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The State of the Region: Hampton Roads 2006

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THE STATE OF

THE REGION

HAMPTON ROADS 2006

REGIONAL STUDIES INSTITUTE • OLD DOMINION UNIVERSITY

September 2006

Dear Reader:

This is Old Dominion University's seventh 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, Dr. Roseann Runte.

The State of the Region reports maintain 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 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 available to us.

The 2006 report is divided into seven parts:

- **Hampton Roads: The Economic Winds Begin to Blow:** Our regional economy has slowed down to the national average after five superb years of growth fueled by defense expenditures. Defense expenditures are decelerating, the Ford plant is closing and the Base Realignment and Closure process will soon be under way.
- **The North Carolina Connection: Hampton Roads South of the Border?** Currituck County, N.C., already is considered part of the Hampton Roads Metropolitan Statistical Area (MSA). Four other counties (Camden, Gates, Perquimans, Pasquotank) lie just south of our region, but only Gates is sufficiently connected to Hampton Roads to be added in the future.
- **Tunnel Vision: Traffic Congestion in Hampton Roads:** Traffic congestion already is bad in the region; we estimate the cost in 2006 to be \$473 million, or \$296 per person. If nothing is done to alleviate the situation, this cost will grow to \$1.07 billion, or \$608 per person in 2015. Our simulations also predict the speed of automobile commuters going through the Hampton Roads Bridge-Tunnel will fall to 7.2 mph in 2015.
- **It's Not Easy Being Green: Open Space and Parks in Hampton Roads:** Open space and parks are unevenly distributed across our region. Virginia Beach has done a particularly good job in promoting parks and green space. Still, open space is disappearing at a very rapid rate. Either we preserve such space now, or it may disappear forever.
- **The Play's the Thing: Theaters and Performing Arts Companies in Hampton Roads:** The region is plentifully endowed with an impressive variety of theaters and performing arts companies. We critique their diverse work, which provides Hampton Roads with vital cultural and economic benefits.
- **The Youth of Hampton Roads: Pride or Problem?** By several measures, our region's youth are not doing so well. Particularly problematic are the high percentages of youth who live in poverty and babies born to very young mothers. It is easy to track the societal problems that result.
- **Beach Replenishment: Who Benefits, Who Pays, Who Should Pay?** Replenishing the region's beaches with sand is critical to their attractiveness. More than \$100 million has been spent on beach replenishment in Virginia Beach over the past decade, with the federal government paying about two-thirds. We find that beach replenishment pays off handsomely for Virginia Beach, but also that the city probably should pay a larger share of the cost.

Old Dominion University, via the president's and provost's offices, and the College of Business and Public Administration, via the dean's office, continue to be generous supporters of the report. However, the report would not appear without the vital backing of the private donors whose names appear below. These munificent individuals believe in Hampton Roads and in the power of rational discussion to improve our circumstances. They deserve kudos for their generosity and foresight. But, please note that they are not responsible for the views expressed in the report.

The Aimee and Frank Batten Jr. Foundation
Frank Batten Sr.
R. Bruce Bradley
Ramon W. Breeden Jr.
Arthur A. Diamonstein

George Dragas Jr.
Thomas Lyons
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Patricia W. and J. Douglas Perry
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The following individuals were instrumental in the research, writing, editing, design and dissemination of the report:

Vinod Agarwal

Steve Daniel

Terry Lindvall

Adrienne Barrett

Susan Hughes

Sharon Lomax

David Basco

Marshall Hutto

Janet Molinaro

John R. Broderick

Elizabeth Janik

John Sokolowksi

Chris Colburn

Mark Koch

Ray White

Vicky Curtis

Feng Lian

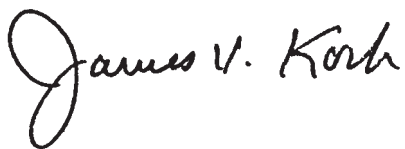
Gilbert Yochum

Special recognition is merited for Vinod Agarwal and Gilbert Yochum of the Old Dominion University Economic Forecasting Project, which Professor Yochum directs. They are hard-working, perceptive colleagues who generate superb work on a very tight time schedule, and I am indebted to them. Their penetrating analyses of the regional and Commonwealth economies have become legendary and now constitute the baseline by which numerous economic activities are measured.

My hope is that you, the reader, will be stimulated by this report and will use it as a vehicle to promote productive discussions about our future. Please contact me at jkoch@odu.edu or 757-683-3458 should you have questions.

Note that all seven State of the Region reports may be found at www.odu.edu/forecasting.

Sincerely,



James V. Koch
Board of Visitors Professor of Economics
and President Emeritus Old Dominion University

The Hampton Roads Economy



HAMPTON ROADS FORECAST: THE ECONOMIC WINDS BEGIN TO BLOW



ur regional economy has performed extremely well over the past five years, even though it slowed its pace last year. In 2006-07, it is likely that the Hampton Roads economy will expand at a rate comparable to that of the national economy. However, it appears that our boom days are over, at least for the next several years.

In this section, we look at the sources of Hampton Roads' extraordinary performance in the first half of this decade and assess our less-attractive prospects for the next few years. We also examine the probable effects of pending plant and military base closures, as well as that perennial topic of interest, housing prices and housing markets.

OVERALL ECONOMIC PERFORMANCE

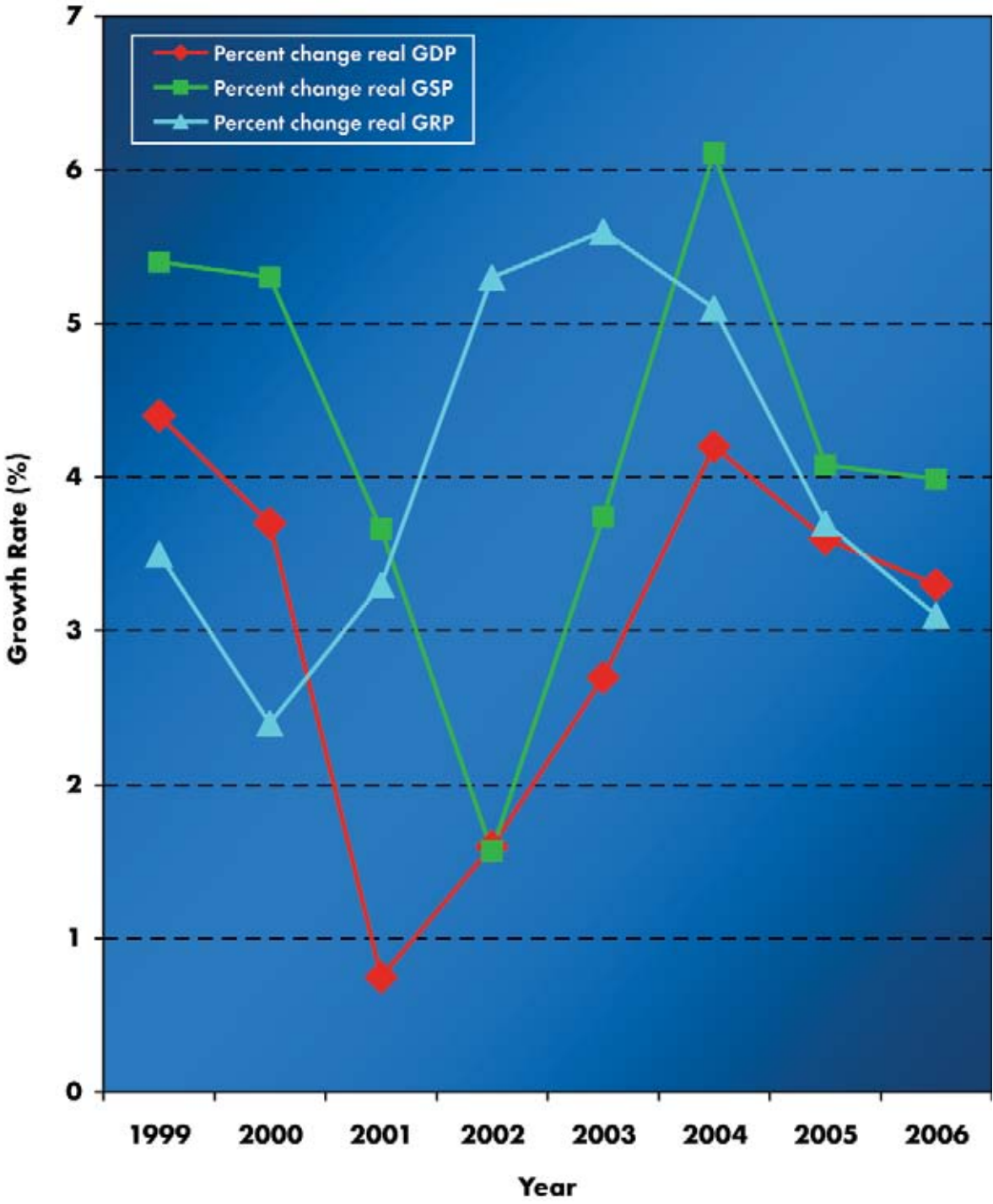
In May 2006, the U.S. Department of Commerce released revised personal income data for Hampton Roads. Personal income is a key component in the estimation of our gross regional product (GRP), which measures the dollar value of the goods and services we produce. The latest data show higher levels of regional personal income in 2002 and 2003 than previously reported. When we incorporate these new data in the Old Dominion University Economic Forecasting Project's model of the Hampton Roads economy, the result is higher economic growth rates over the same period and higher GRPs in several years. In effect, the Department of Commerce told us, "You've done even better than we thought."

The major contributor to the stronger than previously estimated regional income growth was the Department of Commerce's revised upward estimate of military earnings, the growth of which we discuss below.

During the first half of this decade, the Hampton Roads economy typically outpaced both the Virginia economy and the national economy. Graph 1 reflects this superb performance. Only in 2006 will the growth of the regional economy fall slightly below the national average.

The latest data indicate that Hampton Roads' high GRP growth rates in 2002 and 2003 kept Virginia out of potential recession and, together with Northern Virginia, stimulated the Commonwealth's economic revival in 2004. In 2005, our regional economic growth rate fell below that of Virginia, but still exceeded the national rate. In 2006, the region's rate of growth again is below Virginia's and also is slightly less than that of the nation.

**GRAPH 1
GROWTH IN (US) GDP, (VA) GSP AND (HR) GRP**



Source: Old Dominion University Economic Forecasting Project

Table 1 supplies specific data for the Hampton Roads economy for 1990-2006. **It is apparent that economic growth is decelerating within the region, though our 3.2 percent real (price-adjusted) economic growth rate in 2006 is still very respectable and will be close to the national economic growth rate.**

Note that the value of our gross regional product in 2006 will reach \$71.86 billion. This is larger than the gross product of 15 states! To put this into perspective, think of the Hampton Roads economy as being slightly smaller than the economy of Nebraska and about one-third larger than the economy of West Virginia. Table 2 presents comparative data for 2005.

Why is the regional economy now growing less rapidly? The primary reason is a decline in the rate of growth in defense spending.

TABLE 1 GROWTH IN OUR REGIONAL PRODUCT, 1990-2006			
Year	Nominal GRP Billions \$	Real GRP (2000=100) Billions \$	Real GRP Growth Rate Percent
1990	31.60	38.70	0.4
1991	33.02	39.10	1.0
1992	34.78	40.26	3.0
1993	36.40	41.18	2.3
1994	37.96	42.06	2.1
1995	38.90	42.23	0.4
1996	40.74	43.41	2.8
1997	42.72	44.78	3.1
1998	44.04	45.65	1.9
1999	46.22	47.22	3.5
2000	48.36	48.36	2.4
2001	51.16	49.96	3.3
2002	54.83	52.63	5.3
2003	59.09	55.59	5.6
2004	63.73	58.41	5.1
2005	67.95	60.59	3.7
*2006	71.86	62.51	3.2

* Forecast
Source: Old Dominion University Economic Forecasting Project. Data incorporate U.S. Department of Commerce personal income revisions through May 2006.

TABLE 2 COMPARING THE HAMPTON ROADS ECONOMY TO SELECTED STATES	
State or Area	Value of Gross Product (2005)
West Virginia	\$51.2 billion
Hawaii	\$52.5 billion
Delaware	\$53.4 billion
New Hampshire	\$56.8 billion
Hampton Roads	\$67.9 billion
Nebraska	\$69.3 billion
District of Columbia	\$78.8 billion

Sources: Bureau of Economic Analysis, U.S. Department of Commerce; Old Dominion University Economic Forecasting Project

DEFENSE SPENDING IN HAMPTON ROADS

Graph 2 reports the yearly rate of change in Department of Defense (DOD) spending in Hampton Roads between 1990 and 2006. In previous State of the Region reports, we established that defense spending accounted for roughly three-quarters of the economic growth we have experienced in Hampton Roads since 2001. Hence, ups and downs in defense spending tend to propel or stall our regional economy. For example, declines in real defense spending of the 1990s acted as a drag on our rate of growth. However, 10 percent increases in defense spending in 2001 and 2002 supercharged our economy.

An additional \$2.8 billion of defense spending was infused into the Hampton Roads economy over the two-year period, 2001-02. This relatively large exogenous spending shock created a tremendous impetus for growth for several years, though the ripple effects of this spending injection were largely exhausted by 2004.

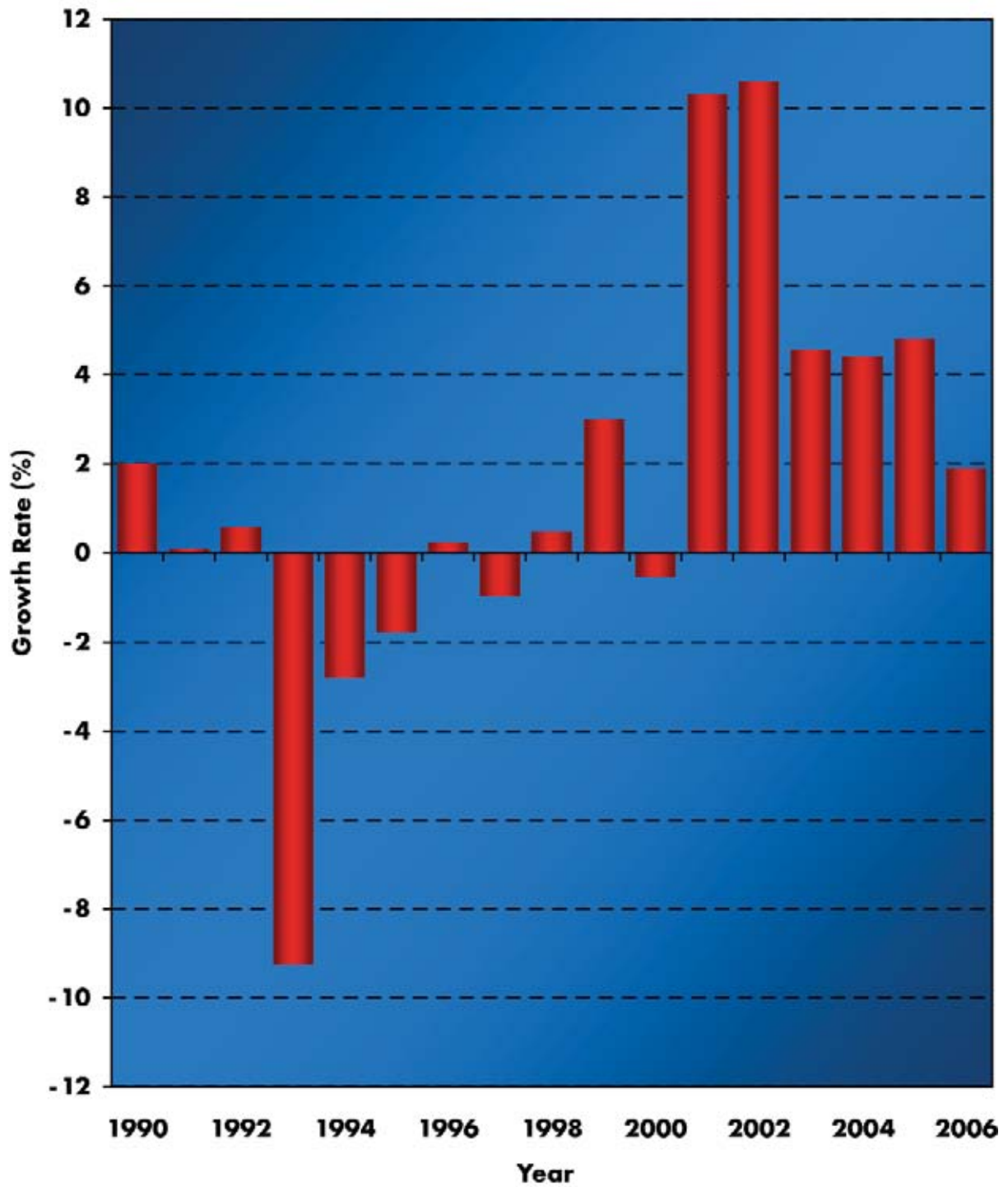
After growing more than 4 percent in 2005, defense spending in the region will grow only 2 percent in 2006. Many regions would love to have such an increase, which will amount to more than \$330 million. **However, like an automobile that is moving forward at a high rate of speed, though slowing down, our regional economy also will slow down in 2006, although only about to the national average growth rate.**

THE ANATOMY OF DEFENSE SPENDING IN HAMPTON ROADS

Department of Defense spending in Hampton Roads is approximately \$16.8 billion for 2006. Graph 3 shows that the earnings of military personnel account for 56 percent of DOD spending within our region, followed by procurement spending and the earnings of DOD civilian personnel. Total earnings for both military and DOD civilian personnel are \$12.3 billion; this is almost three-quarters of total DOD spending in Hampton Roads.

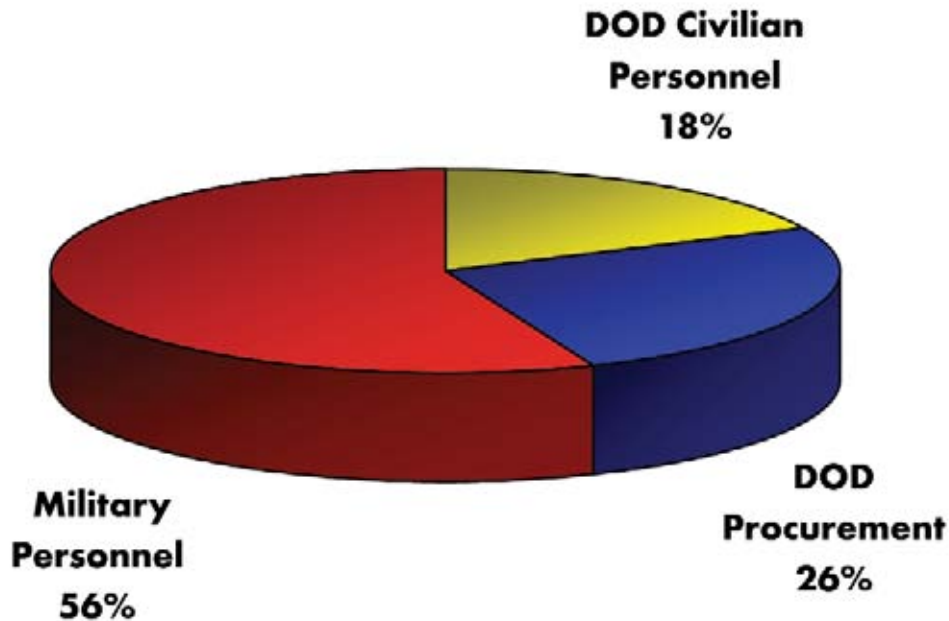


GRAPH 2
REAL (PRICE-ADJUSTED) GROWTH IN DEFENSE SPENDING
IN HAMPTON ROADS, 1990-2006



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

GRAPH 3
DISTRIBUTION OF DEFENSE SPENDING IN HAMPTON ROADS BY CATEGORY



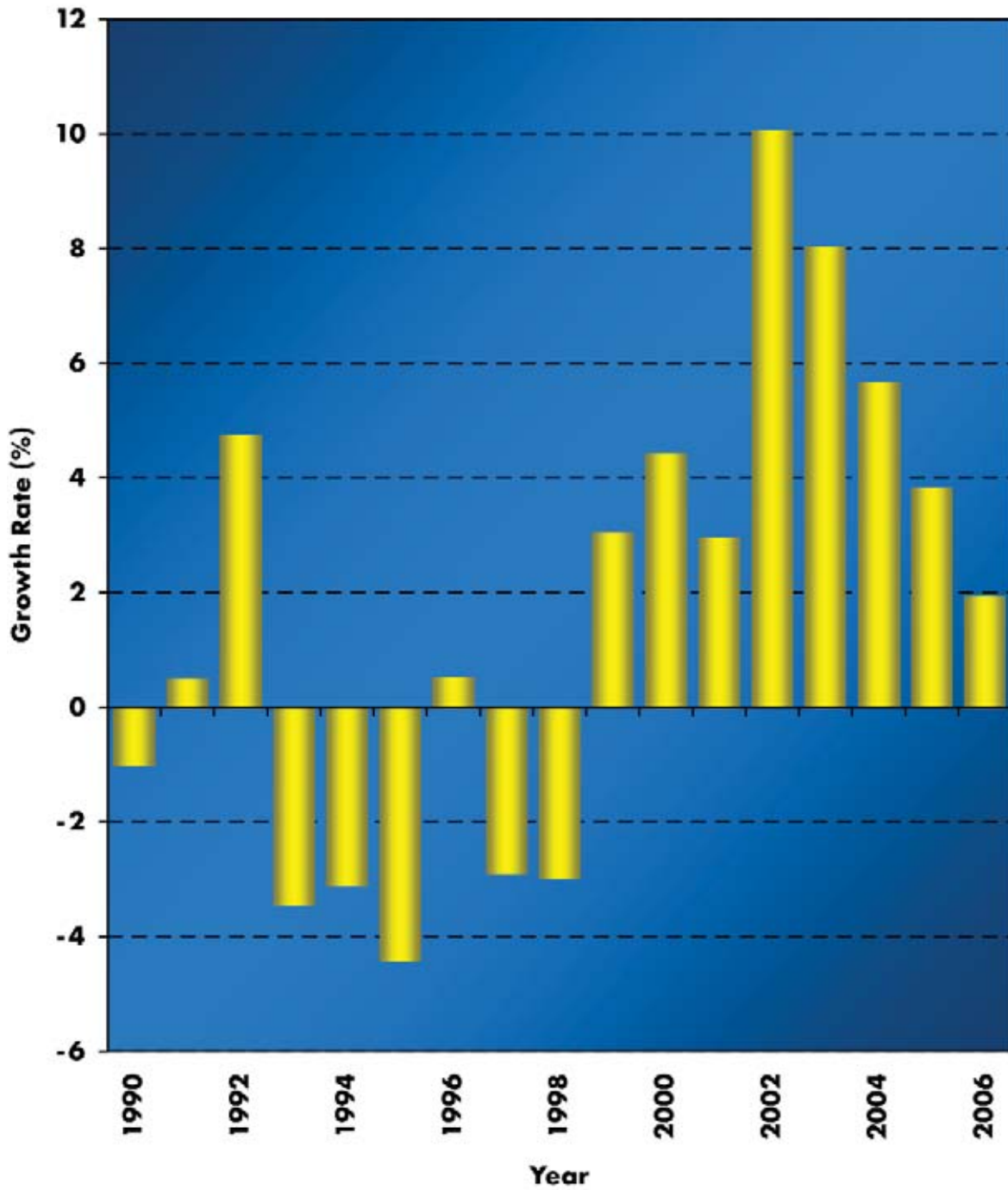
Sources: U.S. Department of Commerce, U.S. Department of Defense and the Old Dominion University Economic Forecasting Project

Graphs 4 - 6 demonstrate year-to-year changes in the level of military earnings, DOD procurement spending and the compensation of DOD civilian personnel (which is labeled by the U.S. Department of Commerce as "earnings"), after price inflation has been removed. Graph 4 shows that the real growth rate of military compensation peaked in 2002 and has declined since then, though even in 2005 it was 2 percent above the rate of price inflation. It's important to note that this does not mean that the wage rates of military personnel were increasing 2 percent faster than the cost of living. Instead, it reflects the DOD's programs to increase retention via higher housing allowances, proficiency and specialty pay, and one-time-only re-enlistment bonuses. Thus, while overall military compensation has increased, wage rates, per se, typically have not risen as rapidly.

