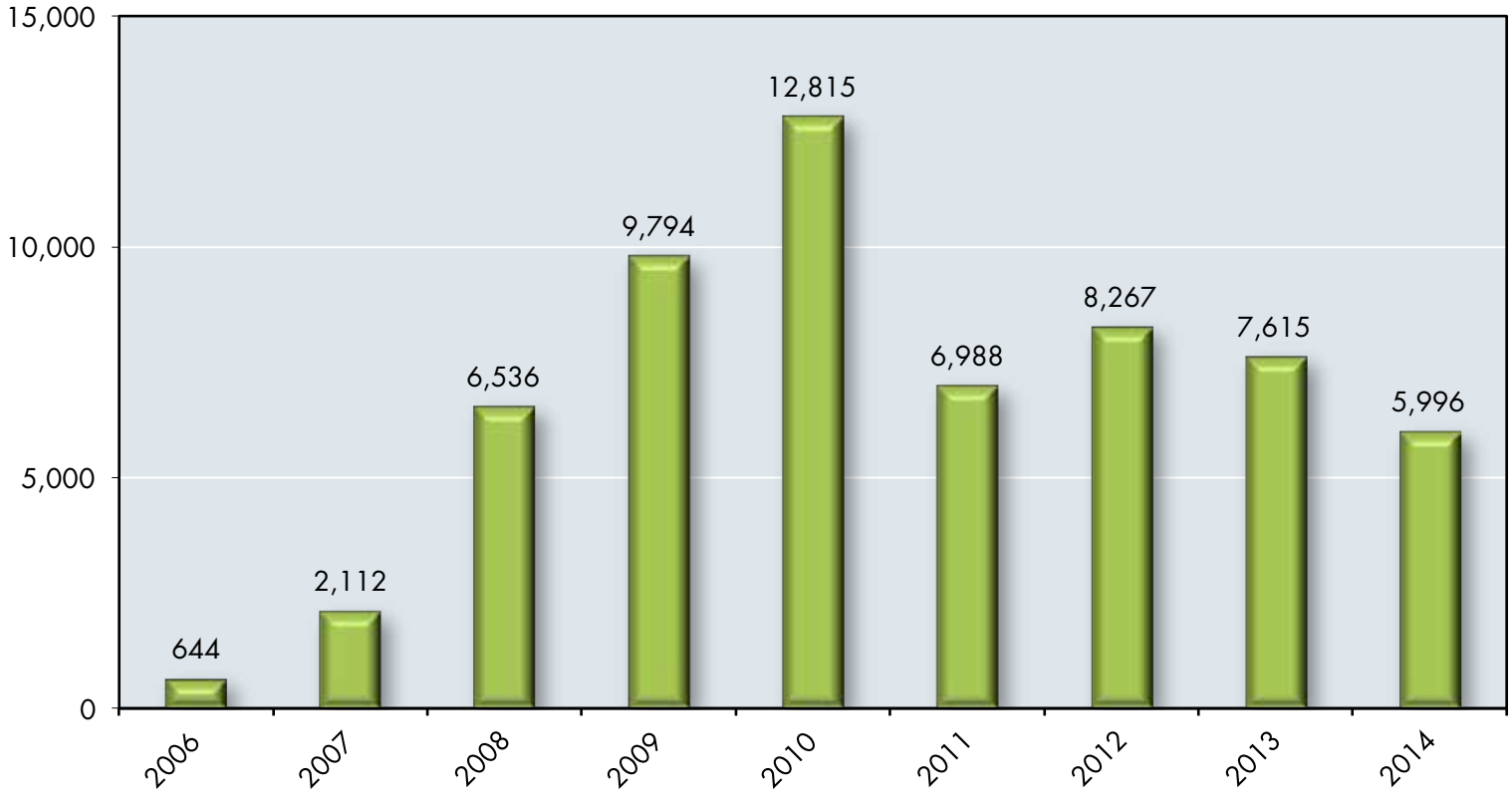
EXISTING RESIDENTIAL HOMES SOLD AND AVERAGE DAYS ON THE MARKET IN HAMPTON ROADS, 2000-2014



Sources: Real Estate Information Network Inc. and the Old Dominion University Economic Forecasting Project. Information deemed reliable but not guaranteed. Days on market is calculated from the date listed to the date under contract for existing homes sold.

GRAPH 19

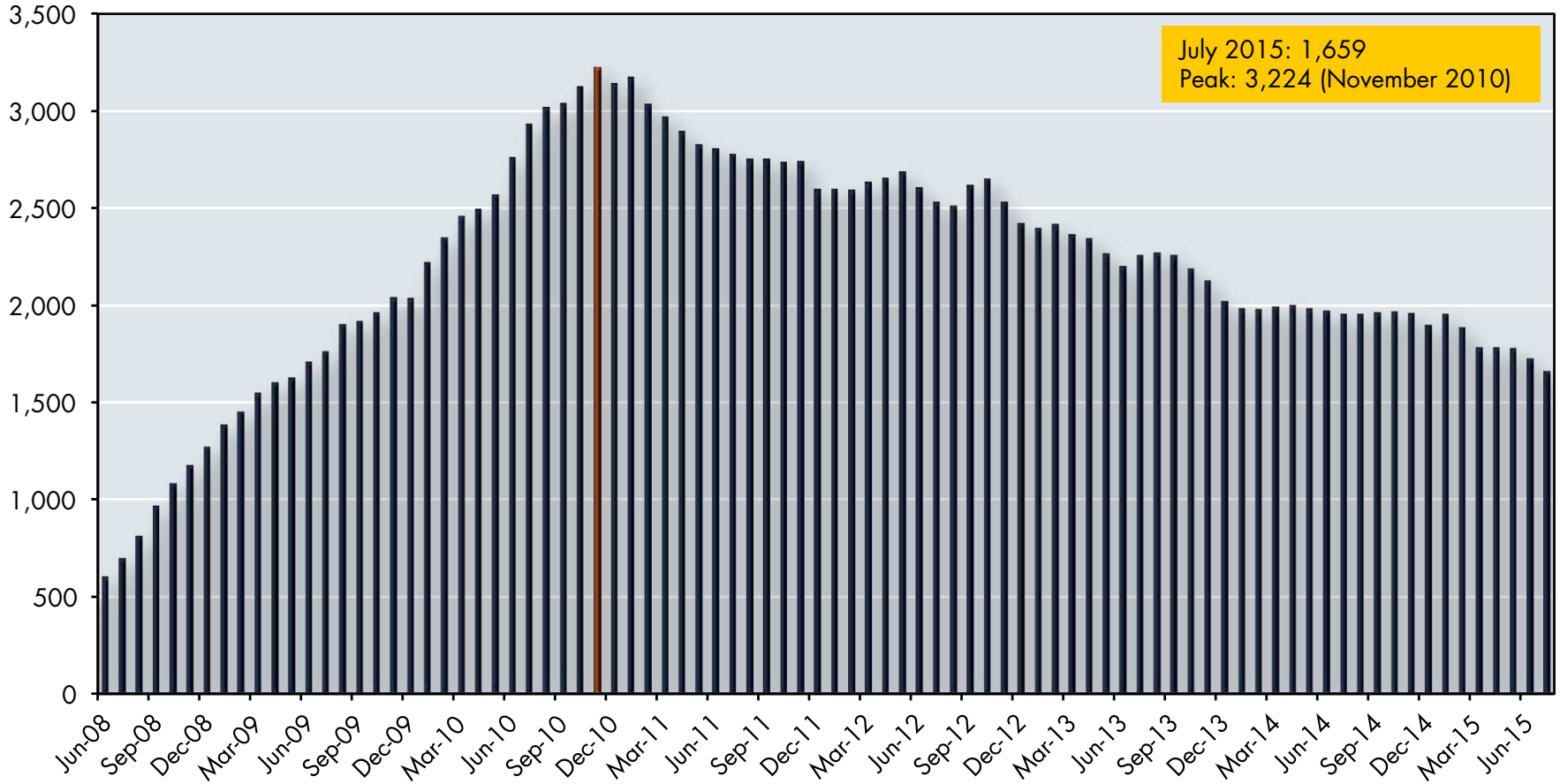
HAMPTON ROADS RESIDENTIAL FORECLOSURE FILINGS, 2006-2014



Sources: RealtyTrac and the Old Dominion University Economic Forecasting Project

GRAPH 20

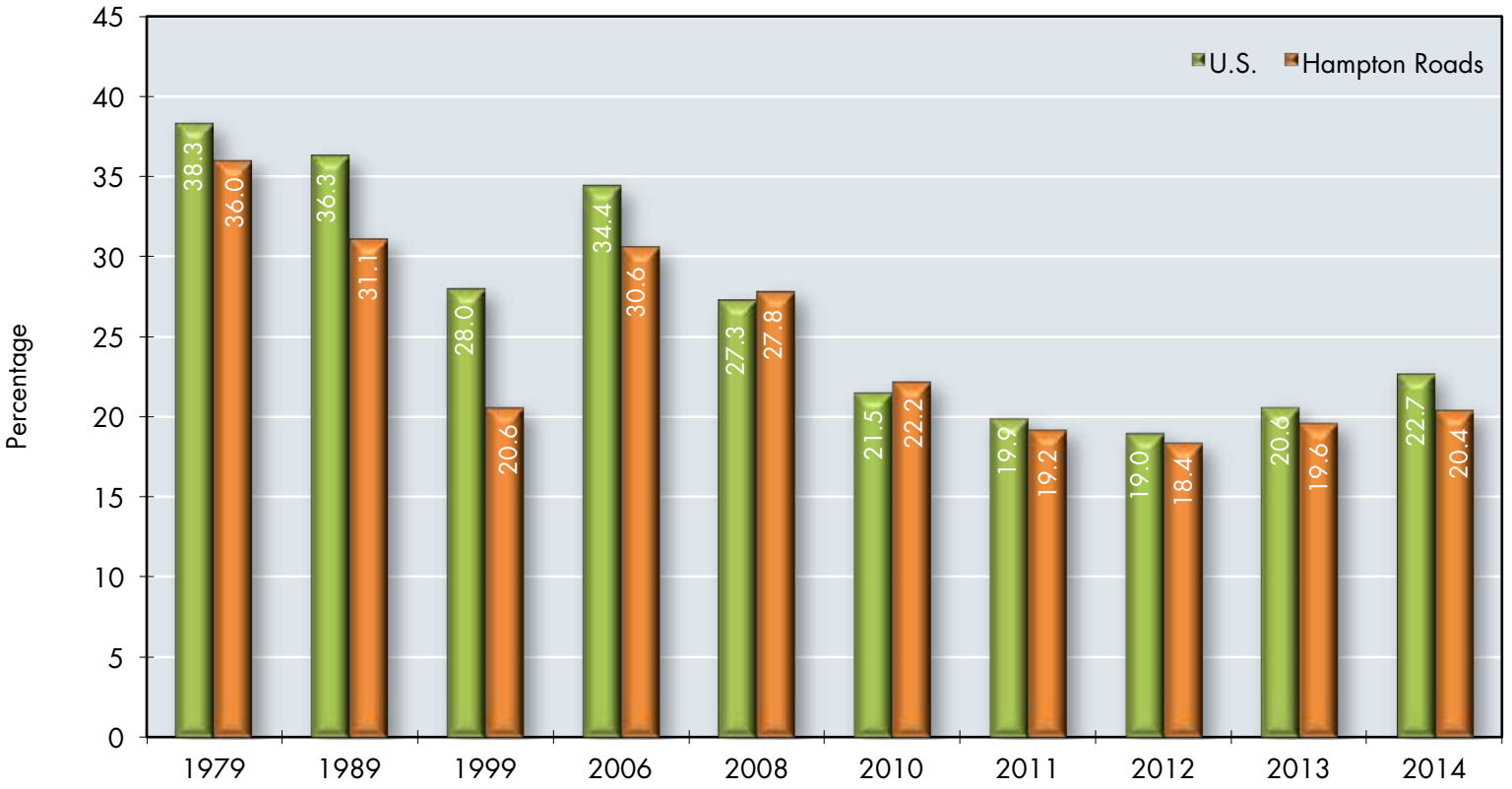
NUMBER OF ACTIVE LISTINGS OF DISTRESSED HOMES (REO AND SHORT SALES) IN HAMPTON ROADS, JUNE 2008–JULY 2015



Sources: Real Estate Information Network and the Old Dominion University Economic Forecasting Project

GRAPH 21

HOUSING AFFORDABILITY: MONTHLY PAYMENT FOR A MEDIAN-PRICED RESALE HOUSE AS A PERCENTAGE OF MEDIAN HOUSEHOLD MONTHLY INCOME IN HAMPTON ROADS AND THE U.S., 1979-2014



Source: Old Dominion University Economic Forecasting Project (assumes a 30-year mortgage rate of 4.17 percent for 2014)

Summing It Up

Tables 9 and 10 summarize where we were in June 2014 compared to June 2015, economically speaking. Except for employment and the labor market, the percentage changes are notably positive. In general, we're better off now than we were last year at this time. For example, automobile registrations are up 7.43 percent over the previous year and the value of single-unit new housing permits is up 20.27 percent over 2014.

The problem child of the regional economy continues to be employment and job markets. The size of our labor force actually has declined marginally in recent months, as has total employment. Yes, our unemployment rate continues to decline, but we've noted that declining labor force participation seems to be an important cause.

The Port of Virginia continues to be a bright spot for our region and therefore we devote a complete chapter to it later in this report. We also zero in on the impact of changing defense spending on particular segments of our regional economy.

TABLE 9 REGIONAL ECONOMIC PERFORMANCE THROUGH JUNE 2014 AND JUNE 2015: JOBS AND SALES			
	YTD June 2014	**YTD June 2015**	**% Change**
Civilian Labor Force	845,946	840,195	-0.68
Employment	796,498	794,700	-0.23
Unemployment	49,448	45,495	-7.99
Unemployment Rate	5.85%	5.41%	N/A
Civilian Nonfarm Jobs*	750,171	756,086	+0.79
Number of Jobs Added Since Previous December*	300	4,200	+1,300.00
New Auto Registrations*	47,636	51,176	+7.43
Taxable Sales	$10.06B	$10.43B	+3.72
Source: Old Dominion University Economic Forecasting Project. *Data shown here are for YTD June 2014 and YTD June 2015.			

TABLE 10 REGIONAL ECONOMIC PERFORMANCE THROUGH JUNE 2014 AND JUNE 2015: HOTELS, PORT AND HOUSING			
	YTD June 2014	**YTD June 2015**	**% Change**
Hotel Revenue*	$414.88M	$437.22M	+5.39
General Cargo Tonnage*	10.83M	11.99M	+10.71
TEU Containers*	1,344,425	1,479,704	+10.06
Number of 1-Unit Housing Permits	1,913	2,208	+15.42
Value of 1-Unit Housing Permits	$393.31M	$473.05M	+20.27
Number of Existing Homes Sold*	10,628	11,885	+11.83
Distressed Homes as a Percentage of All Existing Homes Sold*	23.35	19.76	N/A
Median Price of Existing Homes Sold*	$190,000	$203,000	+6.84
Source: Old Dominion University Economic Forecasting Project. *Data shown here are for YTD June 2014 and YTD June 2015.			

Defense Expenditures In Hampton Roads: Digging Deeper

DEFENSE EXPENDITURES IN HAMPTON ROADS: DIGGING DEEPER

We know that Hampton Roads is heavily dependent upon defense spending – approximately 39 percent of the value of our economic activity is directly or indirectly related to defense spending. This is a big number, but disguises some important information: for example, how that activity is distributed among the cities and counties of our region and which companies are involved. Let's now take a closer look in order to supply some answers.

There are two major conduits for Department of Defense (DOD) funds that come to Hampton Roads: (1) expenditures made on personnel; and (2) expenditures made via contracts negotiated by the DOD with private firms or other governmental units for construction, equipment, supplies, services, etc. **In the introductory chapter of this report, we examined total DOD personnel expenditures in our region and found that between 2010 and 2013, such expenditures declined by 6.9 percent. To put this number in context, total federal civilian expenditures on personnel increased by 4.2 percent in Hampton Roads during the same time period, while comparable total private, nonfarm personnel expenditures increased 9.3 percent.**

DOD contracts in our region usually are less visible than personnel expenditures. Exceptions include the large DOD contracts with Huntington Ingalls relating to the construction or rehabilitation of aircraft carriers. These events justifiably garner lots of attention, but most other DOD contracts merit nothing more than a sentence in the business section of local publications.

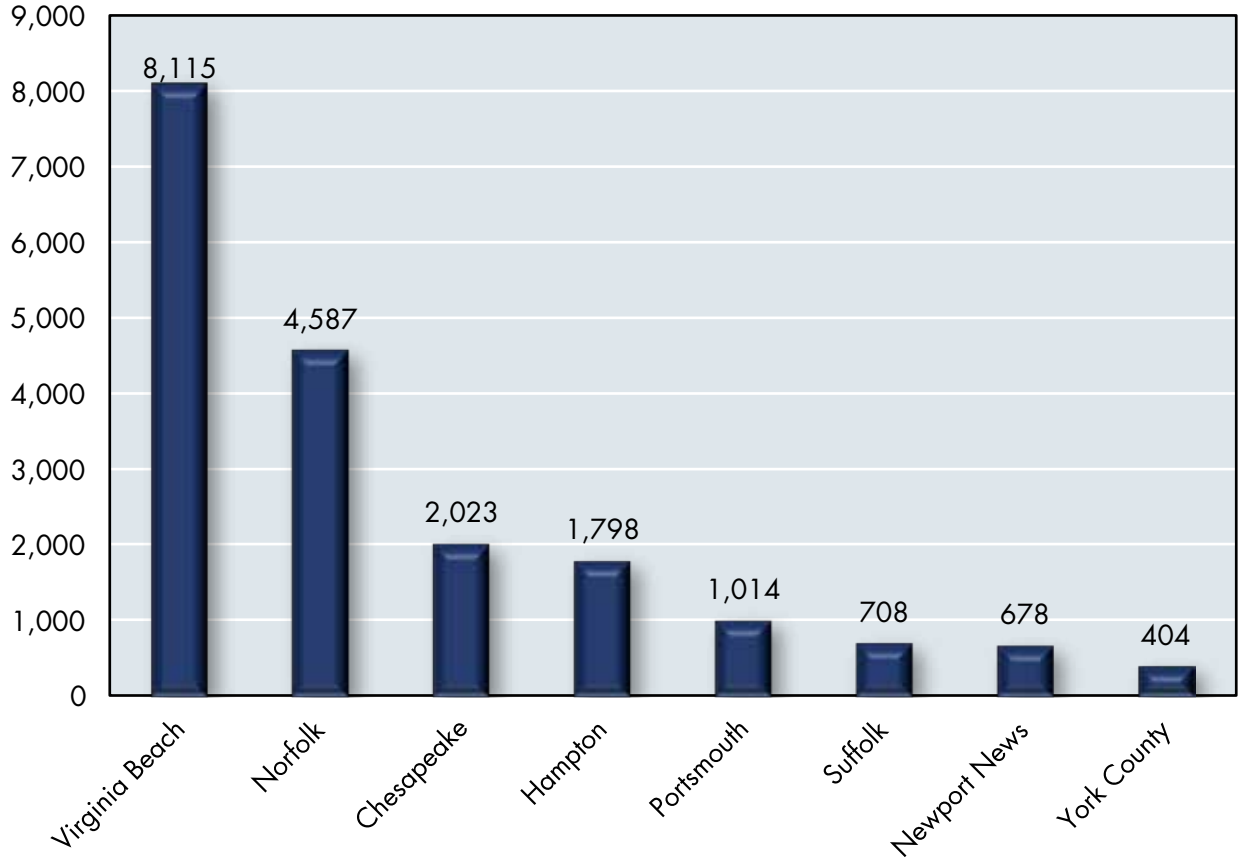
However, as Graph 1 discloses, these "other" contracts are significant in number, not the least because after they are signed, the contracts frequently are modified and extended. Such events, termed "transactions," are commonplace. Despite their frequency and ultimate economic impact when considered as a whole, DOD transactions in Hampton Roads seldom capture the public's attention. In any case, Virginia Beach and Norfolk record far more DOD transactions than any other cities or counties in our region.

The total value of the DOD procurement contracts in Hampton Roads only roughly mirrors the number of transactions. **Graph 2 informs us that in FY 2015, the value of DOD contracts exceeded $1.13 billion in Newport News, $838 million in Virginia Beach and $774 million in Norfolk.**

The lesson of Graph 2, however, is that virtually every city and county in our region has a stake in DOD contractual procurement spending. We rise and fall as a group when DOD spending changes. This was very good for us, economically speaking, in the previous decade when defense spending was increasing rapidly. Conditions were less salubrious for us in 2015 when defense spending was stagnant or declining in most categories.

GRAPH 1

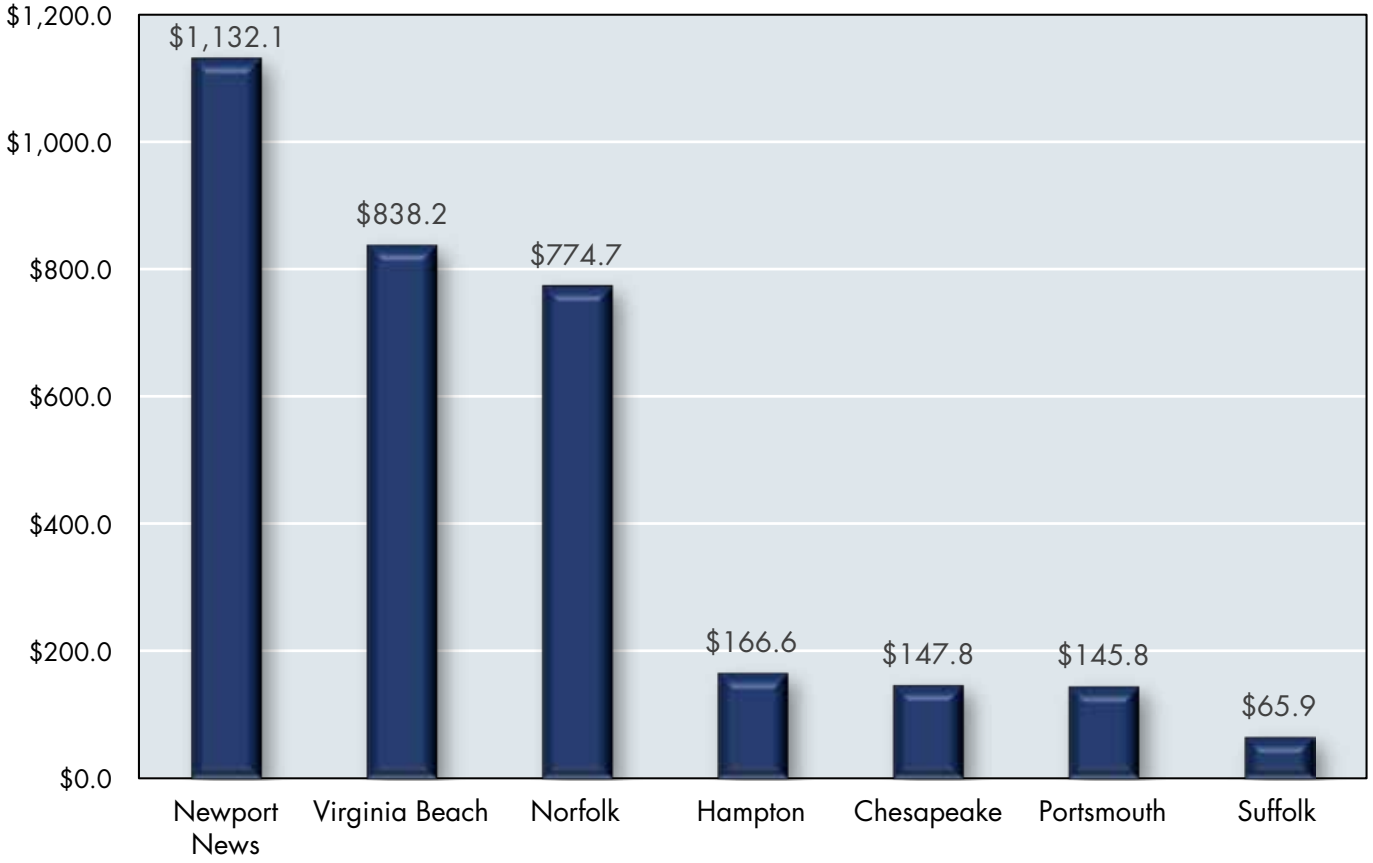
DOD CONTRACTUAL TRANSACTIONS IN HAMPTON ROADS' LARGEST JURISDICTIONS, FY 2015



Source: www.usaspending.gov

GRAPH 2

DOD CONTRACTS AWARDED BY RECIPIENT CITY, FY 2015 (MILLIONS OF DOLLARS)



Source: www.usaspending.gov

Who Receives DOD Contracts In Hampton Roads?

Which companies and firms are receiving the DOD contracts? Graph 3 supplies FY 2015 data for Hampton Roads. While Huntington Ingalls easily is the largest DOD contract recipient, not all of the $1.132 billion of activity noted for the company in FY 2015 actually relates to Newport News, the company's headquarters. We were unable to separate Newport News from other locations where Huntington Ingalls contracts are concerned.

We were, however, able to record DOD contract locations for No. 2-ranked Atlantic Diving Supply, which is headquartered in Virginia Beach. Atlantic Diving scored $206.04 million overall in DOD contracts in FY 2015, although only $92.62 million of these contracts could be directly connected to its headquarters in Virginia Beach.

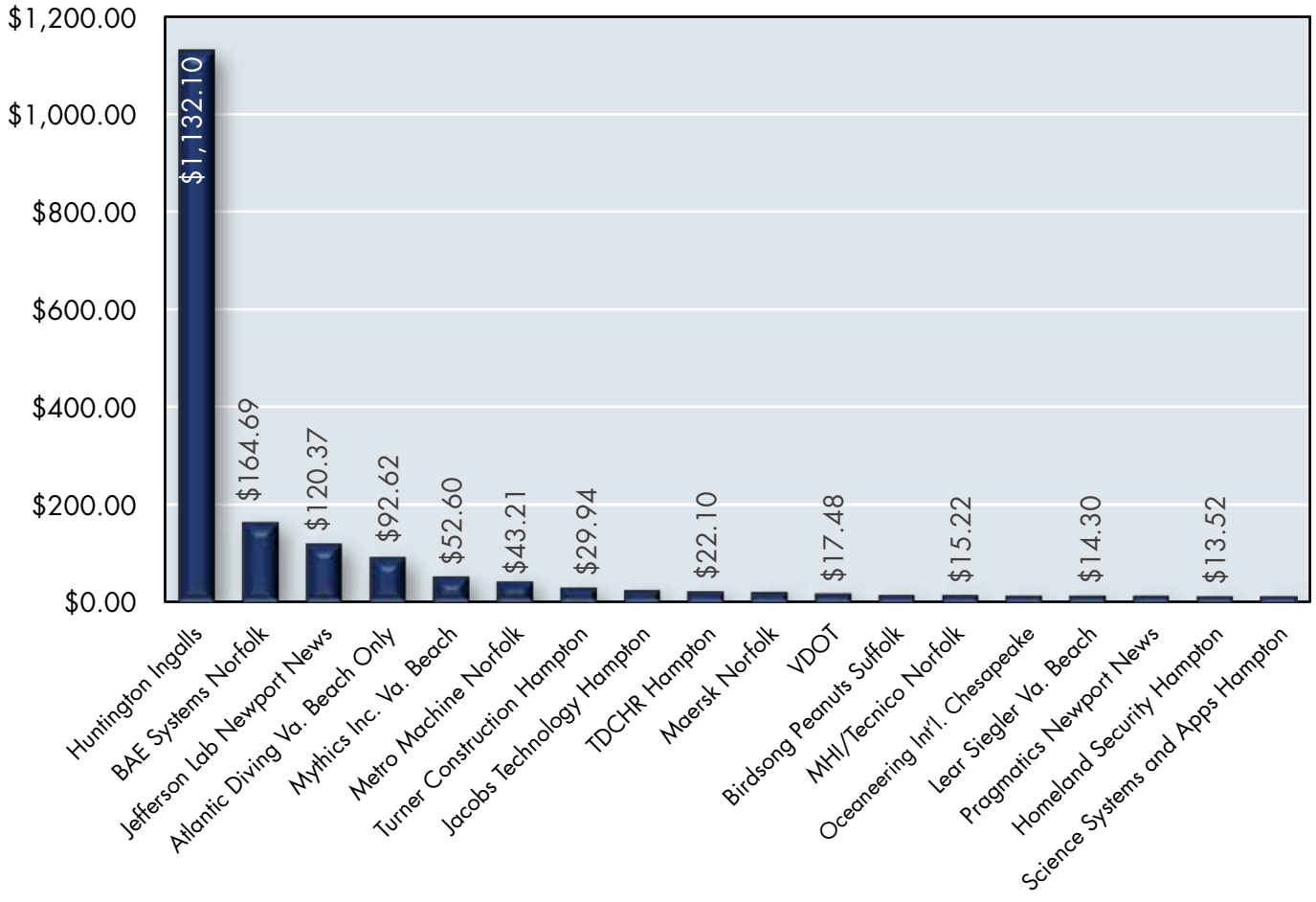
We hasten to point out that even when a DOD contract is located in a specific city, say Portsmouth, this does not guarantee that the money from the contract actually will be spent there. The money received by a firm headquartered in one city or county may be spent in another city or county, or even in another state. Further, since slightly more than 65 percent of all employed residents of Hampton Roads cross city or county lines when they commute to their jobs, DOD contractual spending tends to diffuse broadly across the region. For example, more than 33,000 people living in Virginia Beach commute into Norfolk to work each day. A significant portion of the incomes they earn will end up being spent in Virginia Beach rather than Norfolk.[1]

Atlantic Diving Supply, headquartered in Virginia Beach, is not a name that rolls off the tongues of many residents of Hampton Roads. It is, however, the second-largest defense contractor in our region and typically records sales exceeding $1 billion annually. It often acts as an intermediary between its customers (mostly the DOD and Homeland Security) and supplier of items such as boots, cold-weather and fire-resistant clothing, water-hydration items, etc.