Graph 5 depicts the sharp upward spike in DOD procurement that occurred in 2001 (an amazing 40 percent). This was followed by another 10 percent increase in 2002. Recently, those rates have diminished substantially.

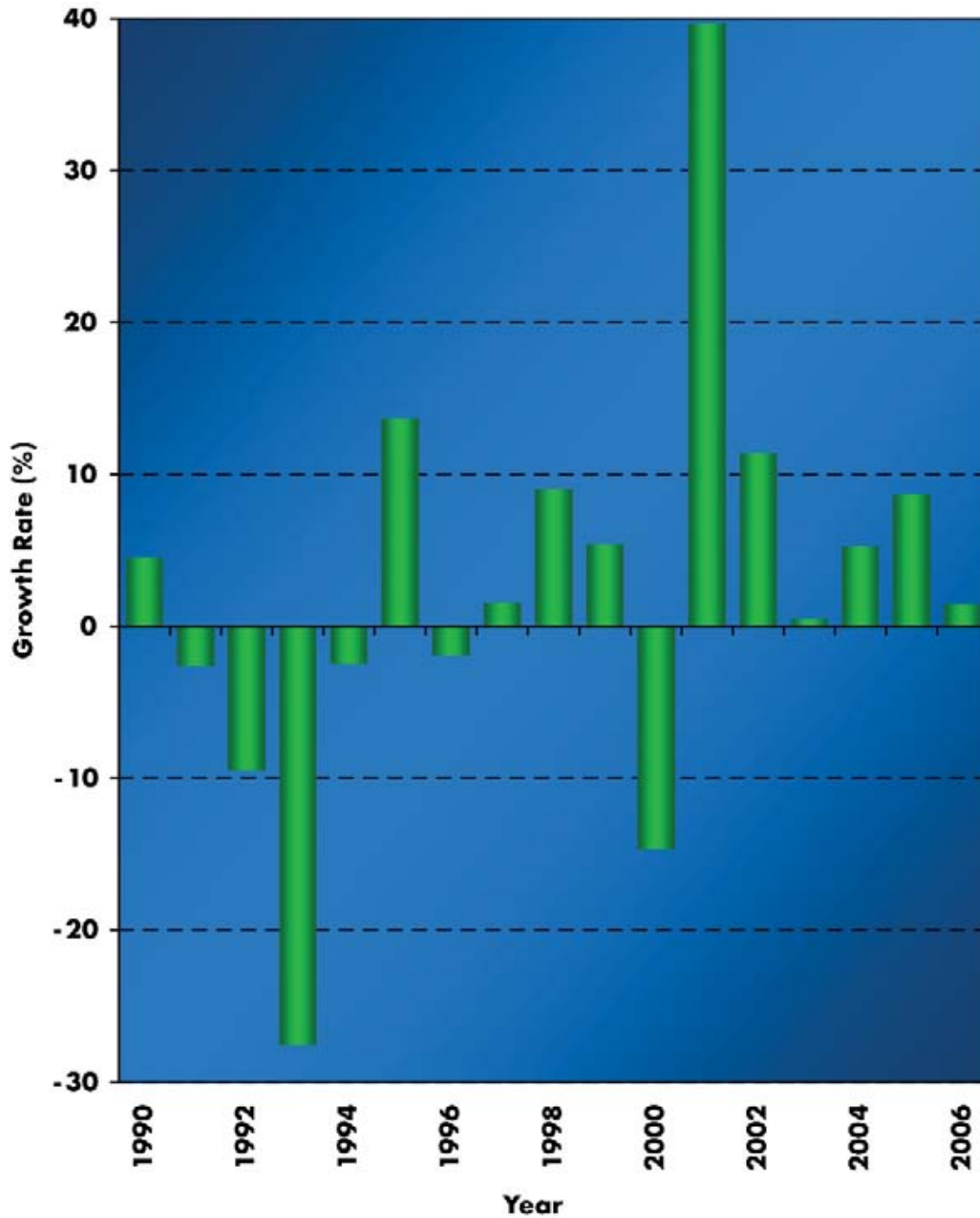
Graph 6 reflects growth in the total compensation paid to DOD civilian employees in the Hampton Roads region. The lesson here is that the amount the DOD spends on its civilian employees is more variable than the compensation of uniformed personnel. Civilian compensation fell by about 8 percent in 1995, but grew by about 11 percent in 2002. The DOD tends to utilize its civilian employees as an economic buffer. When times are tough, cuts often are made there first. When times are good, many civilian employees are added. Simply put, the DOD has more flexibility to adjust these employment levels than it does for many uniformed personnel.

GRAPH 4
GROWTH RATE OF MILITARY COMPENSATION,
ADJUSTED FOR PRICE INFLATION, 1990-2006



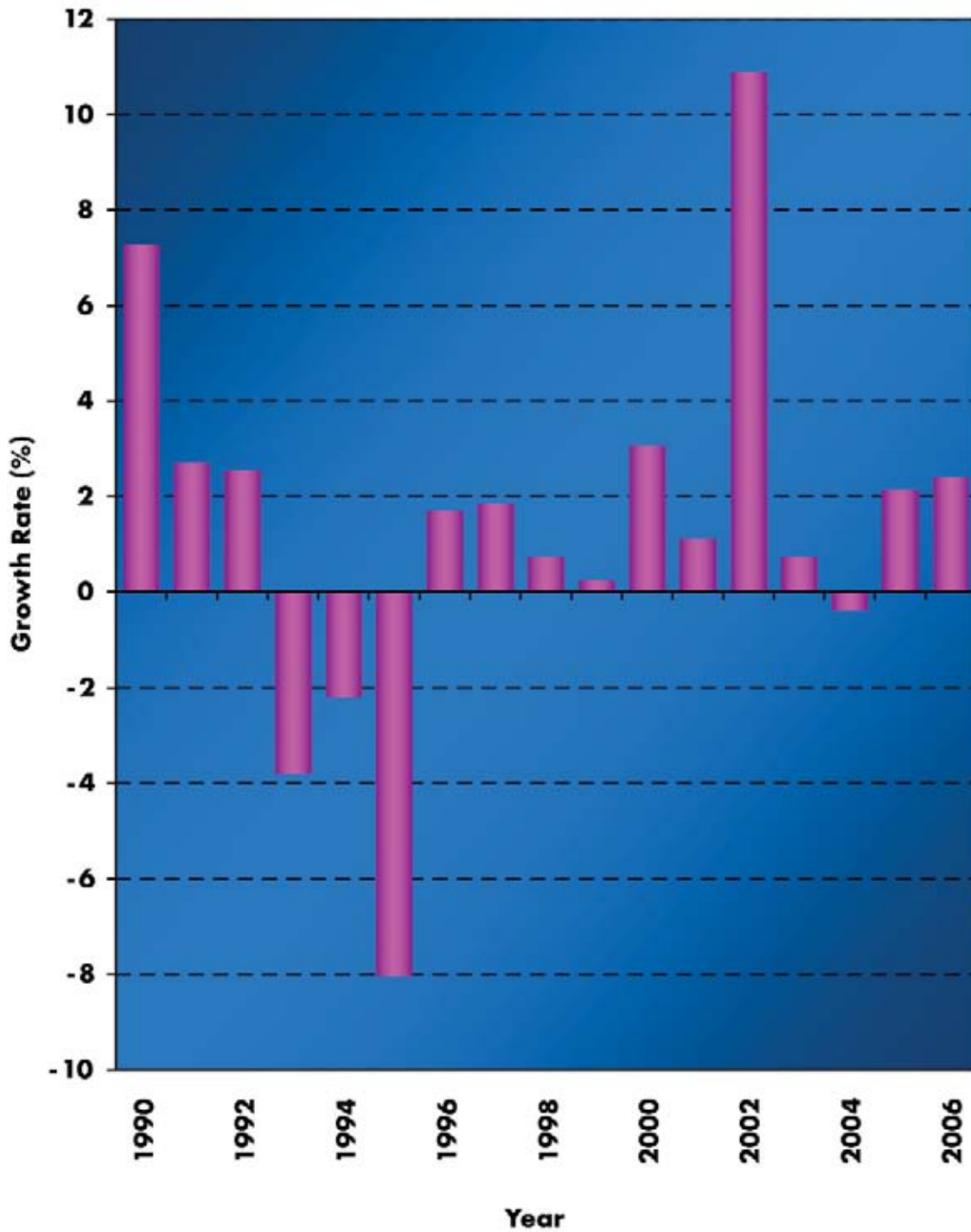
Sources: U.S. Department of Commerce and the Old Dominion University Economic Forecasting Project

GRAPH 5
GROWTH RATE OF DOD PROCUREMENT OBLIGATIONS,
ADJUSTED FOR PRICE INFLATION, 1990-2006



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

GRAPH 6
GROWTH RATE OF DOD CIVILIAN COMPENSATION,
ADJUSTED FOR PRICE INFLATION, 1990-2006



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

A significant portion of the increased military compensation that has occurred recently represents “catch-up” in response to a series of years in the 1990s when compensation actually declined after price inflation was taken into account. **In any case, the recent growth in per-person earnings in the military has been almost four times as large as that of the average American worker and more than double that of the typical private-sector worker in Hampton Roads (Table 3). These compensation increases vaulted the average per-person pretax earnings of military personnel upward by more than a third between 2001 and 2004. Needless to say, this was a major driver of economic growth in Hampton Roads over this time frame. But, that bolt has been shot.**

Meanwhile, between 2001 and 2004, total DOD procurement obligations in Hampton Roads increased by 25.8 percent. This also provided a major spur to the regional economy. However, as Graph 5 reveals, recent growth rates have been much more modest and this also contributes to the deceleration of our economy.

When one puts all of this together, it is apparent that the region experienced a highly unusual injection of additional defense spending in the 2001-04 time period and this produced regional economic growth rates that easily exceeded those of Virginia and the nation. The bad news is this stimulus is over; we’re now dealing with much more modest growth rates in DOD spending plus the removal of DOD assets and personnel from the region. The economic picnic is over.

Hampton Roads Military Personnel	34.6%
Hampton Roads Private-Sector Employees	13.5%
U.S. Private-Sector Employees	9.3%

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

BASE REALIGNMENT AND CLOSURE

The 2005 State of the Region report appeared in the midst of the Base Realignment and Closure (BRAC) proceedings. The final outcome of BRAC was unknown then and perhaps still is. Relative to summer 2005, here is how things have changed.

- We do not yet know the fate of Naval Air Station Oceana. However, it does appear that in the worst case, the base will not be closed, but instead “realigned” by transferring some F-18 squadrons to other locations. A residual force would remain at Oceana. But, even that loss is uncertain and, if it occurred, would take place in the next decade.
- The original BRAC recommendations would have moved several large contingents of civilian and military personnel to Hampton Roads from bases at New London, Conn., and the Portsmouth, N.H., Naval Shipyard. Those recommendations were reversed.
- Substantive movements of personnel away from Hampton Roads will not occur until 2008. The main economic effect on the region will be spread out over 2008 and 2009, with all moves completed by 2011.

Table 4 updates the economic impact of the BRAC decisions. Note that the impact of actual (rather than potential) BRAC reductions in Hampton Roads is considerable. The reductions are centered on the Peninsula,

	GRP Loss	Job Loss	Jobs as a Percent of MSA Total	Percent GRP Loss
Oceana GRP Loss (Realign.)	\$1.4 Billion	15,600	1.57%	2.10%
Other R&C Net GRP Loss	\$0.9 Billion	9,099	0.92%	1.40%
Total	\$2.3 Billion	24,699	2.49%	3.50%

Source: Old Dominion University Economic Forecasting Project

with Fort Monroe and Fort Eustis taking the brunt. Relatively speaking, the Peninsula stands to suffer far more than the Southside from BRAC.

The major total economic impact of the base closings in Hampton Roads is likely to be spread over a five-year period, beginning in 2008. The largest impact will be concentrated in 2008 and 2009 and will especially hit the Peninsula. These reductions are not sufficient by themselves to cause an economic recession in Hampton Roads, but they definitely will reduce our economic growth and perhaps introduce economic stagnation such that unemployment rates will rise and per capita income growth will stall. All things considered, our economic prospects for the remainder of this decade are much less favorable than they have been over the past few years. The “good old days” have passed.

THE CLOSURE OF NORFOLK'S FORD MOTOR CO. PLANT

The announcement by Ford Motor Co. on April 13, 2006, that it will close its truck assembly plant in Norfolk in 2008 came as a surprise to plant workers, union officials and civic leaders, as well as many observers of the automobile industry. The announcement was especially surprising since the Norfolk plant is considered one of Ford's most efficient and Ford had recently invested about \$400 million for upgrades and expansion. For example, in 2005 the company invested \$37 million for a new Vehicle Sequencing Automotive Storage and Retrieval System.

NORFOLK FORD BY THE NUMBERS

The Norfolk Ford plant currently employs 2,433 workers, including 2,275 hourly workers represented by United Auto Workers (UAW) Local 919. The remaining 158 workers are salaried employees. According to the city of Norfolk, the assembly plant has an annual payroll of \$160 million.

Where do Ford employees live within the region? **Graph 7 discloses that the economic effect of the plant closing will be shared across Hampton Roads communities. Indeed, cities such as Chesapeake and Virginia Beach boast far more Ford employees than Norfolk, and hence will feel a considerable portion of the economic impact from the closing. Approximately 900 of the 2,275 hourly employees reside in Chesapeake, 600 in Virginia Beach, 250 in north-eastern North Carolina, 250 in Norfolk, 200 in Portsmouth and 150 in Suffolk. Thus, only 11 percent of Ford hourly employees reside in Norfolk.**

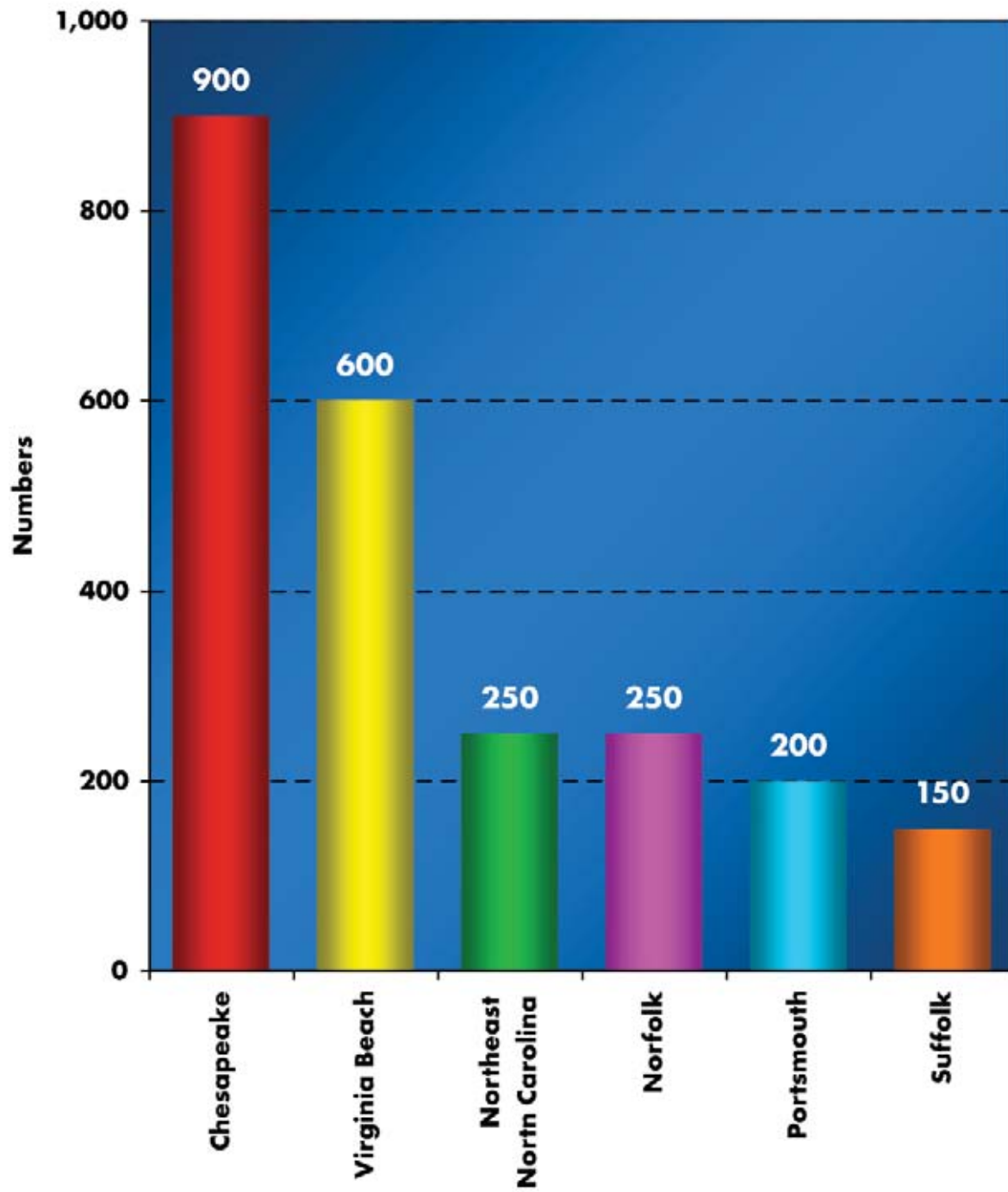
The Ford plant pays the city of Norfolk slightly more than \$6 million in tax revenue annually. The city of Chesapeake receives roughly \$200,000 in tax revenue from three businesses that exist to supply the Ford plant. The taxes generated include real estate property taxes, personal property taxes, machinery and tool taxes, and utility taxes.

The city of Norfolk and the Hampton Roads Economic Development Alliance have identified 17 automotive suppliers in the Hampton Roads area that together employ 2,517 workers. A survey of these firms revealed that only four of them have significant business relationships with the Ford plant. Unfortunately, all four of these suppliers are expected to shut down when the Ford plant ceases operations. Three of these four companies are located in Chesapeake and employ 507 workers; the fourth company is located in Virginia Beach and employs 25 workers.

Two additional firms, although they supply some parts to the local Ford plant, believe they will not be affected substantially because they anticipate their current business with the local plant will be supplanted by other Ford plants around the country. Ten of the 17 firms surveyed indicated that closure of the Ford plant would not have any impact on their business; one firm could not be reached. **In sum, the survey results indicate that 532 people, or about 21 percent of all workers employed in the local firms supplying the Norfolk Ford plant, will lose their jobs when the plant closes its doors.**

The current contract between the UAW and Ford provides that hourly workers who are laid off receive 75 percent of their wages as a company unemployment benefit; however, this contract expires in September 2007 and it is unlikely this provision will survive. The pre-plant closing expiration of the union contract creates uncertainty for workers and makes it more difficult to

**GRAPH 7
RESIDENCES OF THE FORD PLANT'S HOURLY EMPLOYEES**



Source: The Virginian-Pilot

estimate the total economic impact of the Ford plant closing. Although Ford officials currently are reluctant to discuss all of the possibilities that could result from the plant closing, one can infer what will likely occur by examining the closing of other Ford plants around the nation.

The following array of severance packages seems plausible based on Ford's previous actions:

- Workers 55 and older with more than 30 years of service will receive a one-time check of \$35,000, along with full retirement benefits.
- Workers with at least 28 years of service will have the opportunity to go on leave with 85 percent of their pay for two years until they reach 30 years of service, after which they will receive normal retirement benefits.
- Workers 55 and older with 10 or more years of service might receive a fixed income for life (like an annuity), depending on how long they have worked for Ford.
- Workers with at least one year of service with Ford might receive up to \$15,000 in reimbursement for college tuition for four years and while enrolled receive one-half pay and keep their health benefits.
- Other workers who voluntarily leave Ford might receive a \$100,000 buyout, but thereafter forfeit the other benefits noted above.

TRANSLATING THESE BENEFITS TO INDIVIDUALS

Given the above discussion, it should be apparent that one of the keys to estimating the economic impact of the Ford plant closing is to estimate accurately the distribution of workers at the plant by years of service. This distribution will determine severance income and retirement benefits. Note that most of the financial benefits Ford employees will receive will flow into the region and therefore will partially offset the loss of employee earnings resulting from the plant closing.

Our *estimates* of years of service by employees at the Norfolk Ford plant for 2006 are:

- 400 workers have more than 30 years of service
- 300 have worked between 28 and 30 years
- 150 have worked between 26 and 28 years
- 1,390 have between one and 25 years of service
- 35 have less than one year of service.

Let's assume the following: that all employees having more than 28 years of service by 2008 will receive the one-time payment of \$35,000 in addition to full retirement benefits; those with one to 27 years of service will receive only educational benefits and one-half of their pay for the four years they attend a college or university; and workers with less than one year of service will receive no benefits.

Currently, a worker 55 or older with 30 or more years of service receives about \$2,750 per month until the age of 62, if he/she is laid off. After the age of 62, the worker receives, in addition to Social Security, a monthly payment from Ford equal to \$52 times years of service. Therefore, a retiree 62 years or older, in return for 30 years of service, will receive \$1,560 per month from Ford plus Social Security, which is roughly \$1,500 per month in today's dollars.

With the above scenarios in mind, we estimate that Ford workers will receive in today's dollars about \$109 million in compensation and benefits in 2009, or 68 percent of Ford's estimated payroll in Norfolk for 2006. They will receive \$78 million in benefits from 2010 through 2012, or 49 percent of the 2006 payroll. They will receive \$32 million in 2013 and subsequent years, or about 20 percent of 2006 earnings.

REGIONAL ECONOMIC IMPACT

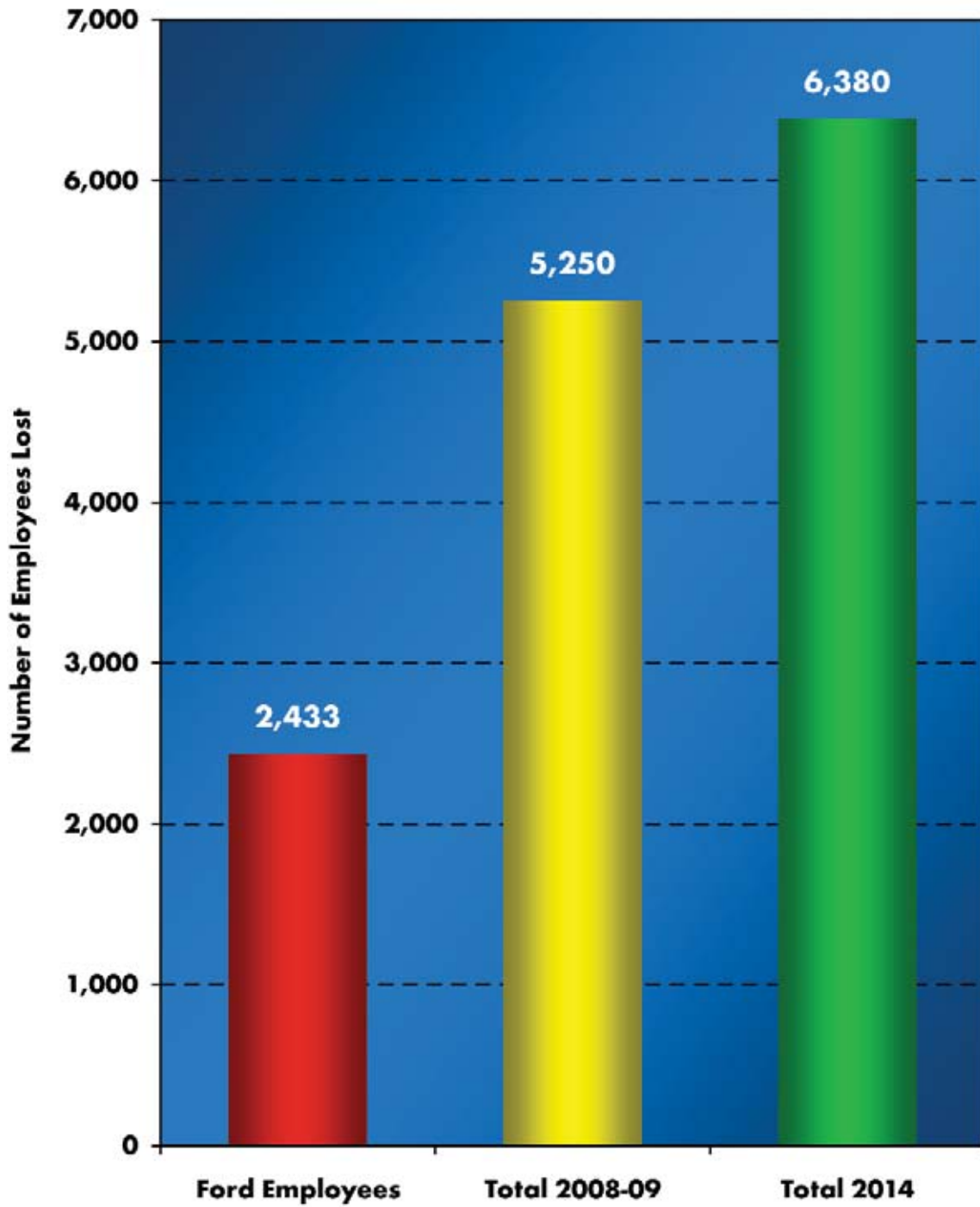
We estimate, as shown in Graph 8, that Hampton Roads will lose, due to ripple effects, approximately 5,250 jobs between 2008 and 2009 as a result of the Ford plant closing. Six years after the closing, it is estimated that the regional economy will have lost a total of 6,380 jobs.

Graph 9 addresses the estimated loss of earnings that will result when the Ford plant closes. We project this loss to be \$342 million in 2006 dollars between 2008 and 2009. By 2014, the estimated earnings loss rises to \$379 million.

What does this mean regionally? The shuttering of the doors of the Ford plant will destroy, ultimately, an estimated 6,380 jobs in the region, which is about half of 1 percent of total employment. Because of the relatively high level of earnings of both Ford plant workers and those who work for local Ford suppliers, the earnings loss to the region will be proportionately larger than the employment loss and will constitute .8 of 1 percent of total earnings in Hampton Roads.

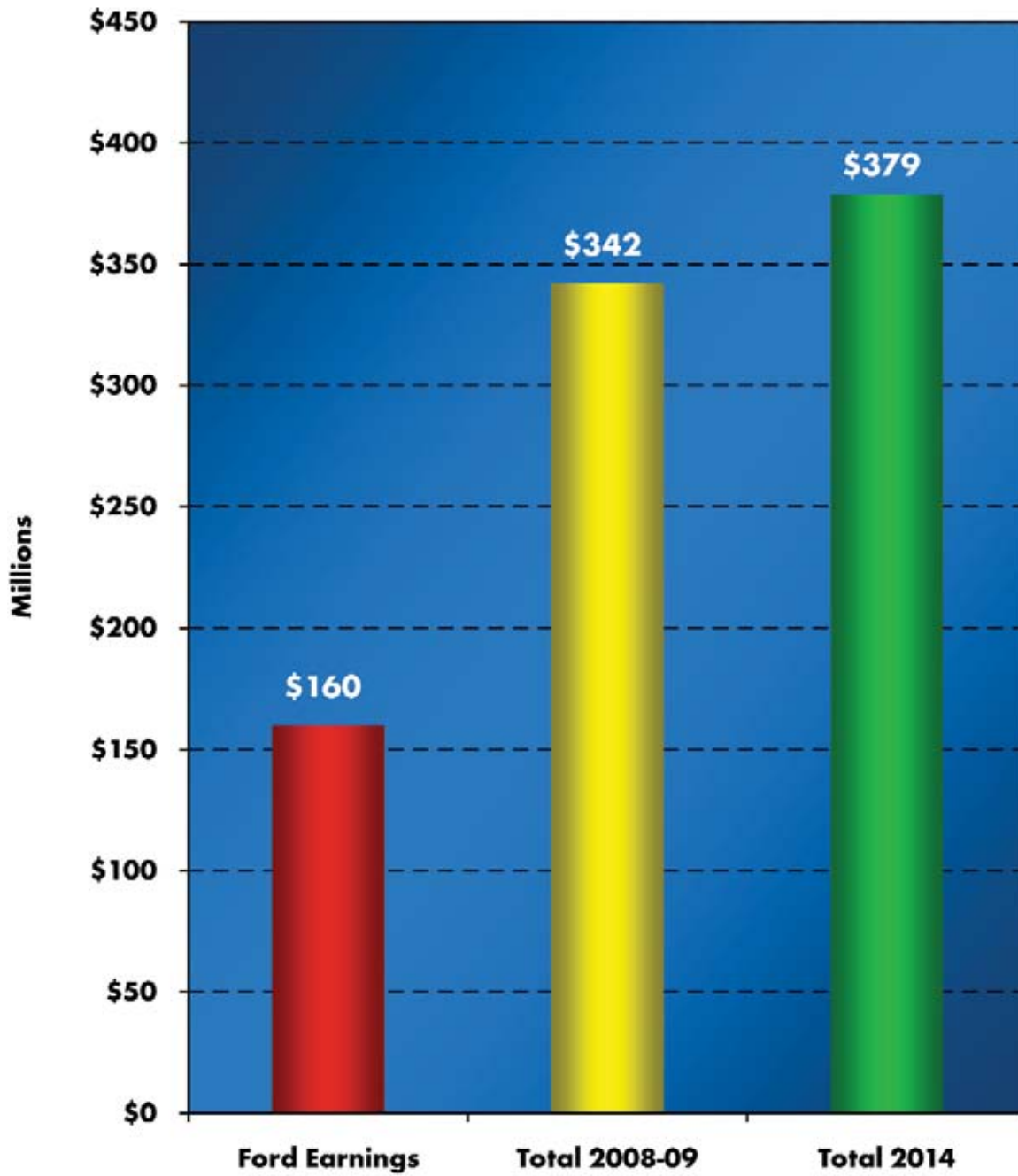
The preceding analysis has provided a focused answer to the question, “What will happen to the regional economy if Ford shuts down completely and no substitute economic activity takes its place?” If the Ford plant itself, or its workers, are shifted to other tasks that generate economic value, then the impacts we have estimated will be reduced accordingly. We would be surprised if some of this did not occur.

GRAPH 8
EMPLOYMENT IMPACT OF CLOSING THE FORD PLANT



Sources: City of Norfolk and the Old Dominion University Economic Forecasting Project

**GRAPH 9
EARNINGS LOSSES DUE TO CLOSING THE FORD PLANT**



Sources: City of Norfolk and the Old Dominion University Economic Forecasting Project

HOUSING MARKETS IN HAMPTON ROADS

We examined the housing markets of Hampton Roads extensively in the 2005 State of the Region report. Most of our key findings in that report continue to apply in 2006-07 and in fact will be accentuated by the slowdown in the regional economy.

- **The rate of increase in overall housing prices will slow significantly.**
- **The prices of detached single-family houses as a whole in Hampton Roads will not decline, but declines might occur for specific houses in specific locations.**
- **Any actual price reductions that occur are most likely to appear in the condominium market, where there are signs of overbuilding relative to anticipated demand, particularly in downtown Norfolk.**
- **Builders and condominium owners will find it difficult to sell their inventory and increasingly will rent, rather than sell, that inventory.**
- **Rental price increases likely will moderate.**
- **Building permit applications will slow. We expect to see a major decline in condominium building permits.**
- **Sellers of homes will resort to a variety of incentives and marketing devices, including builder buy-downs, seller-paid closing costs and the cutting of real estate agent commissions.**

These conclusions rely heavily on two important measures of the Hampton Roads housing market's economic fundamentals. **First, as Table 5 reveals, the ratio of the cost of owning a home to the price of renting a home shifted dramatically in favor of renting in 2005.** (The cost of owning a home here is approximated by the monthly principal and interest payment on a home with a 30-year mortgage.) Rising mortgage rates and house prices are the major source of this shift.

The owning versus renting tradeoff is critical, since renters have provided an estimated two-thirds of Hampton Roads house buyers since 2000. Now, in 2006, renting has become more attractive and hence this source of demand for single-family housing is likely to decline significantly. Further, the Hampton Roads housing market received an invigorating spurt of energy from the additional housing incentives the DOD began to provide its employees in recent years. We have worked our way through these incentives and there is nothing similar on the horizon.

Second, consider the update in Graph 10 of our economic comparison of actual housing prices to the prices we would predict based on market fundamentals.

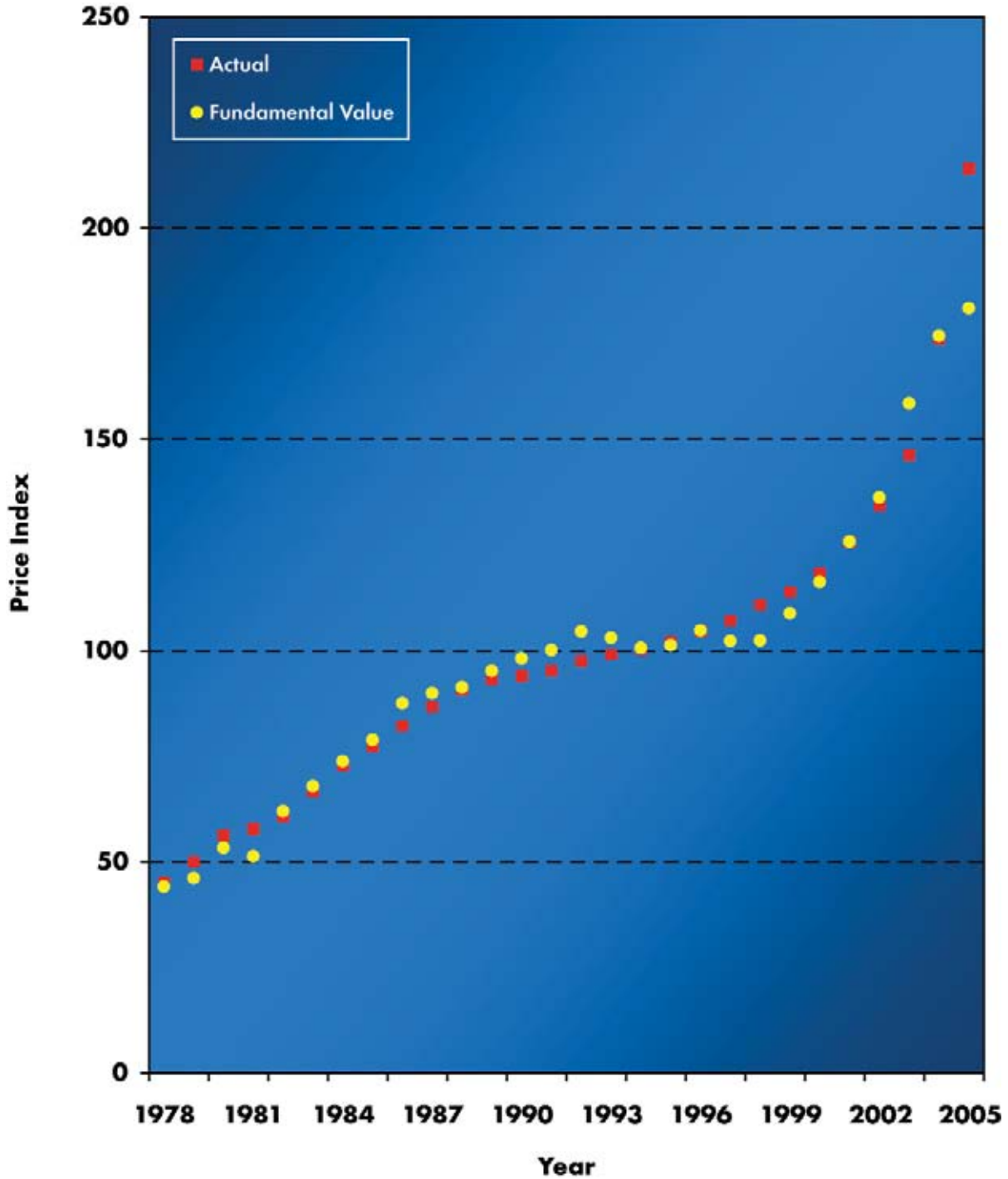
According to our latest estimate, the average house in the Hampton Roads housing market continues to be overpriced relative to those economic fundamentals, which include household incomes, unemployment rates, building costs and mortgage interest rates. Historically, they have determined the price of housing in the context of supply and demand.

As of June 2006, we believe the average house in Hampton Roads is overpriced by an estimated 20 percent. This is 10 percent above our estimate last year at this time. Does this constitute a price bubble that will burst and cause housing prices to tumble? Probably not, overall, though condominium prices are more vulnerable.

	Median Monthly Rent for a Three-Bedroom House	P&I Monthly for a Median House	Ratio of Monthly P&I to Rent
2000	\$882	\$854	0.97
2001	911	809	0.89
2002	1,037	827	0.80
2003	1,044	809	0.77
2004	1,087	1,065	0.98
2005	1,130	1,341	1.19

Sources: U.S. Department of Housing and Urban Development (HUD) and the Old Dominion University Economic Forecasting Project

GRAPH 10
ACTUAL HOUSING PRICES IN HAMPTON ROADS VS. PRICES
BASED ON ECONOMIC FUNDAMENTALS



Source: Old Dominion University Economic Forecasting Project

The process of actual housing prices realigning themselves with economic fundamentals is, we believe, inexorable. As one can see in Table 6, housing prices in Hampton Roads have deviated from time to time from the underlying economic fundamentals, but eventually returned to those fundamentals, usually in a space of about two years.

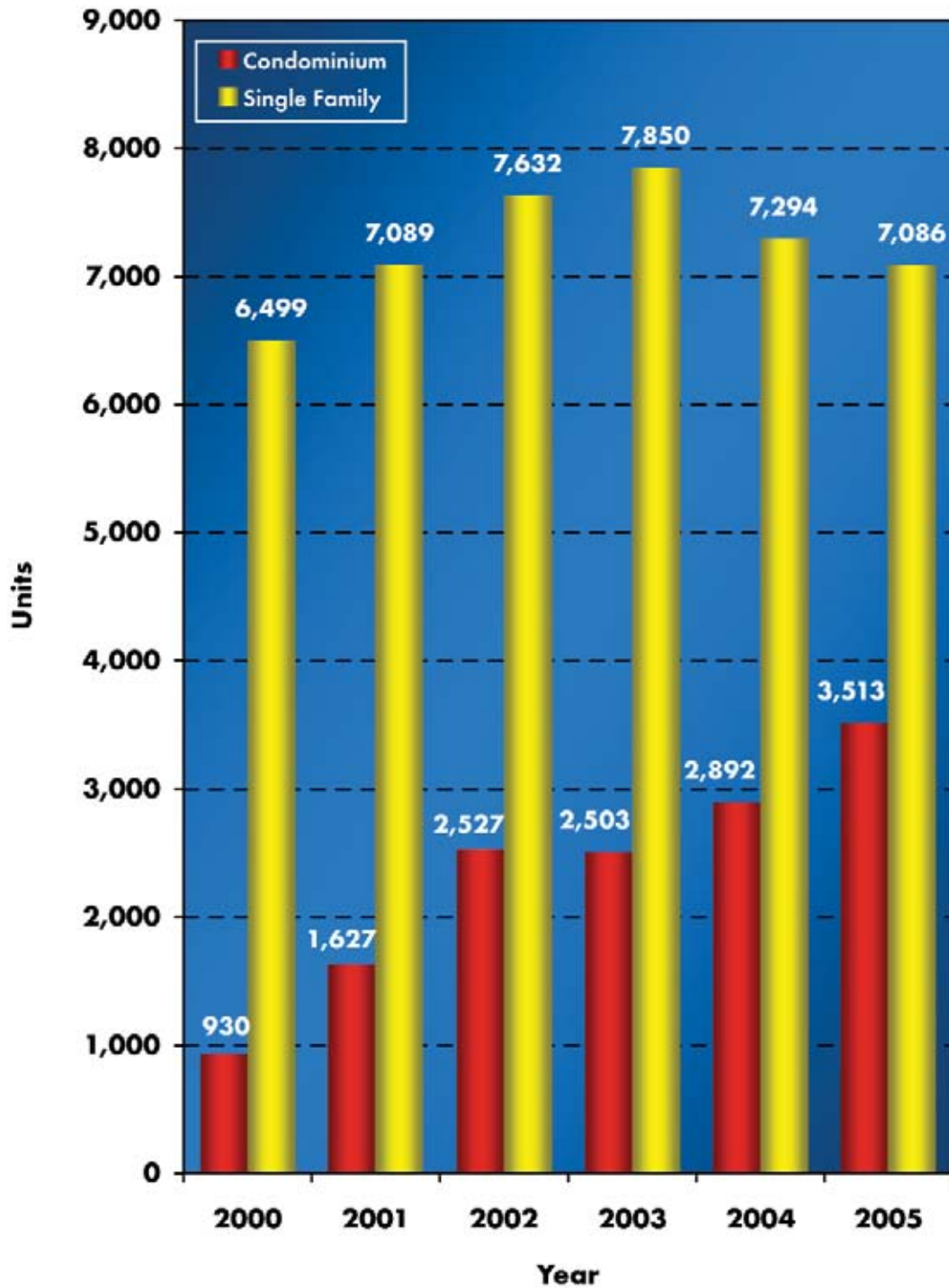
We predict the same phenomenon will occur in housing markets in Hampton Roads. This does not mean that the average price of a house in Hampton Roads will decline. Some house prices actually may decline, but most won't. It does mean that the prices of many types of houses will stagnate; houses will remain on the market longer and sellers will have to make more price concessions and offer additional incentives. But they'll typically sell their house for more than it cost them to purchase or build it.

TABLE 6 IS HOUSING OVERVALUED IN HAMPTON ROADS? ACTUAL PRICES VS. THE FUNDAMENTALS	
Period	Residential Real Estate Market Condition
1981-1982	Overvalued by @ 15%
1986-1988	Overvalued by @ 10%
1991-1994	Undervalued by @ 6%
1997-1999	Overvalued by @ 5%
2001-2003	Undervalued by @ 9%
2006 (June estimated)	Overvalued by @ 20%
Source: Old Dominion University Economic Forecasting Project	

ADDITIONAL COMMENTS ON THE CONDOMINIUM SUBMARKET

Graph 11 compares building permits, an indicator of supply, for new single-family houses to those of condominiums. Since 2003, builders have reduced their output of single-family homes by roughly 10 percent. However, over the same period, the supply of condominiums has increased by about 40 percent. By themselves, these data suggest that there is not a serious oversupply of new single-family homes. However, given the market demand conditions described above, the condominium market appears to be headed for problems and is much more vulnerable to price declines. The next few years could be a bad time to sell a condominium, but a good time to purchase one, in Hampton Roads.

GRAPH 11
BUILDING PERMITS FOR DETACHED SINGLE-FAMILY HOMES
AND CONDOMINIUMS IN HAMPTON ROADS, 2000-2005



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

SUMMARIZING OUR ECONOMIC SITUATION

The Hampton Roads economy has performed very well over the past five years, especially during the period from 2002 to 2004. Recent U.S. Department of Commerce data revisions indicate that the regional economic performance was even stronger than we had thought at the time. Our growth rate easily exceeds that of Virginia and the nation. In addition, our per capita income rose above the national average.

The primary cause of these laudable feats was increased DOD spending. Defense spending increases were heavily concentrated in 2001 and 2002. These injections infused the region with economic energy, the lagged effects of which were largely exhausted by 2004.

The major source of the large yearly DOD spending increases in the region was the compensation of military personnel, although procurement increases also were substantial. From 2001 to 2004, the compensation of a typical Hampton Roads uniformed individual increased at almost four times the rate of the U.S. mean for private-sector employees.

The effect of the 2005 BRAC decisions on Hampton Roads will be significant even if Oceana remains in operation as a U.S. Navy Master Jet Base. In the worst case, which includes a realignment of Oceana and the loss of some jets, the economic effect on the region of the base closures and realignments will be spread out over a number of years. Potential job losses would reach 25,000 over a five-year period. This is hardly good news, but would constitute only 2.5 percent of our current job base.

The effect of the Ford assembly plant closing is also likely to be spread across Hampton Roads over a five-year period, beginning in 2008. The closing is likely to eventually cost us roughly half of 1 percent of our total job base (including the military). Nevertheless, because these jobs are well-paid, this will cost us .8 of 1 percent of our current gross regional product.

Our estimates indicate that in June 2006, the average house in Hampton Roads was overvalued by roughly 20 percent relative to prices based on economic fundamentals. Despite our high home prices, we do not anticipate a marked decline in the price of single-family housing across the region. Instead, we anticipate market sluggishness that will generate rising seller and agent costs and larger inventories. The condominium market is another story. Significant building (increased supply) in this market leaves it more vulnerable than the single-family market to price declines.



The North Carolina Connection



THE NORTH CAROLINA CONNECTION: HAMPTON ROADS SOUTH OF THE BORDER?

The announcement of the forthcoming closure of Ford Motor Co.'s Norfolk Assembly Plant made many aware for the first time that about 10 percent of Ford's workers commute from North Carolina. Recent trends in real estate markets, especially rapidly increasing prices in Hampton Roads, have caused many people to consider moving to nearby North Carolina counties. The recent expansion of Route 17 to four lanes from Great Bridge in Chesapeake to the North Carolina border has made this an easier prospect.