[1] Vinod Agarwal and James V. Koch, *Our Job Also Is Your Job*, a study conducted for the Hampton Roads Economic Development Alliance, 2015. http://www.naval-technology.com/projects/cvn-21. http://historyinpieces.com/research/us-military-personnel-1954-2014.

GRAPH 3

LARGEST RECIPIENTS OF DOD CONTRACTS IN HAMPTON ROADS, FY 2015
(MILLIONS OF DOLLARS)



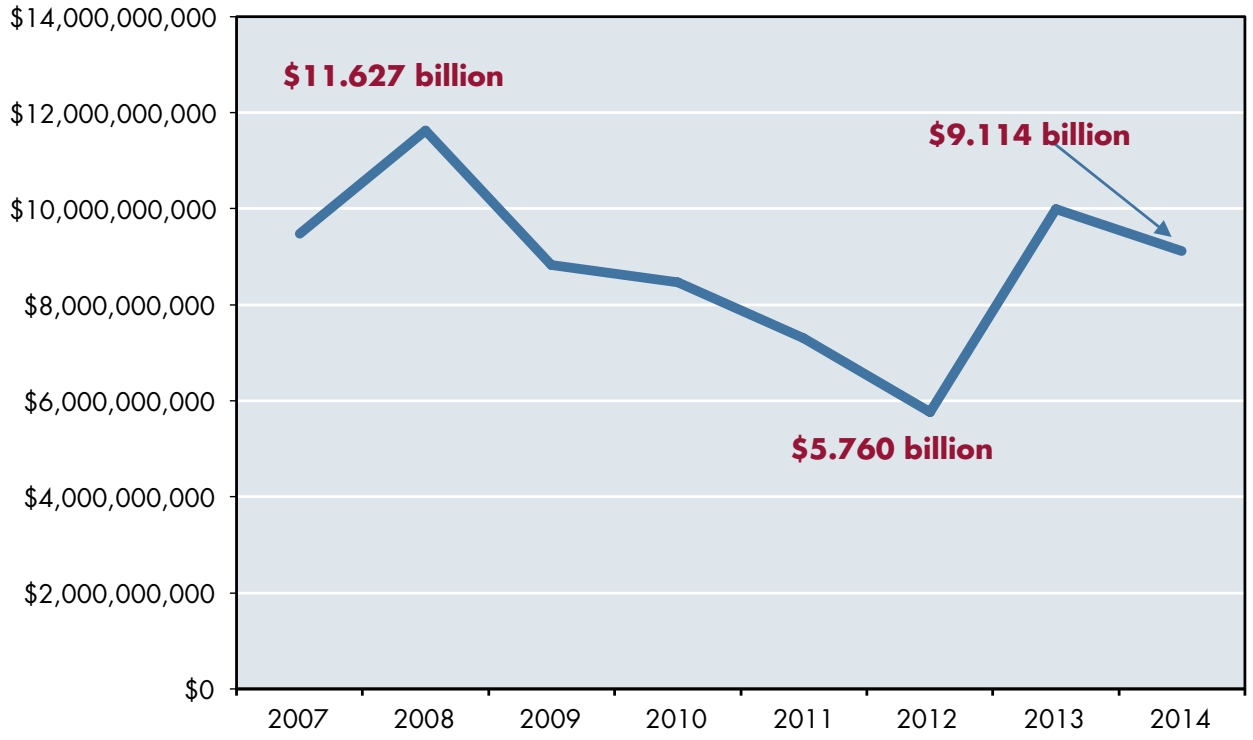
Source: www.usaspending.gov

Can We Detect Any Trends?

Graph 4 illustrates the ups and downs that have occurred in DOD contracts awarded to firms and organizations in Hampton Roads between 2007 and 2014 (calendar year data). The variations reflect two major influences: (1) the overall downward trend in total DOD spending in our region; and (2) the timing of large contracts at firms such as Huntington Ingalls. **In June 2015, for example, Huntington Ingalls announced that it had received a $3.35 billion contract for future work on the detail, design and construction of the nuclear-powered aircraft carrier John F. Kennedy (CVN 79), upon which it already was working. The company also received a $941 million contract for modifications to existing construction on the ship.** Work on the 100,000-ton vessel began in 2011; it is scheduled to join the U.S. fleet in 2017.

GRAPH 4

DOD CONTRACTS RECEIVED BY FIRMS AND ORGANIZATIONS IN HAMPTON ROADS, CALENDAR YEARS 2007-2014



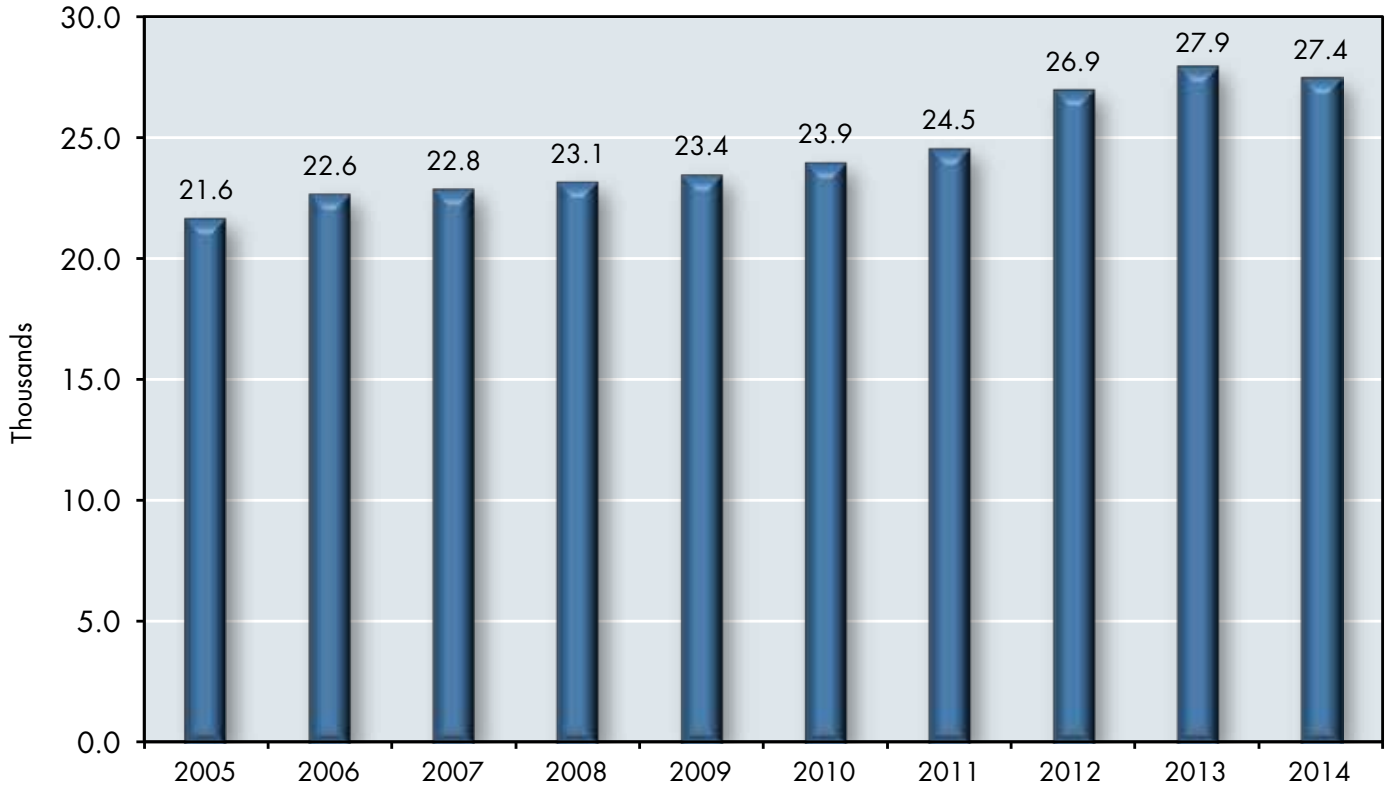
Sources: www.bea.gov, Local Area Personal Income (CA5) and www.usaspending.gov

Shipbuilding And Repair Employment

The fluctuating overall levels of DOD contracts received by firms and organizations in Hampton Roads mask both the importance of and growth in employment that has occurred in the shipbuilding and repair industry (SIC 3366), as defined by the Department of Commerce's Bureau of Economic Analysis. Graph 5 shows that contrary to expectations, such employment rose more than 26 percent between 2005 and 2014. This directly reflects the comparatively high level of activity at Huntington Ingalls, which has overcome declines in ship repair contracting that have occurred at several major regional firms.

GRAPH 5

TOTAL SHIP AND BOAT BUILDING EMPLOYMENT IN HAMPTON ROADS, 2005-2014



Source: www.bls.gov, Quarterly Census of Employment and Wages (QCEW)

The Impact Of DOD Contract Spending On Personnel

The aircraft carrier Gerald R. Ford (CVN 78), which also is a Huntington Ingalls project and will join the fleet in 2016, will cost $13.7 billion. Its crew will number 4,500, about 1,000 fewer than existing carriers.[2] **This underscores a distinct trend in defense spending – increasingly expensive assets, such as aircraft carriers, translate into a reduced ability to employ and support personnel. The tradeoff is straightforward: As the DOD expends increasing proportions of its budget on expensive ships, airplanes and technology, it inevitably finds that it cannot hire as many people**. This means that the number of active-duty military personnel and DOD civilian employees must decline.

And, this is what has occurred. The DOD today has fewer dollars available to hire people. This is a motivating reason why the number of active-duty military declined from 2.04 million in 1990 to only 1.35 million in 2014. Active-duty personnel in the U.S. Navy in 2014 were only about one-half the number in 1990.[3] **In Hampton Roads, the most recent peak in the number of active-duty military personnel occurred in 2003, when 113,400 individuals were deployed here. This number has declined every year since then, and had dropped to 86,500 in 2013.**

In some cases, the deployment of technology results in smaller numbers of individuals being needed to accomplish necessary tasks. As already noted, the crew of the Gerald R. Ford will number 1,000 fewer individuals than the crews of predecessor aircraft carriers.

Here is the rub for Hampton Roads. More expensive carriers will result in fewer active-duty personnel at Naval Station Norfolk. More expensive aircraft at Oceana Naval Air Station eventually will mean fewer active-duty personnel there. The same DOD dollar cannot be spent in two places.

The expense-driven assets-versus-people analysis just described is independent of other potentially negative influences on defense spending in our region, which include: (1) rising DOD personnel costs, especially those relating to health care and pensions; (2) the refocusing of U.S. defense attention toward the Pacific Rim; (3) risk factors associated with homeporting so many carriers in a single location; (4) questions as to whether aircraft carriers really are the most effective defense assets to deploy in a variety of combustible, confined naval situations around the world; and (5) rising sea levels that could make Hampton Roads a comparatively less attractive location for the U.S. Navy.

The F-35 fighter jet is billed as the fighter of the future for the United States. Each new F-35 will cost more than $300 million. Contrast this to the approximate $50,000 cost of a single P-51 Mustang, the state-of-the-art conventionally powered fighter airplane in 1945. This corresponds to about $660,000 in current prices. More than 15,000 P-51s were built. Production of the much more expensive F-35 will number in the hundreds.

[2] http://www.naval-technology.com/projects/cvn-21.
[3] http://historyinpieces.com/research/us-military-personnel-1954-2014.

Summing It Up

One area leader, upon reviewing the list of the largest DOD contract recipients provided in Graph 3, exclaimed, "I've never heard of half of these companies." He's not the only one. Defense contracting is very big business in Hampton Roads, but much of it occurs outside the public and media spotlights.

While sequestration and DOD expenditure caps have adversely affected the volume of DOD contracting in Hampton Roads, our regional numbers are quite sensitive to the periodic awarding of large contracts to Huntington Ingalls for shipbuilding and rehabilitation. Recent contract awards ensure that this particular source of economic energy for Hampton Roads is not likely to decline dramatically in the next few years.

The same cannot be said for DOD compensation of its active-duty personnel and civilian employees. It seems likely that the roster of such individuals will continue to decline in our region, at least partially because the prices of major defense assets, such as aircraft carriers, submarines and airplanes, continue to increase significantly. The DOD simply does not have sufficient funds to purchase these expensive assets and to attract and retain existing levels of personnel. This helps explain why the number of active-duty military personnel in Hampton Roads has declined more than 20 percent since 2003.

The Port Of Virginia: A Primer

THE PORT OF VIRGINIA: A PRIMER

The Port of Virginia ("the Port") is the third-largest port on the East Coast and the fifth largest in the United States. In 2014 alone, 2,789 vessels called on the Port and more than $71 billion worth of cargo flowed through it. Like any business, activities at the Port have evolved amid changing economic and political conditions. To remain competitive, the Port must be nimble and adjust to changing circumstances.

Our goal in this chapter is to provide readers with a nontechnical primer about the Port and its prospects. We'll deal with its organization, its financial situation, its current activities, the likely effects of future developments such as the expansion of the Panama Canal, and its logistical challenges.

How The Port Is Organized

Since the early 1980s, the Port of Virginia has operated as a public-private partnership. In 1981, the Virginia General Assembly gave the Virginia Port Authority (VPA) the power to acquire and maintain Virginia port terminals. The intent was to place all of the Commonwealth's maritime assets under one umbrella. Prior to this, several municipalities (in our region, Newport News, Norfolk and Portsmouth) owned the marine terminal on their shores. The General Assembly accurately surmised that the unification of the terminals would help keep the Port competitive with its East Coast rivals and stimulate economic growth.

The state-run VPA created Virginia International Terminals (VIT) in 1982 as a private, not-for-profit organization. VIT was tasked with running the daily operations at the Port Authority's newly acquired terminals in Newport News, Norfolk and Portsmouth. Because it is a private organization, VIT is not subject to a variety of Virginia statutes and regulations. For example, VIT has the ability to contract with the International Longshoremen's Association, which dominates port labor relations throughout the United States, whereas the Commonwealth is forbidden by statute from doing so.

The public VPA owns or leases terminals, while the private VIT has historically managed operations and negotiated with customers. This type of management structure is not unusual. An easy majority of the world's largest ports are managed and operated by private firms, the largest of which are Hutchison, DP World, PSA and APM Maersk.

Until 2007, all of the major maritime container terminals in Hampton Roads were owned by the Commonwealth's VPA. However, in that year, APM Terminals Virginia (operated by Danish business conglomerate Maersk) opened in Portsmouth. The APM facility utilizes state-of-the-art technology and was built at a cost approximating $540 million. At the time, APM Terminals Virginia was the largest privately owned terminal in the United States and was designed to accommodate larger vessels that are expected to come through the expanded Panama Canal.

In 2010, the VPA chose to lease the APM Terminals facility and signed a 20-year lease agreement with APM. The positives associated with the leasing deal included once again placing all of the major port facilities under one umbrella (important for marketing and efficiency reasons) and providing the Port with additional capacity and connections to critical railroad infrastructure. On the other side of the ledger, however, leasing the APM facility came at a hefty price and is estimated to cost approximately $1 billion over the 20 years. The cost of the lease is among the reasons why the Port has incurred financial losses in recent years.

Port Finances

Since the VPA is a state agency, questions have emerged regarding its financial performance as well as the very closely connected financial performance of the Port. Graph 1 displays the Port's operating revenues, expenses and net income (revenues minus expenses). These data provide an important measure of the success of the Port's operations and how its fiscal health has changed over time. The data relate to the VPA fiscal years, which end on June 30.

If net income is the criterion, then the Port often has not fared well financially over the last decade. In only three of the last 11 years has it experienced positive net operating income. The spike in operating costs since 2010 reflects (among other things) the leasing costs for APM Terminals Virginia, which since has been renamed the Virginia International Gateway.

Operating revenues fell dramatically during the Great Recession, but then fell again in 2014. The former decline was understandable: weak economic conditions during that recession reduced maritime trade, and this was out of the control of management. However, the decline in 2014 cannot be similarly dismissed. A look at VPA financial statements reveals that the decline in revenue in FY 2014 was due primarily to a decline in revenue coming from the port operator, VIT.

However, the Port's performance in FY 2015 has rebounded smartly. Preliminary reports for FY 2015 indicate that the Port recorded net operating income of $16.1 million. It seems to have turned an important corner financially.

The Port relies upon a variety of funding sources to finance its operations and capital expenditures (see Graph 2). Its operating revenues include grants and federal appropriations (for example, those coming from the federal government to finance the development of Craney Island), operating revenues from VIT and the VPA, and funds coming from the Commonwealth Port Fund.

VIT's contribution is the largest overall source of revenue at the Port and totaled $75 million in FY 2014. The Port also receives significant funding from the state via the Commonwealth Port Fund. This fund, in turn, annually receives 4.2 percent of Virginia's Transportation Trust Fund receipts. This funding source accounted for almost 30 percent of the Port's revenues in FY 2014. This flow of income is intended to support capital projects at Virginia marine terminals, rather than run operations or develop off-terminal capital projects. A recent study by the Virginia Joint Legislative Audit and Review Commission (JLARC) advocated loosening these restrictions to include off-terminal capital expenses, which is the situation enjoyed by the Port's competitors in Charleston and Savannah.

The Port's dreary financial record during the previous decade led some to conclude that its operations were in need of a makeover. In 2011, then Gov. Bob McDonnell shook up the Virginia Port Authority board by replacing 10 of its 11 members. In 2012, several private firms placed bids to take over operations of Port terminals from Virginia International Terminals. These companies believed they could manage operations more efficiently than VIT. The most serious suitor was APM Terminals, a company that just a few years prior leased its terminal in Portsmouth to the VPA. The proposed deal was estimated to be worth between $3 billion and $4 billion in today's dollars over the proposed 48 years, and included APM eventually giving the VPA its container terminal in Portsmouth at the end of the lease period.

The proposal was contentious for several different reasons, not the least that privatization of the Port's management would have altered or destroyed well-established regional and Commonwealth business relationships. In addition, some were concerned that a private for-profit operator would make decisions based on its bottom line (rather than the welfare of the Commonwealth) and that APM might whipsaw this region against other ports, such as New York/New Jersey, where it also was involved. Ultimately, political pressure from a variety of sources torpedoed the idea.

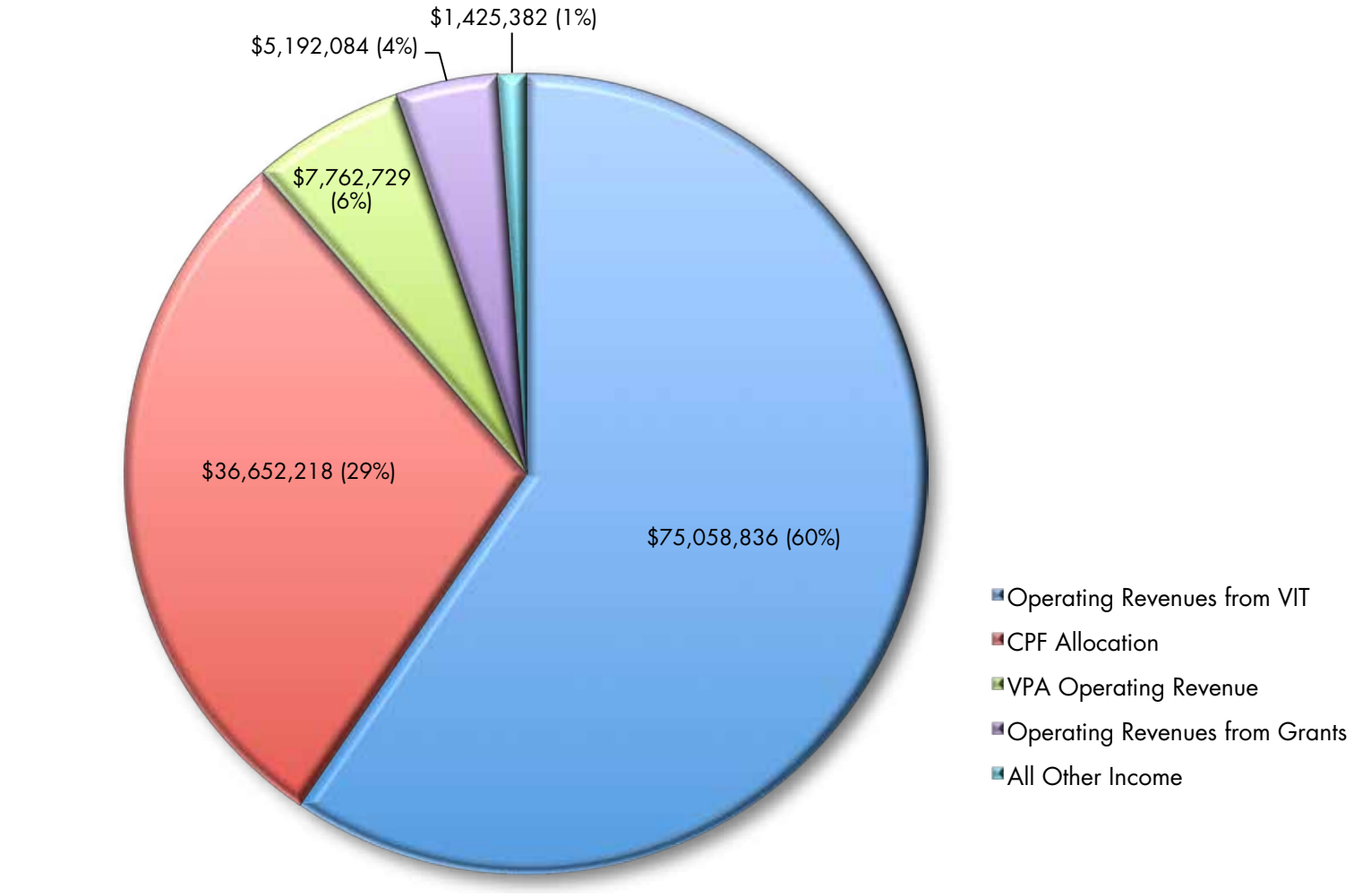
GRAPH 1

NET OPERATING INCOME FOR THE VIRGINIA PORT AUTHORITY, FY 2004 THROUGH FY 2015 YTD (MILLIONS OF DOLLARS)

Source: Port of Virginia annual reports for fiscal years ending on June 30

GRAPH 2

VIRGINIA PORT AUTHORITY REVENUE BY SOURCE, FY 2014



Source: Virginia Port Authority, "Comprehensive Financial Report 2014"

Whether the Port of Virginia actually is losing money for the Commonwealth is less clear than it might first seem because of the VPA's complicated structure and financing, state subsidies, complex capital investments, leases, depreciation and its economic impact. Viewed as a private business, the Port often has lost money. Viewed as a public enterprise designed to stimulate economic activity in Virginia, the answer is not the same. An economic impact study of the Port performed by the College of William & Mary in 2014 reveals that the Port is a major economic engine for Virginia. Does this mean that the VPA can be forgiven its deficits? Probably not, but it does place the VPA in a different light.

Nevertheless, it was not so long ago (June 1, 2014) that The Virginian-Pilot editorial board labeled the performance of the Port "a legacy of chaos." In truth, the Port's management and members of the board of directors have changed several times in recent years. However, in late 2013, the VPA appointed John Reinhart as the new executive director. The appointment of Reinhart was a move praised by members of the maritime community. He assumed the position at a time when Gov. Terry McAuliffe had voiced criticism of the Port's finances and its long-term lease agreement for the APM terminal in Portsmouth.

Reinhart is charged with turning around the Port's finances and developing and leading its strategic vision for the future. In recent months, Port finances have rebounded from their mediocre performance over the past decade. **The Port reported positive operating income for the second half of 2014, totaling $6.1 million.** In broad strokes, Port officials point to cost-saving innovations and the elimination of redundancies between the VPA and VIT as important reasons for the improvement.

Types Of Cargo The Port Handles

Ports in the United States typically handle four broad classifications of cargo: (1) containers; (2) break bulk; (3) roll-on, roll-off and (4) bulk liquids, fuels and grains. The latter two classifications are the most easily understood. Roll-on/roll-off cargo consists of automobiles, trucks and motorcycles, while liquids and fuels include natural gas and oil. The Port of Virginia is not a big international player in either of these cargo classifications, though some believe that it could become much more aggressive in pursuing roll-on/roll-off opportunities that relate to the importation of new automobiles from Europe and Asia. The Port of Baltimore currently dominates this market space in the Mid-Atlantic region.

Containers come in many varieties, but the ubiquitous 20-foot equivalent unit (TEUs) easily is the dominant model. Hence, when people say that the Port is prospering (or declining), they usually are referring to changes in the volume of TEU traffic. Graph 3 depicts the Port's TEU traffic over the past decade. Note the dramatic decline in TEU traffic that occurred in 2009 because of the effects of the Great Recession. Port activity is quite sensitive to the business cycle – and not just the U.S. business cycle. If China's economic growth rate continues to decline, and Europe remains in the economic doldrums, this will be reflected in stagnant or declining TEU traffic at the Port of Virginia. The reverse also holds – when these countries prosper, the Port of Virginia does well. Indeed, usually 50 percent to 55 percent of all cargo handled by the Port involves exports to other countries.

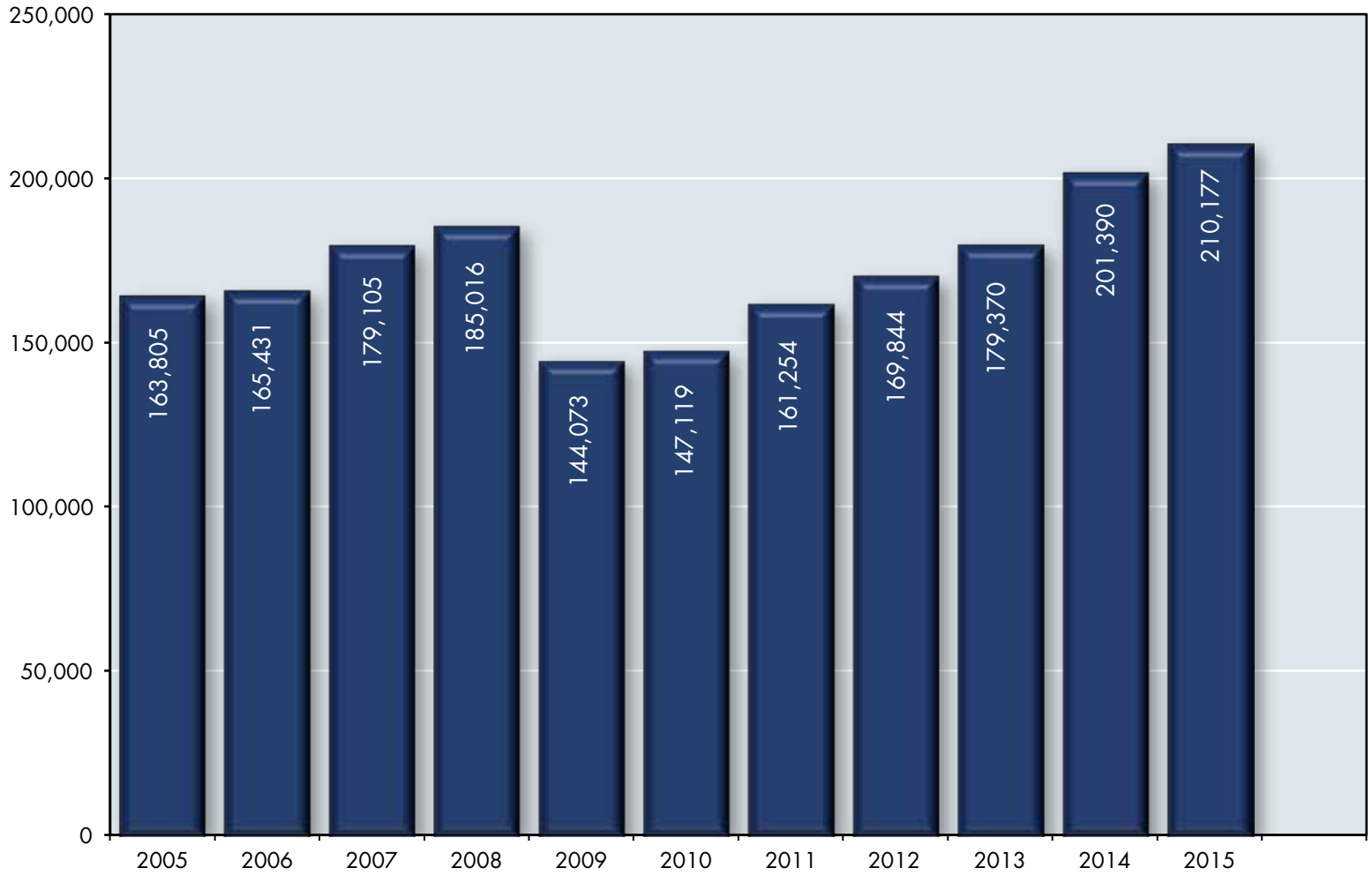
Break bulk cargo includes materials that cannot easily be containerized, but typically arrive as a single unit. Examples include large pieces of machinery, such as Caterpillar D-11 tractors, and pallets of rubber and paper. One might conclude from Graph 4 that break bulk cargo has not been the forte of the Port of Virginia and that there is considerable room for growth in this regard. The not-so-heavily used Portsmouth Marine Terminal may present such an opportunity.