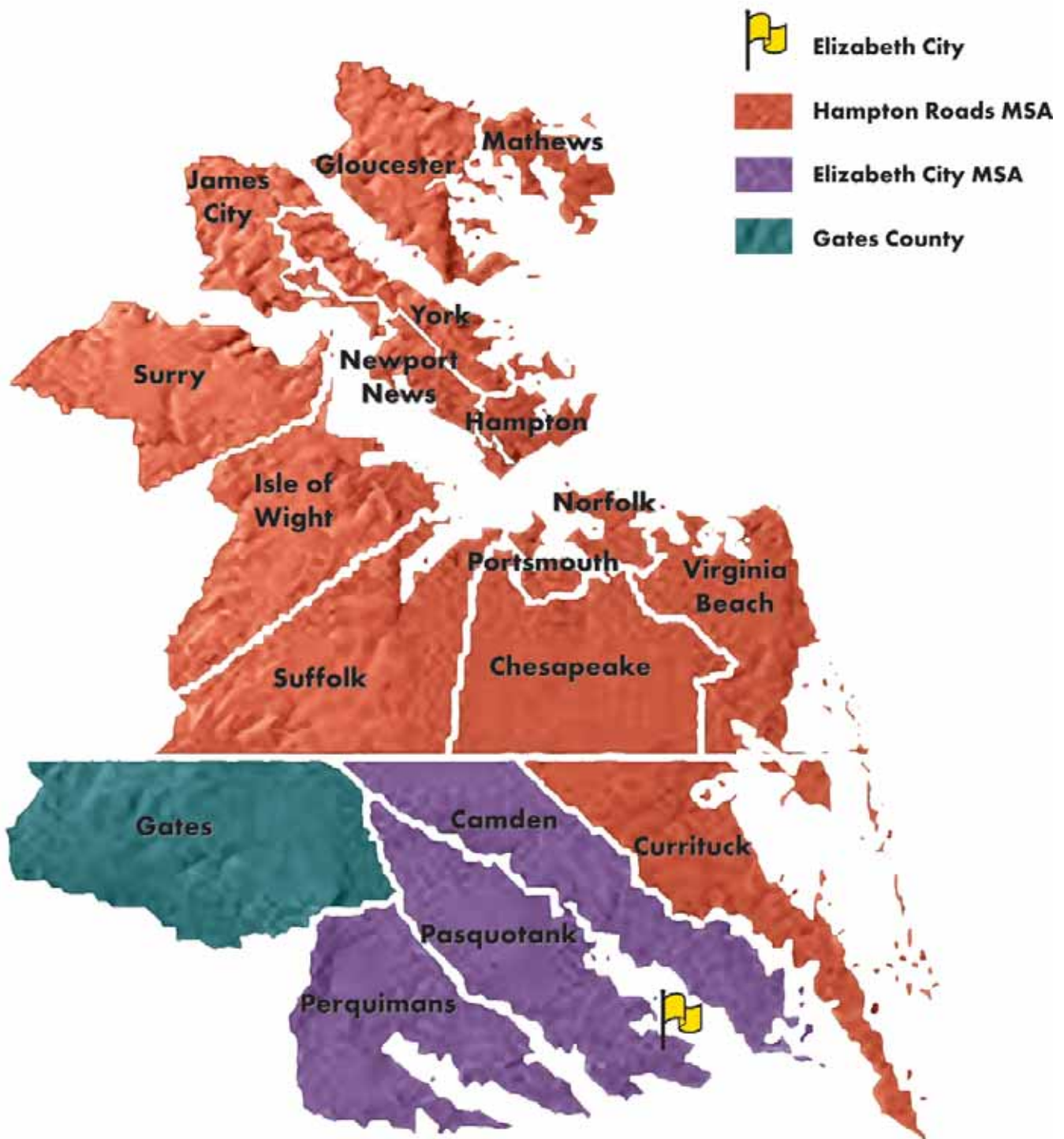
These developments naturally lead to a series of questions. Who lives in the North Carolina counties adjacent to Hampton Roads? What is the nature and size of these economies? How are the counties connected to the Hampton Roads economy? Is it likely some or all of them soon will be included in the official definition of Hampton Roads (formally the Virginia Beach-Norfolk-Newport News Metropolitan Statistical Area)?

To begin to answer these questions we will delve into the economic nitty-gritty of the North Carolina counties that are contiguous to Hampton Roads. First, we will take the measure of their economic activity and nature and then examine their economic connection to Hampton Roads. Finally, we will address the question of whether any of these counties might one day be considered part of Hampton Roads.

WHICH COUNTIES REALISTICALLY ARE OUR NEIGHBORS?

Figure 1 indicates there are five North Carolina counties that realistically might be candidates for inclusion in Hampton Roads by virtue of their location and possible economic and cultural connections: Camden, Pasquotank, Perquimans, Currituck and Gates. The first three counties form the Elizabeth City "Micropolitan" Statistical Area, about which we will say more. Currituck County, which borders Virginia Beach and Chesapeake, essentially functions as an integral part of Hampton Roads and it already is included in the Hampton Roads Metropolitan Statistical Area (MSA). A significant percentage of Currituck County workers hold jobs in Hampton Roads, for example, at the Ford Motor Co. plant. Gates County, which maintains a long border with Suffolk, has strong economic connections to Hampton Roads and perhaps will be added to the Hampton Roads MSA after the 2010 census. We will now examine each of these counties in turn.

**FIGURE 1
THE NORTH CAROLINA COUNTIES BORDERING HAMPTON ROADS**



THE ELIZABETH CITY “MICROPOLITAN” STATISTICAL AREA

The Elizabeth City MSA includes Pasquotank, Camden and Perquimans counties. Because of the area’s population concentration in Elizabeth City (which is located in Pasquotank County), and the overall size of its population and inter-county commuting patterns, the U.S. Office of Management and Budget designates these three counties as an economically integrated Micropolitan Statistical Area.

Displayed in Table 1 are the most recent economic and demographic data for the Elizabeth City MSA. In 2004, this MSA boasted a population of 57,267, about 3.5 percent of the size of the Hampton Roads region. In the same year, personal income in the Elizabeth City MSA totaled \$1.4 billion; this approximates 2.6 percent of Hampton Roads personal income. Thus, the Elizabeth City MSA generates economic activity about one-fortieth the size of Hampton Roads.

Per capita income, a statistic frequently used to measure overall economic well-being, was \$23,875 in the Elizabeth City MSA in 2004. This is about three-quarters of the level of per capita income of Hampton Roads and 72 percent of the national average of \$33,050.

TABLE 1 ELIZABETH CITY MSA INCOME AND EMPLOYMENT (2004)		
	Elizabeth City MSA	Hampton Roads
Personal Income	\$1.4 Billion	\$52.5 Billion
Per Capita Personal Income	\$23,875	\$31,811
Total Employment	28,541	1,000,101
Population	57,267	1,641,671
Unemployment Rate	4.5%	4.1%
Sources: U.S. Department of Commerce, North Carolina Employment Commission		

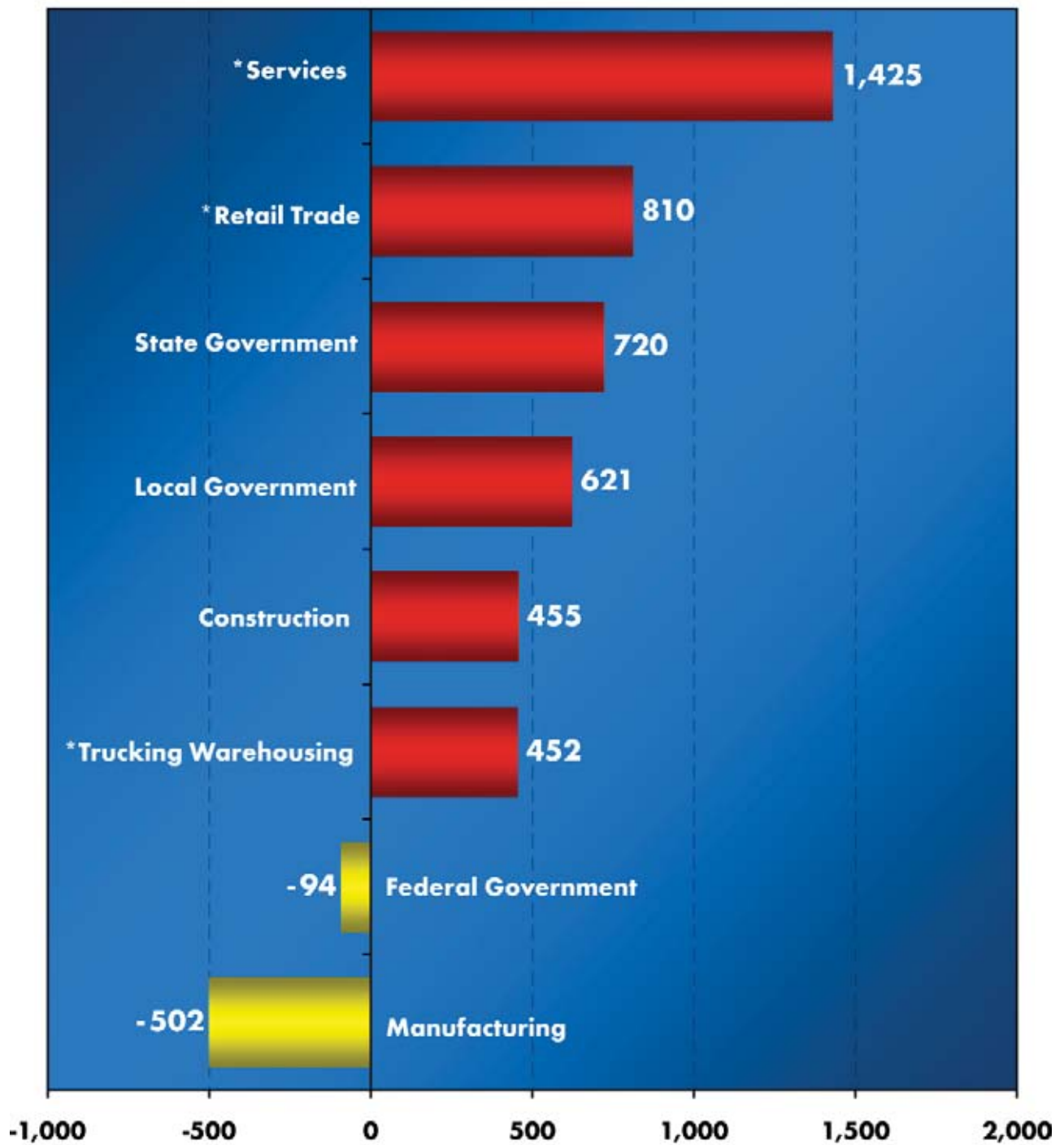
The unemployment rate in the Elizabeth City MSA (4.5 percent) was higher than that of Hampton Roads in 2004, though considerably below the 5.6 percent U.S. rate. However, the Elizabeth City MSA created new jobs at a more rapid rate than Hampton Roads. **Between 1994 and 2004, employment in the Elizabeth City MSA rose 27 percent, compared to 14.4 percent in Hampton Roads. Employment in the Elizabeth City MSA also grew more rapidly than Hampton Roads between 1999 and 2004, even though these were superb economic years for Hampton Roads. Hence, it is fair to conclude that economic conditions in the Elizabeth City MSA have improved significantly in recent years.**

What kinds of jobs do people hold in the Elizabeth City MSA? Military personnel account for 2.7 percent of the jobs (about the national average), compared to 11.2 percent in Hampton Roads. This means the economy of the Elizabeth City MSA is less sensitive to defense expenditures than Hampton Roads. This could prove to be an advantage during the next few years if defense expenditures decelerate.

Interestingly, state and local governmental units employ a much larger proportion of workers in the Elizabeth City MSA (21.4 percent) than is true in Hampton Roads (10.6 percent). This is not necessarily a good thing, for ultimately government must rely on the private sector for financial sustenance. The private sector in the Elizabeth City MSA is proportionately smaller than that of Hampton Roads, though as we show below, it has been growing faster.

Over the 10-year period, 1994 to 2004, the Elizabeth City MSA gained 6,063 jobs and, as noted above, considerably outpaced the nation in its percentage job growth. Displayed in Graph 1 are the primary industry sources of job growth in the MSA. The service sector (including, for example, health care, educational and social services, management services, restaurants and hotels) led the way in estimated new job creation, accounting for almost one-quarter of new jobs over the period. If state and local government are combined, the two created 1,341 new jobs, 22 percent of the total.

GRAPH 1
ELIZABETH CITY MSA EMPLOYMENT GAINS AND LOSSES BY SECTOR
(1994-2004)



Sources: U.S. Department of Labor and the Old Dominion University Economic Forecasting Project

The Elizabeth City MSA is becoming increasingly self-sufficient in the provision of services and shopping opportunities for its residents. This economic deepening has occurred primarily in the MSA's core city of Elizabeth City and in Pasquotank County. As a result, **Elizabeth City, like a planet with its orbiting moons, has increased its figurative "economic gravity" with respect to tightening its economic pull on the outlying counties of Perquimans and Camden.**

Table 2 demonstrates this. Almost 41 percent of Camden County workers commute to Pasquotank County, while 32 percent of Perquimans County workers do so. Fewer than 4 percent of Pasquotank County residents commute to the other two counties for their work. Meanwhile, 49 percent of the income earned by Perquimans County residents comes from outside of their county; the comparable figure is 58 percent for Camden County.

TABLE 2 COMMUTING PATTERNS WITHIN THE ELIZABETH CITY MSA (CENSUS 2000)		
	Camden	Perquimans
Proportion of Pasquotank Workers Commuting to Camden and Perquimans	1.31%	2.47%
Proportion of Camden or Perquimans Workers Commuting to Pasquotank	40.9%	32.0%
Sources: U.S. Census and the Old Dominion University Economic Forecasting Project		

Pasquotank County generates about twice as much income as the other two counties in the Elizabeth City MSA combined (Table 3). Still, despite its large relative aggregate income position among the three counties, Pasquotank has a lower per capita income than both the other counties and in addition, exhibits a lower income growth rate than either of the other two counties.

Camden, measured both in income and population, is the fastest growing county among the three. Notably, despite the predominantly rural character of these counties, agricultural income is not very important in any of them.

TABLE 3 2004 INCOME AND POPULATION OF THE COUNTIES IN THE ELIZABETH CITY MSA			
	Pasquotank	Perquimans	Camden
Personal Income	\$861.8 Million	\$282.9 Million	\$222.5 Million
Population	37,057	11,742	8,468
Per Capita Income	\$23,256	\$24,096	\$26,276
% Income Growth (1994-2004)	57.6%	73.9%	107.5%
% Population Growth (1994-2004)	11.8%	10.4%	33.4%
Farm Income as a Proportion of Personal Income	0.9%	5.4%	1.4%
Sources: U.S. Department of Commerce and the Old Dominion University Economic Forecasting Project			

As Table 4 reveals, none of the three counties is highly dependent upon military retirement benefits as a source of income, but Perquimans County is somewhat dependent upon Social Security payments as an income source (10.6 percent of all income). Both Pasquotank and Perquimans counties rely more heavily upon welfare payments than the typical county in the United States.

This has a bearing on the incidence of poverty in the three counties. Poverty is particularly high in Pasquotank and Perquimans counties, while, as might be expected, Camden with its high per capita income and lower level of transfer payments (military retirement, Social Security, welfare), records a 10.1 percent poverty rate, well below the national average of 12.1 percent. The percentage of people living in poverty increased slightly in Pasquotank and Perquimans counties between 1990 and 2000, but declined noticeably in Camden County.

TABLE 4

THE ELIZABETH CITY MSA: TRANSFER PAYMENTS AND POVERTY, 2004

	Pasquotank	Perquimans	Camden	U.S.
Military Retirement Benefits as a Proportion of Personal Income	0.8%	0.9%	0.8%	0.3%
Social Security Payments as a Proportion of Personal Income	7.2%	10.6%	6.5%	5.0%
Income Maintenance Payments (Welfare) as a Proportion of Personal Income	3.0%	3.1%	1.4%	1.5%
Proportion of Population Living Below the Poverty Level (Census 2000)	18.4%	17.9%	10.1%	12.1%
Proportion of Population Living Below the Poverty Level (Census 1990)	17.7%	16.5%	13.8%	13.5%

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

One of the attractions of the Elizabeth City MSA is the relatively low level of housing prices, at least compared to nearby locations such as Chesapeake, Suffolk and Virginia Beach. Housing prices in Pasquotank County in 2005 were more than \$75,000 below the average for Hampton Roads (a 30 percent difference). The gap in Perquimans County is even greater: \$91,000 and 63 percent. Camden County’s situation is different; here the gap is only \$17,000 (7 percent). Housing prices have been growing rapidly in all of these locations. Still, this has not discouraged home ownership. Home ownership rates in Perquimans (79 percent) and Camden (83 percent) counties are higher than the Hampton Roads average of about 73 percent. The Pasquotank County home ownership rate is only 66 percent.

CURRITUCK COUNTY

Of these five North Carolina counties, Currituck County is the most tightly connected to Hampton Roads. Table 5 indicates that almost 39 percent of Currituck workers commute to Hampton Roads and nearly 62 percent of the county’s personal income is earned outside the county. In fact, in contrast to the other counties, Currituck County has been a part of the Virginia Beach-Norfolk-Newport News MSA (Hampton Roads) since 1994.

Currituck’s 2004 aggregate personal income of \$625.5 million, seen in Table 6, is 1.2 percent of the total personal income and 1.3 percent of the population of Hampton Roads. Economically speaking, Currituck has been doing rather well in recent years. **Tables 7 and 8 reveal that Currituck County’s unemployment rate (2.9 percent) is well below the Hampton Roads average of 4.1 percent. Further, total employment and personal income in Currituck have been growing much more**

TABLE 5

CURRITUCK COUNTY INCOME AND COMMUTING, 2004

Proportion of Currituck’s Personal Income Earned Outside of the County	61.6%
Proportion of Currituck Residents Commuting to:	
North Carolina Counties	25.3%
Virginia Portion of Hampton Roads	38.6%

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

rapidly than in Hampton Roads. It would be fair to say that Currituck County has experienced an economic boom over the past decade.

Job growth in the county has tended to come from the private sector rather than from government, which bodes well for the future.

Currituck County is much less dependent on government transfer payments (military retirement, Social Security, welfare) than the three counties in the Elizabeth City MSA and, not surprisingly, a lower percentage of its population lives in poverty. Home prices in Currituck County reflect this relative prosperity. **Table 8 demonstrates that the average price paid for a home in Currituck is \$17,000 (or 7 percent) higher than the Hampton Roads average. Oceanfront and near-ocean properties have spurred this development.** Almost 82 percent of Currituck households own their own home. Slightly more than one-third of all homes, however, are "seasonal" in nature and function primarily as vacation homes rather than as permanent residences. This means home prices in

TABLE 6 INCOME AND EMPLOYMENT IN CURRITUCK COUNTY, 2004		
	Currituck	Hampton Roads
Personal Income	\$625.5 Million	\$52.5 Billion
Per Capita Personal Income	\$28,362	\$31,811
Total Employment (jobs located within the geographic area)	8,497	1,000,101
Population	22,055	1,641,671
Unemployment Rate	2.9%	4.1%
Sources: U.S. Department of Commerce, North Carolina Employment Commission		

TABLE 7 CURRITUCK COUNTY AND HAMPTON ROADS: PERSONAL INCOME AND EMPLOYMENT		
	Currituck	Hampton Roads
Ten-Year Growth Rate (1994-2004)		
Personal Income	115.8%	67.3%
Employment (jobs located within the geographic area)	83.8%	14.4%
Proprietors	74.7%	38.9%
Five-Year Growth Rate		
Personal Income	46.5%	34.0%
Employment (jobs located within the geographic area)	39.9%	6.6%
Proprietors	39.0%	22.8%
Sources: U.S. Department of Commerce and the Old Dominion University Economic Forecasting Project		

TABLE 8 AVERAGE HOUSE PRICES: CURRITUCK, THE ELIZABETH CITY MSA AND HAMPTON ROADS, 2005			
	Currituck (Mainland)	Elizabeth City MSA	Hampton Roads
2005	\$267,597	\$179,371	\$250,304
2000	\$107,371	\$95,055	\$130,960
2000-2005 Percent Change	149.2%	88.7%	91.1%
Sources: Albemarle Area Association of Realtors, the Virginia Association of Realtors and the Old Dominion University Economic Forecasting Project			

Currituck County are more sensitive to national and regional economic trends than housing prices in many other areas within the region. Hence, a “boom followed by bust” scenario in housing prices in Currituck is not beyond the realm of possibility.

GATES COUNTY

Gates County is different from the other four counties. First, it is not part of the Elizabeth City MSA, as are Pasquotank, Perquimans and Camden counties. Second, it is not part of the Hampton Roads MSA, as is Currituck County. However, as seen in Tables 9 and 10, it is a county whose economic profile bears some similarities to Perquimans and Camden counties, though it trails both in most important categories. Gates’ 2004 per capita income trailed Perquimans by 10 percent and Camden by 20 percent. **Eight of every 10 jobs held by Gates County residents are located outside the county and \$6 of every \$10 of income earned by Gates County workers comes from outside of the county, primarily from Hampton Roads. The unfortunate truth is that Gates County commuters tend to occupy lower-paying jobs in Hampton Roads.**

TABLE 9
INCOME AND EMPLOYMENT IN GATES COUNTY, 2004

	Gates	Perquimans	Camden
Personal Income	\$241.1 Million	\$282.9 Million	\$222.5 Million
Population	10,872	11,742	8,468
Per Capita Income	\$22,179	\$24,096	\$26,276
Total Employment	2,600	3,901	2,942
Unemployment Rate	4.1%	4.7%	3.5%
Farm Income as a Proportion of Personal Income	4.4%	5.4%	1.4%

Sources: U.S. Department of Commerce, North Carolina Employment Commission

TABLE 10
INCOME AND EMPLOYMENT GROWTH IN GATES, PERQUIMANS AND CAMDEN COUNTIES

	Gates	Perquimans	Camden
Ten-Year Growth Rate (1994-2004)			
Personal Income	52.6%	73.9%	107.5%
Employment (jobs located within the geographic area)	2.4%	18.6%	41.2%
Five-Year Growth Rate			
Personal Income	24.8%	31.2%	41.6%
Employment (jobs located within the geographic area)	0.4%	17.1%	21.0%

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

Table 10 discloses that between 1994 and 2004, income growth in Gates County significantly lagged that of Perquimans and Camden counties. Gates' income growth was less than half that of Camden over the period. The growth rate of jobs within Gates was particularly small for the five-year period from 1999 to 2004.

Gates County's indigenous business base is relatively anemic. In 2004, less than one in five jobs held by Gates County residents was in Gates and in the previous 10 years (1994 to 2004), only 61 net new jobs were created in the county.

The generally lower level of economic activity in Gates County is also reflected in housing prices. Table 11 lists the average price of houses in the five counties. The average price of a house in Gates County is only \$120,636, which is only 45 percent of the average housing price in the mainland portion of Currituck County and less than half of the average housing price in Hampton Roads. Further, though housing prices increased by 57.9 percent in Gates County between 2000 and 2005, this figure was dwarfed by the increases in the other counties, particularly Currituck, where prices inflated more than 149 percent during the same time period.