Roll-on/roll-off cargoes include automobiles and trucks. Sporadically, the Port has registered this type of activity, but trails competitors such as Baltimore by a wide margin in this market. Once again, there is room for improvement.

The major bulk cargo coming through Hampton Roads today is coal, but virtually all of that coal is handled by Norfolk Southern Corp. at its private-sector Lamberts Point Coal Terminal. (This means that the 47 million tons of coal handled in 2011 by Norfolk Southern do not appear in Graphs 3 or 4.)

GRAPH 3

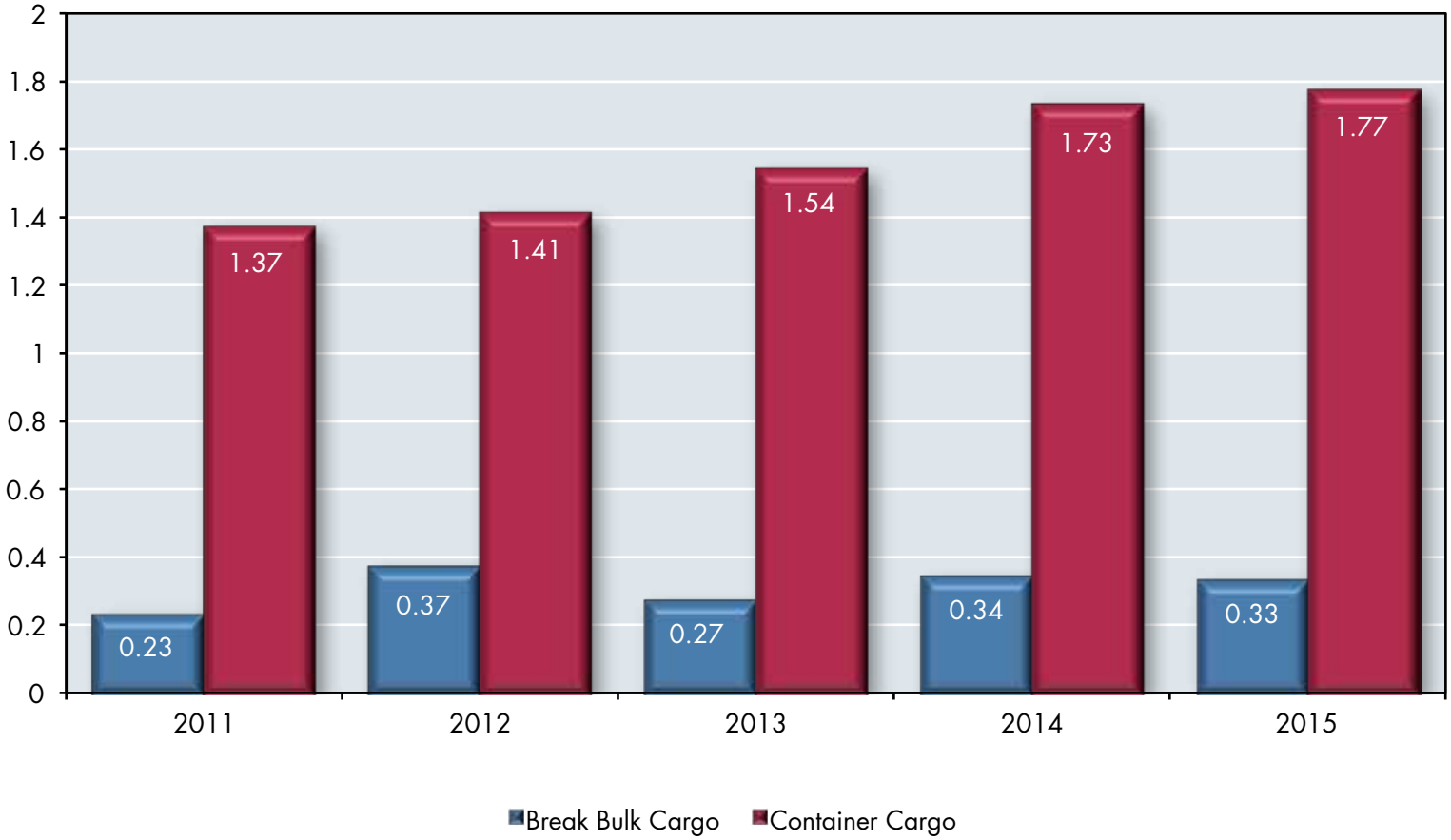
TWENTY-FOOT EQUIVALENT UNITS (TEUS) HANDLED BY THE PORT OF VIRGINIA, 2005-2015



Source: Virginia Port Authority. Note that TEUs are measured in April of each year.

GRAPH 4

CONTAINER AND BREAK BULK CARGO (IN MILLIONS OF TONS), 2011-2015



Source: Virginia Port Authority. Note that tonnage is measured in April of each year.

MOVING THE PORT'S CARGOES

A critical complement to the activity of any port is the transportation infrastructure that serves it. Customers located within 200 to 250 miles of most American ports typically receive their orders via trucks that have been loaded at the ports. This is "captive" cargo that is unlikely to be lost to other ports, or to railroads, unless the service provided is exceptionally poor, or the prices being charged are particularly high. Beyond the 200- to 250-mile radius, however, train transportation becomes more cost-effective and competition from other ports usually becomes more important. The Port of Virginia competes with the likes of New York/New Jersey, Savannah and other Atlantic Coast ports for these customers and cargoes. Thus, prospective customers located in cities such as Chicago, Cincinnati, Cleveland, Dayton, Detroit, Indianapolis and Memphis benefit from competition among Atlantic Coast ports. Price and service competition in these markets is intense.

Currently, about one-third of the cargoes unloaded at the Port of Virginia are delivered to customers via rail. This percentage has risen in recent years because of competitive improvements by Norfolk Southern and CSX. Norfolk Southern, for example, now can double-stack TEUs on the railroad cars traversing many routes from the Port of Virginia into the interior of the United States. This has lowered its costs and reduced delivery times.

The Wall Street Journal has written about logistics and congestion problems at the Port of Virginia,[1] though such difficulties are characteristic of most large U.S. ports today. These problems have resulted in long queues of truckers at our Port and formal complaints by organizations such as the Tidewater Motor Truck Association, for whom time is money. The Port has responded by extending hours, scheduling truck appointments, acquiring more truck chassis, retooling work patterns, utilizing new software, etc., and has approved a healthy $123 million capital budget that includes $43.35 million for new container-handling equipment. This FY 2016 capital budget is larger in size than the capital budgets for the last four fiscal years combined and represents solid recognition of outstanding needs.

[1] Arian Campo-Flores and Cameron McWhirter, "U.S. Ports See Costly Delays as Cargo Ships, Volumes Grow," The Wall Street Journal (April 29, 2015), www.wsj.com.

Those interested in long-term solutions to these logistical challenges usually are strong proponents of the construction of a third crossing across the James River estuary, or a variant such as the proposed Patriot's Crossing, a new four-lane tunnel that would link I-564 and the Port's major Norfolk terminal with I-664 and the Monitor-Merrimac Memorial Bridge-Tunnel. They also advocate widening I-64 to Richmond and a package of other improvements, including the high-rise drawbridge on the southern extremity of I-64 in Chesapeake.

There is little doubt that improvements would benefit the Port and enable traffic in and out of the Port to move more expeditiously. There are, however, two caveats. First, highway transportation already is highly subsidized by governments at all levels (at least when compared to rail traffic) and it is not clear that further car and truck subsidies are merited from an economic standpoint.[2] Second, the multibillion-dollar cost of these improvements, plus emerging environmental issues, makes the package difficult to swallow. In this regard, revenues from the 0.7 percent regional sales tax increase that was implemented a few years ago are insufficient to pay for the projects

The peak-time toll trucks will pay in 2016 for the Elizabeth River crossings will be $7.36. If this toll increases at 3.5 percent annually until 2070, when the ERC agreement ends, it will rise to $47.17. If, however, toll increases match the consumer price index when the CPI rises by more than 3.5 percent, then the peak-time truck toll will skyrocket to $86.24. The CPI provision plausibly would increase ERC's total toll revenue by 82 percent. In addition, ERC's agreement allows it to earn 13.5 percent on its invested capital and requires the Commonwealth to reimburse it if competitive facilities are constructed that drain its revenue.

[2] This is the conclusion of a March 2015 Congressional Budget Office Study by David Austin, www.cbo.gov/sites/default/files/cbofiles/attachments/50049-Freight_Transport_Working_Paper-2.pdf.

just noted. Thus, it appears that tolls will be necessary to finance these improvements.

Tolls are not a popular solution to improving the transportation infrastructure that would benefit the Port. The region's experience with tolls on traffic traveling through the Midtown and Downtown tunnels across the Elizabeth River has been mixed. Portsmouth is bearing a disproportionate share of the costs of these projects, while the benefits are distributed more evenly throughout the region.

Additionally, it now is clear that the Commonwealth did not cover itself with glory when it negotiated its tunnel deals with the Elizabeth River Co. (ERC), which is building an additional Midtown Tunnel tube and a connector between Route 164 and I-264, plus other renovations. ERC will manage and operate the entire enterprise when completed, and negotiated a 58-year contract that grants it the ability to increase tolls through the two tunnels by 3.5 percent annually, or the annual growth rate of the consumer price index, whichever is larger. **If the behavior of the CPI over the past 58 years is an appropriate guide, then this provision of ERC's agreement with the Commonwealth will result in an increase in the peak-time toll for trucks – from $7.36 in 2016 to $86.24 in 2070. This is hardly good news for the Port. Locally, some truckers travel back and forth to the Port several times per day and this would impose a significant financial burden on them. At the margin, such costs may cause some national shippers and truckers to shift their patronage away from the Port of Virginia to other East Coast ports. Arguably, an important public policy objective of our region is to find ways to moderate likely future toll increases across the Elizabeth River.**

The Panama Canal

Container shipping is a $6 trillion world industry that moves more than 95 percent of the world's manufactured goods (The Wall Street Journal, June 2, 2015). It is a marketplace beset by a variety of problems, however, one of which is the overcapacity of ships that carry the containers. There are too many ships and too much ship capacity available relative to the demand for such. This has been exacerbated by the appearance of massive new vessels that can carry up to 20,000 TEUs. APM Maersk, for example, ordered 20 supersized ships in 2011, each of which will carry more than 18,000 TEUs, and recently announced a $1.8 billion order for 11 new megaships that will handle more than 19,000 TEUs each (Costas Paris, The Wall Street Journal, June 5, 2015). As recently as 10 years ago, such an array of ships was no more than a pipe dream.

Container traffic through the Panama Canal peaked in 2007 (when 3,600 ships transited through it) and since then has declined approximately 20 percent (2,891 container ships in 2014). There are two reasons for this. First, the Canal currently cannot handle ships that carry more than about 5,000 TEUs. Second, the Canal's technology and operations are costly and outdated. Taken together, these two factors have constituted a recipe for decline in a world where ship sizes are growing by leaps and bounds.

Panama is in the midst of a $5.5 billion expansion that includes upgrades to the coastal locks and enormous rolling gates that move ships into higher or lower bodies of water. Additionally, entrances on both sides of the Canal will be dredged to a lower depth. The expansion of the Canal is set for completion in early 2016 (but this may be optimistic).

After expansion, the Canal will be able to handle ships that carry as many as 13,000 TEUs and require water depth of at least 50 feet. It also will be able to accommodate 97 percent of the global merchant fleet (Shawn Donnan, Financial Times, May 26, 2015). The problem is that a dozen huge ships are now afloat that can carry 20,000 TEUs or more and at least 50 active ships already exist that handle more than 13,000 TEUs. Hence, while its expansion brightens the future of the Canal, ship economics have changed so rapidly that the expanded Canal will be obsolete before it ever

opens. It may lose out to the Suez Canal, where much larger ship traffic is concerned. Maersk already has moved some of its largest ship traffic in the direction of the Suez Canal.

Ocean carriers such as Maersk and Hanjin (and their customers) will carefully evaluate their options for carrying product to the East Coast. They can ship directly to the U.S. West Coast and then move cargo via rail to locations such as New York City and Atlanta. Or, they can move cargo through the Panama Canal. Or, they can route their ships through the Suez Canal – a route increasingly favored by expanding South Asian exporters. Finally, in a few circumstances, they can send ships around either Cape Horn or the Cape of Good Hope. Ultimately, their choices will depend upon the cost of each route and the time it takes to ply that route. The expansion of the Panama Canal is not going to alter this decision calculus a great deal.

PANAMA CANAL READINESS ON THE EAST COAST

The Port of Virginia already can handle any ship that will come through the expanded Panama Canal. Indeed, with some adjustments, the Port will be able to handle even the huge 20,000-TEU-capacity ships now being constructed. Predictably, however, many East Coast ports are updating their infrastructure (deeper channels and larger dockside container cranes) in hopes of winning the competition for larger vessels coming through the Canal. A conservative estimate is that at least $6 billion is being spent by competitor ports to ready themselves for larger ships. This includes the estimated $1.3 billion to raise the Bayonne Bridge at the Port of New York and New Jersey and $2 billion-plus in improvements at the Port of Miami, which includes cranes and intermodal transit upgrades. The good news, however, is that the Port of Virginia now is able to handle large ships that several of its competitor ports cannot. This advantage is likely to disappear in a few years.

The Port Of Virginia's Major Competitors

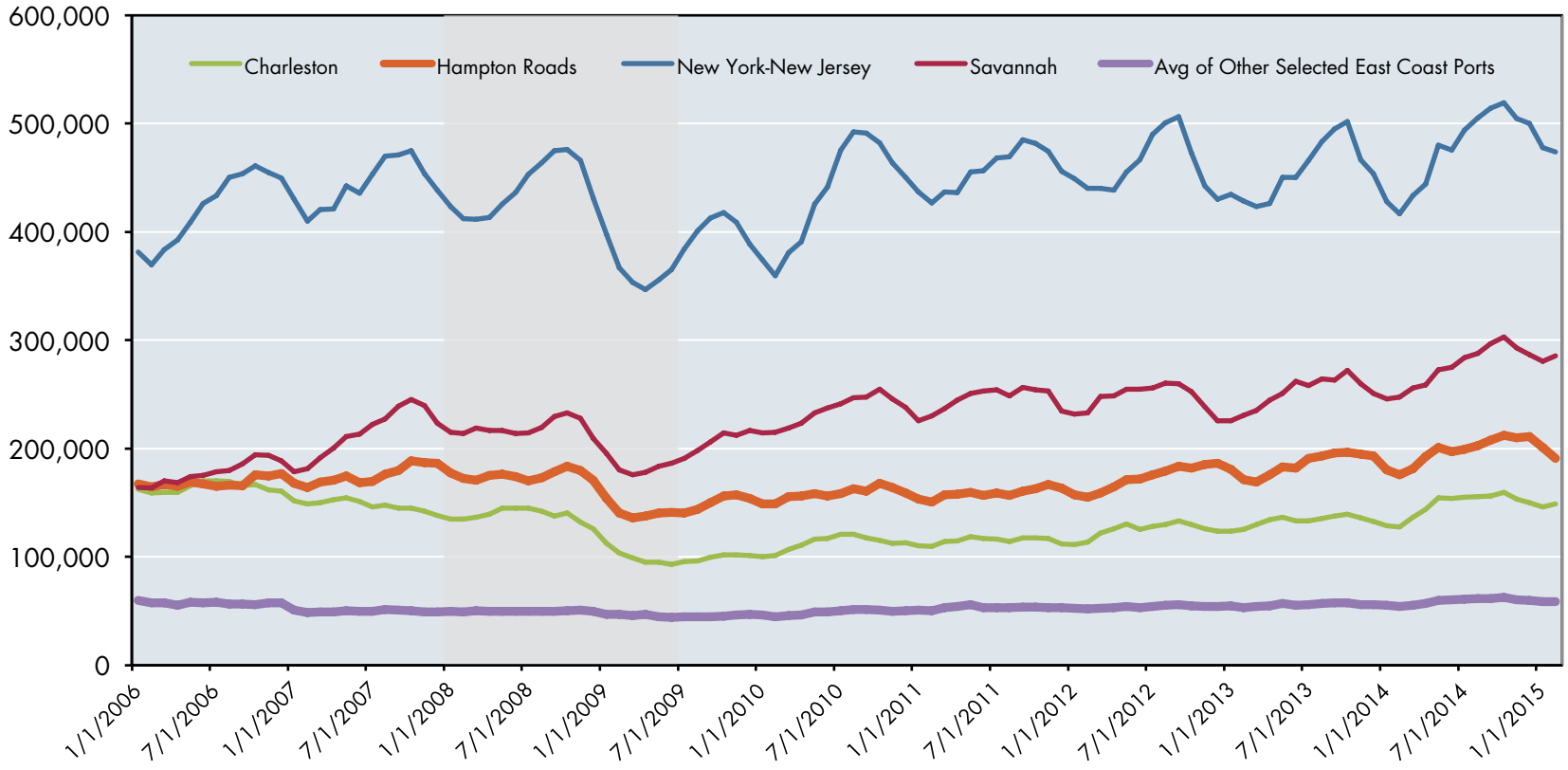
Graph 5 shows the average monthly TEUs handled at four major East Coast ports. The Port of Virginia is the third-largest container port on the East Coast, trailing only Savannah and New York/New Jersey. The Port is roughly tied for the distinction of being the fifth-largest port in the United States with the Port of Oakland. Both handled approximately 200,000 TEUs per month in 2014.

New York/New Jersey usually is our biggest competition for rail container traffic into the Midwest, while Savannah, and to a lesser extent Charleston, is a natural rival for Mid-Atlantic retail goods and regional distribution centers. In 2006, the ports of Virginia, Savannah and Charleston all recorded about the same level of TEU throughput. Each experienced a decrease in volume during the Great Recession. Since then, however, the three ports' paths have diverged. In the past few years, the Port of Virginia has moved past Charleston. Savannah, however, has leaped ahead of both the Port of Virginia and Charleston and now has established itself firmly as the second-largest port on the Eastern Seaboard. Charleston, though, appears to have overcome management and political problems and probably will emerge as a much tougher competitor in the years to come.

Many within the maritime industry contend that Savannah's rise is due to its ability to attract large retail shippers (such as Wal-Mart) that have invested in regional distribution centers. The Port of Savannah's progress was facilitated by generous state economic development incentives, including ready-to-go sites outside that port, but it also enjoys the advantage of being the closest port to Atlanta and the burgeoning Southeast region. Meanwhile, the Port of Virginia's strategy has been a bit different and has focused a little more on solidifying contractual relationships with the largest shipping carriers in the world, such as Cosco, CMA and Maersk.

GRAPH 5

AVERAGE MONTHLY TOTAL TEUS FOR SELECTED EAST COAST PORTS



Source: American Association of Port Authorities. Data represent a three-month moving average for total TEUs.

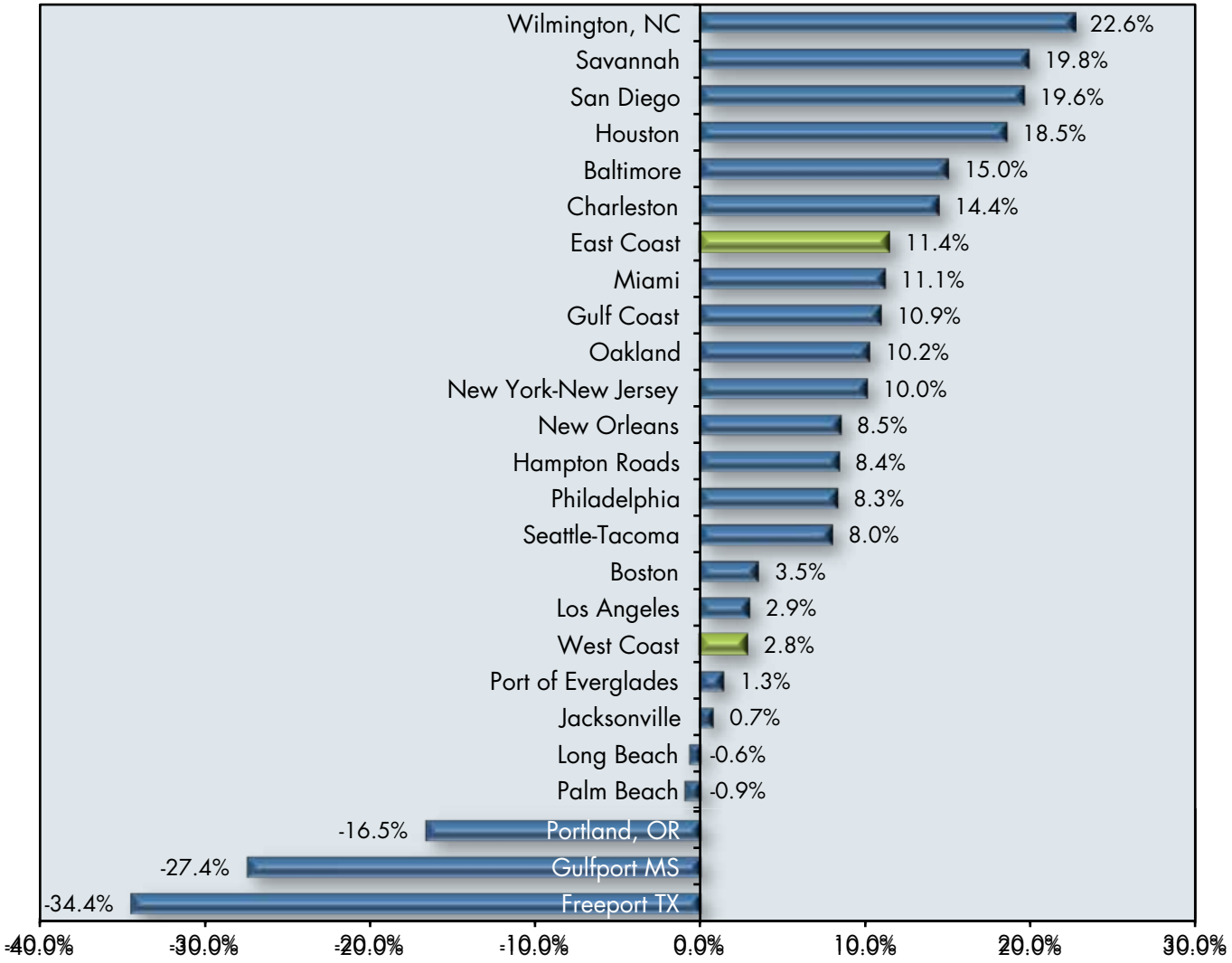
Savannah's conspicuous success perhaps has stimulated the Commonwealth to place more emphasis on economic development incentives in order to encourage businesses to locate or expand their operations in Hampton Roads. These incentives include the Barge and Rail Tax Credit, the International Trade Facility Tax Credit and the Port Volume Tax Credit. All of these programs make Hampton Roads and Virginia financially more attractive locations for firms that might otherwise locate or expand near a different port. The ill-fated Route 460 development at one time was considered to be part of this thrust because it was advertised as reducing the costs of trucking cargo in and out of the Port.

Battles for import cargo extend well beyond the East Coast. Ships traversing the Pacific Ocean from countries such as China and Japan, with cargoes intended for the East Coast, can opt to land at ports such as Los Angeles and Long Beach and then send their cargoes to the East Coast via rail. Graph 6 shows growth in containerized cargo for ports on the East Coast and West Coast, plus the Gulf of Mexico between fourth quarter 2013 and fourth quarter 2014. During this four-quarter time period, East Coast ports grew at over 11 percent compared to less than 3 percent for their West Coast rivals. Some of this differential likely was due to labor problems that slowed or idled West Coast ports during 2014 and extended into early 2015.

While containerized import traffic at the Port of Virginia grew at a healthy pace of 8.4 percent between fourth quarter 2013 and fourth quarter 2014, the Port nevertheless lagged behind its larger rivals on the Eastern Seaboard in this regard. Still, a bright spot for the Port of Virginia is that several of its major competitors will not be ready to host the largest ships for several years. This will provide the Port with an opportunity to increase its containerized market share.

GRAPH 6

GROWTH IN U.S. PORT CONTAINERIZED IMPORTS, Q4 2013 TO Q4 2014



Source: American Association of Port Authorities

The Port Of Virginia And The Hampton Roads Economy

Several studies have attempted to quantify the total impact of the Port of Virginia on the Hampton Roads economy, the most prominent of which was a 2014 study completed by the Mason School of Business at the College of William & Mary that attributed 6.8 percent of the Commonwealth's gross state product to the Port, along with 374,000 jobs and $60 billion in related spending.[3]

These are impressively large numbers, but one cannot perform an economic impact study without making a series of assumptions about how and where economic activity occurs. One of the most critical assumptions relates to how much and how quickly economic activity "leaks" from the region and the Commonwealth. Consider a longshoreman who is working at the Port. How much of the wages he/she receives at the Port does he/she spend on goods and services in Virginia? When the Port purchases large pieces of equipment, does it purchase those items from firms in South Korea rather than Virginia? The answers to these questions make a huge difference when one is estimating economic impact. To the extent that the expenditures are made outside of Virginia, the economic impact of the Port is diminished. The economic ripples inside Virginia that are generated by the Port are reduced when expenditure leakages occur. Much the same thing occurs when wages are saved rather than spent.

Any economic impact study also must rely upon assumptions concerning the degree of "agglomeration" – often referred to as clustering – that is present. Simply put, while sometimes it may seem otherwise, firms in related industries often benefit as more of them cluster together in the same area. Agglomeration can increase labor supplies, reduce costs, stimulate firm productivity and spur innovation. More to the point, the formation of an industry cluster in Virginia usually reduces economic leakages outside Virginia because individuals don't have to go elsewhere to find what they need. It is important that any economic impact study get these relationships right, but the truth is that there are several popular economic impact-estimating models that approach these matters in different ways.

A variety of other assumptions also must be made in order to generate an economic impact study, and differing assumptions lead to disparate results. The William & Mary study provides a competent, plausible estimate to the Port's economic impact, though its estimates impress some professionals as being somewhat generous.

Even so, we can drill down into our regional economy to see how the Port affects specific economic activities and sectors. Figure 1 compares the share of gross regional product generated by the transportation, warehousing and wholesale trade sectors for several regions that boast large ports. **Direct Port-related activities directly generate approximately 6 percent of Hampton Roads' regional gross domestic product (GDP). This is a smaller percentage than holds true for many of the Port's East Coast competitors.**

The industries identified in Figure 1 are those most likely to benefit from the Port. Railroads, which handle approximately one-third of the cargo exiting from the Port of Virginia, are major beneficiaries of Port activity. So also are regional distribution centers, exemplified by the Target warehouse distribution facility in Suffolk.

Figure 2 traces employment in the same sectors. Hampton Roads employs almost 50,000 people in Port-related industries – a slightly higher percentage than Savannah and Charleston. Interestingly, while the Port of Savannah's success in attracting regional distribution centers has received much favorable attention, and no doubt helps that city's tax base, it does not appear to have created substantial employment differences between Savannah and Hampton Roads. Indeed, while the Port of Savannah moves more cargo than the Port of Virginia, it utilizes fewer employees in the transportation and trade sector as it does so. This could reflect greater efficiency in its warehousing activities, necessitating fewer employees, larger capital investments that make workers more productive, or other factors.

[3] www.portofvirginia.com/pdfs/POV%20Econ%20Impact%20Study%202014.pdf.

The Port asserts that every 1,000 increase in container traffic creates 300 new jobs (both direct and spinoff) that pay an average wage of $46,000. While the job number in particular appears to be a generous estimate, there is no dispute that Port activities create jobs both directly at the Port and indirectly in many industries that either supply the Port or serve its employees.

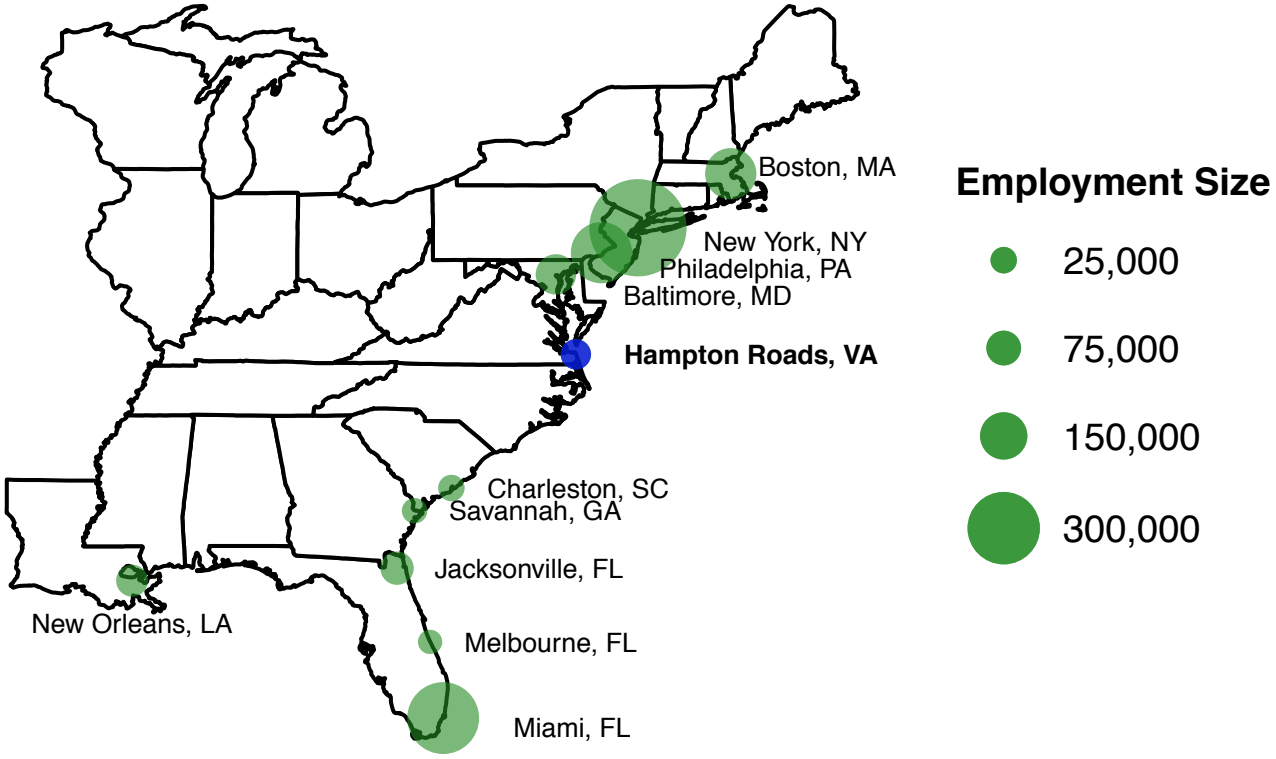
FIGURE 1

TRANSPORTATION, WAREHOUSING AND WHOLESALE TRADE SHARE OF REAL REGIONAL GROSS DOMESTIC PRODUCT, 2012-2013

Source: Professor Timothy Komarek

FIGURE 2

TRANSPORTATION, WAREHOUSING AND WHOLESALE TRADE EMPLOYMENT, 2012-2013



Source: Professor Timothy Komarek

Productivity Issues

It is not easy to measure and compare the productivity of ports because of the different ways each port measures and records its activities. Nonetheless, ports sometimes are compared on the basis of measures such as the number of TEUs they move per hour that a ship is at berth. While its performance has been improving recently, the Port of Virginia does not fare particularly well in these comparisons, according to the JOC Group, which annually ranks the world's ports in terms of the number of container moves they make per hour per ship at berth (JOC Group, "Berth Productivity," July 2014). In 2013, for example, New York/New Jersey, Baltimore, Savannah and Charleston, in this order, all recorded more container moves per hour than the Port of Virginia. However, the Port of Virginia believes that a measure focusing on moves per hour when a ship is at berth potentially distorts actual productivity because it ignores the number of cranes involved. Five cranes unloading a ship at a larger port might move more TEUs per hour than three cranes unloading the same ship at the Port of Virginia, but the larger port's capital-intensive approach likely would be more expensive. Reliable data permitting cost comparisons among ports are difficult to obtain because privately owned operations seldom make such information public. Thus, it is difficult to issue a flat statement that the Port of Virginia either is, or is not, more (less) efficient than its competitors.

Nevertheless, the Port's performance by the container-moves metric has been improving. In a January 2015 presentation, VPA CEO and Executive Director John Reinhart reported that through December of the 2015 fiscal year, the number of container moves per hour had increased by 8.82 percent at Virginia International Gateway and 10.52 percent at VIT.[4] Such improvements are desirable, but the Port's current logistical problems relate primarily to what happens to cargo once it has been unloaded from berthed ships, rather than to the number of moves per hour as it unloads ships.

It may be necessary for the Commonwealth to increase its capital investments in the Port and surrounding infrastructure in order for necessary productivity and logistical improvements to continue. The Port's current level of financial support from the Commonwealth for capital improvements does not constitute a magic number generated by hard analysis, and instead reflects a set of political compromises greatly affected by the money that happened to be available to the General Assembly in particular legislative years. While it would be unfair to label the size of the current stream of funding accidental, it also would be a misrepresentation to imply that it is the result of rigorous analysis.

[4] www.portofvirginia.com/wp-content/uploads/2015/01/Productivity-Summit-01-23-15.

Final Thoughts

Given the rather sluggish nature of defense spending, and the relatively modest recovery of tourism, the Port of Virginia represents an economic engine of growing importance to Hampton Roads. There is much talk about the need to diversify the regional economy; the Port represents such diversification. Figure 3 displays the logos of firms that expanded in Virginia in 2014 and whose expansion was at least partially dependent on the Port of Virginia. These 34 firms intend to invest $2.6 billion in sites, plant and equipment in the Commonwealth.

The Port also serves a set of markets that are growing faster than either the U.S. economy or the world economy. For example, in 2014, both the U.S. economy and the world economy grew at rates below 3 percent. Container traffic at the Port of Virginia, however, grew at more than 8 percent.

The Port of Virginia is well situated to handle the huge super ships, with capacities of up to 20,000 TEUs, that either already have been launched, or are being constructed in the world's shipyards. Currently, only the Port of Virginia and the Port of Baltimore are capable of handling large ships with 50-foot drafts, and Baltimore still lacks the impressive rail connections that our Port boasts. If the Port of Virginia is able to deal effectively with its current logistical challenges, then it will be able to handle the burgeoning container traffic that almost surely will characterize the future. The economic rewards that will flow as a consequence to Hampton Roads and the Commonwealth will be substantial.

FIGURE 3

LOGOS OF 34 FIRMS WHOSE EXPANSION IN 2014 IN VIRGINIA WAS CONNECTED TO THE PORT OF VIRGINIA

The Third Economic Sector: Nonprofit Organizations In Hampton Roads And The United Way

THE THIRD ECONOMIC SECTOR: NONPROFIT ORGANIZATIONS IN HAMPTON ROADS AND THE UNITED WAY

When we think of the nonprofit sector of our economy, community charities and foundations often come to mind. In reality, the sector is much more complex and includes a wide range of organizations such as hospitals, universities, private schools, animal and environmental welfare organizations, museums and churches. Most Americans have interacted with the nonprofit sector at some point in their lifetime, perhaps as an employee at a child day care center, as a client of a social services organization, as a church volunteer or as a donor to a natural-disaster-relief fund.

Yet, many among us are unaware of the scope, impact and value of this often-overlooked sector. This chapter provides a broad overview of the nonprofit sector in the United States, followed by a focused look at Hampton Roads. Narrowing further, we explore the role and impact of the United Way of South Hampton Roads and its certified agencies in the community.

At A Glance: The Nonprofit Sector In The United States

Nationally, nearly 1.6 million nonprofit organizations are registered with the Internal Revenue Service (IRS). This number does not include churches, clubs or other volunteer associations that are not required to register with the IRS. In 2010, the nonprofit sector employed 9 percent of the American workforce with almost $577 billion in paid wages. In this same year, the nonprofit sector contributed approximately 5.5 percent ($804 billion) of the gross domestic product (K.L. Roeger et al., The Nonprofit Almanac, 2012).

Nonprofit organizations are distinct from private-sector corporations and public-sector agencies in that they have been granted 501(c)(3) tax-exempt status by the IRS because of their charitable or educational purpose. This means they do not have to pay federal corporate income taxes and can accept gifts that often are accompanied by the benefit of tax deductibility for those who give. Most states imitate the federal government in this regard.

In 2010, nonprofit organizations filing with the IRS reported $2.06 trillion in revenues and $4.49 trillion in assets. The revenue sources of nonprofit organizations in 2010 were diverse. A breakdown by percentage shows private fees for services (tuition payments, bills for client services and ticket sales) as the largest revenue source, totaling 49.6 percent of all revenues. Fees received from government sources (Medicare, Medicaid and government contracts) were the second-largest source of income at 23.9 percent. The largest other categories include private contributions (13.3 percent) and government grants (8.3 percent). In 2013, the largest contributors to the nonprofit sector were health organizations (53 percent), education (15 percent) and human services organizations (18 percent), according to the Urban Institute.

The nonprofit sector is commonly associated with volunteering. The Corporation for National and Community Service reported that in 2013, 62.6 million people volunteered with a nonprofit organization. This has been valued at $173 billion in service contributed by unpaid volunteers. Of these 62.6 million volunteers, 36.2 million were women, 21.7 million were parents, 20.5 million were part of the baby boomer generation and 5.2 million were veterans.

In a 2012 state-by-state comparison, Utah boasted the highest volunteer rate, with 43.8 percent of its adult population volunteering during that year. New York reported the lowest rate for its adult population – 20.6 percent – volunteering at nonprofit organizations. Virginia fell in the middle of the list, at 28.5 percent (National Center for Charitable Statistics).

The nonprofit sector is also associated with giving and philanthropy. On average, Americans donate approximately $300 billion per year to charities in the nonprofit sector (National Public Radio, "Why Do We Give?" Nov. 25, 2011). In 2012, 88 percent of households in the United States contributed financially to some charity (National Philanthropic Trust, 2015). In 2013, individuals gave $241.32 billion to charities, followed by foundations ($52.28 billion) and corporations ($16.76 billion). The majority of gifts were given to religious organizations (31 percent), education (16 percent), human services organizations (12 percent) and grant-making foundations (11 percent). We'll examine giving statistics for Hampton Roads in a section below.

The Nonprofit Sector In Hampton Roads

According to the National Center for Charitable Statistics, 2,009 public charity nonprofit organizations from the Hampton Roads area submitted tax returns to the IRS in 2012 (the most recent year for which data are available). Nonprofit organizations with less than $25,000 in gross receipts are not required to file a tax return with the IRS, nor are any churches. Thus, the figures provided in this chapter do not represent the actual number of nonprofit organizations in the region, but instead represent those charitable nonprofit organizations that filed tax returns with the IRS.

The data supplied in Table 1 disclose that charitable nonprofit organizations in Hampton Roads include 691 human services organizations (child abuse prevention centers, homeless shelters, senior centers, thrift shops), followed by 409 public/social benefit organizations (veterans organizations, non-profit public utilities, credit unions) and 272 educational organizations (universities, libraries, alumni associations). Health organizations (hospitals, health clinics, blood banks) accounted for 163.

TABLE 1

PUBLIC CHARITABLE NONPROFIT ORGANIZATIONS IN HAMPTON ROADS THAT FILE WITH THE IRS

Type of Nonprofit Organization	Number in Hampton Roads	Percentage of Total
Human Services	691	34%
Public, Social Benefit	409	20%
Education	272	14%
Health	163	8%
Arts, Culture and Humanities	162	8%
Religion Related	118*	6%
Mutual/Membership Benefit	85	4%
Environment and Animals	75	4%
International, Foreign Affairs	30	1%
Unknown, Unclassified	4	–
Total	2,009	

Source: The Urban Institute, NCCS Core File (Public Charities, 2012) http://nccsweb.urban.org/nccs.php
*This number is an underestimate because religious organizations are not required to submit tax returns to the IRS.

The number of religion-related organizations (118) in the Table 1 sample does not represent the total number of religious organizations and congregations in Hampton Roads because they are not required to submit tax returns to the IRS.

A breakdown of the revenues of public charity nonprofit organizations in Hampton Roads illustrates the financial impact these organizations have on the local community. Table 2 reveals that the revenues for the 2,009 organizations filing an IRS tax return in 2012 totaled more than $9.6 billion, with approximately $7.4 billion of the revenues coming from fees for program services offered by the nonprofit organizations. In addition, these

organizations received nearly $1.5 billion in charitable gifts, contributions and grants; $160 million in investment income (e.g., dividends, rents, securities); and $626 million in other income (such as sales of goods and assets). Not surprisingly, health-oriented nonprofit organizations earned the highest revenues ($6.7 billion) and had the highest expenses ($6.3 billion), even though they make up only 8 percent of the 2,009 nonprofits in the area. Human services organizations, which comprise 34 percent of the nonprofits in Hampton Roads, recorded revenues totaling more than $729 million and expenses of approximately $706 million.

In 2012, the 2,009 public charity nonprofit organizations in Hampton Roads paid approximately $2.6 billion in wages and benefits to their employees. Health-oriented nonprofits alone paid wages of $1.9 billion. Human services nonprofits were next at nearly $236 million in paid wages, with education nonprofits close behind at $218 million. Clearly, the nonprofit sector is an important employer within Hampton Roads.

TABLE 2

REVENUES AND EXPENSES OF PUBLIC CHARITY NONPROFIT ORGANIZATIONS IN HAMPTON ROADS, 2012

	Total Revenues	Program Service Revenues	Gifts, Contributions and Grants	Investment Income	Other Income	Total Expenses	Total Paid Wages and Compensation
Arts, Culture and Humanities	$209,848,704	$63,680,934	$85,529,692	$11,935,765	$48,702,313	$231,570,828	$75,559,249
Education	$721,030,156	$409,292,608	$230,554,518	$32,263,300	$48,919,730	$630,009,721	$218,179,265
Environment and Animals	$77,810,238	$20,625,832	$52,591,629	$1,266,265	$3,326,512	$70,212,987	$22,917,910
Health	$6,742,248,492	$6,203,828,601	$122,846,315	$89,741,426	$325,832,150	$6,316,058,797	$1,935,197,863
Human Services	$729,786,729	$428,780,994	$254,646,031	$8,096,150	$38,263,554	$706,170,479	$236,400,047
International, Foreign Affairs	$305,512,797	$3,359,479	$302,228,225	$244,971	$-319,878*	$293,146,827	$14,716,595
Mutual/Membership Benefit	$91,499,836	$79,166,408	$1,905,267	$1,393,515	$9,034,646	$89,445,438	$1,621,653
Public, Social Benefit	$406,261,394	$166,604,008	$187,673,425	$13,547,338	$38,436,623	$370,098,871	$84,018,811
Religion Related	$349,523,120	$9,116,631	$224,351,186	$1,771,059	$114,284,244	$340,586,282	$69,350,932
Unknown, Unclassified	$395,719	$310,875	$506	$0	$84,338	$362,188	$0
TOTAL	$9,633,917,185	$7,384,766,370	$1,462,326,794	$160,259,789	$626,564,232	$9,047,662,418	$2,657,962,325

Source: The Urban Institute, NCCS Core File (Public Charities, 2012), http://nccsweb.urban.org/nccs.php

The Generous Ones: Those Who Give And Grant In Hampton Roads

Nonprofit organizations could not exist without the charitable contributions and gifts they receive from individuals, corporations, governments and foundations. Simply put, however, some individuals are more generous than others.

Table 3 reports the percentages of household incomes given to charitable endeavors in Hampton Roads cities, other cities in Virginia and in the United States.

The typical Virginian gave 2.85 percent of his/her income to charitable endeavors (including religious organizations) in 2012, but residents of Hampton Roads gave 3.41 percent. Both, however, trail the United States average of 3.7 percent.

The residents of Hampton and Portsmouth are the most generous givers (at 4.25 percent and 4.22 percent of incomes, respectively) in our sample, while Virginia Beach residents are the least generous, at 3.11 percent. Even so, Virginia Beach's level of giving towers above that of Loudoun County (which boasts the highest average household income of any city or county in Virginia). These Washington, D.C., suburbanites gave only 1.98 percent their 2012 household incomes to charitable endeavors. It may not be ironic, but it certainly is notable that Portsmouth, a city whose residents are much less prosperous financially, nonetheless more than doubled Loudoun County in terms of the percentage of residents' income given to charitable endeavors. This suggests a degree of anomie and lack of identification of Loudoun County residents with their surroundings.

TABLE 3

TOTAL CONTRIBUTIONS AND CHARITABLE GIVING PERCENTAGES: HAMPTON ROADS, OTHER CITIES AND THE UNITED STATES, 2012

City or Area	Total 2012 Contributions	Percentage of Income Given to Charity
United States	$298.42 Billion	3.7%
Virginia	$5,604,000,000	2.85%
Richmond	$150,850,000	3.08%
Chesapeake	$152,357,000	3.31%
Hampton	$70,126,000	4.25%
Norfolk	$112,614,000	4.17%
Virginia Beach	$307,916,000	3.11%
Williamsburg	$8,716,000	4.12%
Suffolk	$64,106,000	3.74%
Portsmouth	$46,564,000	4.22%
Newport News	$80,051,000	3.75%
Fairfax County	$1,211,001,000	2.40%
Alexandria	$145,243,000	2.36%
Arlington County	$209,199,000	2.09%
Loudoun County	$297,774,000	1.98%
Washington-Arlington-Alexandria, DC-VA-MD-WV (MSA)	$5,977,855,000	2.89%
Virginia Beach-Norfolk-Newport News, VA-NC	$1,033,012,000	3.41%

Source: The Chronicle of Philanthropy, https://philanthropy.com/interactives/how-america-gives#state/51

Nonprofit organizations that have attained 501(c)(3) tax-exempt status with the Internal Revenue Service often dispense grants to individuals and organizations they deem most worthy. Table 4 reveals the "top 40" charitable foundations headquartered in Virginia, ranked by the volume of the grants they made in 2012. Note that even though these foundations are located in Virginia, some of the grants they make go to individuals and organizations outside of Virginia.

Also note that eight of the top 40 foundations are located in Hampton Roads. At least three of these foundations are connected to the Batten family, which has assembled a truly outstanding record of charitable giving to a broad range of causes in Hampton Roads, Virginia and elsewhere. The family's beneficent influence is writ large in our region.

TABLE 4

THE TOP 40: THE LARGEST VIRGINIA-BASED CHARITABLE GIVING ORGANIZATIONS IN 2012

Organization Name	2012 Grants
Charities Aid Foundation America	$46,130,928
The NRA Foundation Inc.	$23,162,338
The Freddie Mac Foundation	$22,132,385
The Community Foundation Serving Richmond & Central Virginia	$20,759,839
Batten Foundation	$20,050,000
Jack Kent Cooke Foundation	$20,038,020
Charles G. Koch Charitable Foundation	$14,920,448
Hampton Roads Community Foundation	$14,826,518
SunTrust Mid-Atlantic Foundation	$10,962,442
The Northrop Grumman Foundation	$10,573,327
Blue Moon Fund Inc.	$9,984,260
Danville Regional Foundation	$9,043,053
The Charlottesville Area Community Foundation	$7,261,583
Norfolk Southern Foundation	$6,984,677
Gannett Foundation	$6,843,044
Aimee and Frank Batten Jr. Foundation	$6,303,510
William H., John G. and Emma Scott Foundation	$5,875,785
Robins Foundation	$5,875,758
The Landmark Communications Foundation	$5,404,467
MeadWestvaco Foundation	$5,365,864
Robert G. Cabell III and Maude Morgan Cabell Foundation	$4,632,220
The Mary Morton Parsons Foundation	$4,609,000
Water Environment Research Foundation	$4,526,561
The Cameron Foundation	$4,344,765
Virginia Health Care Foundation	$4,108,000
CarMax Foundation	$3,386,550
Genworth Foundation	$3,140,360
AMERIGROUP Foundation	$3,037,005
The Alleghany Foundation	$2,996,419
Foundation for Roanoke Valley Inc.	$2,497,431
Massey Foundation	$2,470,000
Mustard Seed Foundation Inc.	$2,374,246
Northern Virginia Community Foundation	$2,003,980
Harry Bramhall Gilbert Charitable Trust	$1,937,501
Beazley Foundation Inc.	$1,779,019
The Claude Moore Charitable Foundation	$1,742,064
The Loyola Foundation Inc.	$1,526,023
Richard S. Reynolds Foundation	$1,458,253
The Greater Lynchburg Community Trust	$1,331,286
Weissberg Foundation	$1,312,509

Source: www.tgci.com/funding-sources/VA/top
Note: Organizations and foundations headquartered in Hampton Roads are indicated in red.

A Case Study: United Way Of South Hampton Roads

Human services organizations are at the heart of service delivery in the nonprofit sector. They vary widely in the services they provide; some of the organizations offer care to neglected or disadvantaged individuals in need of assistance, while others focus on enhancing or advocating for the community. Human services nonprofits are of two types: informal organizations including community-based nonprofits, such as Alcoholics Anonymous or church soup kitchens, and formal agencies that have recognized 501(c)(3) status with the IRS, for example, the Salvation Army or the American Red Cross. One human services nonprofit that has had a tremendous impact on our region is the United Way of South Hampton Roads.

United Way of South Hampton Roads (www.unitedwayshr.org) is dedicated to bringing individuals, groups and institutions together to address social problems such as hunger, poverty, homelessness, domestic violence, education gaps, and concerns of the disabled, sick and elderly. The organization interacts with many different communities to address complex social issues by identifying critical needs and achieving results that are geared toward long-term solutions.

As a method for solving community problems, United Way of South Hampton Roads (UWSHR) engages in a process it refers to as Collective Impact. This approach begins by identifying a broad problem and its root causes, then building a network of nonprofits, government agencies, schools, businesses, philanthropists, faith communities, neighborhood groups and community leaders with a common goal to work together to solve the problem. **Rather than one nonprofit organization focusing on an isolated need, the Collective Impact initiative creates a path for facilitating collaborative efforts of individuals and institutions across the public, private and nonprofit sectors.**

One particular initiative, United for Children, brought more than 50 partners together to drive educational success for our poorest children as a way out of poverty. Founding members include the city of Norfolk, Norfolk Public Schools, Norfolk Redevelopment and Housing Authority, Eastern Virginia Medical School, Old Dominion University, Hampton Roads Community Foundation and numerous community leaders. UWSHR provided the supporting structure, pulling in additional arts and faith-based partners to support the children in and outside the classroom. Now in its third year, United for Children is showing significant, measurable results in improved student reading and math scores. The program supports more than 2,000 children living in poverty in Norfolk, Suffolk and Virginia Beach.

A new Collective Impact, Mission United, will launch this year and focus on providing support and solving problems for active-duty military, veterans and their families.

Another major objective of UWSHR is to raise funds for projects and agencies in the local community. The organization has made a significant impact on the local community, and in return it has received a great amount of support from its donors. The facts and figures that follow illustrate this support by detailing the 2013-14 United Way Campaign to raise funds for its member agencies and programs.

The 2013-14 United Way South Hampton Roads Campaign

$13.7 million in gifts were received. These donations came from:

- $3.2 million came from 200 donors giving $10,000 or more
- $2.4 million came from 1,500 donors giving $1,000 to $9,999
- $1.7 million came from 3,000 donors giving $475 to $999
- $2.9 million came from 33,300 donors giving less than $475
- 16 accounts generated 50 percent of funds for the campaign. The largest company campaigns, in order of total amount raised:
  1. Sentara Healthcare
  2. Norfolk Southern
  3. Pilot Media
  4. GEICO
  5. PRA Group
  6. Dominion Power
  7. Dominion Enterprises
  8. Virginia Beach City Public Schools
  9. TowneBank
  10. Wells Fargo
  11. City of Virginia Beach
  12. Bank of America
  13. USAA
  14. Christian Broadcasting Network
  15. SunTrust
  16. City of Norfolk
  17. Checkered Flag Motor Car Co.
- 82 accounts raised $25,000 to $149,999 each (27 percent of the campaign)
- 498 accounts raised less than $25,000 each (12 percent of the campaign)
- 50 percent of the contributions were designated by donors to specific agencies or projects
- 30 percent were allocated by 63 volunteers that spent almost 1,200 hours reviewing financials, budgets and agency programs
- 13 percent were allocated to overhead costs for administration and fundraising (the Better Business Bureau says a well-run charity stays under 35 percent of overhead costs)
- 7 percent were designated to special programs

United Way of the Virginia Peninsula is independent of United Way of South Hampton Roads, but holds similar goals and has similar achievements of which it can boast. It is roughly one-half the size of the South Hampton Roads version.

Number of individuals employed - 11
Number of volunteers - 44
Contributions and grants - $6,006,358
Investment income - $261,004
Total revenue - $6,542,524
Grants and similar accounts paid - $5,065,390
Salaries, compensation, employee benefits - $763,376
Other expenses - $622,524
Total expenses - $6,451,290
Total assets - $9,382,634

Community impact:

- Funding from the 2013-14 UWSHR helped its certified agencies support more than 195,000 people in Hampton Roads. Of these:
  - 128,167 were rescued during emergencies, such as abusive situations and homelessness
  - 40,295 were children and families receiving school tutoring or child care and programs to reinforce positive behaviors
  - 17,214 disabled, elderly and sick individuals received health services, education and support
- Nearly $1 million was used to fund early childhood programs.

CERTIFIED AGENCIES OF UWSHR

Sixty-six health and human services nonprofits have become "certified" agencies of UWSHR. To qualify, agencies undergo an extensive external review of their financials, audits and results by a panel of local volunteers, including corporate executives, community leaders and subject-matter experts.

The United Way's review of funding candidates is unquestionably laudable; however, the consensus in the charitable world is that analogous programs need to be in place to provide additional ongoing monitoring and guidance for existing charitable organizations that have long been around. Such organizations can get stuck in a rut operationally and lose their energy and efficiency. It is not easy to scrutinize existing charities, but it is an important task that directly affects the eventual impact of the United Way.

Once a nonprofit organization has been certified, UWSHR partners with the organization to bring resources together to address complex social issues in the local area. Figure 1 shows the diversity and geographical spread of the United Way's certified agencies in the South Hampton Roads region.

The impact of UWSHR's 66 member agencies on the local community is impressive. Member organizations provide a range of services that include domestic violence shelters, literacy support to the homeless, dental care to the uninsured, child care, services for senior citizens, youth development, programs to empower girls to become leaders and legal assistance to low-income residents, among others. United Way-funded programs offered by these organizations serve nearly 200,000 clients.

In total, these member agencies have 367 different programs targeted toward helping people. They employ 8,301 individuals across the region. Revenues for all member organizations combined in 2013 totaled $389,950,614, of which $108,210,527 was collected from fees for services offered by programs of the member organizations. Out-of-market revenues (revenues brought in from outside Hampton Roads) totaled $37,453,572, a remarkable amount of funding coming to the area. A breakdown of organizational statistics of the 66 member agencies is provided in Table 5. Note that in the column titled "Total Number of Clients Served," an asterisk indicates whether those individuals were served by programs funded directly by the United Way.

FIGURE 1

UNITED WAY OF SOUTH HAMPTON ROADS PARTNER AGENCIES

Source: http://unitedwayshr.org/content/tl_files/unitedwayshr/2014%20Campaign/ComSolutionsWrap-WEB-map.png

TABLE 5

UNITED WAY OF SOUTH HAMPTON ROADS MEMBERSHIP STATISTICS, 2013

Agency Name	Staffing	Total Revenue	Out-of-Market Revenue	Fees-for-Service Revenue	Total Number of Clients Served
ACCESS Aids Care	40	$2,943,724			406
Access Partnership	5	$272,380			1,638
Armed Services YMCA of Hampton Roads	14	$1,433,509			6,206*
Beach Health Clinic	7	$1,130,391			1,750*
Boys & Girls Clubs of Southeast Virginia	120	$1,789,494			2,700*
Catholic Charities of Eastern Virginia	47	$2,092,217	$57,759	$413,474	3,430*
Cerebral Palsy of Virginia	8	$415,340		$48,523	381
Chesapeake Service Systems	84	$6,750,214			275
Children's Harbor	89	$4,694,224			620*
CHIP of Hampton Roads	24	$1,237,030	$617,872	$11,757	2,177
Colonial Virginia Council, Boy Scouts of America	9	$1,339,282		$823,479	916
Edmarc	14	$1,095,461			225
Eggleston	559	$22,365,027			485*
EQUI-KIDS	25	$1,058,216			131
Foodbank of Southeastern Virginia	58	$31,169,081			19,400*
ForKids	79	$5,282,363	$1,920,341	$52,127	174*
Friends of the Portsmouth Juvenile Court	3	$136,062			257
Girl Scout Council of Colonial Coast	61	$4,494,000		$338,934	10,059*
Girls Inc. of Greater Peninsula	22	$1,339,706			172*
Goodwill Industries of Central and Coastal Virginia	1,184	$51,621,345	$307,216	$2,629,727	1,780

TABLE 5 UNITED WAY OF SOUTH HAMPTON ROADS MEMBERSHIP STATISTICS, 2013					
Agency Name	**Staffing**	**Total Revenue**	**Out-of-Market Revenue**	**Fees-for-Service Revenue**	**Total Number of Clients Served**
Habitat for Humanity of South Hampton Roads	14	$3,304,527			31
Help and Emergency Response	19	$745,009			543*
Hope House Foundation	247	$7,516,544	$205,170	$6,839,248	123
Horizons Hampton Roads	85	$962,760	$43,819	$8,830	358
Ida Barbour Early Learning Center	15	$436,499		$271,274	97*
Isle of Wight Christian Outreach Program	0	$460,775			16,500*
Jewish Family Service of Tidewater	204	$7,532,702	$243,962	$6,514,191	2,823*
Judeo-Christian Outreach Center	15	$971,139			2,690*
Kirk-Cone Rehabilitation	0	$46,516			492
Lee's Friends	3	$246,965			196
Legal Aid Society of Eastern Virginia	36	$3,216,432			718*
Marilyn and Marvin Simon Family Jewish Community Center	133	$3,143,827	$2,132,736		571*
Meals on Wheels of Chesapeake	2	$145,162	$4,000	$79,141	100*
Meals on Wheels of Portsmouth	1	$111,023			64
Portsmouth Area Resources Coalition	14	$951,847	$383,886		401*
Peninsula Metropolitan YMCA	1,067	$19,188,688	$692,680	$16,090,090	1,610*
PrimePlus	22	$720,078	$198,545	$224,705	1,464*
Reading Enriches All Children (REACH)	2	$132,661	$2,792		613
Samaritan House	34	$2,368,718	$806,319		1,157*
Senior Services of Southeastern Virginia	102	$6,882,755	$6,078,638	$412,918	2,135*

TABLE 5

UNITED WAY OF SOUTH HAMPTON ROADS MEMBERSHIP STATISTICS, 2013

Agency Name	Staffing	Total Revenue	Out-of-Market Revenue	Fees-for-Service Revenue	Total Number of Clients Served
Seton Youth Shelters	48	$1,262,556			5,008*
Southside Boys and Girls Club	21	$690,148	$65,140	$191,377	761*
St. Mary's Home for Disabled Children	286	$16,227,909	$14,250	$15,299,713	38
The Children's Center	214	$6,803,897	$792,291	$6,014,538	1,033*
The Genieve Shelter	8	$392,436			210*
The Planning Council	68	$17,483,313	$16,049,878	$147,877	31,799*
The Salvation Army Hampton Roads Area Command	86	$10,598,026	$486,327	$7,980	31,722*
The Salvation Army, Portsmouth	2	$1,017,067			5,400*
The Salvation Army, Suffolk	7	$2,226,795			5,637*
The Up Center	179	$14,522,119	$1,452,914	$11,444,180	2,807*
Tidewater Council, Boy Scouts of America	14	$1,956,434			11,496*
Urban League of Hampton Roads	26	$1,455,092			1,505*
USO of Hampton Roads and Central Virginia	19	$1,723,195	$1,585,250		390
Virginia Supportive Housing	43	$8,655,810		$1,641,758	343
Volunteer Hampton Roads	5	$405,756	$10,000	$93,000	101*
Volunteers of America Chesapeake - Virginia Beach Lighthouse Center	12	$32,220,437			100*
Wesley Community Service Center	5	$165,226		$1,260	852*
Western Tidewater Free Clinic	25	$1,579,542			1,206*
WHRO	137	$13,759,725			1,500*
William A. Hunton YMCA	33	$1,095,582	$122,525	$689,197	1,820*
YMCA of Portsmouth	178	$2,546,450	$2,001,418	$7,500	900*

TABLE 5 UNITED WAY OF SOUTH HAMPTON ROADS MEMBERSHIP STATISTICS, 2013					
Agency Name	**Staffing**	**Total Revenue**	**Out-of-Market Revenue**	**Fees-for-Service Revenue**	**Total Number of Clients Served**
YMCA of South Hampton Roads	2,341	$49,160,804	$224,909	$37,857,845	1,800*
YWCA South Hampton Roads	77	$2,258,602	$952,936	$469,358	688*
TOTAL	8,301	$389,950,614	$37,453,572	$108,210,527	192,984
Source: United Way of South Hampton Roads					

It is clear that UWSHR plays an integral role in the Hampton Roads community via the programs it funds. The number of people assisted by the United Way is higher than many might expect. Table 6 reports the number of individuals helped by United Way programs for the purposes of child care or tutoring, assistance during emergencies or crises, meals distributed in the community, and assistance to the disabled, elderly or sick.