Gates County, then, presents an interesting set of conditions with respect to Hampton Roads. More than 36 percent of workers there commute to Hampton Roads, but when they do so, they tend to occupy lower-paying jobs, often in the city of Suffolk. The general economic prosperity of Hampton Roads has yet to spill over to Gates County in any substantial manner. Incomes and housing prices are low, and the county's poverty rate is high.

TABLE 11					
AVERAGE HOUSE PRICES IN THE NORTH CAROLINA COUNTIES ADJACENT TO HAMPTON ROADS					
	Gates	Pasquotank	Perquimans	Camden	Currituck (Mainland)
2005	\$120,636	\$174,480	\$159,301	\$233,379	\$267,597
2000	\$74,468	\$92,165	\$77,281	\$123,343	\$107,371
2000-2005 Percent Change	57.9%	89.3%	106.1%	89.2%	149.2%

Sources: Albemarle Area Association of Realtors and the Old Dominion University Economic Forecasting Project

ARE THE NORTH CAROLINA COUNTIES CANDIDATES FOR JOINING THE HAMPTON ROADS MSA?

Currituck County already is a part of the Hampton Roads MSA. Should the other four counties be added?

The U.S. Office of Management and Budget (OMB) is the federal agency charged with defining MSAs. The standards for creating a Core Based Statistical Area, or CBSA (a CBSA can be a Metropolitan Statistical Area like Hampton Roads or a Micropolitan Statistical Area like Elizabeth City), are set forth in "Part IX, Office of Management and Budget, Standards for Defining Metropolitan and Micropolitan Statistical Areas; Notice," Federal Register, Wednesday, Dec. 27, 2000. The Federal Register sets out a simple rule for combining counties into MSAs or merging MSAs: "(a) at least 25 percent of the employed residents of the county work in the CBSA's central county or counties, or (b) at least 25 percent of the jobs in the potential outlying county are accounted for by workers who reside in the CSBA's central county or counties." Further, two separate MSAs can merge "based on an employment interchange of at least 15 percent but less than 25 percent," if local opinion is in favor of such a merger.

Given the criteria laid down by OMB for including counties and/or smaller MSAs into larger MSAs and the commuting data presented earlier, it seems unlikely that the Elizabeth City MSA will be merged into Hampton Roads in the near future. Consider the current commuting patterns between the areas: 13.1 percent of resident workers from the Elizabeth City MSA commute to Hampton Roads, while only .1 percent of resident workers from Hampton Roads commute to the

Elizabeth City MSA. This falls considerably below the OMB inter-area commuting standard and is not enough, as yet, to allow the interested counties to petition for a merger, if indeed they would wish to do so. The 2010 census could change this situation.

Gates County presents a different case – 36.4 percent of its resident workers are employed in Hampton Roads and 27.4 percent of all income earned in the county comes from employment in Hampton Roads. Once again, however, only a very small fraction of Hampton Roads resident workers commutes to Gates County for employment. Nevertheless, Gates County would appear to qualify for inclusion in the Hampton Roads MSA.

More than one-quarter of all personal income in Currituck and Gates counties is earned from employment in Hampton Roads. By contrast, only 10 percent of personal income in the Elizabeth City MSA can be attributed to earnings in Hampton Roads. Further, as we have pointed out, the Elizabeth City MSA, and Elizabeth City in particular, is steadily becoming more economically self-sufficient and therefore less tied to Hampton Roads for daily shopping needs. The proportion of resident workers commuting from the Elizabeth City MSA to Hampton Roads *actually declined* from 14.2 percent in the 1990 census to 13.1 percent in the 2000 census.

If and when they become eligible, will it actually be in the best interests of the four non-member counties to join the Hampton Roads MSA? Perhaps, but this will not be a slam-dunk. On the plus side, being included in the Hampton Roads MSA probably would enhance these counties' ability to market themselves to prospective businesses. It would be legitimate for them to cite the assets of Hampton Roads in their presentations and to become members of regional economic organizations such as the Hampton Roads Economic Development Alliance. On the negative side, the North Carolina counties would constitute only a tiny proportion of the Hampton Roads MSA and therefore might not receive extensive attention for their specific needs.

So, will the Hampton Roads MSA be expanded further into North Carolina? The only plausible expansion would be the inclusion of Gates County. Gates, with 36.4 percent of its resident workers commuting to Hampton Roads and 27.4 percent of its income derived there, more than meets the Office of Management and Budget's basic commuting requirements for inclusion in the MSA. After the 2010 census, this may occur. If so, it will officially recognize a long-term trend in economic activity.

Traffic Congestion



TUNNEL VISION: TRAFFIC CONGESTION IN HAMPTON ROADS

Traffic congestion is the bane of the existence of an increasing number of people within Hampton Roads. How to address this growing problem also is a contentious political issue in the Commonwealth, and a deadlock over transportation programs designed to address this congestion caused the 2006 legislative session to last until June.

One of the focal points of the debate has been traffic across the James River estuary between the Peninsula and Southside. Do we need to construct a third crossing? Or, can we more efficiently add tubes to the two existing crossings? Or, should we forget these water crossings and instead dramatically reconstruct and expand Route 460 from Suffolk to Petersburg?

The answers to these questions depend upon a host of factors. The most obvious are anticipated growth in traffic levels, land acquisition and construction costs, environmental impacts and the negative impact of traffic congestion on business activity. In this chapter, we address traffic congestion throughout the region, but concentrate on providing valuable information about anticipated traffic and congestion on the Hampton Roads Bridge-Tunnel (HRBT), which is at the heart of our traffic dilemma.

Accurate knowledge about anticipated traffic volume and the resulting congestion will not magically tell us which is the best solution to our problems, or whether we should finance transportation projects by user fees as opposed to general tax revenues. But, it will help us understand the size of the problem and how rapidly it is growing. This, in turn, may inspire more people to action and help break the legislative gridlock on transportation that currently exists.

TRAFFIC DELAYS AND COSTS IN HAMPTON ROADS

According to the Texas Transportation Institute at Texas A&M University, in 2003, traffic congestion resulted in 21,746,000 hours of traveler delays in Hampton Roads, or about 26 hours per traveler (a 117 percent increase over 1982). In addition to this lost time, congestion forced drivers to consume an additional 13,839,000 gallons of gasoline. If we value each hour of delay based upon the region's per capita income in 2003 (\$30,090), then each hour lost was worth about \$15 and the total cost of the delays was \$326.2 million. If the price of each gallon of gasoline averaged \$1.50 per gallon, then the fuel cost of this congestion in 2003 was \$20.8 million. **Taken together, this means the approximate cost of traffic congestion within the region in 2003 was \$347 million, without taking into account any environmental costs or the negative impact upon business activity. This translates to \$231 per person.**

What are these costs in 2006? Between 1982 and 2003, total traffic delay hours typically increased about 4 percent per year, but almost twice as fast since 2000. The recent rapid increase in traffic congestion reflects an upsurge in licensed automobiles and trucks within our region. Let's be conservative and assume that hours lost to traffic congestion and gallons of gasoline wasted during traffic congestion both increased by an average of only 5 percent per year between 2003 and 2006. **Taking into account the increase in regional per capita income and the cost of gasoline, we find the total cost of traffic congestion within Hampton Roads in 2006 to be \$473 million, or \$296 per person.** Table 1 summarizes these data and estimates.

Why are the costs of congestion leaping ahead? First, the region's population has been growing, but the number of automobiles and trucks licensed within the region has been growing even more rapidly. One reason for this has been the reduction in the car tax. Second, the value of our time has been increasing. (The increasing value of people's time is a good development, but it also means that every hour lost to traffic congestion has become more costly to those of us who are caught in traffic jams.) Third, the price of gasoline has risen significantly. **Taken together, these factors may not have produced the equivalent of a perfect traffic congestion storm, but those who commute long distances to work might be forgiven for thinking otherwise.**

TABLE 1

ESTIMATED COSTS OF TRAFFIC CONGESTION IN HAMPTON ROADS, 2003 AND 2006*
 (* not including environmental costs and negative impact on business activity)

	2003	2006
Value of Lost Time	\$326.2 million	\$424.8 million
Increased Gasoline Costs	\$ 20.8 million	\$ 48.1 million
Total	\$347.0 million	\$472.9 million
	(\$231 per cap)	(\$296 per cap)

THE HAMPTON ROADS BRIDGE-TUNNEL

The Hampton Roads Bridge-Tunnel constitutes one of the major choke points in traffic flow within our region. Given very reasonable assumptions about traffic growth, the Virginia Modeling, Analysis and Simulation Center at Old Dominion University, represented by researchers John Sokolowski and Marshall Hutto, generated estimates of future traffic congestion in the HRBT for the State of the Region report.

Graph 1 plots actual hourly traffic counts of automobiles and trucks traveling through the HRBT in 2005 (blue), projected growth through 2010 (red) and projected growth through 2015 (white). Not surprisingly, the peak traffic times during the day occurred between 7 a.m. - 9 a.m. and 4 p.m. - 7 p.m.

Let's see what these traffic flows mean to a hypothetical HRBT commuter who sets out from the I-564/I-64 junction, near the Norfolk Naval Base, and travels west on I-64 to the Hampton University exit. If traffic is flowing freely and the driver maintains a 55 mph speed, then her commute will last only 11 minutes. However, during a typical afternoon rush hour in 2005, this commute actually took almost four times as long – 41 minutes. Our simulations predict that the time for this trip will grow to 58 minutes in 2010 and to a stratospheric 82 minutes in 2015. This means that traffic will be moving nearly eight times slower than when no congestion is present.

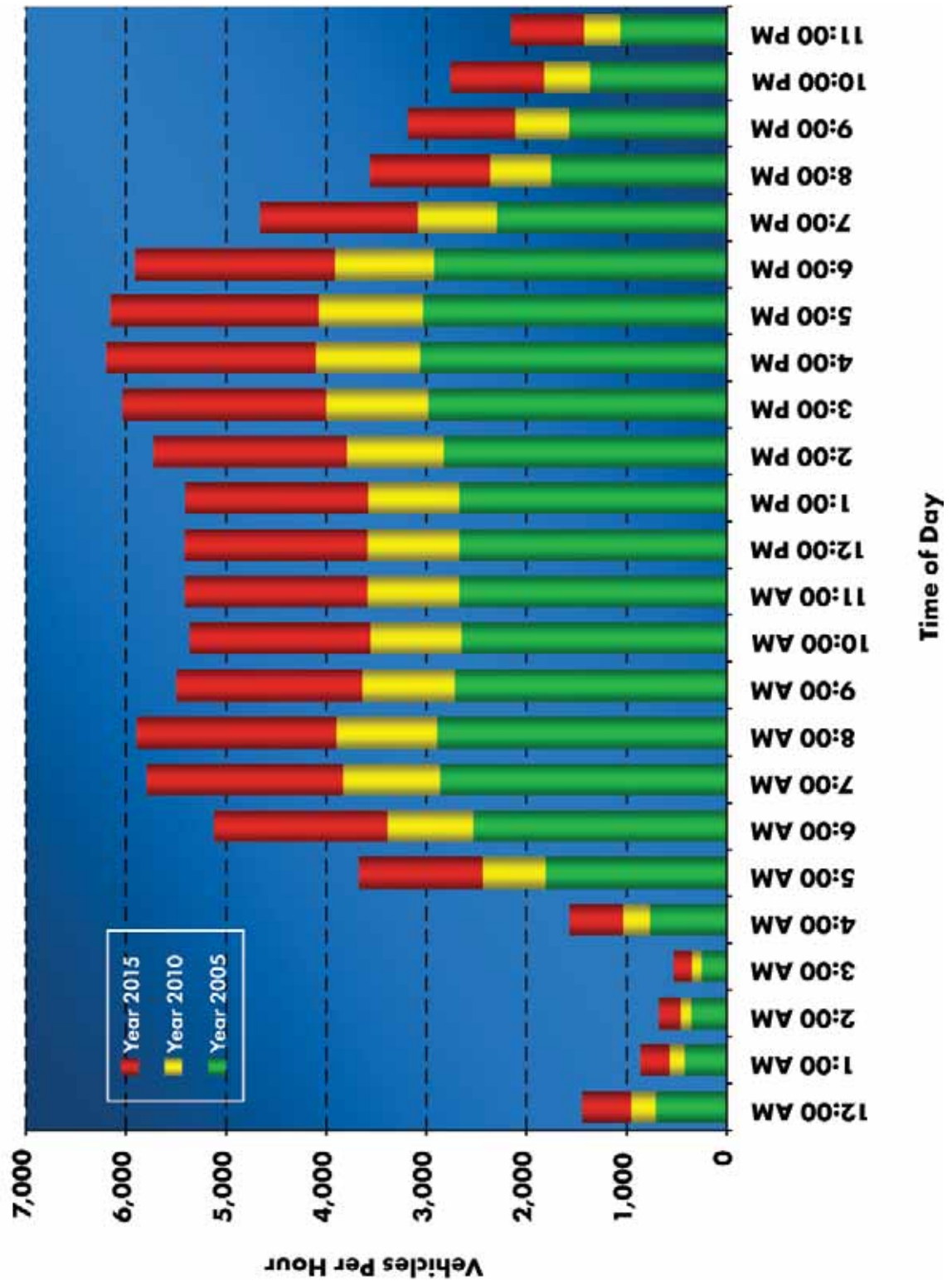
Graph 2 illustrates the projected growth in commuting time for 2005, 2010 and 2015. The average speed of our typical driver's automobile during her commute will fall from 14.5 mph in 2005 to 7.2 mph in 2015. Our driver had better have soothing music playing on her car stereo and be prepared for a late dinner, because she will arrive almost 45 minutes later in 2015 than she did in 2005. If she has the same experience in her morning commute, then she is going to spend nearly 1 1/2 additional hours per day on the road.

Of course, if our driver is traveling a farther distance (for example, starting in Virginia Beach and going to Newport News), then these congestion times rise significantly. Further, note that we have assumed an accident-free trip. Imagine the havoc that an accident would cause if one or both lanes were closed. A one-lane obstruction that begins at 4 p.m. and lasts one hour will approximately double commuting times for all drivers during rush hour.

Let's now return to our analysis of the costs of traffic congestion and extend it to 2015. Once again, let's make conservative assumptions about how fast traffic delays will grow. Even though the length of traffic delays in the HRBT will increase an estimated 8 percent annually through 2015, let's assume that delays within the region overall will grow only at 5 percent per year, since drivers change their commuting habits and continuously select the most efficient travel routes. Let's also assume that drivers progressively begin to purchase more fuel-efficient automobiles, but that gasoline prices rise at 6 percent annually (about twice the recent rate of overall price inflation).

Table 2 summarizes our estimates. By 2015, the costs of traffic congestion within the region will amount to \$1 billion per year, which translates to more than \$600 per capita annually. Further, it is unfortunately true that these costs will accelerate as the region's roads become critically overloaded. The addition of 5,000 new vehicles to uncrowded roads makes little difference;

GRAPH 1
HAMPTON ROADS BRIDGE - TUNNEL
AVERAGE TRAFFIC VOLUME MAY - SEPTEMBER



GRAPH 2
AVERAGE MAXIMUM TRAVEL TIME ON I-64 WEST
MAY - SEPTEMBER DURING AFTERNOON RUSH HOUR FROM
I-564 TO HAMPTON UNIVERSITY EXIT

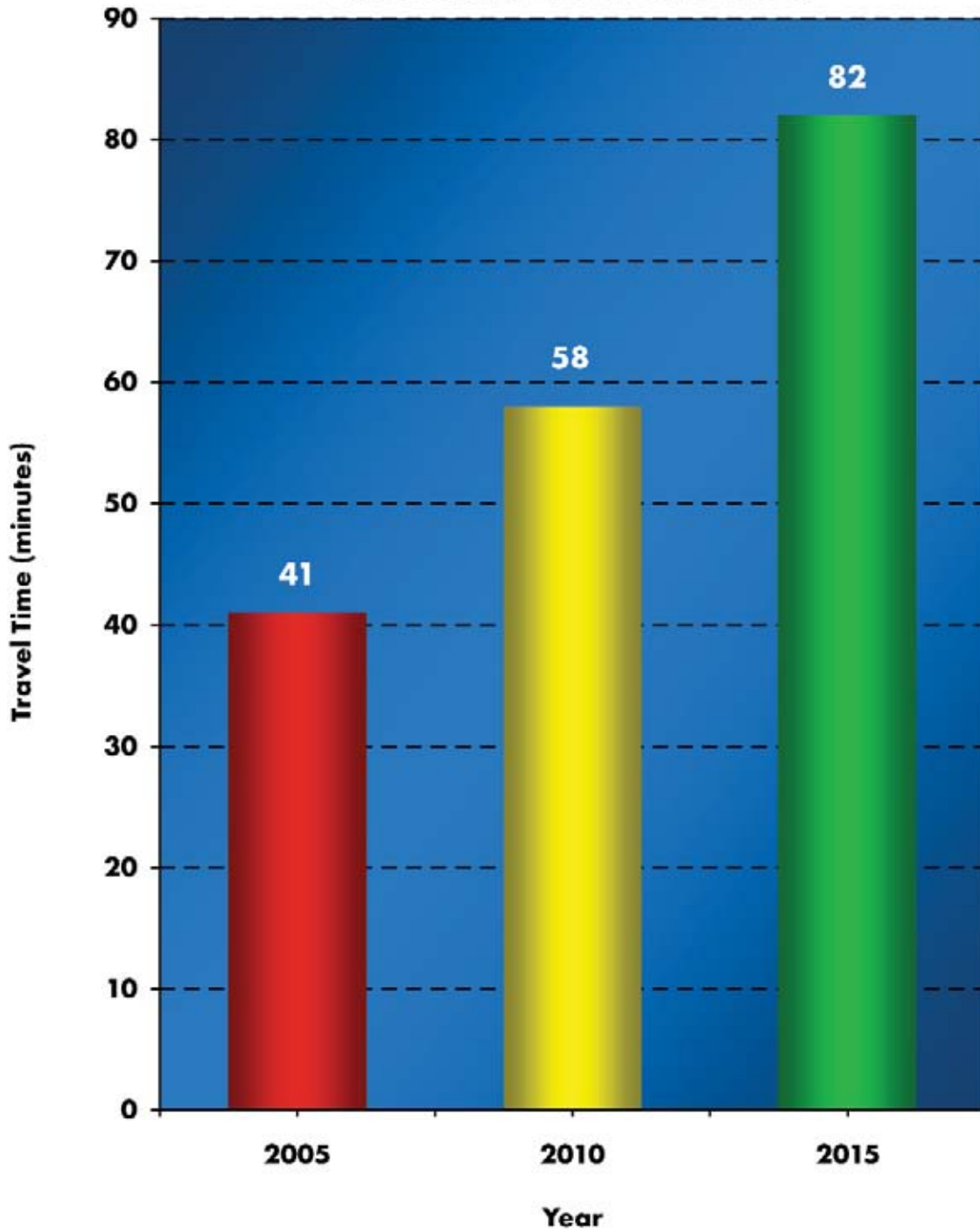


TABLE 2

ESTIMATED COSTS OF TRAFFIC CONGESTION IN HAMPTON ROADS, 2006, 2010 AND 2015 *

(*not including environmental costs and negative effects on business activity)

	2006	2010	2015
Value of Lost Time	\$424.8 million	\$604.0 million	\$939.9 million
Increased Gasoline Costs	\$ 48.1 million	\$ 73.8 million	\$126.0 million
Total	\$472.9 million	\$677.8 million	\$1,065.9 million
	(\$296 per cap)	(\$408 per cap)	(\$608 per cap)

however, the addition of the same 5,000 vehicles to roads that already are bumper-to-bumper with vehicles will produce virtual gridlock. Thus, congestion grows geometrically.

Ah, but what if we take action immediately? The blunt truth is that even if the citizenry takes steps promptly to build a third crossing, or to add traffic tubes to the existing crossings, or to expand and improve Route 460, the beneficial effects of these actions will not be felt for many years. Where a third crossing or additional tubes are concerned, the gestation time between initiation and implementation may be 15 to 25 years. By contrast, the Route 460 project might provide more immediate relief, though it would not address the specific problems of commuters who travel between the Peninsula and Southside. While it is perilous to project traffic and other variables more than a decade into the future, if current trends were to continue, traffic congestion costs would approach \$2 billion in 2020, and only then might we experience relief – if we take action today.

ENVIRONMENTAL COSTS AND NEGATIVE BUSINESS EFFECTS

The estimates we have just provided focus on the direct and easily computable effects of traffic congestion – the value of time that travelers lose while sitting in traffic jams and the cost of additional fuel burned as their vehicles are idling. However, there are two other classes of costs that are real, which we did not include. The first is environmental costs. Vehicles that are stalled in a traffic jam emit significant levels of pollutants that reduce air quality, accelerate corrosion and reduce the life spans of both human beings and animals.