Residents of Virginia Beach and Norfolk typically receive the most assistance from the UWSHR organizations in each of the four categories in Table 6. Of note is the large number of meals distributed by United Way-certified agencies – 7.7 million meals in Norfolk and Virginia Beach alone.

Final Observations

The impact of the nonprofit sector in Hampton Roads often is overlooked. However, nonprofit organizations increase the quality of life in our region even as they reduce economic inequality. Without our nonprofit organizations, and specifically, without the United Way, Hampton Roads would be a far less attractive place to reside.

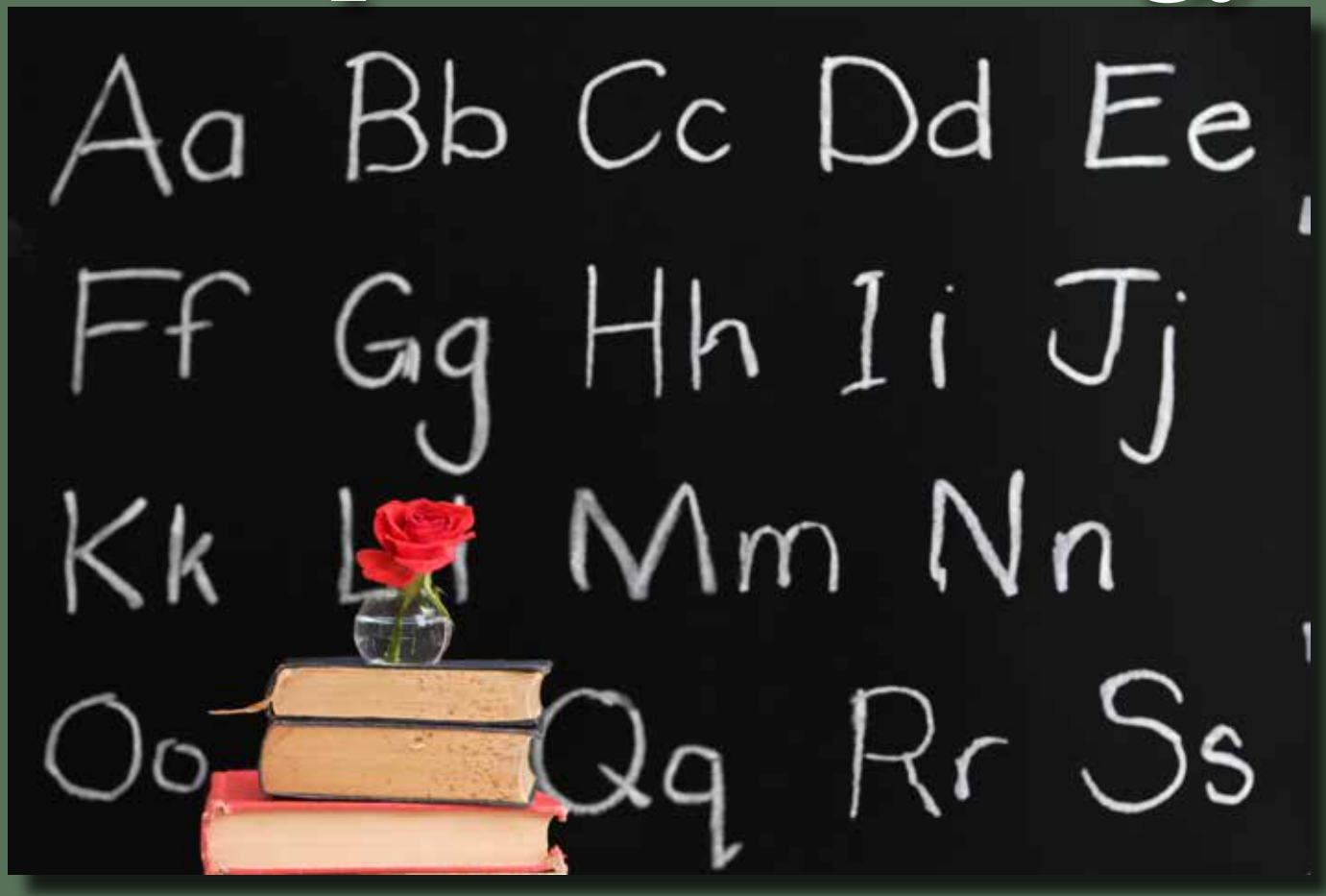
TABLE 6

COMMUNITY IMPACT OF UWSHR-CERTIFIED MEMBER AGENCIES

	Number of Children in Child Care/Tutoring Programs	Number of Individuals Helped During Emergencies	Number of Meals Distributed to Individuals	Number of Disabled, Elderly or Sick that Received Services
Virginia Beach	16,907	30,823	3.6 million	5,334
Norfolk	15,538	31,997	4.1 million	4,379
Chesapeake	8,334	14,997	1.9 million	2,018
Western Tidewater	5,229	31,663	1.6 million	2,473
Portsmouth	4,168	18,267	1.1 million	3,010
Total	50, 176	127,747	12.3 million	17,214

Source: http://unitedwayshr.org/content/index.php/392.html

Early Childhood Care And Education: Should They Be Our No. 1 Economic Development Strategy?



EARLY CHILDHOOD CARE AND EDUCATION: SHOULD THEY BE OUR NO. 1 ECONOMIC DEVELOPMENT STRATEGY?

Pay me now or pay me later.
– The prophetic words from a well-known 1970s television commercial

Somewhat unexpectedly, early childhood care, education and development are becoming hot topics in the economic development arena. **Compared to more conventional approaches to promote economic development that involve tax incentives and attempts to attract businesses, investments in early childhood programs constitute a superior development strategy in terms of societal benefits received per dollar spent. As a consequence, the time has come to consider investments in early childhood programs as a legitimate and viable approach to stimulate economic growth in Hampton Roads.**

In the past decade alone, early childhood development has attracted the attention of numerous high-profile economists, including Nobel laureate and University of Chicago professor, James Heckman; former chair of the Board of Governors of the Federal Reserve System, Ben Bernanke; and president of the Federal Reserve Bank of Richmond, Jeffrey Lacker.[1] The Federal Reserve Bank of Minneapolis considers the topic important enough to devote a "Special Study" section of its website to disseminating early childhood research.[2]

In this chapter, we provide an overview of the issues and evidence concerning early childhood development programs in Hampton Roads. We'll examine the economic "nuts and bolts" of early childhood effectiveness and also survey the child care options that exist in Hampton Roads. We'll close by exploring the challenges ahead and offer a few suggestions to enhance early childhood programs and participation.

[1] Ben Bernanke, "Early Childhood Education." Speech at the Children's Defense Fund National Conference, Cincinnati. July 24, 2012. Jeffrey Lacker, Early Childhood Development and Economic Growth. Governor's Summit on Early Childhood Development, Richmond. July 27, 2007.
[2] www.minneapolisfed.org/publications/special-studies/early-childhood-development.

The Economics Of Early Childhood Programs

Both formal and informal education and training fall under a single umbrella that economists refer to as "human capital" – all of the talents, abilities, knowledge and drive that people possess. The more human capital an individual, region or state possesses, the better that individual, region or state is likely to be at producing goods and services, generating innovations and producing income. **For most individuals, their human capital usually is one of the strongest predictors of their current *and future* economic productivity, which in turn is one of the strongest predictors of their earnings and overall economic well-being.**

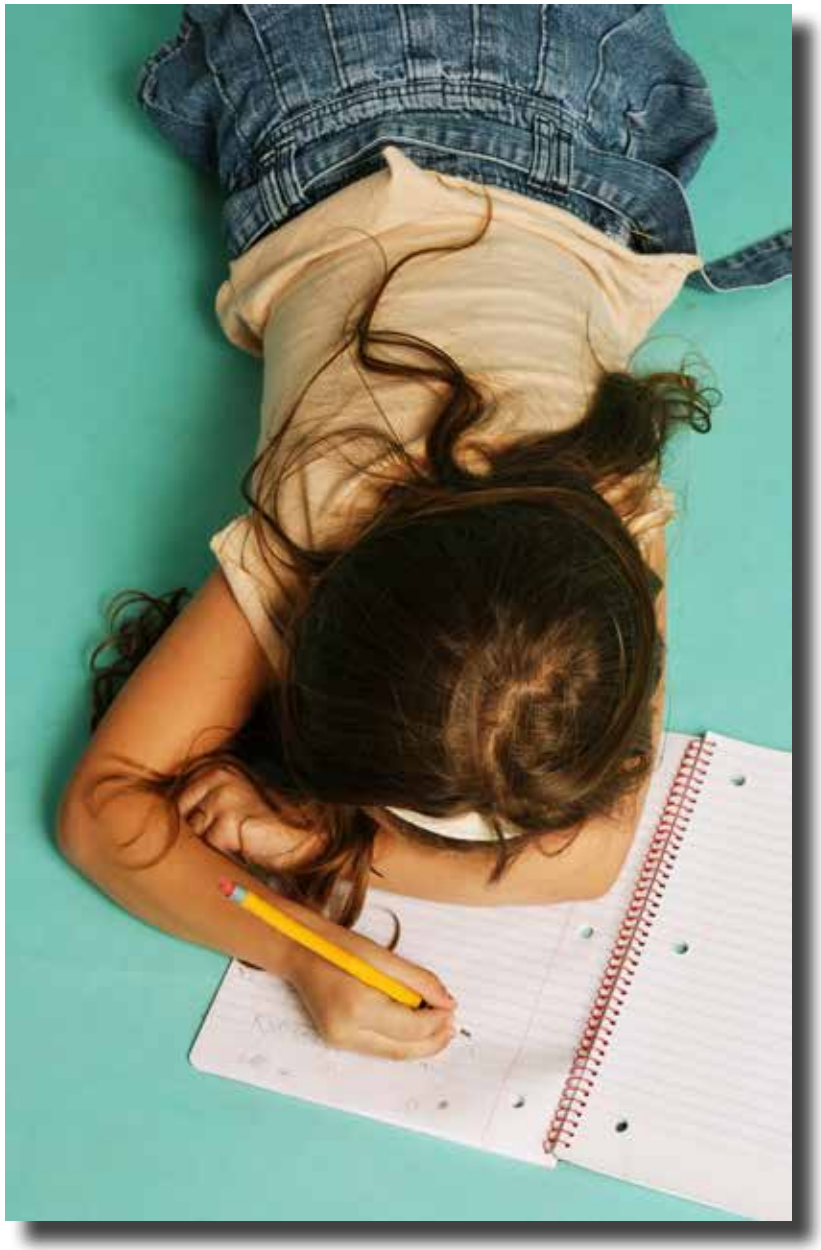
Job training programs and formal schooling are the usual ways utilized to increase the quantity and quality of our human capital. However, so are early childhood education and intervention, which together turn out to be one of the most cost-effective methods for developing human capital and promoting economic development.

A seminal study of the impact of a high-quality early childhood education program was the Abecedarian Project, in which four cohorts of children born between 1972 and 1977 were randomly assigned as infants either to the early education intervention group or a control group. The progress of the children was monitored over time and follow-up studies were conducted at ages 12, 15 and 21. Long-lasting benefits accrued to those children in the early education intervention group. Over the course of their academic careers, the children who attended preschool completed more years of education and were more likely to attend a four-year university than were their peers who did not attend preschool. The group that attended preschool was found to have lower rates of teen pregnancy, violence, crime and overall economic dependence.[3]

While research has shown that the benefit per dollar invested – the rate of return on investment (ROI) – varies with the specific type of early childhood intervention, there is now widespread agreement that early childhood programs are also an excellent economic investment for the broader community. Graph 1 shows Heckman's comparative estimates of the ROI on various programs and job training for different age ranges. Note that early childhood programs boast ROIs about three times as large as conventional job training programs.

Heckman found that the first five years of a child's life are critical to developing the foundation for the cognitive and character skills one will need to achieve economic success later in life. Since various studies have demonstrated the fact that ROIs on postsecondary education investments have been declining, there is now a strong argument for **shifting resources away from later-in-life job training programs and redirecting them to early childhood programs.**

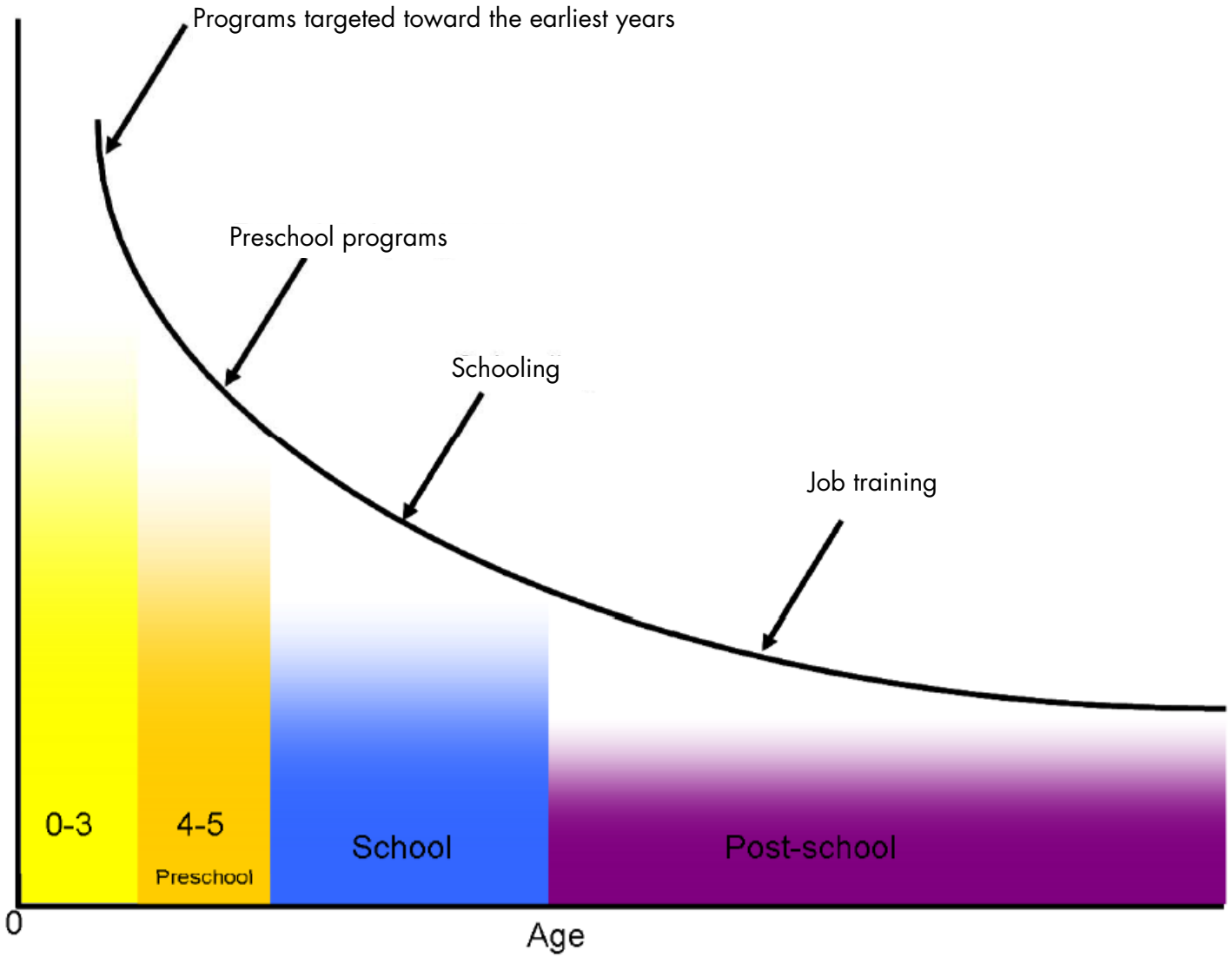
A practical political problem, however, is that many of the benefits that flow from preschool programs and interventions often are deferred and do not appear immediately. Elected officials who require visible, immediate feedback and results may be too impatient to wait for these advantages to appear.



[3] F.A. Campbell, et al. (2002). "Early childhood education: Young adult outcomes from the Abecedarian Project." Applied Developmental Science, 6, 42-57.

GRAPH 1

COMPARATIVE ESTIMATES OF THE RETURN ON INVESTMENT IN HUMAN CAPITAL



Source: James J. Heckman (2008). "Schools, Skills and Synapses," Economic Inquiry, 46(3), 289-324

The Perry Preschool Project

We can glean some valuable information on precisely how these early childhood returns materialize by examining data from the well-known Perry Preschool Project. This project began in Ypsilanti, Mich., in the 1960s. It randomly divided 3- and 4-year-old children into two groups: One group was provided free access to part-time preschool and a home visit by each student's teacher every week, while the other control group did not receive the preschool program. The Perry study collected information on all participants annually between the ages of 3 and 11 and again at ages 14, 15, 19, 27 and 40.

One would expect children who received the additional preschooling to receive some benefits while in the program (and they did); however, **the benefits had lasting effects at *every* age point through age 40.** At age 40, for example, the preschool group was less likely to have been arrested, less likely to have experienced teen pregnancies, less likely to have received government assistance, more likely to have graduated high school, more likely to have higher earnings and more likely to have better health. Graph 2 provides a detailed breakdown of the costs and the benefits of the Perry Project (all numbers have been expressed in 2014-equivalent incomes and prices).

The cost per pupil of the Perry project – in 2014 dollars – was a bit more than $21,000. Through age 40 for each of the participants, preschool program participants were less costly to educate over their lifetimes (a savings of $10,182), less likely to be on public assistance (a savings of $3,859), less likely to commit crimes and be part of the criminal justice system (a savings of $239,079), and they paid more in taxes ($19,628).

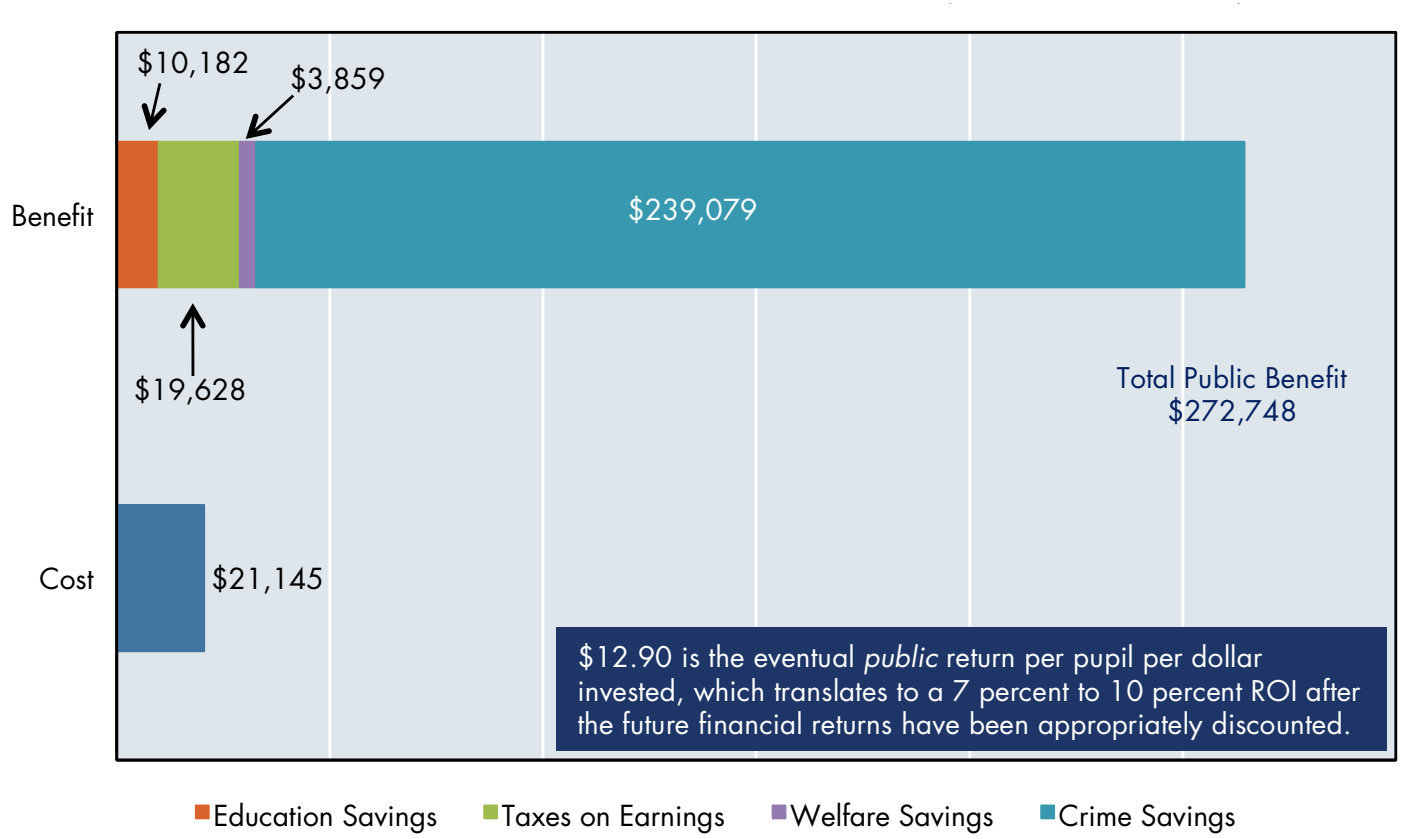
The criminal justice savings ($239,079) associated with preschool programs is almost breathtakingly large. Plainly speaking, it derives primarily from students in preschool programs staying out of jail. It is expensive to lock up individuals.

One must compare these salutary results with the much less impressive outcomes that are generated by conventional business subsidies (usually tax incentives) that governmental units at all levels habitually utilize in hopes of improving their economic situations. In the 2014 State of the Region report, we catalogued these studies in detail and so it will suffice for us to note here that in general, tax incentives yield low returns for cities and counties that rely upon them, and typically yield negative returns for regions and states because of the competitive bidding process that firms use to wring out maximum benefits from their potential hosts. Two studies conducted by JLARC, Virginia's Joint Legislative Audit and Review Committee, concluded that tax incentives had very mixed effectiveness (JLARC, "Review of the Effectiveness of Virginia Tax Preferences," 2012; "Review of State Economic Development Incentive Grants," 2012).

The first study observed that the state's tax preferences were quite expensive: "Tax preferences collectively reduced taxpayers' liability by approximately $12.5 billion in tax year 2008, which represents nearly 90 percent of the amount of State revenue collected from the tax systems reviewed ($14.3 billion)." However, the study concluded the effects were "mixed." The second study concluded that 80 percent of firms that received economic development incentive grants would have chosen the same site they eventually chose even if they had received no grant.

GRAPH 2

PERRY PRESCHOOL PUBLIC COSTS AND BENEFITS (IN 2014 DOLLARS)



Source: "The High/Scope Perry Pre-school Study Through Age 40: Summary, Conclusions, and Frequently Asked Questions," by Lawrence J. Schweinhart, et al., 2005, www.highscope.org/file/Research/PerryProject/3_specialsummary%20col%2006%2007.pdf

The Early Childhood Landscape In Virginia And Hampton Roads

Though virtually all children benefit from quality preschool programming, high-risk children from lower socioeconomic statuses benefit the most. This is important to Hampton Roads because we have large numbers of high-risk children living in the region. Table 1 shows the percentage of children under age 6 in each community who were living below the U.S. government-designated poverty level and 200 percent of that poverty level in 2013 (the most recent year that data are available for small geographic areas).

Although one out of every five children under age 6 in Hampton Roads was living below the poverty level in 2013 (more than 26,000 children total), the percentages vary considerably from community to community. The Peninsula communities of Poquoson, York County, Williamsburg and Gloucester County have the lowest percentage of at-risk children.

By way of contrast, communities such as Hampton, Newport News, Norfolk, Portsmouth and Mathews County have much higher percentages at risk. **In fact, if we extend the threshold to 200 percent of the poverty level, then more than one-half of all children under age 6 are at high risk in Newport News, Norfolk, Portsmouth and Mathews County.** According to a 2014 report by the Weldon Cooper Center, more than 60 percent of Virginia's children living in single-parent families and 50 percent of children in cohabiting-parent families live in or near poverty. Contrast these numbers to the 20 percent of children living at or near poverty levels in married-parent families.[4] This is one of the reasons why society has strong reasons for encouraging married, two-parent families.

[4] www.coopercenter.org/demographics/childhood-poverty-in-Virginia.

TABLE 1 AT-RISK CHILDREN IN HAMPTON ROADS COMMUNITIES, 2013		
	Percentage of Children Under Age 6 at or Below Poverty Line ($23,550 or less for a family of four)	**Percentage of Children Under Age 6 at or Below 200 Percent of Poverty Line ($47,100 or less for a family of four)**
Chesapeake	12.9%	34.6%
Hampton	25.2%	49.3%
Newport News	26.9%	52.7%
Norfolk	30.2%	57.1%
Poquoson	1.4%	24.6%
Portsmouth	32.2%	53.5%
Suffolk	20.7%	42.9%
Virginia Beach	14.7%	37.2%
Williamsburg	7.6%	40.0%
Gloucester County	9.2%	40.1%
Isle of Wight County	26.8%	43.3%
James City County	18.1%	31.1%
Mathews County	48.6%	77.2%
York County	5.8%	25.5%
Hampton Roads Total	**20.6%**	**43.8%**
Source: Calculations made from the 2013 American Community Survey 5-Year Estimates, Table B17024		

As a consequence, many Hampton Roads children begin their formal education at a distinct disadvantage that often turns out to be long lasting. Children who begin kindergarten behind their peers rarely close the gap. Rather, the gap widens throughout their education, placing them at risk for undesirable outcomes, including not being promoted, dropping out of school, not attending college, and being unemployed. These negative outcomes on the individual level become even more troubling when one considers the cumulative costs that these results impose on the broader community.

Child care is one way to diminish the differences that otherwise might exist between and among preschool children. In Virginia, from a regulatory standpoint, there are three child care options: (1) licensed; (2) regulated/unlicensed; and (3) unregulated/unlicensed. Table 2 presents the number and types of facilities in each community in Hampton Roads.

Licensed child care facilities must meet the standards set forth by the State Board of Social Services. These facilities differ from others in terms of how they operate. There are three major varieties of licensed child care facilities. A *child care center* is a regularly operating service arrangement for children where, during the absence of a parent or guardian, that center has agreed to assume responsibility for the supervision, protection and well-being of a child under the age of 13 for less than a 24-hour period. *Short-term centers* operate during only part of the year, while *family day homes* may provide care for six to 12 children (exclusive of the provider's own children and any children who reside in the home). The care may be offered in the home of the provider or in the home of any of the children in care.

However, as Table 2 reveals, the largest single category of child care facilities in Hampton Roads consists of facilities that are unlicensed by the Commonwealth. These facilities, numbering almost 600, may be unlicensed because they have opted for a religious exemption, or they may be operating in an otherwise accredited private school (called a certified Pre-K facility), or they may be providing care in a private home with fewer than six children.

There is no single source of reliable data that informs us how many children are cared for in unregulated/unlicensed child care environments, such as extended family or family friend care. A recent Washington Post report noted that nine children died in unregulated day care homes in Virginia in 2014, making it the deadliest year for child care environments in the past decade.[5] In addition to potential safety concerns, the quality of the educational curriculum, teacher-child interactions and teacher qualifications can be a matter of concern in such instances.

[5] www.washingtonpost.com/investigations/nine-va-children-died-in-unregulated-day-care-in-2014-the-deadliest-year-in-a-decade/2014/12/30/bf302040-8161-11e4-81fd-8c4814dfa9d7_story.html.

TABLE 2

CHILD CARE FACILITY OPTIONS IN HAMPTON ROADS, 2014

	State-Licensed Child Care			Regulated/Unlicensed Child Care
	Child Day Center	**Family Day Home**	**Short-Term Child Day Center**	**Religious Exempt, Certified Pre-K and Voluntary Registered Day Homes**
Chesapeake	62	27	4	100
Hampton	28	12	2	55
Newport News	67	2	1	50
Norfolk	79	17	5	131
Poquoson	3	0	0	2
Portsmouth	27	15	0	54
Suffolk	27	5	1	33
Virginia Beach	102	28	2	105
Williamsburg	3	0	0	5
Gloucester County	7	1	0	7
Isle of Wight County	12	3	0	5
James City County	25	2	0	10
Mathews County	3	0	0	3
York County	23	4	0	11
Hampton Roads	**468**	**116**	**15**	**571**

Source: Virginia Department of Social Services website, www.dss.virginia.gov (accessed March 23, 2015)

Accreditation

In an effort to demonstrate quality beyond basic health and safety regulations, the National Association for the Education of Young Children (NAEYC) has developed child care accreditation standards and Virginia's Star Quality Initiative represents a voluntary system of center rating that has higher standards and expectations than state licensing regulations. The theory is that quality in early childhood settings makes a difference in outcomes. This is a reasonable supposition, but there is comparatively little evidence available on this issue other than the "child care versus no child care" dichotomy. Quality is not easy to measure.

This has led to attempts to measure quality according to specific standards. In Virginia, a QRIS (Quality Rating and Improvement System) exists that operates on a voluntary basis. Each participating preschool, child care program or family child care home is assigned a star rating that ranges from 1 (lowest) to 5 (highest). The star rating system examines four standard areas: 1) education, qualifications and training; 2) interactions; 3) structure; and 4) instruction. Currently, there are 89 star-rated child care centers and 29 star-rated family child care homes in operation within Hampton Roads. The communities in which these facilities operate are shown in Table 3.

On a national scale, the largest professional organization of early childhood educators is the National Association for the Education of Young Children. NAEYC accreditation of programs for young children represents the benchmark of quality in early childhood education. Accreditation began in 1985 with the goal of providing an accrediting system that would raise the level of early childhood programs. Today, more than 6,500 programs are NAEYC-accredited. NAEYC-accredited programs in Virginia include private child care, Head Start and military-affiliated child care programs. Virginia has a total of 134 NAEYC-accredited programs, 29 of which are located in Hampton Roads.

The relatively small number of quality-rated or nationally accredited child care options in Hampton Roads may be a cause for concern for families wanting to place their children in environments that have been evaluated for program quality using robust measures. Mandatory participation would supply decision makers, especially parents, with valuable information. However, as just noted, the link between apparent measures of quality and outcomes has not been firmly established.

TABLE 3

VIRGINIA STAR QUALITY INITIATIVE CHILD CARE FACILITIES IN HAMPTON ROADS

	Star-Rated Child Care Center	Star-Rated Family Child Care Home
Chesapeake	4	8
Hampton	14	1
Newport News	21	2
Norfolk	14	5
Poquoson	0	0
Portsmouth	4	7
Suffolk	5	2
Virginia Beach	16	3
Williamsburg	9	0
Gloucester County	0	0
Isle of Wight County	0	0
James City County	0	0
Mathews County	1	0
York County	1	1

Source: QRIS website, http://qrisnetwork.org

Early Childhood And Preschool Teachers

By Virginia statute, being a "program leader" is the minimum standard to be considered a child care teacher. Program leaders are individuals who are designated to be responsible for the direct supervision of children and for implementation of the activities and services for a group of children. Program leaders may also be referred to as child care supervisors, or as teachers, must be at least 18 years of age, have completed a high school program or the equivalent, and have six months of supervised programmatic experience. Classroom aides must be at least 16 years of age.[6]

It may be confusing to the uninitiated, but the minimal qualifications just cited are not the same as those for teachers working in classrooms receiving Virginia Preschool Initiative (Commonwealth) funding. At present, Virginia's VPI guidelines do not specify education and licensure requirements, though school division administrators may strive to hire teachers with Virginia state Pre-K-3 or Pre-K-6 teaching licenses to lead classrooms.

Participation And Challenges

Anyone who has ever relied on either formal or informal child care services knows how expensive these services can be. According to a 2014 report from Child Care Aware, the average annual cost of caring for an infant in a Virginia child care center was $10,028, which was just 3 percent less than the average annual cost of tuition and fees at a public college in the Commonwealth.[7] For many families in Hampton Roads, private, center-based infant care is not an affordable option. The children most at risk in our region (those living at or below the poverty level) more than likely must rely on publicly funded preschool programs, such as the VPI and Head Start, for their programming.[8]

Virginia's VPI programs began in 1996 and are designed to serve at-risk 4-year-old children. Primary funding responsibility for the program is shared by the Commonwealth and local school district and assumes a per-pupil cost of $6,000. **School districts, if they choose to participate, are allocated "slots" based on factors such as the number of 4-year-olds in their community, the number of students eligible for free lunch and the district's Head Start enrollment.**

Beginning in 2016, children in Hampton Roads will be eligible for the VPI if their family income is less than 200 percent of the poverty line (or 350 percent for children with special needs or disabilities), they are homeless, or their parents or guardians dropped out of school. In 2014-15, the VPI program served more than 18,000 children statewide and the Commonwealth's share of funding exceeded $68 million.

Table 4 reports the apparent number of eligible students, the number of VPI slots allocated by the Commonwealth and the number and percentage of unused VPI slots.

Unlike the attendance figures, the use of VPI slots in Hampton Roads varies widely from school district to school district. Although our region's average usage of allocated slots (88.2 percent) far exceeds the statewide average of 69.4 percent, local figures vary from a low of 0 percent in Mathews County to a high of 100 percent in Hampton, Newport News, Norfolk, Portsmouth, Suffolk and Williamsburg-James City County. To date, Mathews County has chosen not to participate in the VPI, even though it has been allocated six slots.

[6] http://nrckids.org/default/assets/File/StateRegs/VA/StandardsforLicensedChildDayCenters.pdf.
[7] Child Care Aware of America (2014). Parents and the High Cost of Child Care: 2014 Report. www.arizonachildcare.org/pdf/2014-child-care-cost-report.pdf. See Appendix VI.

[8] T. Halle, et al. (2011). "Setting the context for a discussion of quality measures: The demographic landscape of early care and education," pp. 3-10 in I. Martinez-Beck et al., Quality Measurement in Early Childhood Settings. Paul H. Brookes Publishing Company.

Head Start is probably the most well-known early childhood initiative because it has existed since 1965. Its principal function is to provide comprehensive early childhood services to (primarily) low-income children up to age 5. Nationally, and within Hampton Roads, Head Start centers are heavily dependent on federal funding to operate. During the 2013-14 year, the federal government provided more than 99 percent of the more than $7 million in Head Start funding received in Hampton Roads. In terms of services, seven Head Start facilities on the Peninsula reported serving 447 children, while the 15 Southside facilities reported assisting 875 children (for a total of 1,322).

TABLE 4

PRESCHOOL ENROLLMENT AND VIRGINIA PRESCHOOL INITIATIVE (VPI) SLOTS AND USAGE, 2012-2013

	Percentage of Children Age 5 and Under in Any Preschool	Number of VPI Slots Allocated	Percentage of VPI Slots Used	Number of Unused Slots
Chesapeake	24.3%	537	56.6%	233
Hampton	24.7%	617	100.0%	0
Newport News	22.4%	1,157	100.0%	0
Norfolk	22.5%	1,827	100.0%	0
Poquoson	34.0%	10	20.0%	8
Portsmouth	30.9%	619	100.0%	0
Suffolk	26.2%	402	100.0%	0
Virginia Beach	23.4%	1,078	65.3%	374
Gloucester County	29.4%	38	47.4%	20
Isle of Wight County	26.2%	189	47.6%	99
Williamsburg - James City County	22.5%	85	100.0%	0
Mathews County	24.5%	6	0.0%	6
York County	20.5%	55	29.1%	39
Hampton Roads Total	**24.3%**	**6,620**	**88.2%**	**779**
Virginia Total	**25.1%**	**24,483**	**69.4%**	**7,498**

Sources: 2013 American Community Survey 5-Year Estimates Tables B14001, S0101, and Virginia's Biennial School Readiness Report Card: 2013

Final Thoughts

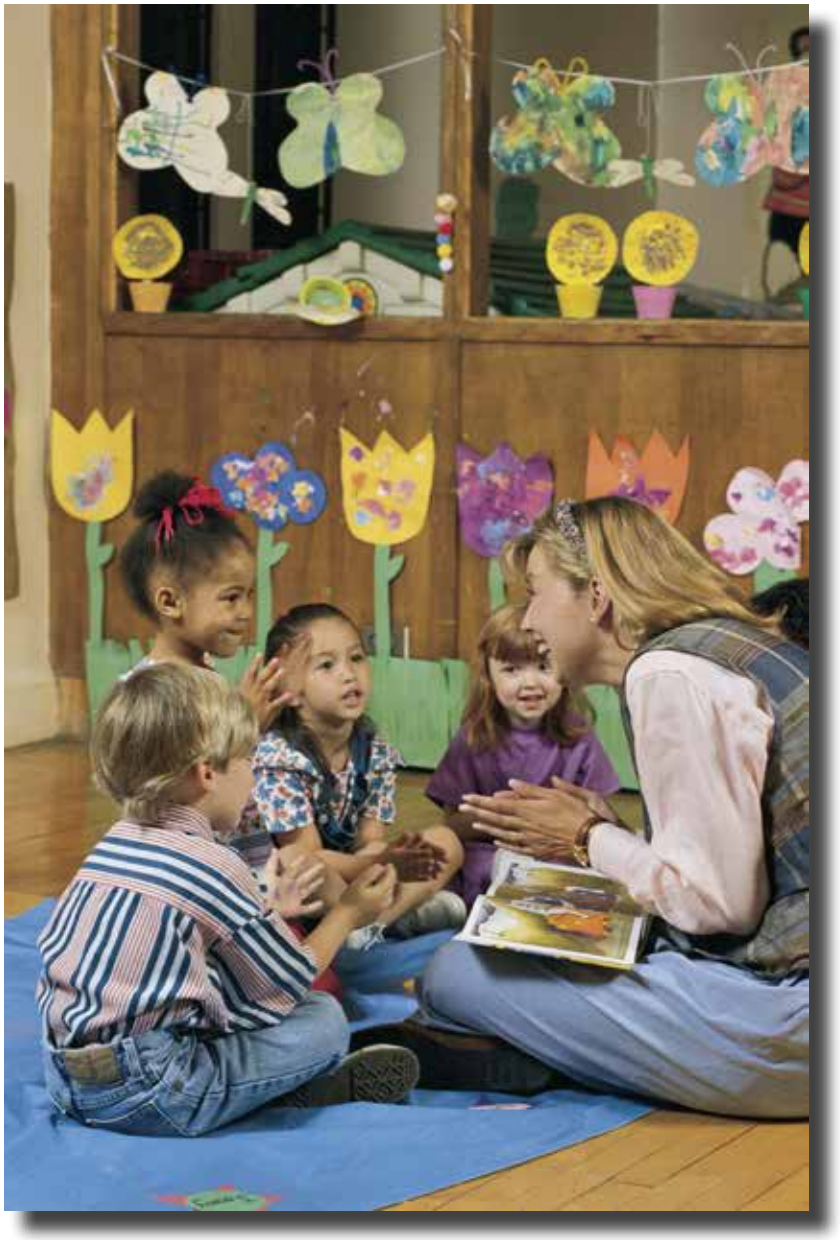
Unfortunately, where economic development strategies are concerned, we live in a "what have you done for me lately" world. The lure of new arenas, hotels and performance venues tends to trump investments in preschool programs and interventions, even though the available empirical evidence shows that preschool investments generate higher rates of return (ROI) on scarce investment dollars.

There are three reasons for this. **First, the time horizon attached to preschool investments apparently is too long for elected officials. Preschool investments simply don't pay off quickly enough to satisfy many, perhaps most, elected officials.**

Second, preschool investment advocates don't have the political clout of those interested in large bricks-and-mortar developments, and they seldom make the critical political contributions that lubricate American democracy.

Third, by and large, elected officials believe they are making the right decision when they invest in arenas, hotels and performance venues. Regrettably, this is because they are substantially uninformed, even ignorant, of the evidence on early childhood education and what the ROIs are for each of the alternative investment choices in front of them. Getting their attention in order to have an opportunity to inform them is a major challenge because, almost daily, they interact with innumerable groups of constituents pushing one agenda or another. Some of these groups are well placed and well funded.

The stakes, however, are huge. If we wish to jolt Hampton Roads upward from its current low economic growth pattern, then we must do things differently. A very important place to start – perhaps the most important place to start – is increasing our regional investment in preschool programs and interventions.




SCHOOL BUS
EMERGENCY DOOR
STOP

Is Hampton Roads Facing A Shortage Of Nurses?

IS HAMPTON ROADS FACING A SHORTAGE OF NURSES?

Few events grab our attention like the threat of an impending crisis. Documented claims that we (as a nation) will be facing a nursing shortage date as far back as the 1930s and seemingly reappear every few decades. The concern is so pervasive that it is easy to find scores of reports, news articles and proposed legislation, even a Wikipedia entry, on the topic.

The current arguments in support of a coming shortage are centered on changing demographics, a wave of nurse retirements, the recently passed Patient Protection and Affordable Care Act, the improving economy and nursing schools unable to train enough nurses to fill the gaps. In short, the aging population and increased insurance coverage are going to massively increase demand, while retirements and an improving economy reduce the supply as nursing schools struggle to make up the difference. This is all true, but the sky is not likely to fall.

In this chapter, we assess the future of the Hampton Roads nursing workforce by examining the local supply and demand for nurses. As you will see, Hampton Roads is reasonably well positioned for the future as long as we maintain our current level of hiring and training of nurses. We will also present suggestions based on experience and the research of industry analysts about how to secure our position, given the coming changes.

Background

For this chapter, a "nurse" is synonymous with a "registered nurse," "professional nurse" or "RN." If any other nurse occupation is considered, it will be referred to by its official title/abbreviation (e.g., licensed practical nurse or LPN, nursing assistant or NA).

We rely on two sources for information concerning the nursing profession: the Virginia Department of Health Professions (DHP) and the Bureau of Labor Statistics (BLS). The DHP administers a relatively new annual survey of nurses renewing their license in Virginia. License renewal is completed every two years, so for any given year only half of the nurses will be eligible to complete the survey. More than 80 percent of nurses who are eligible do respond to the survey, providing an excellent look into our regional workforce. The BLS administers the Occupation Employment Survey, a semiannual nationwide survey that is conducted with state employment agencies. For the Virginia workforce, the DHP data are likely to be more reliable since the department has access to all registered nurses, whereas the BLS uses a random sample of individuals. We can use DHP data for comparing and describing Virginia, Hampton Roads, Richmond and Northern Virginia, but for descriptions of any other metropolitan areas, BLS data will need to be used. Any difference among the sources is likely due to the difference in access rather than methodology. We use the DHP data as often as possible but rely on the BLS data to capture and project broader national trends in the nursing workforce.

A registered nurse is a person whom the Virginia Board of Nursing deems qualified to provide "professional nursing service." The key qualifications are the successful completion of an approved degree or diploma program and the passage of a board-approved competency exam. **The BLS lists typical nurses' duties as recording patient medical data, performing diagnostic tests, administering medicines and equipment, establishing and implementing care plans, and explaining to patients their treatments. Registered nurses typically work under the direction of physicians.** Two similar professionals are the licensed practical nurse, who mostly monitors patients and provides basic care, and the nursing assistant, who performs the most

basic duties. The three professions can and often do work in the same facility, but RNs are more likely to work in a hospital, while the other two are primarily in long-term-care facilities. When they are in the same facility, LPNs and NAs typically work under the direction of an RN.

There are three pathways to becoming a registered nurse. The most common path is a four-year bachelor's degree, followed by a two-year associate degree and, lastly, a hospital-based diploma program. There are approximately 80 nursing programs in the Commonwealth, but currently only Riverside Health System, based in Newport News, operates a nursing diploma program. Hampton Roads has five baccalaureate and eight associate degree programs in addition to the Riverside diploma program.

The composition of degrees varies by area, as shown in Table 1. Interestingly, Northern Virginia has the most educated nursing workforce, while Hampton Roads features the smallest percentage of advanced nursing degrees and the highest percentage of diploma degrees (rightly or wrongly, considered a lower education level). The smaller percentage of advanced degrees in our region is a potential concern because advanced degree holders are often the instructors of future nurses. By having (relatively) fewer advanced-degree nurses, we may be constraining our region's ability to supply nurses in the future.

In 2014, Virginia employed approximately 73,038 registered nurses in either part- or full-time positions. Accounting for the hours worked by nurses, the Commonwealth had about 72,089 "full-time-equivalency units" of nurses in 2014. This measure adjusts for part-time and overtime hours to count how many full-time workers would be employed if everyone worked a standard 40-hour week for 50 weeks. Hampton Roads employed around 15,514 nurses and had about 14,396 FTEs, which represents approximately 20 percent of the state's nurse workforce. As can be seen in Table 2, Northern Virginia employs the most nurses, but fewer nurses work full time compared to Hampton Roads and Richmond.

TABLE 1

WORKFORCE CHARACTERISTICS OF REGISTERED NURSES IN VIRGINIA AND SELECTED METRO AREAS, 2014*

Demographics (%)	Virginia	Hampton Roads	Northern Virginia	Richmond
Hospital RN Diploma	13.2	19.3	7.0	16.7
Associate Degree	33.9	30.1	28.3	34.0
Bachelor's Degree	40.0	39.0	49.0	36.1
Master's + Doctorate	12.6	11.4	15.5	12.8
RN Education from VA	71.6	70.4	53.2	77.6
Under 40 w/ Debt Education	58.3	67.8	53.8	61.6
Wants to Pursue More Education	37.9	42.3	36.4	39.2
Diversity Index	35	50	43	35
Percent Non-white	20	32	33	23
Female	93	94	94	94

Source: VA DHP, VA Healthcare Workforce Data Center, *as of February 2014

In Virginia, about half of the nurses work in hospitals, with the rest distributed relatively evenly in other environments. Most nurses, 85 percent, work in metropolitan areas, which matches the 88 percent of Virginians living in metro areas. **Over 90 percent of nurses are female, roughly one-third are non-white and the median age is 48. The nursing workforce in Hampton Roads is more racially diverse than other metro areas, which is likely due to the military's influence.**

From the BLS survey, the 2014 median annual income for nurses is $62,610 for Virginia, $60,540 for Hampton Roads, $63,770 for Richmond and $74,680 for the entire Washington, D.C., metropolitan area. The average median income across all metro areas is $64,119. Northern Virginia nurses may be paid more because of cost of living and their higher education level, despite the

fact that fewer work full time. Across Virginia, almost two-thirds of nurses are hourly-wage workers, slightly less than one-third are salaried and the rest have other arrangements (e.g., contractual, self-employed, volunteer, etc.). About two-thirds of nurses receive health care through their work and a similar percentage receives retirement benefits. More than 90 percent of nurses report overall job satisfaction, and 20-25 percent of nurses worked at their primary location for over 10 years.

About 21 percent of those who have a Virginia nursing license did not work as a nurse in Virginia in 2014; although, only about 0.7 percent of licensees report being involuntarily unemployed. This shows that the overwhelming majority of nurses who desire to work as nurses are able to find employment in their field. Additionally, this indicates that more nurses are available to work than are actively employed as nurses. Probably not all of these individuals will return to nursing, but by retaining and renewing their nursing license, they show that they *could* be lured back, given the right circumstances (i.e., higher wages, better working conditions, etc.).

TABLE 2

EMPLOYMENT CHARACTERISTICS OF REGISTERED NURSES IN VIRGINIA AND SELECTED METRO AREAS, 2014*

Employment	Virginia	Hampton Roads	Northern Virginia	Richmond
RN Licensees	82,998	17,432	20,821	16,786
New RN Licenses in 2014	5,124	803	1,155	681
Employed as RN	73,038	15,514	17,906	15,275
RN FTEs	72,089	14,396	15,320	13,942
FTEs/Employed	1.01	1.08	1.17	1.10
Unemployment Rate	0.71%	0.83%	0.63%	0.46%
Employed Outside of Nursing	3.48%	2.95%	4.67%	3.40%
Not Working	7.73%	7.07%	8.61%	5.26%
Works in Hospital (%)	52	54	50	54
Works in Long-Term Care Facility (%)	3.7	3.0	2.5	3.0
Private (%)	83.8	83.0	88.4	82.3
State Government (%)	11.2	7.8	7.3	12.8
Federal Government (%)	5.0	9.3	4.4	5.0

Source: VA DHP, VA Healthcare Workforce Data Center, *as of February 2014

Nursing Shortages And Their Cost

Few people may recall that until the mid-1960s, the country faced persistent nursing shortages. A Department of Labor report from 1947 described low pay, poor working conditions, long hours and lack of job satisfaction as the norm for nursing. Efforts to increase the number of nursing graduates did lead to more new nurse entrants, but the unattractive aspects associated with the profession kept the turnover rate high. However, in the mid-1960s, nursing changed as the health care industry began to blossom. The post-war economic gains gave many Americans the wealth needed to pursue more health care and the Medicare/Medicaid expansions helped many poorer Americans also seek out health care. Taken together, the increased demand for health services led to rising industry wages. Suddenly, nursing became a profession that paid a living wage and could elevate workers to a higher economic status. The better prospects, combined with the baby boom generation entering the workforce and the increased women's labor force participation, all led to the end of the nursing shortage by the mid 1970s.

Now these nurses are nearing retirement age, and there is no wave of nurses coming to replace them. In the early 2000s, nursing shortage reports began reappearing in the mass media. In 2002, the Bureau of Health Professions (BHP) issued national projections out to the year 2020 for full-time-equivalency units of nurses. For 2015, the BHP projected that demand would be 2.56 million FTE nurses, while supply would be 2.06 million FTE nurses, a projected nationwide shortage of 500,000 full-time nurses. In reality, the Bureau of Labor Statistics reports 2.7 million nurses are currently employed, several hundred thousand more than the BHP projections.

The current BHP projections, released in December 2014, now predict that the nation will have a national *surplus* of 340,000 FTE nurses by 2025. BHP divides its estimates by state, and predicts that Virginia will demand 87,300 FTE nurses, with a surplus of 19,400 FTE nurses, in 2025.

The BHP reports this reversal happened, in part, because of the near doubling of nursing graduates since its earlier report. The severity of the 2007-09 recession may also have kept the nation from a nursing shortage. The recession may have pushed potential retirees to delay retirement and convinced job seekers to aim for a health care career, since health care is always in demand. Also, since nurses are overwhelmingly female, increased male unemployment may have pushed more women to seek employment in a relatively well-paid (though hectic) career to sustain family budgets. Once the aftereffects of the recession are past, however, we may see a bigger than expected increase in retirements, causing a shortage to re-emerge. The 2009 American Recovery and Reinvestment Act and 2010 Affordable Care Act both had provisions to help mitigate a nursing shortage by offering educational reimbursement for nurses who work at designated short-staffed hospitals and increased funding to previous federal education programs. These two acts likely spurred some additional participation in the nursing workforce in recent years, but will not have much long-term impact on nursing supply.

If the country has faced shortages before and recovered, why are people so worried now? The answer is that this seemingly small employment-sector issue could become a major public health problem if left untreated. A national nursing shortage could be analogous to all hospitals being understaffed simultaneously. A plethora of studies have shown that the number of nurses working on a shift has a direct impact on reducing adverse patient outcomes. The same is true with nurses' skill level, measured in experience or education. Adverse patient outcomes include medication errors, infections, ulcers and patient falls, which can lead to an increase in the length of stay in hospitals, return visits to hospitals and doctors' offices, and patient mortality rates. If a single short-staffed shift is problematic, then countrywide shortages could cause an epidemic.

Human suffering is self-evident and reason enough to fear a shortage, but the monetary costs from mistakes are also staggering. The Center on Medicare and Medicaid Services calculated the cost of "hospital acquired conditions" and found that these add up to $22 billion annually, roughly 5.8 percent of the programs' hospital expenditures. The average adverse-event cost is almost the same as the median income for a nurse, $60,960.

Assuming that 5.8 percent is true for all patients (i.e., not just Medicare/Medicaid patients), then the total expenditure for hospital-acquired conditions is $44 billion nationally and $1.05 billion in Virginia.

In addition to the problems we can already see, a systemic nursing shortage would cause longer wait times to receive service, as health care facilities simply become unable to accommodate all incoming patients. This could cause prospective patients to look elsewhere for health care services, or reduced capacity elsewhere could cause patients from other locales to come to Hampton Roads and strain our health care resources. The United States typically has traded faster service for higher prices in the health sector, but with a shortage we may be left with only the higher prices.

None of this means we should start hiring as many nurses as possible right now or that more nurses are always better. Rather, this indicates that the stakes are high if Hampton Roads does face a nursing shortage in the coming decade. Currently, health care facilities can solve staffing problems with shift adjustments and a few extra hires. However, a shortage of a few hundred or few thousand nurses across the region would exacerbate these problems and be daunting to solve quickly due to education lags and increased competition for nurses in rival facilities. This issue is worth discussing because the consequences of not being prepared could be dire.

Nursing Supply

Predicting the supply of a profession is notoriously difficult (note the big swing in the national projections from earlier), so we are going to look at the three main determinants of the quantity of nurses supplied: wages, program graduation rates, and retirements and migration.

The average real wage for registered nurses in Hampton Roads rose from $64,000 in 2007 to $67,000 in 2010, then declined to $60,800 in 2013. For the lowest 10 percent of the wage distribution, real income has steadily declined since 2008 and is at $43,200 currently. Nurses have lost a real dollar from their hourly wages since 2007, from $30.50 to $29.39 per hour. These results are largely consistent with Hampton Roads wage data for dental hygienists, office support staff, education and library employees, and sales professionals. Despite the near-zero nursing unemployment rate, the downward-wage pressure points to labor market slack. If the average wages are falling because high-wage individuals are working less or retiring, then we might expect low wages (the bottom 10 percent) to increase to attract more new workers. The opposite is happening. As long as nursing wages are not rising, there is less incentive for more nurses to keep working or for potential nurses to enter our market.

Let's now look at new nurse production. Using National Council Licensure Examination data over the last five years, on average the Commonwealth each year has 3,300 successful examinees (average pass rate of 86 percent) and Hampton Roads has about 711 who pass the test (average pass rate of 82 percent). The DHP, in its total license report, notes that 29,800 licenses were issued over the last five years; however, among renewing licensees in the DHP survey, we only see 20,900 survey respondents reporting that they were licensed in that period. This discrepancy could be from workers dropping out of the nursing workforce, moving and renewing with a different state, or just not responding correctly. Using the group that continues to be licensed, 14,200 responded that they received their nursing education in Virginia.

This means that although 71.6 percent of nurses were trained in the Commonwealth, about 85 percent of the nurses trained in Virginia likely decided to stay locally. For Hampton Roads, about 70.4 percent were trained in Virginia. Given that over the last five years 2,700 local nurses were trained in Virginia and that Hampton Roads graduated 3,600 nurses, potentially 77 percent of our nurses have remained in the area. We need more demographic information to be certain of these numbers, but this is a good indicator that our region supplies most of its nursing needs.

Of all the supply considerations, retirement expectations worry industry watchers the most. In Graph 1, the expected retirements by five-year period are presented for full study. Cumulatively, about 12 percent of the current nursing workforce expects to retire in five years, 26 percent in 10 years and 50 percent in 20 years. The five-year spans with the most retirements are the 2020-25 and 2025-30 periods for all areas.