The second type of cost is business activity that is discouraged, or simply does not occur, because firms cannot receive the supplies they need – or deliver their own products – in a timely and cost-effective manner. The natural tendency of firms that find themselves in this situation is to seek another location, presumably outside of Hampton Roads. It's not easy to estimate the precise impact of this scenario, but the comments of area business leaders make it abundantly clear that these calculations are on their minds. **Suppose the gross regional product of Hampton Roads is reduced by only .5 percent because of traffic congestion. This would cost us \$330 million. A 1 percent reduction in our gross regional product would cost our region a whopping \$660 million. This amounts to more than \$410 per person annually.**

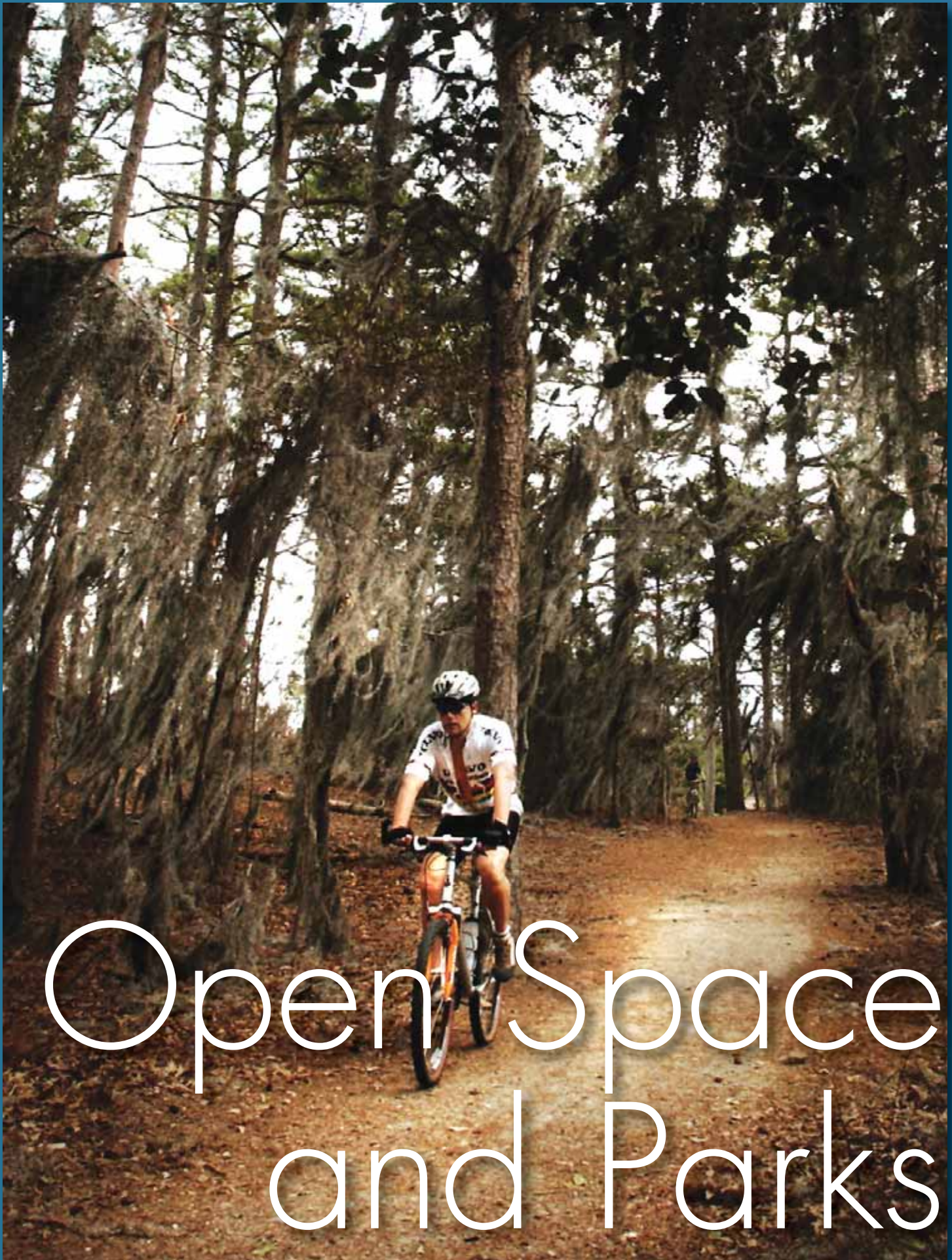
SUMMING IT UP

One need not be a mathematics whiz to perceive that the costs of traffic congestion to Hampton Roads are large and are growing rapidly. **Already in 2006, each citizen plausibly lost at least \$700 per year because of traffic congestion, assuming the 1 percent negative impact of congestion on business activity reflects reality. By 2010, this cost will approach \$1,000 per citizen per year.**

Yes, the citizens of Hampton Roads will have to sacrifice other valuable things if they choose to address the traffic congestion problem. If taxes are increased to address transportation problems, then this "tax bite" will immediately be apparent in higher gasoline taxes, license fees, etc. If taxes are not increased, but transportation dollars are taken from the Commonwealth's general fund, then we will experience lower expenditures on education, health services, the environment and law enforcement. We can't spend the same dollar in two places.

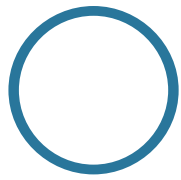
What should also be apparent from our analysis, however, is that one way or another, Hampton Roads residents are going to pay the costs of traffic congestion. Either we choose to spend additional funds on transportation, or we will incur the costs of traffic congestion detailed above. Plausibly, these will approach \$1,000 per citizen in 2010. It appears that spending the necessary resources to address our traffic congestion problems actually is the less expensive way to go. Nearly all of the recently proposed transportation programs would cost far less than the \$1,000 per citizen per year and usually have fallen into the range of \$100 to \$500 per citizen, depending upon the nature and size of the solution.

Although most economists lean in favor of "user fees" to the funding of transportation networks, there are other ways to skin this financial cat. These include an increase in the income or sales taxes; privatization of road and tunnel building (which would result in significant tolls); tolls (as opposed to gasoline taxes); and congestion taxes similar to what we see now in London where one is taxed for entering the center city. The reader will note that while we do not advocate a specific approach to funding our regional transportation needs, we do, however, implore citizens and elected officials to take our transportation needs seriously. As the data above demonstrate, we are approaching a crisis situation. It is high time for action.



Open Space and Parks

IT'S NOT EASY BEING GREEN: OPEN SPACE AND PARKS IN HAMPTON ROADS



Over the four centuries since the founding of Jamestown in 1607, open spaces, green spaces and parks have helped define our regional identity. In some respects, we are plentifully endowed with open space. For example, the somewhat unknown and even a bit mysterious Great Dismal Swamp in southern Hampton Roads spans more than 111,000 acres of forested wetlands, providing refuge to over 200 species of birds and 87 species of reptiles and amphibians. This is among the reasons why the Virginia Department of Conservation and Recreation has singled out Hampton Roads for its “wealth of biodiversity.” Indeed, according to the Virginia Outdoors Plan (2002), one-third of all rare, threatened and endangered plants in the Commonwealth are to be found in our region.

Add to this our beaches, an array of attractive city parks plus national parkland, and it seems as if Hampton Roads has its share and more of open space. Reality is a bit different. While some areas of the region boast adequate, even excellent open space and parkland, others (Norfolk, for example) have comparatively little and even threaten to build upon the scarce open space that is available.

Pressures upon strained city, state and national budgets often have made it difficult for governmental units to satisfy the commitments they have made to open space and parks. **Still, of all the factors that currently challenge the availability of open space and parks in Hampton Roads, it is the progressive and almost relentless conversion of these areas to residential and commercial use that is most ominous, for once unsettled land has been urbanized with residents and structures, it seldom reverts to open space or park status. At the end of the day, it is societal growth that is most likely to compromise our lofty goals and eliminate our future options.**

If another 50 years pass that devour open space at the same rate as the last 50 years, then we will have eliminated a huge swath of land that could have been turned into parks or preserved as open space for all to enjoy. We will have made an almost irrevocable decision that parks and open space are not going to play significant roles in our urban future.

THE REGIONAL COMMITMENT AND THE BALANCING ACT

The citizens of Hampton Roads consistently state they place a high priority on the preservation of open space in their communities. In 2001, 80 percent of James City County residents who were surveyed agreed that “there should be restrictions on the amount of land sold for residential and commercial development.” In Chesapeake in 2003, 89 percent of survey respondents either “strongly agreed” or “agreed” with the statement that “farmland, natural areas and historic sites in Chesapeake are part of our heritage, and we owe it to our children and grandchildren to protect them.” These results echo the findings of statewide surveys conducted by the Virginia Department of Conservation and Recreation and other organizations in 2000 and 2001.

Virtually all of the comprehensive plans adopted by the cities and counties of Hampton Roads express a commitment toward “smart” development and the preservation of open space. **Even so, the long-term patterns of settlement and consumption in Hampton Roads tell a different story. Our desire for ever-larger homes in new suburban developments, our dependence on the automobile and our preference for shopping at malls and big box stores have taken a toll on our natural environment and reduced the amount of undeveloped space around us. Throughout Hampton Roads, the conversion of farmland and open space to developments typically has outstripped the pace of population growth. The result has been sprawl.**

The city of Newport News' most recent comprehensive plan provides an instructive example. In the 1960s, development within Newport News expanded at an average rate of more than 400 acres per year, and the city's population increased by 24,515 people – resulting in a population density of 5.7 people per developed acre. However, between 1970 and 1992, development increased by more than 500 acres per year, while population grew by 37,709 – resulting in the lower population density of 3.3 people per developed acre. This is a mathematical demonstration of what many would label “sprawl.” Since 1992, development within Newport News has declined significantly. According to Newport News Framework for the Future, the city's 2000 population density had risen to 4.8 people per developed acre. This is a story that has been replicated in virtually every other jurisdiction in the region.

Today, all of the communities in Hampton Roads face the challenge of balancing the sometimes contradictory demands of development and conservation, each important in different ways to the health of the region. This is particularly true in communities such as Chesapeake, Suffolk and Isle of Wight County, which are among the fastest-growing in the region, but which still possess large tracts of rural, agricultural and other undeveloped land. These communities desire additional development and have the open space to accommodate it. Yet, they also want to increase their parklands and open space. Therein lies the conflict.

How well are we protecting the open space in our region? Let's examine two important indicators: public parks and other conservation lands.



THE REGION'S PARKS

The origin of public city parks in the United States stretches back to the second half of the 19th century, when landscape architect Frederick Law Olmstead took the lead in transforming 843 acres of Manhattan real estate into New York City's Central Park. Olmstead's creation was an immediate success, and municipal authorities throughout the U.S. began to emphasize the importance of public open space. The city park movement reached its height between 1890 and 1940, when "great efforts were made to plan for parkland, to understand the relationship between parks and surrounding neighborhoods, and to measure the impact of parks," according to Peter Harnik in his 2003 report, "The Excellent City Park System: What Makes It Great, and How to Get There." Hampton Roads' oldest parks date from this era; Norfolk's City Park (later renamed Lafayette Park) was established in 1892.

Today, all of Hampton Roads' communities possess a city or county department responsible for parks and recreation and the preservation of open space is considered to be a critical public goal. As stated succinctly by the Trust for Public Land in its October 2000 report, *Benefits of Open Space*, "Urban green space provides a range of tangible benefits, such as mitigating air and water pollution, combating suburban sprawl, providing opportunities for recreation, reducing crime and fostering cohesive neighborhoods, attracting businesses, and stabilizing property values. As part of a broader urban agenda, investing in open space can serve as an anchor for revitalizing neighborhoods and building healthy communities."

The communities of Hampton Roads have set aside more than 22,000 acres of land as city and county parks, ranging in size from small neighborhood playgrounds to the 8,139-acre Newport News Park, one of the largest municipal parks in the country. These facilities offer a wide array of both passive and active recreational opportunities to Hampton Roads residents. Beyond playgrounds, picnic shelters and athletic fields, our local departments of parks and recreation maintain public beaches, boat ramps, fishing piers, skate parks, nature trails, greenways and even a working farm.

Table 1 reports the amount of park space that exists in the cities and counties of Hampton Roads (not counting state and national parkland). **The region's "all-star team" consists of Isle of Wight County, James City County, Suffolk and Newport News, if available park space per citizen is the criterion. However, if we look at dollars spent per citizen on parks, then Virginia Beach, Williamsburg, Newport News and Hampton lead the way. The laggards in terms of available acreage per citizen are Norfolk, Portsmouth and Poquoson, each of which provides fewer than five acres of parkland per 1,000 citizens. The more rural jurisdictions within the region typically spend the least per citizen on parks – Isle of Wight County, York County and Chesapeake.** Ultimately, however, York County and Newport News devote the largest proportions of their total areas to parks – 10.3 percent in York County and 8.2 percent in Newport News.

Hampton Roads is home to national and state parks of both natural and historical significance. The Colonial National Historical Park spans more than 9,000 scenic acres, encompassing Historic Jamestown, the Yorktown Battlefield, the Colonial Parkway, Green Spring Plantation and the Cape Henry Memorial in Virginia Beach. The Virginia Department of Conservation and Recreation oversees the False Cape and First Landing State Parks in Virginia Beach, as well as the Chippokes Plantation and York River State Parks to the west and north. These parks are supplemented by a network of national and state wildlife refuges, many of which are accessible to the public for hunting, fishing, hiking and wildlife observation. Figure 1 illustrates where the local, state and national parklands and wildlife refuges are located within our region.

TABLE 1

PARK SPACE AND PARK BUDGETS IN THE CITIES AND COUNTIES OF HAMPTON ROADS, 2004-2005

	2004 Estimated Population	2005-06 Parks/Rec Budget	Acreage in City/County Parks	Parks/Rec Per Capita Spending	City/County Park Acreage Per 1,000 People	City/County Park Acreage as a % of Total Acreage
Chesapeake	214,725	\$6,851,914	2,042.83	\$31.91	9.51	0.94
Hampton	145,951	\$12,607,328	1,470.42	\$86.38	10.07	4.42
Newport News	181,913	\$19,905,953	3,578.74	\$109.43	49.91	8.22
Norfolk	237,835	\$15,887,200	858.00	\$66.80	3.61	2.48
Poquoson	11,700	\$683,630	49.50	\$58.43	4.23	0.48
Portsmouth	100,169	\$6,000,000	184.37	\$59.90	1.84	0.87
Suffolk	78,994	\$3,300,000	1,433.00	\$41.78	18.14	0.56
Virginia Beach	438,415	\$71,450,096	3,734.30	\$162.97	8.52	2.35
Williamsburg	11,465	\$1,250,000	56.00	\$109.03	79.02	0.97
Isle of Wight County	33,417	\$718,661	559.50	\$21.51	16.74	0.28
James City County	57,525	\$2,500,000	1,391.40	\$43.46	24.19	1.52
York County	61,758	\$1,683,931	6,998.00	\$27.27	10.49	10.32
Hampton Roads	1,573,867	\$142,838,713	22,356.06	\$90.8 avg.	8.24 avg.	3.08 avg.

*Note: Parks acreage does not include golf courses, school grounds, recreation centers, museums or other specialty sites.

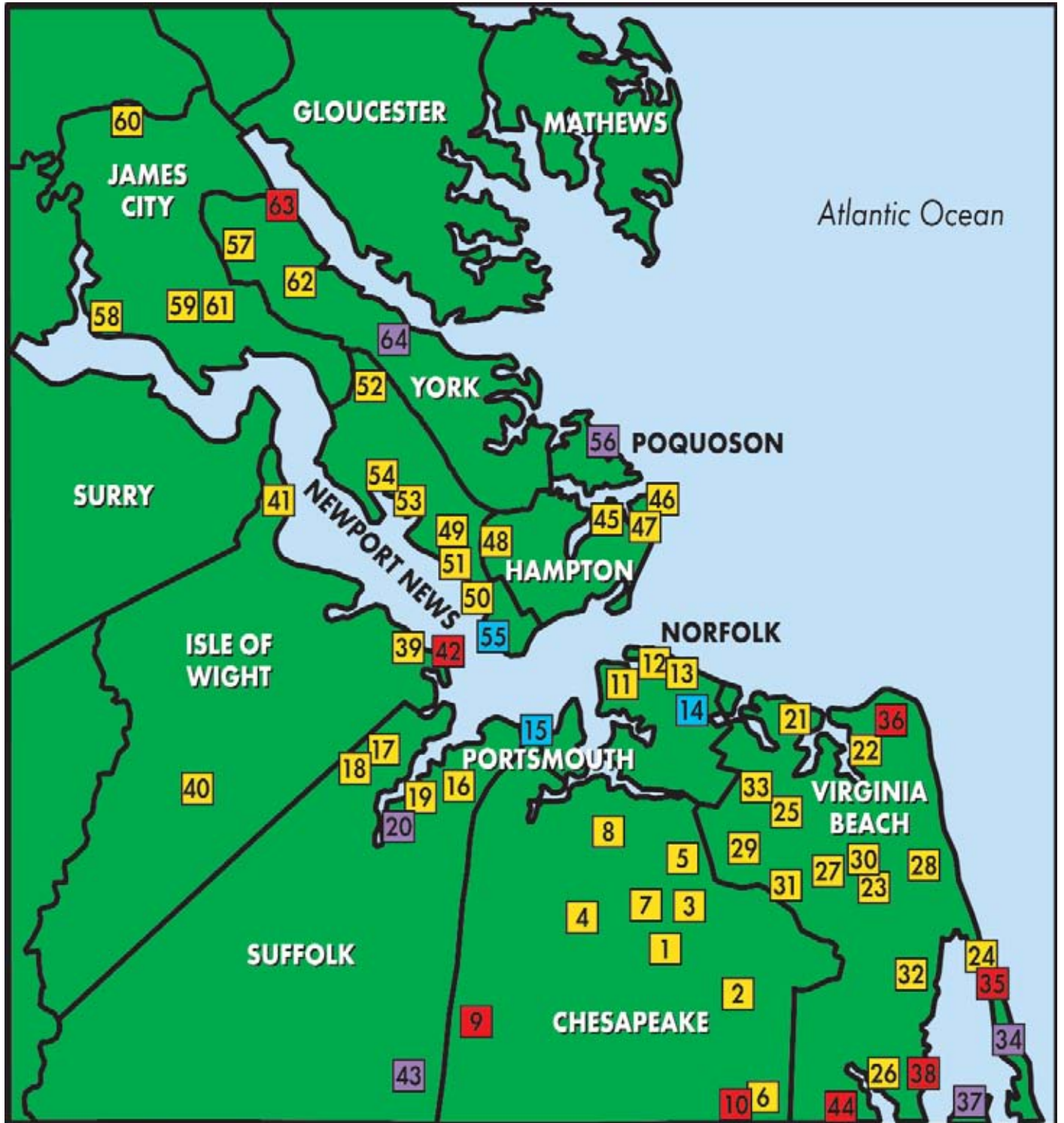
National parks and state parks are not included.

Newport News numbers do not include portions of Newport News Park located in York County.

Williamsburg numbers do not include Waller Mill Park.

York County numbers include portions of Newport News Park located in York County.

**FIGURE 1
PARK LOCATIONS IN HAMPTON ROADS**



SOUTHSIDE

PARK ACREAGE

CHESAPEAKE

1	Bells Mill Park	114
2	Centerville Park	90
3	Chesapeake City Park	76
4	Deep Creek Park	225
5	Indian River Park	91
6	Northwest River Park	763
7	Oakgrove Lake Park	130
8	South Chesapeake Park	153
9	Great Dismal Swamp WMA	758
10	Northwest River Natural Area Preserve	2,788

NORFOLK

11	Lafayette Park	60
12	Northside Park	51
13	Tarralton Park	70
14	*Norfolk Botanical Garden	155

PORTSMOUTH

15	Hoffler Creek Wildlife Preserve	142
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SUFFOLK

16	Bennetts Creek Park	50
17	Lone Star Lakes	1,063
18	Crump's Mill Pond	70
19	Sleepy Hole Park	86
20	Nansemond National Wildlife Refuge	411

VIRGINIA BEACH

21	Bayville Park	68
22	Great Neck Park	70
23	Holland Pines Park	60
24	Little Island Park	123
25	Mount Trashmore Park	165
26	Munden Point Park	100
27	Princess Anne Park	302
28	Red Wing Park	97
29	River Oaks Park	71
30	Rolling Woods Park	59
31	Stumpy Lake Park	1,120
32	West Neck Creek Park	175
33	Williams Farm Park	58
34	Back Bay National Wildlife Refuge	7,732
35	False Cape State Park	4,321
36	First Landing State Park	2,888
37	Mackay Island National Wildlife Refuge	8219
38	Princess Anne Wildlife Management Area	1,546

ISLE OF WIGHT COUNTY

39	Carrollton Nike Park	150
40	Heritage Park and Fairgrounds	262
41	Hardy District Park	50
42	Ragged Island Wildlife Management Area	1,537
43	Great Dismal Swamp National Wildlife Refuge	111,000
44	North Landing River Natural Area Preserve	3,441

PENINSULA

PARK ACREAGE

HAMPTON

45	Gosnold's Hope Park	103
46	Grandview Nature Preserve	578
47	Grundland Creek Park	75
48	Sandy Bottom Nature Park	456

NEWPORT NEWS

49	Deer Park	50
50	Huntington Park	60
51	Lake Maury Natural Area	127
52	Newport News Park	8,139
53	Riverview Farm Park	279
54	Stoney Run Park	228
55	Mariners' Museum Park	550

POQUOSON

56	Plum Tree Island National Wildlife Refuge	3,501
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WILLIAMSBURG

57	Waller Mill Park	2,700
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JAMES CITY COUNTY

58	Chickahominy Riverfront Park	141
59	Freedom Park	689
60	Upper County Park	79
61	Warhill Sports Complex	406

YORK COUNTY

62	New Quarter Park	540
63	York River State Park	2,550
64	*Colonial National Historical Park	9,000

PARK DESIGNATIONS

 Local	 National
 State	 Private

*Fee charged for admission

PARKS AND RECREATION IN VIRGINIA BEACH: A PROPITIOUS EXAMPLE

In the 2003 study authored by Peter Harnick of the Trust for Public Land (TPL), and published under the title “The Excellent City Park System,” the TPL identified seven factors that contribute to an excellent city park system:

1. A clear expression of purpose
2. An ongoing planning and community involvement process
3. Sufficient assets in land, staffing and equipment to meet the system’s goals
4. Equitable access
5. User satisfaction
6. Safety from crime and physical hazards
7. Benefits for the city beyond the boundaries of the parks

Virginia Beach (one of the largest American cities) is the only community in Hampton Roads whose parks are regularly assessed by the TPL. It is clear from the TPL’s data – and on-site visits confirm – that the city’s park system performs rather well on all seven counts. Compared to other low population-density cities studied by the TPL, Virginia Beach measures up well in total acres of parkland, in the percentage of city land devoted to parks, in park-related expenditures per resident and the number of employees per park unit. Additionally, the TPL has singled out Virginia Beach for its achievements in providing equitable park access to the disabled.

Virginia Beach has been blessed with favorable “start-up” conditions for an excellent park system – a strong tax base and a generous supply of attractive waterfront property. Further, open space has been augmented by Virginia Beach’s two state parks, portions of the North Landing River Natural Area Preserve and the Back Bay and Mackay Island National Wildlife Refuges. These are large conservation lands managed by state or federal authorities. Moreover, the Virginia Beach Department of Parks and Recreation still has the potential to draw upon substantial tracts of undeveloped land that are now scarce in neighboring cities like Norfolk, Portsmouth and Newport News.

Even so, the city of Virginia Beach has made the most of these favorable conditions. The Department of Parks and Recreation is assisted by an active Parks and Recreation Commission, a volunteer advisory group whose members are appointed by the City Council. The commission’s Open Space Subcommittee is responsible for “identifying and prioritizing potential open space sites throughout the city to serve future outdoor recreational purposes.” Between August 2000 and May 2006, the Open Space Acquisition Program acquired 1,706 acres on 14 different sites throughout Virginia Beach, including Stumpy Lake. The programs and accomplishments of the Parks and Recreation Department are detailed exhaustively in its 2004-05 annual report, and the department’s goals for the future are laid out clearly in the 2000 Update of Virginia Beach Outdoors Plan. Both documents are accessible online for all city residents (www.vbgov.com/dept/parks).

PARK SPACE IN THE REGION’S DEVELOPED CORE

If Virginia Beach has made acquiring and preserving open space a high priority, then its counterparts in the highly developed communities of Hampton, Newport News, Norfolk and Portsmouth recently have not done so to the same degree. The parks and recreation resources of these cities typically are allocated to other tasks, such as maintaining and enhancing existing park space, and providing a variety of recreational opportunities for a denser population.

There are few undeveloped stretches of land in these four cities that have not already been set aside for conservation purposes. Moreover, much of the development that defines these cities' present-day character occurred in the three decades following World War II. Park creation declined throughout the United States in this era, as planners sought to address their communities' open space needs through low-density development and the construction of private homes with backyards.

Still, it is noteworthy that Hampton and Newport News are home to several large and distinctive parcels of public green space. Newport News Park spreads over 8,139 acres in Newport News and York County. Its amenities include more than 30 miles of trails for hiking and biking, a 188-site campground, canoe and paddleboat rental, freshwater fishing and Civil War-era fortifications and earthworks. In the northeast corner of Hampton, the Grandview Nature Preserve covers more than 475 acres of salt marsh, tidal creeks and Chesapeake Bay beachfront. Hampton's Sandy Bottom Nature Park comprises 456 acres of forest and wetlands wedged between Interstate 64 and the Hampton Roads Center Parkway. A generation ago, Sandy Bottom was pocked by garbage dumps and borrow pits. Since its transformation into a wildlife preserve and environmental education center in 1989, Sandy Bottom Nature Park has become one of the most popular parks in the state, with approximately 600,000 visitors in 2005.