This may seem very sudden and a little scary, so let's digest the information. First, we do not have much historical data to see if retirements are accelerating or not. In 2013, statewide only 10 percent of the nursing workforce indicated plans to retire in five years. However, in 2010, more than 20 percent indicated plans to leave the profession in five years when responding to a differently phrased version of the question. Perhaps this amount of turnover is more common than we think. Nurses typically begin decreasing work hours after turning 55, and after 60 they work the fewest hours of all other workers, based on DHP calculations. We cannot be certain that all workers will wait to retire until 55, but over 90 percent of nurses have indicated they expect this to be true. **Virginia and Hampton Roads face a 15-year critical period of elevated turnover from about now until 2030. Virginia will need to replace about 27,750 nurses and Hampton Roads about 6,130, approximately 39 percent of current nurses for each group.**

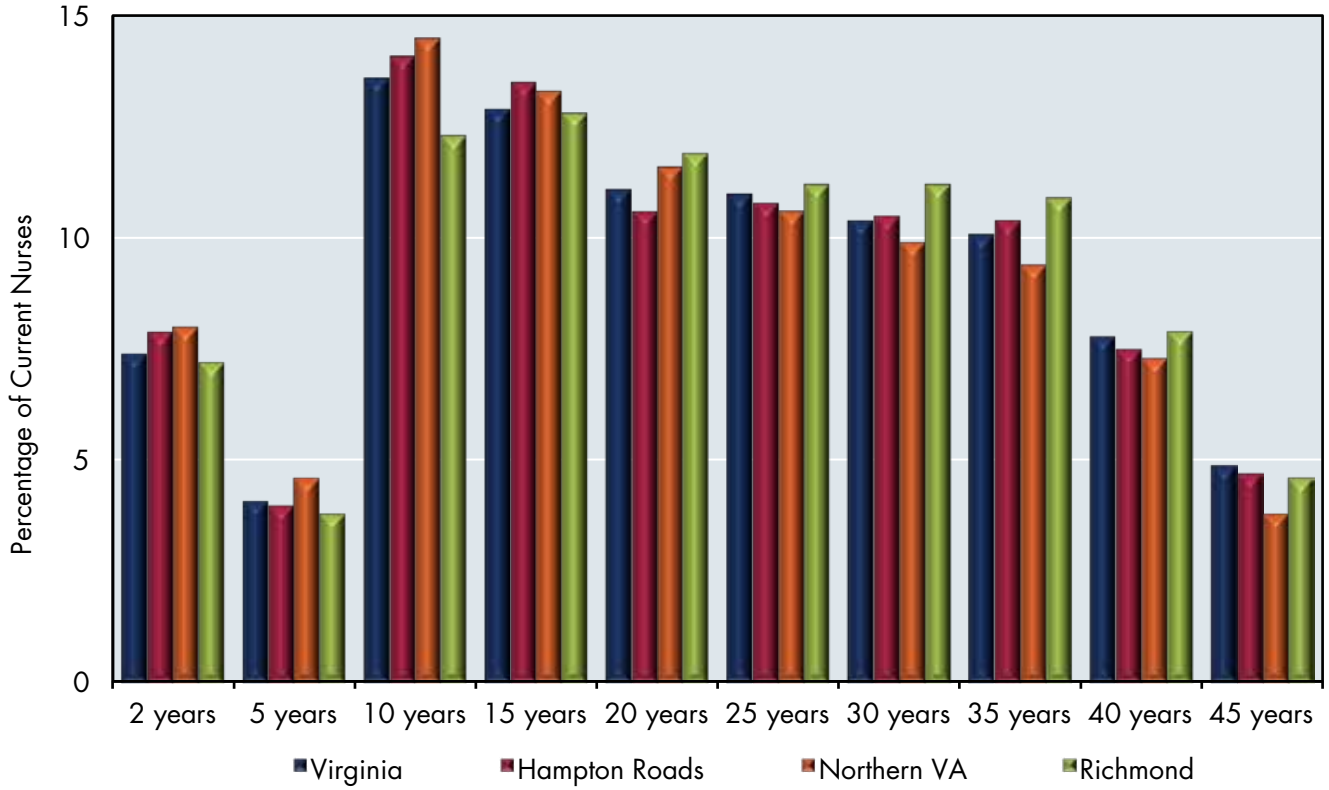
However, in the most recent five-year period, Virginia graduated 16,580 nurses, including 3,557 from Hampton Roads. As long as we do not lose any nursing schools (and none of them shrink), we can roughly expect to produce about 49,700 nurses in Virginia and about 10,700 locally over the next 15 years. Obviously, not all nurses will stay local or even in the profession, so using a conservative estimate of Virginia nurses who stay local and working, say 65 percent, we can expect that about 32,300 nurses will remain in Virginia, including 6,900 in our region. **Thus, our nurse supply estimates for Hampton Roads, based on retirements and local graduates, are 15,981 in 2020, 16,322 in 2030 and 17,619 in 2040. The big increase in the last decade comes from slowing retirements.**

Luckily, our area attracts nurses from other states and even other countries; more than 1,000 in the past five years have moved to our region. If we add a constant amount of "imported" nurses, say 1,000 every five years, to our local-only supply, then we have the following for an open-supply estimate: 16,981 in 2020, 19,322 in 2030 and 22,619 in 2040. The local and open-supply values are presented in Table 5 and Graph 2.

The takeaway: We should be able to manage the retirements if our nursing schools are filled *and* we make it worthwhile for our nurses to stay local. We have the structure in place to maintain the status quo. Though, just to make this clear, we are not saying we should only employ local nurses; rather, we are pointing out that our region produces enough nurses to handle the critical period of retirements. Once we acknowledge a mobile labor pool exists from other states and countries, we can see that we are even better positioned to replace retiring nurses. However, the status quo will go out the window with the heightened demand that is coming, which is the topic we take up next. To meet the new demand, we will need some combination of nurse imports and an expansion of our nursing programs.

GRAPH 1

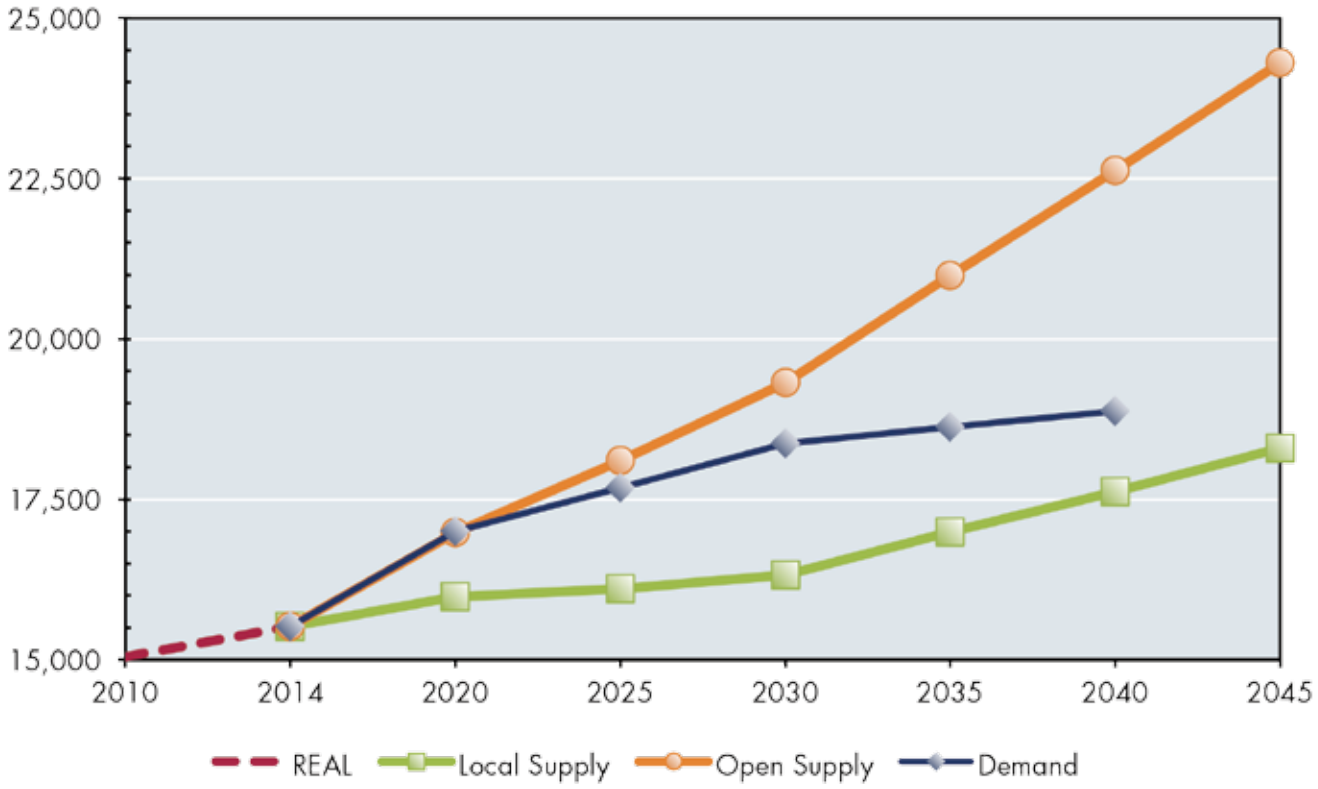
EXPECTED NURSE RETIREMENTS, 2014



Source: American Association of Colleges of Nursing, www.aacn.edu

GRAPH 2

PROJECTED SUPPLY AND DEMAND FOR HAMPTON ROADS NURSES



Source: Center for Economic Analysis and Policy, Old Dominion University, based upon American Association of Colleges of Nursing data

Nursing Demand

Now let's estimate the number of nurses our area will demand as various factors change over the next 20-25 years. But first, we need to think about what influences nursing demand and how we can measure this. **Our basic framework is that nursing demand rises with the population count and the populace's average age, but decreases as health care costs rise.**

We believe our framework is fairly self-evident, but to satisfy some burden of proof, we present some supporting information. We use standard age groups for our analysis: the young (those under 18 years), adults (those 18 to 64) and the elderly (those 65 and older).

When we make our predictions about the future, we will use the population projections by the Weldon Cooper Center's Demographics and Workforce Group. By 2030, they project that the Commonwealth population will increase by 20 percent and Hampton Roads by 12 percent. **For Virginia, the young population will grow by 15 percent, the adults by 10.8 percent and the elderly population by a staggering 80.9 percent. For Hampton Roads, the young population will grow by 3.6 percent, the adults by only 0.9 percent and the elderly by an even greater 89.5 percent.** The age group proportions for our area will go from 26.8 percent to 24.8 percent for the young, 61.7 percent to 55.6 percent for adults, and 11.5 percent to 19.6 percent for the elderly. We believe the shifting age demographics will cause the "average level of health" to decrease, so we expect an increase in demand for nurses. This is probably not a surprise, but seeing the numbers will help tune our understanding. For our area, the portion of nurses who primarily treat adults is 38 percent, followed by 15 percent for the elderly and 13 percent for the young, with the rest reporting equal time among groups. Using a quick "nurse time"-to-population ratio, adults use 0.62 and the young use 0.49 "units of nurse time," while the elderly use 1.30 units. Once the elderly population reaches 19 percent of the populace, around 25 percent of nurses might need to be devoted to elder care.

Another factor that may increase demand can be found in the Patient Protection and Affordable Care Act of 2010, widely expected to continue to increase insurance coverage and lower health care costs. We have no desire to debate the finer legal points or to issue definitive statements on its outcomes. For better or worse, we simply believe it will affect the area. From October 2013 to February 2015, more than 384,000 Virginia residents signed up for coverage under the federal marketplace, as Virginia chose not to establish its own state exchange. Hampton Roads and Richmond each had 64,000 signups (16.6 percent of the state total) and Northern Virginia (including Jefferson County, W.Va., due to reporting methods) had 151,000 (39 percent). With some back-of-the-envelope calculations, the Virginia and Hampton Roads uninsured rate could have fallen from 12 percent in 2013 to 8 percent now for each area. For Richmond, the rate could be about 7 percent and for Northern Virginia between 6.5 percent and 7 percent. This represents about a one-third decrease in the uninsured. In 2012, the Kaiser Family Foundation issued a report authored by members of the Urban Institute that projected Virginia uninsured numbers falling by 50 percent if all states adopted Medicaid expansion and 30 percent if no states adopted. Given the mix of state decisions, our quick numbers corroborate their projections.

Insurance is important for health care demand because it dramatically decreases the cost to consumers. As more people obtain health coverage, more of the population is willing *and able* to consume more health care services. Thus, the Affordable Care Act's (ACA) increase in coverage should lead to more demand for nurses. However, the aspiration of the law is to help people seek preventive care rather than more expensive reactive care. If the ACA succeeds in increasing coverage, then nursing demand might decrease because people will be in better health. Nevertheless, in the short run, we expect increased coverage to increase health care demand.

A way to quickly check our framework is to compare ourselves to areas right now. We have calculated MSA group averages based on the variables discussed above, to see how Hampton Roads compares, using BLS and ACS data from 2012. Table 3 has many different avenues we could discuss, but rather than traveling each one, we will simply point out some helpful facts.

TABLE 3

COMPARING HAMPTON ROADS TO OTHER METROPOLITAN AREAS

MSA Groups	Count	POP	RNs	Avg RN Income	% Elderly	Male Unemployment Rate	Uninsured Rate	Poverty Rate	LO.Q.	RN/ POP	RN/ Elderly
Hampton Roads		1,706,816	12,840	$61,333	12.6	7.9	11.5	13.1	0.88	0.75%	5.97%
All MSA Avg	395	491,879	6,498	$65,193	14.2	8.8	14.1	16.8	1.14	1.32%	9.29%
Pop > 1Million	27	2,459,299	21,427	$69,840	12.7	8.2	13.4	14.3	1.02	0.87%	6.87%
High Avg RN Income	70	970,140	13,927	$83,695	13.9	10.6	14.1	15.3	1.07	1.44%	10.32%
Low Avg RN Income	70	236,743	2,174	$54,230	14.3	8.1	14.1	17.2	1.12	0.92%	6.44%
Near HR Avg RN Income	118	434,934	4,206	$60,431	14.8	8.6	13.8	16.5	1.16	0.97%	6.54%
High Elderly Portion	57	316,706	2,999	$62,232	19.3	10.7	14.2	16.5	1.24	0.95%	4.92%
Low Elderly Portion	65	780,565	6,410	$67,855	10.4	8.0	16.0	18.2	1.01	0.82%	7.87%
Near HR Elderly Portion	23	576,490	5,608	$67,600	12.5	7.3	12.7	15.1	1.03	0.97%	7.77%
High Male Unemployment Rate	58	331,246	2,458	$67,585	15.9	13.6	16.8	19.5	1.16	0.74%	4.66%
Low Male Unemployment Rate	58	353,440	3,345	$60,435	12.5	4.8	13.1	15.3	1.14	0.95%	7.55%
Near HR Male Unemployment Rate	32	612,723	5,972	$65,978	13.1	7.9	12.8	15.9	1.17	0.97%	7.45%
High Insurance Coverage	79	491,725	5,954	$64,313	14.4	7.2	7.8	13.4	1.17	1.21%	8.38%
Low Insurance Coverage	79	514,961	4,350	$64,752	13.8	9.9	21.2	20.3	1.06	0.84%	6.13%
Near HR Insurance Coverage	17	885,015	6,935	$63,648	14.0	8.0	11.5	15.0	1.07	0.78%	5.58%
High LO.Q.	71	255,520	3,813	$62,419	15.5	9.0	14.2	17.6	1.63	1.49%	9.64%
Low LO.Q.	72	475,937	4,534	$66,214	12.2	8.2	15.1	17.2	0.76	0.95%	7.79%
Near HR LO.Q.	33	516,058	6,089	$68,106	12.7	8.5	13.8	16.9	0.88	1.18%	9.28%

Source: BLS, ACS 2012 -2013
BLS nurse amount differs from DHP, as discussed earlier.
LO.Q. is Location Quotient, compares area nurse employment to national average.
"High" = Top 20%; "Low" = Bottom 20%; "Near HR" = +/ – 3 units from Hampton Roads current.

Hampton Roads employs a higher-than-average amount of nurses yet pays below average – $8,000 less than other large MSAs. Comparing high-paying areas to low-paying ones, the higher-paying areas employ more nurses *per capita and per elderly person*, but the lowest-paying areas do not differ that much from the more-average-paying areas. Perhaps nurse pay is not a major determining factor in nurse location outside of the top areas. However, while we pay less, our poverty, uninsured and male unemployment rates are lower than many other areas. Interestingly, areas with large populations of elderly residents have a lower *nurse per elderly person* rate than other areas, when we would expect the opposite. If elderly people need more health care, why do areas with high concentrations of elderly residents have relatively fewer nurses? Perhaps the elderly require more health assistants and specialist physicians, but not more nurses. Alternatively, these areas could provide health care more efficiently because they have adapted to their elderly clients. While we are confident that the aging of the population will have an effect, we should not assume the effects will be catastrophic or that we cannot adapt to a larger elderly population. A location quotient (LO.Q.) below 1 indicates an area has a smaller nursing sector than would be expected, based on national averages. MSAs have on average 14 percent more nurses than expected, but we have 12 percent fewer. One possible explanation is that our area has a more diversified economy (i.e., all levels of government and shipbuilding, plus the usual sectors), which could disrupt this value since we have more sectors in our economy.

So will Hampton Roads need more nurses?

Yes.

How many?

That is harder to answer.

We know that population increases, demographic changes, insurance expansion and cost changes will move in such a way that we will need more nurses. Using metropolitan area data from 2007 to 2012, plus the projected demographics changes, we have quantified some of the relationships discussed above for Hampton Roads' future nursing needs to answer how many.

In Table 4, we calculate how the three primary variables will affect our nursing requirements. **Population has a 5:2 relationship with nurses, so for every 5 percent increase in population we will need 2 percent more nurses. By 2040, we expect the population to increase by 17 percent, so roughly we will need slightly more than 1,000 more nurses due only to population growth. The elderly portion of the population has a 5:1 relationship. Given that this group will almost double, we expect to need about 2,000 more nurses by 2040. The uninsured relationship is actually the largest at 5:3, but since there isn't much room for the uninsured rate to decrease, this might not cause too much change in nursing demand. If the uninsured rate decreases by 10 points, then we believe this could raise our nursing requirements by another thousand.** We found other relationships that increase or decrease our nursing needs, but the above were the most prevailing relationships.

We predict that Hampton Roads, based on current estimates, will demand 10 percent more nurses by 2020, 18 percent more by 2030 and 22 percent more by 2040. Based on DHP reported nurses, this will take our area from 15,514 to about 17,000 nurses in 2020, about 18,371 in 2030 and about 18,880 in 2040.

Supply and demand estimates are shown in Table 5 and in Graph 2. Using our estimate of 65 percent staying local (about 460), our area will face a "local" shortage for the next 15 years. We would need more than 85 percent to stay in the area to not face a shortage. Again, Hampton Roads cannot meet its demand using only local nurse production. But, once we allow nurses from other areas to fill positions, we can easily meet demand. If we hire 200 out-of-area nurses every year (1,000 every five years), then we are near equilibrium until 2030, when we begin to have large surpluses due to decreasing retirements. This is why we say Hampton Roads is well positioned for the future. **As long as our nursing programs remain**

healthy and our area remains attractive to job seekers, we should not face any major hardships due to the increased demand for nurses.

Remember, these values depend on the projections we have been discussing and the assumption that certain economic characteristics of our area remain stable over the next 20-25 years. If the elderly population somehow decreases or a shift in military presence occurs, then these projections would change dramatically. Finally, the model assumes that we will employ nurses exactly the same way for the next 20 years, which we believe is unlikely and unwise.

TABLE 4

THE RELATIONSHIP BETWEEN DEMOGRAPHICS AND REGISTERED NURSES IN HAMPTON ROADS

Current Amounts		
RNs	15,514	–
Population	1,716,624	–
Elderly Population	216,295	12.6%
Uninsured Population	214,578	12.5%
Population	**Change**	**RNs Needed**
1% Increase	17,166	63
15% Increase	257,494	949
Elderly Portion		
Increase to 15%	2.4%	616
Increase to 20%	7.4%	1,913
Uninsured		
Decrease to 7%	-94,414	542
Decrease to 2%	-180,246	1,034

Source: ACS 2014 and 2013, DHP 2015, SOTR Estimates 2015

TABLE 5

HAMPTON ROADS NURSING SUPPLY AND DEMAND PROJECTIONS

	Local Supply	Open Supply	Demand	Net Local	Net Open
2015	15,514	15,514	15,514	0 0	
2020	15,981	16,981	17,000	-1,019	-19
2025	16,102	18,102	17,685	-1,584	416
2030	16,322	19,322	18,371	-2,048	952
2035	16,988	20,988	18,625	-1,637	2,363
2040	17,619	22,619	18,880	-1,260	3,740

Local Supply: expected retirements + predicted new local nurses
Open Supply: local supply + 200 imported nurses per year
Demand is estimated using MSA trends from 2007 to 2012

Concluding Remarks And Policy Implications

We now present options for confronting the coming increase in nursing demand. These options are viable and practical, whether one believes that we have grossly underestimated or overestimated the future supply and demand. If we are underestimating our need, then use multiple options and go big. If we are overestimating, these options are still useful because they do not harm our area or the nursing market. Note that none of this is new thinking, and versions of these options are already being pursued. We are simply presenting the ideas worth considering going forward.

The **first** option is the easiest: Make nursing more desirable. Either increase the benefits of a nursing career or reduce the cost. The economic way to deal with a worker shortage is to increase the wage, as increasing wages communicates to the market a need for more nurses. However, as we found, high wages are not the strong signal we would expect. Higher wages may be more likely to convince local students to stay and outside nurses to enter only if they are already considering the area.

An alternative to higher wages is to decrease the cost of becoming a nurse through educational subsidies. From a nurse's point of view, or that of a business, this may be almost as good if not better. Businesses may like this because they are agreeing to a specific time of service rather than committing to a career's length of higher pay. Similarly, nurses could reduce their debt burden, allowing them more financial freedom. In Hampton Roads, 68 percent of all nurses under age 40 are paying off educational debt. Providing debt relief for continued service may keep current nurses working longer and future cost relief may lure more nurses to our area. This is probably the tactic that has been most widely used in the past, because it seems to work. The strategy, while effective, has an obvious delay in that prospective nurses must still go through a two- or four-year process to realize the payoff. If this strategy is to be used, then it must start soon and be maintained for a decade or longer.

However, employers can make the job better in other ways, such as improving worker safety; offering flexible hours (especially for parents), stress reduction programs and social and recreation activities; and encouraging increased communication with management. Services that let nurses know they are valued, such as providing balanced meals for those who work over a certain number of hours per week, could vastly improve worker morale. Creating a "happy" work environment is important no matter the job. These approaches will not solve a nursing shortage, but can help an individual facility maintain nurses (and certainly make nurses happier).

Second, invest in local nursing programs so that we will be able to produce more nurses. This investment could provide grants for more teaching space and/or more instructors to expand class capacity. Nursing programs consistently turn down many qualified applicants because of lack of space in their programs. A major one-time investment for expansion could permanently increase our output potential. Once larger, the programs should become self-sustaining via increased tuition. Such a grant would likely need to come from either wealthy donors or governments, as education administrators are unlikely to invest for fear of overcapacity and lack of will to spend heavily on nursing programs. Expansion grants should be available both to those taking traditional nursing routes *and* to individuals with LPN licenses and nurse assistants taking advancement programs. Most nurses will come from traditional degree programs, but by promoting LPN to RN advancement programs, we strengthen the social ladder and increase the diversity of experience for nurses.

We do not think that the solution is a continuous subsidy to nursing schools. Investing to expand programs is not the same as giving them an allowance. The goal is to allow programs to admit more qualified applicants, not provide a stream of funding so programs do not need to compete for applicants.

Third, keeping the education-to-employment pipeline clear should be a priority. Employers should be explicit in communicating their expected need for nurses, especially to nursing schools. Retirements can easily be anticipated and immediate demand can be calculated by employers, so there is no reason not to be open with education programs or the

Commonwealth's employment commission. About a third of nurses say they plan on increasing their education over the next two years, presumably for some level of career advancement. Employers should track career goals to identify those planning on retiring and hoping to advance. In an ideal world, employers would communicate directly with their staff about expectations, then announce their anticipated job openings to nursing programs. Already, nursing programs have practical components where students work at health care facilities, so a dialogue is clearly possible. Still, such communication is difficult and many people are uncomfortable being upfront with career goals. Clearer communication between the main suppliers and employers of nurses can only be a good thing.

Fourth, our predictions show that Hampton Roads must import nurses to help meet its demand, so local employers need to reach out to job seekers in other areas. This can be as simple as fostering contacts in out-of-area nursing schools. Employers will need to be proactive about hiring nurses, especially if other areas also expect shortages similar to ours. This suggestion to advertise open jobs is the least groundbreaking, but based on our estimates it could be the most important.

Finally, if we believe we will face a sea change in health care because of population dynamics, then we should rethink how service is provided. The biggest obstacle to overcoming problems is assuming the current way is the only way forward. Promote workplace innovation; reward suggestions that work. Many ideas will be bad, but do not let that stop the search for the good (or at least the *better than it was*). Of course, having said that, economists do not have the answer to what employers should do (for once!). Some suggest giving nurses more control over staffing decisions, increasing LPN responsibilities to distribute the workload or shifting more work to machines rather than humans. If the problem is that we might not have enough nurses, then the best solution may be the one that does not require more nurses to implement.

Over the next 15 to 20 years, Hampton Roads will undergo major demographic changes that will touch upon different aspects of our community. In health care, these changes will affect both supply and demand. Demand is expected to increase as the population both grows and ages, as insurance coverage increases to near universal levels and, inevitably, as health technology makes health care more available. However, the large baby boom cohort of nurses is set to retire in the next 15 years with no large group to follow them, and there is little immediate indication that nursing schools will expand in time to replace these nurses and fill demand.

Luckily, our area is in a good position to face the coming market changes. We produce enough local nurses that the retirements should not be a problem if graduation rates stay constant. However, we will either need to entice nurses from other areas or expand our nursing school capacity by a few hundred to meet the new demand. We benefit from several advantages, including a healthy economy, a favorable geographic location and a constant influx of individuals who call Hampton Roads home.

The Economics Of Casino Gambling In Hampton Roads

THE ECONOMICS OF CASINO GAMBLING IN HAMPTON ROADS

Since the 1990s, legalized gambling has spread across the United States, with a majority of state governments sponsoring lotteries and hosting commercial or tribal casinos. Despite concerns of "market saturation," the casino industry continues to expand, particularly in the Northeast. In 2014, commercial casinos earned revenues of around $39 billion, while tribal casinos netted another $29 billion (David Schwartz, Center for Gaming Research, University of Nevada, Las Vegas).

Virginia is among those states that have not taken the casino plunge. However, with casinos well established nearby in West Virginia, Maryland, Delaware, Pennsylvania and New Jersey, many Virginians have easy access to legalized gambling venues. However, Virginia also sits at the northern edge of a region in which casinos are rare. Very limited opportunities for legal casino gambling exist in Kentucky, Tennessee and North Carolina. Consequently, concerns over "market saturation," perhaps illustrated by the closure of four casinos in Atlantic City in 2014, are not necessarily relevant to the issue of potential casinos in Virginia.

In recent years, there have been discussions of bringing casino gambling to Virginia; the most common proposal has been to build a casino in Hampton Roads. Despite the recent failure of a proposal in the state Senate to create a gaming commission, there is likely to be continuing discussion focusing on the introduction of casinos in Virginia.

Background

The introduction of casinos nearly always is a controversial topic. Despite apparent economic benefits, such as tax revenues and employment, there are also potential costs, including problem gambling, increased crime and negative impacts on competing industries. Many of these issues were addressed in a 2013 report jointly authored by the Hampton Roads Transportation Planning Organization and the Hampton Roads Planning District Commission.

The HRTPO/HRPDC report relied upon a variety of sometimes questionable assumptions concerning how many customers would be attracted to a new Hampton Roads casino and debatable assumptions concerning likely spending per patron, estimated casino revenues and casino taxes. The report also provided estimates of the number of jobs that a casino would create, plus the contribution of a new casino to gross regional product and regional personal income. The report further estimated that there were approximately 500,000 potential customers for a Hampton Roads casino and they would spend an estimated $210 million to $600 million per year in and around the casino. Using a mid-range estimate of $375 million in casino revenue and a moderate casino revenue tax rate of 30 percent, the study estimated casino tax revenues of about $113 million per year.

The HRTPO/HRPDC study additionally estimated that a casino operation in Hampton Roads that employed 2,000 people could increase overall regional employment by 2,000 to 2,500 jobs, and supplement regional gross product by between $78 million and $107 million per year. Such estimates are based on previous studies of casinos in similar regions, but there is little evidence of how reliable the estimates are.

The Regional Casino Market

Casino gambling is available in many states to the west and north of Virginia. Racetrack casinos exist in West Virginia, and five casinos have opened in Maryland since 2010. In 2016, a new casino, MGM National Harbor, will open in Prince George's County, Md., which will be very convenient to residents of Northern Virginia. Figure 1 locates the casinos that currently operate in the mid-Atlantic region. The Hampton Roads area, represented by the star, is relatively isolated from casino gambling opportunities. The closest casino is the Ocean Downs racetrack casino at Berlin, Md. (about 130 miles from Virginia Beach).