By contrast, neither Norfolk nor Portsmouth administers a city park of more than 70 acres. Portsmouth's largest two parks, Churchland Park and City Park, each comprise fewer than 40 acres. Nonetheless, the city of Portsmouth has demonstrated a commitment to the acquisition of new parkland, despite limited resources. According to parks director Mike Morris, four neighborhood-size (five acres or fewer) park projects are currently under development, each of which is being funded through private donations or federal grants.

In Norfolk, park creation has been the subject of considerable public contention, as local residents and the City Council have sparred over the future of "one of only a few remaining tracts of maritime forest in the city," as noted in a February 2005 report published by the Trust for Public Land Center for City Park Excellence, titled "The Park System of Norfolk, Virginia: An Analysis of Its Strengths and Weaknesses." A citizens' group called the Bay Oaks Parks Committee gathered more than 5,300 signatures in a petition drive seeking to demonstrate public interest in turning the vacant Ocean View property into a 21-acre public park. In February 2006, a Circuit Court judge rendered the petitions invalid on a legal technicality. The ruling awaits appeal and this land's future is uncertain, though recent city elections in Norfolk have been interpreted by some observers as chastening several elected officials perceived to be opponents of this park. A recent *Virginian-Pilot* editorial (Jan. 17, 2006) asserted that, "The city's parks need more attentive stewards," an assessment that echoes the conclusions of a recent TPL study of the Norfolk park system (which was commissioned by the Bay Oaks committee in 2004).

DEALING WITH SPRAWL: PARKS IN THE REGION'S GROWING COMMUNITIES

Chesapeake, Suffolk, Isle of Wight County, James City County and York County are among the fastest-growing communities in Hampton Roads. According to U.S. Census Bureau estimates, between 2000 and 2004, their populations increased annually at a rate of 2.3 percent (James City County) and 4.6 percent (Isle of Wight County). Generous tracts of open space contribute to these communities' appeal, but rapid growth simultaneously threatens to diminish their open-space resources and the very attractiveness that spurred this growth. Proposals to address this land-use dilemma figure prominently in these localities' comprehensive plans.

In all five communities, local parks comprise only a small fraction of total conservation lands. The Great Dismal Swamp National Wildlife Refuge alone spans tens of thousands of protected acres in Chesapeake and Suffolk. Other large sources of conservation lands include Colonial National Historical Park and the U.S. Naval Weapons Station on the northern peninsula. Such federal protection notwithstanding, these communities have expressed a commitment to local park creation, seeking to ensure that their city/county park space keeps pace with population growth and new development.

Chesapeake and Suffolk each support a healthy mixture of neighborhood, community and district parks. In addition to the generous green space and recreational facilities of large properties like Chesapeake's Northwest River Park and Suffolk's Lone Star Lakes Park, both cities can boast several recently completed and future park projects. In Chesapeake, an Open Space

Ordinance mandates the charging of fees to developers who do not provide and develop neighborhood parks. If developers do not provide a park site within a new subdivision, then their fees rise from \$500 to \$1,000 per recorded lot. However, it should be noted that this can be accomplished only when the land in question requires rezoning. State statutes forbid charging such fees to developers who utilize undeveloped, but already properly zoned, land. This means, for example, that the city of Chesapeake cannot assess such fees on many new developments in that city.

The growing counties of Hampton Roads have likewise demonstrated initiative to expand and improve their public park systems. In the last two years, Isle of Wight County has allocated \$1.5 million in funds through its Capital Improvements Plan for the purchase and conservation of public open space. In James City County, voters approved a \$15 million parks and recreation bond referendum in November 2005. The bonds will pay for improvements at Warhill Sports Complex, Freedom Park, Chickahominy Riverfront Park and for the continued development of greenways and trails. In York County, plans to complete a new 186-acre athletic field complex are under way.

OTHER CONSERVATION LAND

Public parks are the most visible and readily accessible form of open space in our region, but they are only part of a larger network of conservation lands. The Virginia Department of Conservation and Recreation (DCR) maintains a comprehensive, continually updated database of the many different kinds of conservation lands found within the state. This resource includes not only parks and wildlife refuges, but also other federal, state and local protected lands. Private conservation easements and preserves managed by nonprofit organizations like The Nature Conservancy are also tracked by the DCR's database.

As Table 2 indicates, 172,992 acres in Hampton Roads have been set aside by federal, state, local and private authorities for conservation purposes. This is roughly equivalent to 15 percent of all land in our region, or 110 acres of conserved land for every 1,000 residents. The preponderance of this land is in federal hands, including five national wildlife refuges (98,023 acres), numerous military installations (59,725 acres) and Colonial National Historical Park (6,707 acres). It is widely acknowledged that the federal government, and particularly the U.S. military, plays a defining role in the Hampton Roads economy. The DCR's statistics reveal that federal institutions are similarly critical to the protection of our environment.

Data contained in Table 2 demonstrate that Hampton Roads rates favorably compared to the other two major urban areas in the Commonwealth of Virginia with respect to conservation lands. The comparative lack of federally protected lands in the Greater Richmond area is particularly evident.

TABLE 2

TOTAL CONSERVED ACREAGE: HAMPTON ROADS, NORTHERN VIRGINIA, RICHMOND

Region	Total Acreage in Region	2004 Population	Federal Conserved Acreage	Local Conserved Acreage	Private Conserved Acreage	State Conserved Acreage	VOF Conserved Acreage	Total Conserved Acreage	Percent of Acres Conserved	Conserved Acres Per 1,000 People
Hampton Roads	1,143,040	1,573,867	109,782	23,800	11,729	27,247	434	172,992	15.13	109.92
Northern Virginia	1,244,160	1,957,194	63,157	37,012	12,644	15,748	76,167	204,729	16.46	104.60
Greater Richmond	766,080	850,187	3,081	8,211	144	7,808	1,025	20,268	2.65	23.84

Hampton Roads = Chesapeake, Hampton, Newport News, Norfolk, Poquoson, Portsmouth, Suffolk, Virginia Beach, Williamsburg, Isle of Wight County, James City County and York County

Northern Virginia = Arlington County, Alexandria, Fairfax County, Fauquier County, Loudoun County and Prince William County

Greater Richmond = Richmond, Chesterfield County, Hanover County and Henrico County

In Northern Virginia, the conservation lands under private ownership are most striking, comprising 43 percent of protected lands in the region (compared to 7 percent in Hampton Roads and 6 percent in Greater Richmond). Most of these properties are conservation easements. That is, their landowners have agreed to donate or sell their rights of development, allowing a public or private conservation organization like the Virginia Outdoors Foundation to enforce the development restrictions. Since the Virginia Conservation Easement Act was passed by the General Assembly in 1988, easements have become an increasingly favored method of conservation. Easements are able to selectively target “only those rights necessary to protect specific conservation values, such as water quality or migration routes.” The other rights of landowners remain intact and “an easement property continues to provide economic benefits for the area in the form of jobs, economic activity and property taxes” (The Nature Conservancy, “How We Work,” www.nature.org). Significantly, several communities in Hampton Roads have recently developed or expanded Purchase of Development Rights programs in order to facilitate conservation easements in their jurisdictions.

Let’s look more closely at a few more of our region’s most noteworthy recent conservation initiatives:

INTERNATIONAL PAPER’S LAND SALES

In July 2005, International Paper Co. announced that it would sell some or all of the 6.8 million forested acres it owns across the United States. Since then, Hampton Roads has been a chief beneficiary of the multinational corporation’s decision.

“Tired of Sprawl?” asked the front-page headline in *The Virginian-Pilot* on Jan. 31, 2006, which added, “In Chesapeake, it ends here.” On that date, the Virginia Department of Game and Inland Fisheries (VDGIF) announced it was acquiring 3,800 acres of International Paper’s holdings in southern Chesapeake. With support from the city of Chesapeake and The Nature Conservancy, VDGIF purchased the so-called Cavalier property for approximately \$3.9 million. The Cavalier tract harbors “a wide range of wildlife, including black bears, neotropical migratory songbirds, canebrake rattlesnakes, white-tailed deer and eastern wild turkeys” (VDGIF, Jan. 31, 2006). A Nature Conservancy representative called the purchase “critical protection for one of the largest blocks of land in its watershed.” VDGIF plans to open the property as a Wildlife Management Area in the spring.

Two months later, International Paper continued to make news in our region, as it announced “the single largest private land conservation sale in the history of the South” (VDGIF, March 28, 2006). For \$300 million, The Nature Conservancy and The Conservation Fund agreed to purchase 218,000 acres of woodlands spread throughout the southeastern United States. Of that total, 23,800 acres lie in Isle of Wight, Southampton, Surry and Sussex counties, and will be integrated into The Nature Conservancy’s Southern Forests Project. This project seeks to protect the Nottoway, Meherrin and Blackwater river systems, which together support “an exceptional breadth of biological diversity with over 100 rare plants, animals and natural communities” (The Nature Conservancy, Southern Forests Project, www.nature.org). Private investors will be allowed to acquire some of these acres, with The Nature Conservancy retaining the right of first negotiation.

THE HOFFLER CREEK WILDLIFE FOUNDATION

Land conservation is not only the work of large institutions like VDGIF and The Nature Conservancy. Hampton Roads’ forests and wetlands have also been protected by concerned citizens acting at a grass-roots level. In the early 1990s, Portsmouth resident Randi Strutton and five of her Churchland-area neighbors set out to rescue the last substantial parcel of wilderness in the Hoffler Creek watershed from the hands of developers. Their efforts bore fruit; in 1997 the city of Portsmouth arranged to purchase this 142-acre property for \$1 from the Virginia Department of Transportation. Strutton and her neighbors established the Hoffler Creek Wildlife Foundation to manage the new wildlife preserve, successfully raising \$117,000 in its first year of existence.

Today, Strutton serves as executive director of the foundation, which boasts more than 500 members and 200 active volunteers. The preserve is open to the public for bird watching and nature walks every Saturday; school and group programs can be arranged by appointment. The city of Portsmouth gave \$45,000 to the foundation for the 2005-06 fiscal year, but the majority

of the preserve's operating costs must be covered by grants, donations and volunteer support. "Every year you have to wonder where the money will come from," Strutton told the Portsmouth Currents community newspaper last year (Oct. 23, 2005).

THE WILLIAMSBURG LAND CONSERVANCY

The Williamsburg Land Conservancy touches several different communities in Hampton Roads by working to preserve the lands of the Historic Triangle that link Williamsburg, James City County and Upper York County. The conservancy currently protects 2,449 acres of land in the Historic Triangle, primarily in the form of conservation easements with private landowners like the Jamestown Building Corp. and the Williamsburg Winery. Beyond its direct influence over this land, the organization serves as a conservation advocate by working with governmental agencies and encouraging public-private partnerships throughout the region. Recent initiatives include the Jamestown Road Corridor Enhancement Program and the Church on the Main Beautification Project.

WHERE DO WE STAND?

Our region has much to be proud of in its preservation and maintenance of open space. Even so, the 2002 Virginia Outdoors Plan, a key planning document of the state's Department of Conservation and Recreation, contains a warning pertaining to open space initiatives that seems particularly relevant to our region:

Although national, state and local governments have developed a variety of location and goal-specific programs, policies and plans to conserve, protect and manage natural resources, none, either alone or in combination, has successfully balanced the simultaneous need for well planned growth and wise resource management. As communities must address the negative impacts of haphazard development, so must they resolve the effects of heretofore unfocused conservation initiatives that are reactive, site-specific, narrow in scope, and/or disconnected.

The political diversity and geographical breadth of Hampton Roads (a euphemistic way to explain an absence of regional unity) have tended to exacerbate this tendency toward narrowly defined, disconnected initiatives. No single body serves as an open-space advocate for the entire region, although groups like the Williamsburg Conservancy, the Elizabeth River Project and the Chesapeake Bay Program have successfully addressed environmental issues that transcend state and local boundaries. Hampton Roads would surely benefit if these relatively young organizations – all founded in the 1980s or 1990s – could serve as an inspiration for more comprehensive regional cooperation in the future. The Hampton Roads Planning District Commission, which has completed detailed studies on transportation and water resource management, would provide an ideal forum for examining regional land use and open space in greater depth.

Likewise, a greater exchange of information and resources could profit the local parks systems of Hampton Roads, which operate largely in isolation of one another, despite their close geographic proximity and overlapping constituencies. The outstanding parks, beaches and natural areas in our region are utilized by residents from more than one locality. Cooperative initiatives would constitute a creative means of stretching tight parks and recreation budgets further, while providing the residents of Hampton Roads with access to more and different kinds of public open space. A walking/running trail currently under development that, when completed, will lead from downtown Suffolk to Chesapeake and Portsmouth, is a positive example. In general, greater publicity and public outreach would heighten awareness of the fine work achieved by many of our region's parks systems. Heightened awareness can lead not only to more park visitors, but also to more volunteer hours and a greater commitment of public funds.

The quality of life and the ultimate sustainability of a growing region like Hampton Roads depend on managing conservation as well as development in a thoughtful and comprehensive manner. As emphasized in the Virginia Outdoors Plan, successful green infrastructure planning can integrate these two processes in a way that addresses both natural and human needs, and provides a broad, unifying vision for the future. By all odds, this should be a priority of Hampton Roads in the years to come.



Theaters & Performing Arts Companies



THE PLAY'S THE THING: THEATERS AND PERFORMING ARTS COMPANIES IN HAMPTON ROADS

All of Hampton Roads is but a stage and the theater companies merely players that strut across it. Yet, what a stage it is! The area's companies provide a rich menu of thought-provoking and entertaining productions, all of which enhance the region with vital cultural and economic benefits.

The vibrant community of thespians in Hampton Roads premiered in the late 19th and early 20th centuries at venues like The Academy of Music, and the American, the Colonial and the Wells theaters, where vaudeville mixed with drama and the emerging moving picture amusements. In fact, in the early days of the 20th century, Norfolk was viewed as the cultural "gateway to the south." A brief decline into adult entertainment occurred in several of these theaters during the middle of the 20th century, followed by a slow and deliberate emergence into a healthy and engaging theatrical life.

Currently, the theatrical venues of Hampton Roads boast several major professional companies, a changing plate of smaller community performing companies, and a host of universities and colleges stretching the diversity of dramatic selections. Whether supported by magnanimous corporate sponsorship, dedicated avocational passions or the hobby of a few rich patrons of the arts, local theater contributes significantly to the revitalization of Hampton Roads communities.

THE WELLS THEATRE

Since opening in 1913, the historic landmark New Wells Theatre welcomed guests into an ornate and exquisite venue of beaux-arts classicism, originally seating 1,650 with a top balcony "For Negro Audiences Only." It once featured "Ben Hur," with chariots on treadmills, and hosted the likes of Fred and Adele Astaire, Will Rogers and John Philip Sousa. Its decorative magnificence matches its status as a premiere professional theater, with full equity players.

Recently renovated, the 640-seat Wells is home to Virginia Stage Company (VSC), Hampton Roads' only fully professional regional theater company. The intimate and beautiful facility attracts more than 80,000 theatergoers a year, who spend approximately \$6 million on tickets, food and refreshments when they attend.

In the recent past, the VSC experienced some financial hardships, even with a budget near \$2 million. In the 2004-05 season, it brought on Chris Hanna as artistic director and Keith Stava as managing director. Their vision for the VSC has provided solid financial ground to support its artistic vision. Additionally, during this past year, the VSC beat national averages for nonprofit theaters by increasing individual ticket sales, growing its subscriber base and retaining 84 percent of its previous year's subscribers (compared to the national average of 73 percent). Hanna and Stava focused on bringing financial stability back to a company in a precarious state without altering its genuine artistic mission.

Since 1979, the VSC has carried on a tradition of high quality drama in the Wells Theatre. Seeking to develop and



sustain southeastern Virginia's fully professional theater, the VSC presents the substantial and challenging works of significant playwrights. Believing that both the theatrical arts and art education contribute a vital and necessary component of a prosperous society, Hanna and Stava provide the community with a place for patrons to enjoy, explore and celebrate issues of personal and social meaning through the experiences of live professional theater. A new artistic focus is the generation of the King Lear project, an integration of classic theater and Hampton Roads. By combining Shakespeare with the oral histories of elderly residents, a new script actually emerges based on the interactions.

While the VSC sees the greater Hampton Roads area as its audience, it, like other theater companies, has been attempting to capture the attention of the growing urban population of Norfolk through a variety of advertising techniques – a DVD season brochure, blog, e-mail newsletter, and cooperative marketing with other arts groups such as Chrysler Hall and the Virginia Ballet.

The VSC ensures its high standards by providing a professional wage to actors, directors and designers and through hands-on oversight from Hanna and Stava. In fact, the upcoming season at the Wells promises both intense drama and rollicking parody as "Elephant Man" and "To Kill a Mockingbird" share the headlines with the Reduced Shakespeare Company's "The Complete History of America (abridged)."

HARRISON OPERA HOUSE



Originally erected in the 1940s as an entertainment site for USO troops and known as the Norfolk Center Theater, the exquisitely renovated Harrison Opera House houses the "official opera of the Commonwealth," the Virginia Opera Company. One enters the spectacular twin-towered façade into a magnificent grand foyer, with cantilevered three-story balcony lobby, breathtaking floor-to-ceiling windows and box seating on both the mezzanine and balcony floors.

Under the direction of maestro Peter Mark, the company has come off a phenomenal 30th anniversary season, offering five performances each season at the Harrison Opera House, with frequent trips to Richmond's Landmark Theatre and the George Mason University Center for the Arts in Fairfax. As one Inside Business writer quipped, "This is not your mother's opera company." This impressive "the-

atre of the fabulous" blends challenging scores, intricate choreography and strategic mise-en-scène into exquisite performances in classic musical/theatrical integration. The financial situation exploded from bleak to a brighter, even rosy, surplus between 2001 and the present.

With an annual budget of more than \$5.5 million and 30 full-time staff, the company's economic health has been significantly enhanced by excellent performances, long-term strategic planning and a more savvy approach to customer service. The general director and CEO, Paul "Gus" Stuhireyer III, also aimed at grass-roots strategies, seeking to attract more family interaction. Through its education department, with Student Nights at the Opera, matinees and a touring program for young artists, it engages 200,000 children yearly. Free evenings like the Operatini Nights and Operalnsight provide a fertile context for young professionals to mix and mingle at the opera house.

According to Thomas Costello, development director, "This is an organization that is growing. With growth comes change and that creates challenge." As another executive acknowledged, its balanced budget is a healthy condition that allows the company to take risks.

Aesthetically, the 31-year-old nonprofit organization Virginia Opera Association stretched its vision to include "Brundibar," the evocative performance of children imprisoned in a Nazi concentration camp. Even with spatial restrictions, lavish productions like artistic director Peter Mark's culturally expansive "Romeo and Juliet," with the casting of two superb Chinese singers, takes

the “raked stage extending beyond the proscenium arch.” Mark’s visionary leadership has allowed an economic and cultural exchange with China, with the production of Puccini’s “Tosca” at the Shanghai Opera.

CHRYSLER HALL

Where the Wells Theatre aspires to art, Chrysler Hall follows the classic Mickey Rooney/Judy Garland inspiration to put on a show! Seating 2,500 in the orchestra, dress circle and balcony, the wonderfully glitzy Broadway shows attract an annual audience of 80,000. A high level of patronage is generated by the imported Broadway shows that contract spectacular stars in touring musicals and comedies.

Chrysler Hall generates fiscal benefits for the city of Norfolk by drawing people to it and to nearby thriving downtown restaurants. These venues not only enrich the quality of life for citizens and draw visitors to Hampton Roads, but they also contribute to the economic bottom line. A 2003 H. Blount Hunter study indicated that Norfolk’s “net fiscal impact was equal to almost 3.3 times its original investment in arts grants.” Designed as well for concerts (Virginia Symphony) and forum lectures, the elegant Chrysler Hall is known foremost as the site of the popular Broadway at Chrysler Hall series. When the sound system works, observed critic Bob Arthur, “it produces a magnificent acoustic experience.”

Last year, as a prime example, a remodeled auditorium and restructured stage showcased the majestic and truly innovative national touring company production of “The Lion King.” Audiences were literally awestruck by this visual and musical feast, which garnered enormous praise for the ingenious stagecraft of director Julie Taymor. The play became what critic Mal Vincent called “theatre at its most inventive.”

The Broadway export topped \$5 million, demonstrating that it and other recognizable hits like “Phantom of the Opera” and “Les Miserables” attract devoted audiences, and at the same time solidifying the centrality of theatrical production as community entertainment. Another outcome is that restaurants, hotels and local businesses all share in the financial bounty.

AMERICAN THEATRE

As one of the unrivaled premiere performance venues of Hampton Roads, the intimately classy American Theatre in downtown Phoebus/Hampton boasts state-of-the-art acoustics and direct sightlines in its restored historic setting. From its origins in 1908 as a high-class moving picture and vaudeville house, it was eventually extensively renovated by the nonprofit Hampton Arts Foundation. Supported by the cities of Hampton and Newport News, the American Theatre welcomes guests with its signature plush red velvet cushions and comfortably designed chairs, offering intimate viewing (with no seat more than 75 feet from the stage) for 400 audience members on the main floor and in the balcony.

This well-preserved landmark imports international talent to provide a most adventurous and innovative year-round program. The dynamic and droll artistic director Michael Curry steers the compelling and truly remarkable program with an annual budget of around \$1.5 million. Musicals like “The Song of Mulan” and the Family Fun series with “Rumpelstiltskin,” Charles Dickens’ perennial favorite, “A Christmas Carol,” “Fred Garbo Inflatable Theatre Co.” and the electric “Lazer Vaudeville” complement the theater’s diverse bill, which also includes first-class road shows. The productions are, in the words of Curry, “intimate, ethnic and cutting edge,” with no one else doing the kinds of impeccably polished shows available at the American. As Horace characterized the art of poetry, the works both teach and delight. The theater’s extensive and inclusive offerings serve up classical music and



comedy, as well as "Macbeth" performed by the superbly talented Acting Company. As part of the educational mission of the American Theatre, the cast of such plays remains after the performances to answer questions and engage the audience in lively and enlightening sessions on the craft and mechanics of theatrical productions.

The sterling quality of performances at the American augurs well for the cultural vitality of the Hampton Roads theatrical scene. In particular, it is the exemplary vision of Michael Curry and his staff that has established this solid and highly respectable institution.

WILLETT HALL

In residential Portsmouth, Willett Hall invites diverse acts, ranging from the Christian Comedy Tour and the Duquesne University Tamburitzans, a multicultural song and dance company, to musical dramas like "The Cheaters" (by the I'm Ready Productions), into its spacious, but inviting auditorium. Willett Hall is a 2,000-seat entertainment facility with superior acoustics that features concerts, nationally known guest speakers, theatrical performances, musicals and dance. It boasts, in particular, an incredible acoustic experience and an intimacy with the stage; the last row of seats is only 175 feet away. Even supported by the marketing of PortsEvents, however, few events are booked for 2006-07 in the grand theater, which remains dark most of the time. Its future is cloudy.