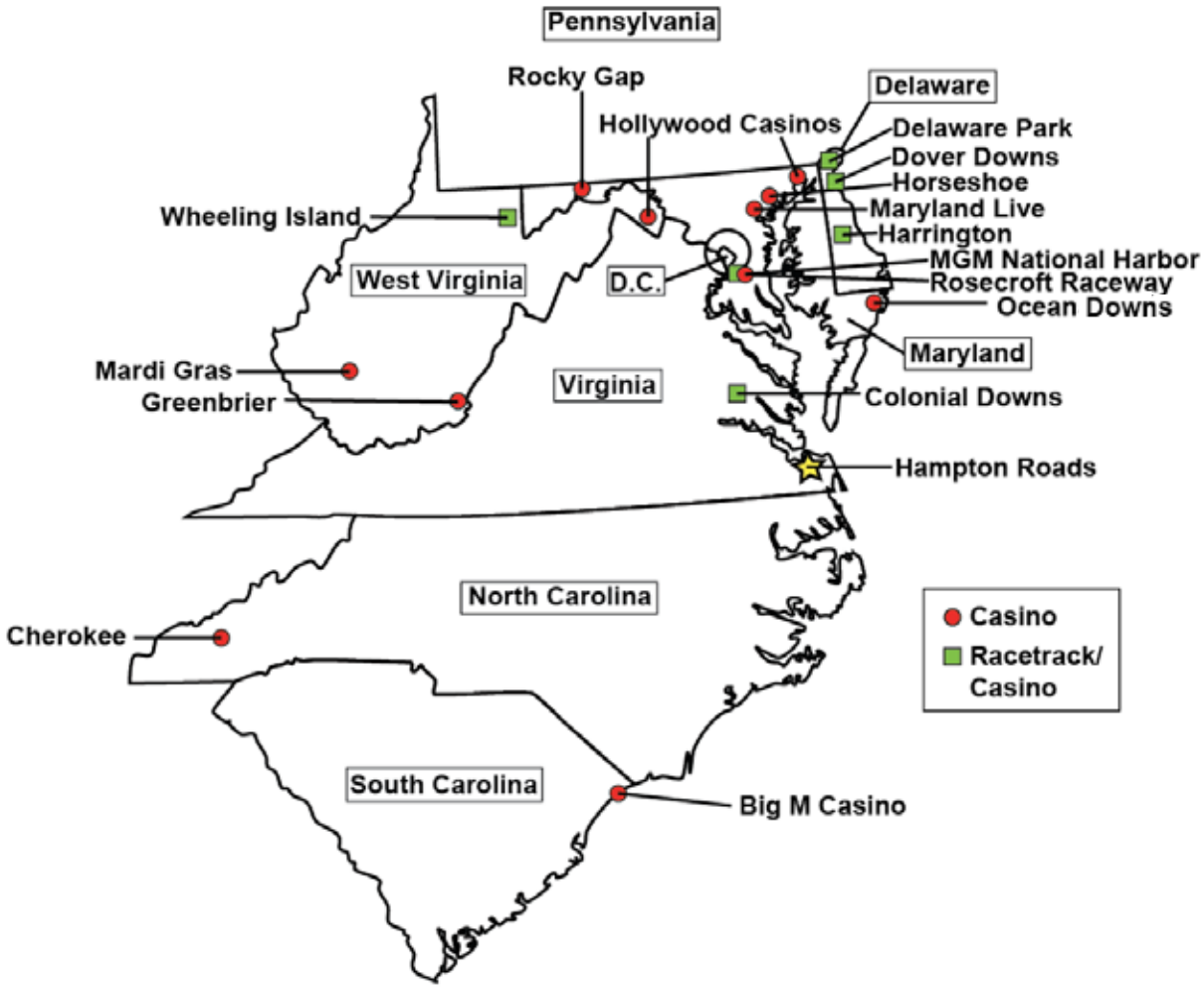
A casino located in Hampton Roads would serve residents of the immediate area and possibly Richmond. Richmond is about 105 miles from National Harbor and 60 miles from Newport News. It is difficult to predict which casino might be more attractive to Richmond residents. On one hand, the MGM National Harbor casino would be bigger than a casino in the Hampton Roads region, but perhaps traffic would be less of an issue for a casino in our region.

Table 1 lists the casinos and racetrack/casinos from Figure 1 that are within 250 miles (roughly a maximum four-hour drive) of Portsmouth. The table also lists the number of machine and table games available at each location. Given the location of Hampton Roads relative to Richmond, it further shows the distance of each casino to Richmond. A casino in Portsmouth would be about 90 miles from Richmond, or about a 90- to120-minute drive.

While there are casino gaming opportunities north of Virginia, the opportunities to the south and southwest are limited. Because of this, opportunity does exist for a casino in southeast Virginia to attract patrons from North Carolina and South Carolina.

FIGURE 1

MID-ATLANTIC CASINOS



Source: D.M. Walker, College of Charleston

TABLE 1

CASINOS AND RACETRACKS/CASINOS WITHIN 250 MILES OF HAMPTON ROADS

Property Name	Location	Racing Type	Number of Gaming Machines	Number of Table/Poker Games	Distance from Hampton Roads (miles)	Drive Time from Hampton Roads	Distance from Richmond (miles)	Drive Time from Richmond
Colonial Downs	New Kent, VA	Harness, Thoroughbred	n/a	n/a	74.3	1 h 17 m	26.4	27 m
Ocean Downs	Berlin, MD	Harness	800	n/a	138	2 h 27 m	221	3 h 37 m
Harrington Raceway	Harrington, DE	Harness	1,800	51	176	3 h 9 m	198	3 h 5 m
MGM National Harbor	Oxon Hills, MD	n/a	3,600	150	195	2 h 58 m	107	1 h 37 m
Rosecroft Raceway	Fort Washington, MD	Harness	n/a	n/a	200	3 h 3 min	109	1 h 39 m
Dover Downs	Dover, DE	Harness	2,600	58	200	3 h 33 m	205	3 h 16 m
Maryland Live	Hanover, MD	n/a	4,332	177	227	3 h 30 m	137	2 h 10 m
Horseshoe	Baltimore, MD	n/a	2,500	147	237	3 h 38 m	146	2 h 17 m
Hollywood	Charles Town, WV	Thoroughbred	2,700	124	237	3 h 49 m	147	2 h 30 m
Delaware Park	Wilmington, DE	Thoroughbred	2,540	88	241	4 h 5 m	211	3 h 17 m

Sources: www.casinocity.com; MGM National Harbor expected data from www.worldcasinodirectory.com
Note: The Greenbrier is within 250 miles and has a casino. However, one must be a guest to play there.

Economic Impact of Casinos

The most commonly discussed economic impacts of casinos include earmarked tax revenues, impacts on employment and wages, and effects on other firms and industries.

TAX REVENUES

One of the most important reasons that policymakers are attracted by casinos is potential tax revenue. Let's review the literature to see what we might anticipate in Hampton Roads.

While the available evidence suggests that, on average, the introduction of a casino will lead to increases in overall tax revenues, the relationship is not as strong as one might imagine. Many regions have experienced only modest net increases in overall tax revenues because spending in casinos often displaces spending that would have occurred for other goods and services. In other words, although overall tax revenues may increase because of the introduction of a casino, we should also expect certain other sectors of our economy to be negatively impacted by a casino. However, these negative effects would be smaller if a casino attracted a large percentage of its patrons from outside Hampton Roads.

Why are politicians often adamant in their support for casinos as a tax revenue tool? One possible explanation is that casinos provide a large political benefit to policymakers. It may be easier to increase casino taxes than it is to raise income, sales or property taxes.

The introduction of casinos in a state may also result in "import substitution." This boils down to casinos keeping Virginia money in Virginia. Rather than spend money out of state, Virginians spend that money within the Commonwealth.

Whatever the actual economic impact of casino taxes, they are the major argument used by the industry and supporters in promoting the legalization and expansion of the casino industry. As casinos have spread across the country, some states (examples include Delaware and Indiana) actually have been considering lowering the tax rates on casino revenues due to increasing regional competition. Thus, it is unclear whether casinos in any particular state will continue to have the fiscal stimulus effect they may have had in the past. Some regions of the country are approaching saturation in terms of the number of casinos.

It is difficult to estimate how much revenue a Hampton Roads casino might earn each year. The amount depends on the local population, the volume of tourism, the size of the casino, and how much individuals spend at the casino, among other factors. However, we can provide a rough estimate by looking at a similar market – Kansas City, Missouri.

The population of the Kansas City metropolitan area is about 2 million people. Total casino revenues in Kansas City were just above $700 million in 2010. Annual per capita casino spending was roughly $350. Clearly there are differences between Kansas City and Hampton Roads (for example, Kansas City has several casinos and they have been operating for several decades). Nonetheless, if we assume conservatively that a Hampton Roads casino would result in per capita spending of $250 per person, then with a regional population of about 1.7 million, the annual estimated casino revenues for a casino here would approximate $425 million.

To the extent that residents from outside our region (for example, from North Carolina or Richmond) might be interested in gambling at a Hampton Roads casino, actual revenues would be higher.

It is relatively simple to predict casino tax receipts. Table 2 provides tax revenue estimates for Hampton Roads under different assumptions. Most states apply tax rates ranging from 20 percent to 30 percent of casino revenues, although there is great variance – some as low as 6 percent and some as high as 70 percent.

TABLE 2 ESTIMATED ANNUAL CASINO TAX RECEIPTS			
Annual Casino Revenues	**Tax Rate on Casino Revenues**		
	20%	30%	40%
$350 million	$70 million	$105 million	$140 million
$425 million	$85 million	$127.5 million	$170 million
$500 million	$100 million	$150 million	$200 million
Source: D.M. Walker, College of Charleston			

A reasonable estimated range of casino taxes that might be raised from a Hampton Roads casino is $70 million to $150 million. This range assumes modest casino revenues and average casino tax rates.

Nonetheless, to the extent that casino expenditures reduce other expenditures, we must subtract lost sales tax revenue because of decreased spending on other goods and services. **If a dollar spent at the casino represented one dollar less spent at the Patrick Henry Mall, or at the Virginia Beach oceanfront, then there would be no net new tax collections at all. The key, then, would be to attract gamblers from outside of Hampton Roads.**

EMPLOYMENT AND WAGES

Casino proponents point to local employment as one of the key economic benefits of casinos. It is true, of course, that a large casino resort is labor intensive to build and to operate. Hence, it would be surprising if casinos did not have a positive impact on local employment. If casinos create enough jobs to stimulate demand in the local labor market, then they could also have a positive impact on wages.

As with casino taxes, one concern about the employment impacts of casinos is whether casino jobs come at the expense of other local businesses. Several studies have examined this "substitution effect" with empirical evidence. The majority of studies have found at least modestly positive employment and wage effects from casinos. One study on employment and payrolls in several Mississippi counties found that …

> *"the legalization and subsequent development of casino gaming did not drive all the local restaurants out of business. Casinos did not cause the predicted drop in the number of businesses, nor the drop in people employed, nor the drop in payroll. In fact, just the opposite occurs."*[1]

However, a recent Canadian study warns:

> *"The evidence presented in this paper suggests that a skeptical approach be taken regarding the use of employment and earnings gains to justify the legalization or expansion of casino gambling within a locality. Any expectations of new jobs or earnings enhancement should be considered short-term and narrowly-focused within the gambling and hospitality industries. Broad employment and earnings gains in other local industries outside of gambling and hospitality should not be expected."*[2]

University of Connecticut economist Chad Cotti has produced the most comprehensive and authoritative study published dealing with the employment and wage impacts of casinos in the United States.[3] He found positive employment impacts of casinos, but very small or insignificant wage

The "Casino Jobs Machine" sometimes works in reverse. The declining popularity of gambling in Atlantic City, N.J., resulted in a loss of 8,000 casino and related hotel employees by summer 2015.
– USA Today (June 10, 2015)

[1] K. Hashimoto and G.G. Fenich (2003). "Does Casino Development Destroy Local Food and Beverage Operations? Development of Casinos in Mississippi," *Gaming Law Review*, 7, p. 101-109. Other studies that examine the employment and/or wage effects of casinos include: E.P. Morse and E.A. Goss (2007). *Governing fortune: Casino gambling in America*. Ann Arbor, MI: University of Michigan Press.; T.A. Garrett (2004). "Casino Gaming and Local Employment Trends," *Federal Reserve Bank of St. Louis Review*, 86(1), 9-22.; B.R. Humphreys and J. Marchand (2013). "New casinos and local labor markets: Evidence from Canada." *Labour Economics*, 24, 151-160.

[2] B.R. Humphreys and J. Marchand (2013). "New Casinos and Local Labor Markets: Evidence from Canada," *Labour Economics*, 24, 151-160.

[3] C. Cotti (2008). "The Effect of Casinos on Local Labor Markets: A County Level Analysis." *Journal of Gambling Business and Economics*, 2(2), 17-41.

impacts. In a moment, we will use Cotti's estimated employment and wage effects to predict the likely impact of casinos in Hampton Roads.

Cotti collected employment, wage and operating firm count data for 28 quarters (1990-1996) on all counties in the United States, except those in Nevada and New Jersey. There were 161 counties that had casinos open within their borders during this sample period. No distinction was made between tribal casinos and commercial casinos.

Cotti's estimates focused on two types of county-level data. He analyzed "All Industries" in the counties, as well as a subset of industries, categorized as "Leisure and Hospitality." The leisure and hospitality industries include two subsectors, "Arts, Entertainment, and Recreation" (NAICS 71) and "Accommodation and Food Service" (NAICS 72). The former classification includes:

> "(1) establishments that are involved in producing, promoting, or participating in live performances, events, or exhibits intended for public viewing; (2) establishments that preserve and exhibit objects and sites of historical, cultural, or educational interest; and (3) establishments that operate facilities or provide services that enable patrons to participate in recreational activities or pursue amusement, hobby and leisure-time interests."[4]

The Accommodation and Food Services sector includes "establishments providing customers with lodging and/or preparing meals, snacks, and beverages for immediate consumption."[5] One important factor in estimating the likely employment and wage effects of a new casino is the casino-hosting county's population. A casino resort would represent a large business in a county that has a small population, such as a rural county in Virginia. In such a case, the estimated county-level impact of casinos on employment and earnings would be relatively large. Alternatively, a casino resort would represent a relatively small component of the economy in a very populous county (or city), such as one in Virginia Beach, and would therefore be expected to have a small impact on employment and earnings, in percentage terms. Cotti's results bear this out.

[4] http://www.bls.gov/iag/tgs/iag71.htm (accessed March 25, 2015).
[5] www.bls.gov/iag/tgs/iag72.htm (accessed March 25, 2015).

TABLE 3

ESTIMATED LARGE-POPULATION COUNTY EFFECTS OF CASINOS

Sector	Employment Effect	Earnings Effect
All Industries	+ 0.28%	- 0.12%
Entertainment (NAICS 71)	+17.6%	+ 7.89%
Hospitality (NAICS 72)	+ 0.65%	+ 1.1%
Weighted Average of Entertainment and Hospitality Sectors*	+ 3.61%	+ 2.28%

Source: Chad Cotti (2008, p. 34)

When controlling for county size, Cotti found much smaller impacts for large-population counties. The potential casino locations considered in this report for Virginia were Virginia Beach, Portsmouth and Newport News/Hampton. All fall into the large-population county group. The estimated impacts Cotti found for large-population counties are shown in Table 3. These are the estimated employment and earnings effects that would apply to a casino opening in Hampton Roads.

Table 3 reveals that the likely overall impacts on employment and earnings from a Hampton Roads casino are relatively small. However, there would be a modest positive impact on the entertainment/hospitality sector of our economy. These results echo those of the Canadian study quoted earlier.

It is important to note that, according to Cotti's results, there would not likely be any significant employment or wage effects on neighboring counties to the casino county. This means that the modest employment and wage effects shown above are assumed to be confined to the particular county hosting the casino.

Tables 4 and 5 show the projected employment and earnings effects of opening a casino in Newport News/Hampton, Portsmouth or Virginia

TABLE 4 PROJECTED "ALL INDUSTRY" CHANGE IN EMPLOYMENT AND EARNINGS WITH CASINO OPENING						
Jurisdiction	**Employment Effect (Number of Jobs)**			**Earnings Effect (Weekly Wages)**		
	No Casino (2015Q3)	**With Casino (2015Q3)**	**Est. Change**	**No Casino (2015Q3)**	**With Casino (2015Q3)**	**Est. Change**
Newport News/ Hampton	150,972	151,395	423	$877.75	$876.69	-$1.06
Portsmouth	44,098	44,222	124	$932.47	$931.35	-$1.12
Virginia Beach	172,136	172,618	482	$744.60	$743.71	-$0.89
Source: D.M. Walker						

TABLE 5 PROJECTED "LEISURE AND HOSPITALITY" CHANGE IN EMPLOYMENT AND EARNINGS WITH CASINO OPENING						
Jurisdiction	**Employment Effect (Number of Jobs)**			**Earnings Effect (Weekly Wages)**		
	No Casino (2015Q3)	**With Casino (2015Q3)**	**Est. Change**	**No Casino (2015Q3)**	**With Casino (2015Q3)**	**Est. Change**
Newport News/ Hampton	15,206	15,754	548	$288.09	$294.66	$6.57
Portsmouth	2,792	2,893	101	$285.31	$291.82	$6.51
Virginia Beach	30,508	31,609	1,101	$328.67	$336.17	$7.50
Source: D.M. Walker						

Beach. Computed by Douglas Walker of the College of Charleston, these estimates are based on Cotti's weighted average estimates in Table 3 and are shown for the overall city of interest (labeled "All Industry") and for the "Entertainment and Hospitality" sector in each city. Since the most recent city data available are for the second quarter of 2014, the projections assume a casino opened in the third quarter of 2014, and there is a one-time casino effect on employment and wages.

Tables 4 and 5 make it clear that there likely would be a very modest impact on employment – mainly confined to the entertainment and hospitality industries. Plus, there might be a very small earnings effect from a new casino.[6] Most of the job expansion in the entertainment and hospitality sectors would likely come at the expense of other industries. Nevertheless, the new employment would be a benefit.

INTRA-INDUSTRY IMPACTS

Whenever a state or locality is considering the expansion of legalized gambling, it should consider the likely impact a casino will have on other gambling industries. This is because, from the consumer's perspective, one

[6] The projections use each variable's trend, based on average quarterly change from 2003-14. Future values were projected by taking the last same-quarter observation and adding the trend. So, if employment increased at a 0.5 percent rate, and the 2014Q2 employment was 10,000, then we predict the 2015Q2 employment at 10,050, calculated as 10,000*1.005.

type of gambling may be a good substitute for another. That is, a person who routinely purchases lottery tickets now may decide to frequent a new casino rather than buy lottery tickets. Such an effect on a large scale could have a real impact on the state's tax receipts. In Virginia, the only other significant form of legal gambling is the state lottery.

A variety of studies have examined the relationships among different gambling industries, particularly between lotteries and casinos. Most of these studies indicate that there is, in fact, a "substitute" relationship between gambling industries. In particular, the introduction of casino gambling is likely to have a negative impact on lottery ticket sales.

The most recent, and perhaps more "micro-level," analysis of the impact of casinos on the lottery was done in Maryland.[7] The analysis used ZIP code-level monthly lottery sales data in Maryland to determine the impact that casinos have had on lottery sales. It concluded that casinos in Maryland had a negative impact of about 2.75 percent on annual lottery sales. Two additional casinos that will be opening in Maryland are forecast to cause another 2.6 percent decline in lottery sales. Altogether, the six Maryland casinos are predicted to cause a reduction in lottery sales of around 5 percent.

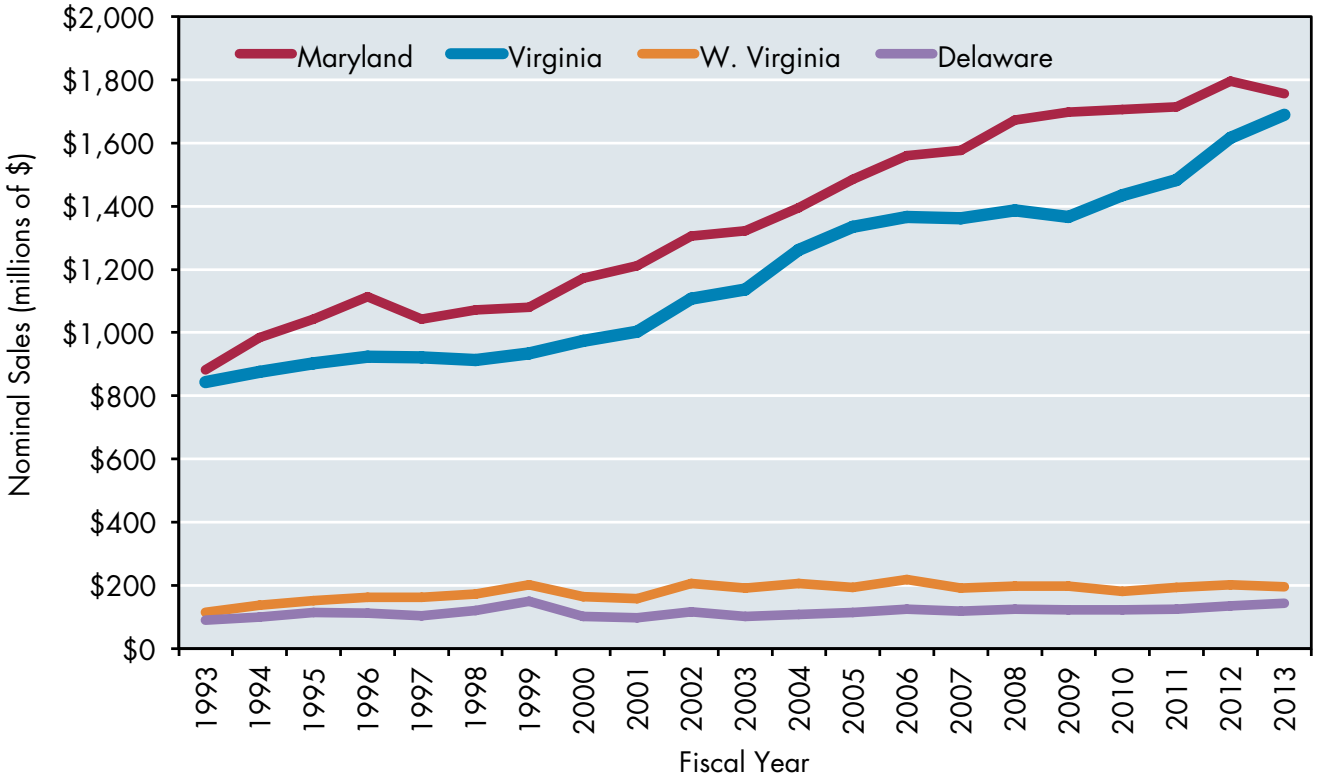
If a casino were to open in Hampton Roads, there likely would be some negative impact on local lottery sales, perhaps a decline in the range of 2 percent to 5 percent. However, the total impact likely would not be as large as that in Maryland. This is because Maryland has casinos located throughout the state; therefore, most of the state's population has easy access to gambling venues. A single casino in Hampton Roads would only impact local lottery sales, which would not be huge with respect to the state's total lottery sales. It is worth noting, however, that the casino coming to National Harbor, a short distance from Northern Virginia, likely will dampen Virginia sales near it. Some believe this is a reason in favor of Virginia opening casinos.

The lottery in Virginia has been relatively successful in a national context. Graph 1 reports lottery sales for fiscal years 1993 to 2013, uncorrected for price inflation. Since the Great Recession, the Virginia lottery has seen a strong increase in sales – from about $1.37 billion in 2009 to $1.69 billion in 2013.

[7] See D.M. Walker and W.E. Cummings (2015). "The Effect of Casino Proximity on Lottery Sales: Zip Code-Level Evidence from Maryland." College of Charleston working paper.

GRAPH 1

NOMINAL LOTTERY SALES, FISCAL YEARS 1993-2013*



Source: D.M. Walker and W.E. Cummings (2015), "The Effect of Casino Proximity on Lottery Sales: Zip Code-Level Evidence from Maryland," College of Charleston working paper
* Data include traditional lottery sales only.

Social Costs Of Gambling

Casinos can be beneficial to a local economy because they provide an additional entertainment option for consumers, may attract tourists and may stimulate local employment and tax receipts, as discussed above. Yet, casinos are not a panacea for economic woes. As noted earlier, some of the benefits of casinos may be offset by losses in other industries. In addition, one of the key arguments against casinos is that they may be responsible for significant social costs.

The social costs of gambling have received a lot of attention in the literature, especially during the 1990s when casinos were first beginning their spread across the United States. Most of these costs, which we shall describe in more detail, are attributable to individuals who develop a gambling problem, akin to alcohol or drug abuse. That is, problem gamblers are individuals who gamble to an extent that it disrupts their personal or professional life, or causes them financial stress or ruin.

Problem gamblers often engage in antisocial behavior. Studies that have attempted to measure the social costs of gambling have included negative impacts, including crime, political corruption, bankruptcy, drunk driving, suicide, divorce, incarceration and problem gambling treatment.

Although several studies have attempted to provide monetary estimates of the social costs attributable to problem gambling, most of them are seriously flawed. Most of these studies generate social cost estimates that are based upon arbitrary assumptions.[8]

COMORBIDITY AND PROBLEM GAMBLING

Virtually all social cost estimates in the literature are difficult to accept because they do not take into consideration that pathological gambling, more often than not, occurs simultaneously with other disorders ("comorbidity"). This means that individuals who have a gambling problem often have other disorders, such as alcohol or drug abuse, or compulsive shopping. One study estimated that 73 percent of pathological gamblers also have an alcohol use disorder.[9] In addition, the researchers found that 38.1 percent of problem gamblers have had a drug use disorder at one point or another in their lives. Mood disorders affected roughly 50 percent of pathological gamblers, 41 percent had anxiety disorders and almost 30 percent had obsessive-compulsive personality disorder. Other studies find similar results.

Compulsive gamblers, then, are not a cross-section of the American population and many suffer from a variety of physical and social ills unconnected to gambling. Hence, one cannot attribute all of their problems to compulsive gambling.

PREVALENCE RATE

Approximately 0.5 percent to 2 percent of the general public is thought to be afflicted with a gambling disorder. This rate does not seem to vary by region or through time. Although there is some evidence that the introduction of a new casino may lead to at least a short-term increase in the rate of problem gambling, evidence indicates that this rate falls back to around the previous rate as time passes.[10]

Hampton Roads is home to 1.7 million people, so it is safe to assume that there are already between 8,500 and 34,000 problem gamblers residing in our region. The number might rise somewhat if a casino is introduced, but would return to about these levels in the long run, based upon the experience of other regions.

CASINOS AND CRIME

As noted earlier, pathological gamblers may engage in criminal activity to finance their gambling activities. They also may be more likely to file for bankruptcy and get divorced. In addition, they may face higher incarceration rates, accumulate debts they cannot pay and be less productive in their jobs. Psychologists have studied the problematic

[8] For a full discussion, see chapters 13 and 14 of D.M. Walker (2013). *Casinonomics: The Socioeconomic Impacts of the Casino Industry*. New York: Springer.

[9] N.M. Petry, F.S. Stinson and B.F. Grant (2005). "Comorbidity of DSM-IV Pathological Gambling and Other Psychiatric Disorders: Results from the National Epidemiological Surveys on Alcohol and Related Conditions." *Journal of Clinical Psychiatry*, 66(5), 564-574.

[10] This is referred to as an "adaptation effect." See H.J. Shaffer, R.A. LaBrie and D. LaPlante (2004). "Laying the Foundation for Quantifying Regional Exposure to Social Phenomena: Considering the Case of Legalized Gambling as a Public Health Toxin." *Psychology of Addictive Behaviors*, 18, 40-48.

behaviors associated with gambling, and are continuing research on treatment options. The negative impacts of problem gambling clearly are worth consideration prior to the introduction of casino gambling into a region.

There have been numerous studies of crime rates before and after the introduction of casinos. At least two theories of crime suggest there may be a link between casinos and crime. One is the economic theory, which suggests that criminals are rational, and that the decision to commit crime is based on a comparison between expected costs and benefits. Casinos may be a catalyst for criminal behavior because casino patrons are likely to carry large amounts of cash. The other major theory, the routine activities theory of crime, focuses on three simultaneous conditions – likely offender, suitable targets and a lack of enforcement against crime – that create the ideal atmosphere for criminal activities. In the view of some, casinos provide all three.

A recent review of the casinos and crime issue examined 16 different studies conducted between the mid-1980s until about 2010.[11] The markets studied included cities such as Atlantic City, Biloxi and Reno; states including Colorado, Wisconsin and Indiana; and counties in various states. Among the 16 studies reviewed, eight studies found no casinos and crime link, six found that casinos unambiguously increased crime and two reported mixed results.

Summing It Up

If a riverboat casino were to open, say, on the Elizabeth River in the middle of Hampton Roads, it would have only a small economic impact on our region. This is because casino expenditures usually reduce other expenditures. Only if the casino attracted gamblers from outside Hampton Roads, or if it acted as a magnet so that our residents stopped spending money outside our region, would there be any economic impact of note.

The casino would generate additional tax revenues, but once again likely at the expense of tax revenues being collected at other businesses throughout the region.

There would be social costs attached to the new casino, though these have proven to be difficult to document on a broad scale in other states.

[11] Chapter 16 in D.M. Walker (2013). *Casinonomics: The Socioeconomic Impacts of the Casino Industry.* New York: Springer.

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Inside Front Cover: Sara Kidd, Hampton Roads Planning District Commission

Page 1: Steve Daniel

Page 23: City of Suffolk, Newport News Tourism Development Office, City of Portsmouth

Pages 41, 48 and 50: Huntington Ingalls

Page 45: Jefferson Lab

Page 46: Atlantic Diving Supply

Pages 55, 61, 68 and 71: Port of Virginia

Page 77: United Way of South Hampton Roads


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1930