KAUFMAN THEATRE

Tucked away in the Chrysler Museum of Art one finds the George and Linda Kaufman Theatre with its 375 seats. Often working with events like the Old Dominion University Film Festival, it also hosts Alice Wamsley's charming Tidewater Musical Theatre. This group offers light operetta and sophisticated children's fare, such as perennial favorites "The Secret Garden" and "Anne of Green Gables."

UNIVERSITY AND COLLEGE THEATERS

The prolific and fruitful budding of young thespian talent in Hampton Roads is due in large part to the thriving work of local universities and colleges. Every year, fresh amateur stock appears out of educational institutions to replenish a dynamic talent pool, frequently propelling gifted performers to New York and Hollywood, from award-winning actress Glenn Close (William and Mary) to "Arrested Development's" Tony Hale (Regent). These academic programs not only educate and train students, but they also offer entertainment to their respective communities.

THE COLLEGE OF WILLIAM AND MARY

The most enduring and reputable program is rooted in Williamsburg, at the College of William and Mary. Long respected as the collegiate leader of regional performing arts, the Department of Theatre, Speech and Dance is housed in the classic Phi Beta Kappa Memorial Hall. Significant for its students is the incomparable excellence of a rich liberal arts education, grounding dramatic opportunities in one of the best educational programs in the country.

Named for the prestigious national honor society established in 1776 at William and Mary, the Phi Beta Kappa Hall's main-stage offers a traditional modified proscenium stage with apron and hydraulic orchestra lift, extensions and a "sprung" wooden floor with trappable opening allowing for sudden entrances (and exits) from below. Its classic stage atmosphere features 486 orchestra and 277 balcony seats. A second studio theater, essentially a black box with 109 seats, provides a laboratory classroom for acting and directing, as well as rehearsal space. Fully equipped scenic design shops for costumes, lighting, computer technology, drafting, carpentry, painting and construction provide a solid base support for the department's curricular programs.

Although faculty salaries are paid by the college, the shows must be self-supporting. Thus, as office manager Christopher Robbins acknowledges, shows tend to be less daring and more popular, since they must make a profit. The most popular of programs remains the Virginia Shakespeare Festival performances.

Sponsored by the Department of Theatre, Speech and Dance and using Phi Beta Kappa Hall as its venue, the Virginia Shakespeare Festival (VSF) sells about 400 seats per performance. Employing true talent, with guild professionals joining local journeymen, VSF consistently presents the Bard in all his glory, wit and pathos, and creatively advances adaptations as in "Illyria," an upcoming musical version of "Twelfth Night." In addition, Robbins indicates that the VSF also seeks to market "family friendly Shakespeare," enriching the imaginations of young audiences.

The VSF's general budget hovers around \$225,000 annually, for which it produces three main stage shows during the summer season. As with other academic institutions, the major expenses for the 50-member company revolve around sets, costumes, lighting and for contracted talent. Approximately 70 percent of the funding comes from ticket sales, concessions, program advertising and tuition for camps, with the other 30 percent coming from individual contributions and grants. Even in its devotion to a classical theater tradition, the VSF points to its financial feasibility: studies conducted by the Business Council on the Arts concluded that "for every dollar spent on the arts, eight more dollars are generated in the community in other revenues, demonstrating that the arts are a good investment." While this particular estimate suggests a multiplier of unprecedented magnitude for cultural expenditures, and therefore is suspect, there is little doubt that cultural expenditures ripple throughout the region.

FERGUSON CENTER AT CHRISTOPHER NEWPORT UNIVERSITY

Christopher Newport University's impressive new facility, the Ferguson Center for the Arts, has catapulted it to the top of Hampton Roads competitive theatrical venues. Its inaugural season of 2005-06 splashed onto the front pages of local entertainment sections, highlighted by entertainers like Vince Gill and Andrea Bocelli performing in the 1,700-seat Concert Hall. Importing various world-class touring performances, ranging from chamber music to the best of Broadway shows (with Cathy Rigby as "Peter Pan" and Michael Crawford in "Phantom of the Opera") and comedians including Bill Cosby, the center's executive director, Bill Biddle, stipulated that its gross ticket sales placed the center among the top 10 venues in the country with fewer than 2,500 seats.



The Ferguson Center's amazingly huge structure, marked by modern décor and comfort, also provides a home for CNU's Department of Theatre and Dance. With active collaboration among professors, professional theater artists and students, the program is the fruit of university President Paul Triple's vision to build an artistic corridor in Newport News. Thus, commercial presentations are utilized to enhance the educational work of the school, with Broadway shows and senior recitals sharing space and attention. Each year, four ambitious mainstage productions are complemented by another three to five second stage productions, seeking to appeal to numerous groups. CNU theater director Steven Breese explains that the theater program seeks to attract a vast variety of audiences from the area's diverse and growing constituencies. What the administration recognizes is what Breese calls "the theater effect," namely the commercial impact that a vital theatrical program has upon the rejuvenation of the entire Peninsula. The Ferguson Center leads the community in inspiring redevelopment plans. Both high-quality faculty and eager students have been attracted to the world-class venue and program, fulfilling Triple's prediction that "If you build it, they will come."

The refrain ringing out at Ferguson is "only at CNU," a recognition that the university provides unparalleled opportunity for students to perform on a grand public stage with state-of-the-art technology and to engage world-famous performing artists. Recently, for example, a student was chosen to sing with famed tenor Bocelli. A crucial ingredient to its productivity is the university's decision to underwrite the performing arts program through a healthy student activity fee, liberating it to create theater and appealing to both broad and narrow audience segments. No longer is intercollegiate athletics the only activity to benefit directly from student fee revenues.

ARMSTRONG HALL AT HAMPTON UNIVERSITY

Under the supervision of Karen Ward, Hampton University provides a terra firma foundation for the performing arts through its Department of Fine and Performing Arts. Seeking to broaden the artistic and technical talents of its undergraduate students, it aims to merge academics and creativity, inculcating the rich cultural heritage of Hampton University. With both performance and technical theater majors, Armstrong Hall provides entertaining and provocative works, from the likes of Tennessee Williams and Harold Pinter. The Hampton University Players and Company, serving both the university and the surrounding community, runs its theatrical performances. However, performances are sporadic, partially because the program is limited by a small number of faculty. The potential to do more is apparent.

ROPER CENTER AT TIDEWATER COMMUNITY COLLEGE

Being in the right place at the right time, Tidewater Community College President Deborah M. DiCroce envisioned a cultural arts/educational center to stand as a core block for its Norfolk campus. Opened in 2000, the Jeanne and George Roper Performing Arts Center has realized her vision and contributed significantly to what has been described as downtown Norfolk's "Renaissance." Built in 1926 as the Loew's State Theater, and hailed at the time as "Dixie's Million Dollar Dandy," the restored facility reopened with a major concert hall and a more intimate black box studio theater with flex seating, appealing to a variety of audiences.

Restored to its original opulence with gilded box seats, glass chandeliers and ornate, hand-painted architectural details, the Roper has been lauded by theater critics as "a cathedral to the past." It now hosts the range of the performing arts as well as feature films, college convocations, commencements and symposia. Comfortably seating up to 900 patrons, this vibrant centerpiece of the downtown entertainment district has been fitted out with state-of-the-art technology, enabling the production of the most complex and demanding staged presentations. Coordinating more than 160 events a year, ranging from Jazz on Granby concerts and gospel shows to the Jewish Film Festival, is general manager Paul Lasakow, who is professionally under the purview of the Virginia Arts Festival. Managing the self-sufficient facility calls for skill in balancing numerous acts and events. However, after the Roper's primary resident theater group, the Commonwealth, went under last year, it has felt a significant vacuum for dramatic presentations. Groups like the Hurrah Players are filling the void.

The roomy Roper boasts 862 seats and an incredible Dolby sound system. Customer satisfaction is high. However, TCC's 20,000 students have limited access to the stage and there exists no costume room or second stage for rehearsal. This giant venue, with its state-of-the-art equipment, was not built with a vision for a student theater program. However, on the TCC Chesapeake campus, faculty director Ed Jacobs runs a remarkable, albeit reduced, drama program, feeding amazing talent on to advanced training and into the Hampton Roads theatrical pool, and supporting directors like Lisa Neely and familiar productions including "Our Town" and "Medea."

L. DOUGLAS WILDER CENTER AT NORFOLK STATE UNIVERSITY

Named after the former Virginia governor, the L. Douglas Wilder Performing Arts Center is situated on the campus of Norfolk State University and showcases the creative works of African American directors and actors. A luxurious venue with elegant curvilinear designs and seating for 1,800, the center specializes in musical performances, from classical to jazz, and a visiting lecture series, featuring the likes of the Rev. T. D. Jakes.

Promoting the center's vision to "educate, enlighten and entertain through the presentation of artistic events of excellence and diversity in the performing arts and thereby ensure the viability of art in all its forms," the Wilder Center offers a venue for performances committed to an African American focus. Built upon the now defunct Norfolk Players Guild, one of the oldest black performing groups in the country, the Norfolk State University Players is headed by Professor Clarence Murray. They perform two major productions a year, such as "The Wiz," present children's productions and workshops, and perform as "vagabond" players at churches and community sites. Although the group connects classic Greek theater to modern realism, its performances emphasize mainstream educational theater.

HOFHEIMER THEATRE AT VIRGINIA WESLEYAN COLLEGE

Under the expert guidance of faculty Sally Shedd and Travis Malone, the Virginia Wesleyan College theater program sparkles like a tiny but brilliant diamond in the rough. Sharing two very modest performance spaces with a strong musical program, the theater department is housed in the oldest building on an impressively growing campus that showcases athletics (2006 NCAA Division III men's basketball champions) and student life. The theater is as well loved, well used and well worn as the Velveteen Rabbit. Its program remains as well conceived as any in the area, with its visionary directors charting a four-year plan of exposure to a broad and lively range of dramatic literature. Students receive invaluable personal guidance and schooling in sundry modes of performance, from classical to modern, and vaudevillian to musical. The program focuses on exceptionally talented students, who enjoy the boon of expert mentoring and direction.

REGENT UNIVERSITY

The impressive and fairly recently constructed theater of Regent University fits the classic Georgian architecture of the campus. Equipped for acoustical perfection and digital technological sophistication, the grand stage frequently hosts the Virginia Symphony as well as a variety of innovative theatrical performances, notably Professor Gillette Elvgren's wildly imaginative and hilarious adaptations of Shakespeare's plays. The venue offers a unique opportunity for integration of the theatrical arts and the Christian faith, reviving the fertile artistic tradition of the church in producing miracle and morality plays.

OLD DOMINION UNIVERSITY

The human nexus bridging the professional and academic worlds of Hampton Roads theater is Christopher Hanna. Since moving from Broadway, where he was an assistant to Joseph Papp, Hanna has sparkled in the great white lights and energized all he has touched. He brings a creative synergy to his roles as director/coordinator of theater for Old Dominion University and as artistic director of the Virginia Stage Company, the professional equity theater in Norfolk. Alternating as teacher, director, producer, mentor and one of the brightest lights of the theatrical community, Hanna has nurtured the Wells Theatre's new play program, winning grants and praise from the National Endowment for the Arts, as well as the Guggenheim and Rockefeller foundations. He also heads the company's Professional Theatre School.

Partnering with Hanna is Erlene Hendrix, a faculty member in ODU's Department of Communication and Theatre Arts and its chief academic adviser. The university's theatrical season usually offers a mix of classical work, contemporary plays and world premieres. Demonstrating an exemplary pre-professional quality for an undergraduate program, advanced acting students are eligible, through auditions, to receive financial scholarships while earning Actors Equity credit by assuming stage roles at the VSC as part of their course of study. Working out of a quaint, refurbished old milking and horse police station, the Stables Theatre, the program proffers a full range of courses in performance, design technology, history/theory and production, with additional specialization in both theater education and digital filmmaking. The resident faculty are augmented every year by nationally recognized guest artists, adding further expertise in specific styles and craft areas, as well as providing students with contacts in the professional theater world and entertainment industry.

GOVERNOR'S SCHOOL FOR THE ARTS

One final distinguished academic program must be mentioned, namely, the Governor's School for the Arts (GSA). One of the best-kept secrets of Hampton Roads, the GSA provides a wonderful development program, enrolling talented high school kids from the area and giving them a taste of college life and master classes in performing arts. The cast of a recent production of Virginia Repertory Theatre Company's "Beauty and the Beast" consisted of GSA students, in partnership with the Virginia Gateway Center for the Arts.



THEATER PERFORMING COMPANIES

Moving from the spacious, but aesthetically challenging Virginia Beach Pavilion, the keenly adaptable and visionary founder and managing director Jeff Meredith transported his semi-professional *Virginia Musical Theatre* (VMT) to the more comfortable Contemporary Arts Center in Virginia Beach. Augmenting local talent with imported union professionals, the VMT strives for guild-scale acting, and channels energy and skill into showy productions of old, new and revival hits like "Big River."

According to Meredith, the VMT is one of the most unique arts organizations in Hampton Roads, being "fully committed to only musical theater." Even its educational programs focus on the genre. It offers a splendid platform for aspiring young professionals to break a leg with talented professionals from around the country. In response to its interim move to the smaller, intimate setting of the Contemporary Arts Center, the VMT plans more economic, but playful, programs of "My Way" and Sondheim's "Side by Side," as it awaits the construction of the 1,200-seat Sandler Center for the Performing Arts at Virginia Beach. Yet, like other groups, Meredith says it seeks to be liberated from "being a slave to the bottom line" of a \$500,000 budget, that it might undertake a more adventurous and artistically daring series. However, he astutely recognizes this is not yet a market that would support such risk taking.

In 2002, New York pros Robert Ruffin and Mary Watkins co-founded the *Playwrights Premiere Theatre* (PPT) as Williamsburg's resident full-time, professional theater company with the purpose of giving new scripts fully realized, professional-quality productions. Mingling new works with small-cast established favorites (for example, "Copenhagen," "Long Day's Journey into Night," "History of Rock, Volume I"), the PPT performs at the Kimball Theatre in Merchants Square. Both educational and touring activities offer an experience of walking through the development of a typical production, such as "The Waiting Room." Drawing upon a gifted pool of talented actors and teachers in Colonial Williamsburg, the PPT offers what one critic called "crème de la crème performances," ranging from theater of the absurd to Bob Arthur's "Poetry Plays on the Chesapeake Bay," while trying to do "shoestring theatre."

Besides managing the Roper theater for the Virginia Arts Festival, Rob Cross is also responsible for the newly renovated *Crispus Attucks Theatre and Cultural Center*, the historic black theater designed, owned and operated entirely by African Americans since 1919. Once known as the "Apollo of the South," the prominent entertainment center hosted the exceptional talents of StageNorfolk's executive director Michael LeMelle in the world premiere of George Faison's "If This Hat Could Talk," the story of Dorothy Height. Under the leadership of Terrance Afer-Anderson, StageNorfolk is making dramatic inroads in such venues.

Local theater critic Montague Gammon III defined "the essence of community theatre" as existing "for people involved in productions; it is their avocation." This doesn't change their goal, however, of putting on a good dramatic show.

Good shows abound with the *Williamsburg Players*. Approaching their 50th year celebration, Williamsburg's oldest community theater inaugurated their first season in 1957 with "Teahouse of the August Moon." Since then, the Players have faithfully fulfilled their motto, to provide "community theatre at its best," offering mystery, suspense and romantic dramas. Awaiting construction of the James-York Playhouse, the company continues to discover new plays and playwrights, often through its creative use of Readers' Theatre.



Maximizing a fresh outdoor venue, Ann Russell Taylor's Summer Shakes Inc., aka *Shakespeare by the Sea*, produces the Hampton Roads Shakespeare Festival as free public performances at Seatack Neighborhood Park in Virginia Beach. While constrained by weather, the production company oversees about 15 performances a season, adding educational pre-shows to introduce children to the Bard's works. Forthcoming this season will be "The Taming of the Shrew," underwritten in large part by donations. Directed by Grace Atkinson and offering high-quality family entertainment with an emphasis on the classics, the 1994 incorporated company hosts a theater for children and teens, whetting a taste for Shakespeare in a broader community. Other outdoor theaters, such as Shakespeare in the Grove on the Tidewater Community College Chesapeake campus, are delightful and important parts of the community and collegiate mix.

A spotlight on the smaller community theaters of Hampton Roads illuminates the cornucopia of local theatrical talent. Blending the professional and the amateur – those who love the theater and follow an avocational calling – the little-theater movement enriches and delights audiences throughout the region.

One of the country's oldest continually operating theaters is the *Little Theatre of Norfolk*, almost 80 years in existence. Tucked away in West Ghent, the "grande dame of local performing arts" started out in an old drafty stable in the Norfolk bowery in 1926. While its theater floor is bowed and sinking, and seats on a slant look up at a straightforward proscenium, it remains one of the most vigorous and energetic volunteer associations of actors and artisans, even launching the careers of stars like Margaret Sullivan and Tilden Davis. The 224-seat art deco venue welcomes all, practicing a charitable community outreach program to disabled and elderly patrons. A financially free nonprofit organization, the theater has an annual budget of \$50,000, which is underwritten by prominent merchants and citizens. But as past president Eunice Pittman notes, "We know how to pinch a penny." Artistic director Mark Haynie has selected plays like "Rebecca" and "M*A*S*H*" for the upcoming season.

With a reputation as being one of the most underfinanced organizations and having a limited talent pool, the *Little Theatre of Portsmouth* (LTP) valiantly holds its own in serving its community. Forced out of its quiet suburban neighborhood venue of the Woodrow Wilson High School auditorium after an arsonist destroyed its sets, props and costumes, the LTP found charity in the Monumental United Methodist Church, where coincidentally the organization began as the Monumental Players in 1937. Former director Alice Everheart asserts "the show will go on," as the LTP presents lively productions of its own "LTP Follies" and "The Dinner Party."

The most wide-ranging and consistently lauded community theater remains the *Little Theatre of Virginia Beach* (LTVB). Nestled within a residential neighborhood near the Contemporary Arts Center of Virginia Beach, the theater provides top-notch entertainment on its thrust stage. This all-volunteer and nonprofit organization, presided over by Shirley Hurd, attracts full houses with its presentations of works like the C.S. Lewis story "Shadowlands" and the romantic "Enchanted April." Its only drawback stems from noise, both from jets and rain on its metal roof, problems the board is currently addressing. Yet LTVB holds the noteworthy critical distinction of offering the area's best and most consistent performances of community theater, with five affordable, high-quality shows a year. President Bill Vaughn points to the inclusive involvement of people from all walks of life in the LTVB, with volunteers for both backstage work and performance. With a trim budget of \$85,000, the LTVB fills its 155 seats by presenting a successful formula of mystery, musical comedy and hybrids. It frequently extends its menu with special shows like the upcoming

"Shakespeare in Hollywood," a hilarious comedy in which characters from "A Midsummer Night's Dream" get lost on a Hollywood set; "The Living," about the 17th-century plague in London; and the aptly chosen, self-reflexive show about over-the-hill, egoistic opera singers, "Quartet." Little Theatre of Virginia Beach stands as one of the best options in local theatrical entertainment.

The Newport News Little Theatre merged with the Hampton Little Theatre to bestow the community a gift in the form of the *Peninsula Community Theatre* (PCT). Its distinctive bill shines with sparkling children's productions, performed five times a year. Frequently playing in high school auditoriums, its most notable venue is the Village Theatre in historic Hilton Village, a movie house converted for live performances. Behind the leadership of community volunteers like Patricia Stern, the PCT aims at securing a "venue for local talent to perform in as professional a setting as possible." Creativity is especially evident in the PCT's children's theater productions of "The Jungle Book" and "Song of Mulan." Along with other community theaters in the region, the PCT benefits from the "bird-flocking" phenomenon of actors keenly watching to see what plays are being planned and who is auditioning.

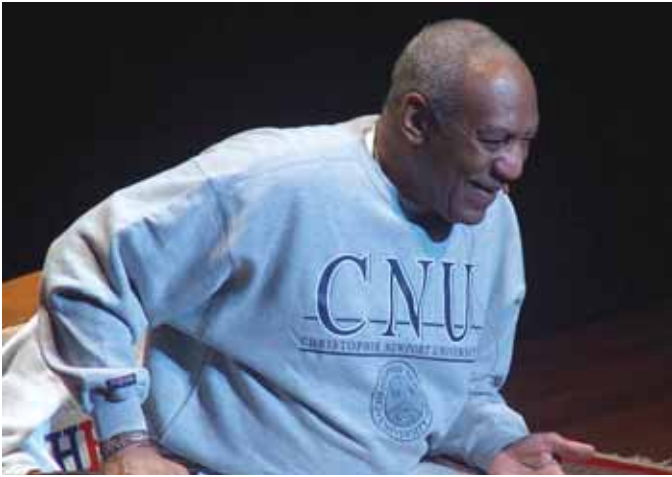
Other lesser-known, but talented groups also find habitat in Hampton Roads, including the *Poquoson Island Players*, whose entertaining plays like "South Pacific" are primarily aimed at military base personnel, and the *Smithfield Little Theatre*, which frequently explodes with productions like "Joseph and the Amazing Technicolor Dreamcoat." The youth theater, *Rite of Passage Experience Theater Company* (ROPE), aims at creating and encouraging metamorphoses through the performing and visual arts. Coming out of Hampton University's theater program, it offers ensemble programs for adults and children, performing at school assemblies and staging a reenactment of the Lord's Supper at churches.

The *Patchwork Players Children's Theatre*, based in Chesapeake, positions itself as a morality-based professional company, offering a high-quality and educational theatrical experience for children from kindergarten through high school. Previous seasons produced memorable musicals like "Grease" and classic children's stories including "Alice in Wonderland."

Few theaters are integrated into their immediate community as the *Yoder Barn Theatre* in Newport News. Once a cow barn, this hayloft venue was refurbished into one of the most unique theaters of the region. Ongoing musical and theatrical presentations build upon Yoder's signature production of "Pieced Together," chronicling the Mennonite community's 100-year history with a blend of traditional hymns, oral tradition, indigenous folk music and memory, all woven into an exquisite tapestry. Director Christine Yoder hopes to bring more folk opera pieces to the 200-seat theater-in-the-round, retelling the nostalgic and visionary stories of Greek and Italian communities. With its rustic charm and Gothic arch roof, the historic Peninsula landmark puts on Broadway-style musicals and a special Yoder Barn Half Pint Children's Series of fairy tales and other stories. The Yoder's vision is to present authentic folk art forms of theater, keeping memory alive and entertaining.

The performing company with the largest and most vocal following is artistic director Hugh Copeland's *Hurrah Players*. Decidedly a family theater company, Hurrah Players coordinates six polished, full-staged musicals a year. Dedicated to the idea that children learn by doing, Copeland fosters joyous learning experiences through a variety of performance-oriented instruction, not only teaching drama skills, dancing, singing and stagecraft, but also instilling a deep, loyal and contagious appreciation for the theater. While performing in locales ranging from London to Disney World, the Hurrah Players also generously performs regionally for many who might not be able to attend live theatrical performances. The peripatetic troupe roams from its base at the Roper Center in Norfolk to schools, civic centers and charities throughout Hampton Roads. Mounting primarily classic children's tales, such as the upcoming "Peter Pan," "Seussical ... the Musical" and "Snow White Goes West," shows also have dealt with more serious themes, including the environment and death. Hurrah Players' successful presence since 1984 testifies to the ongoing importance of underwriting such a valuable endeavor, not only making the dreams of actors come true, but also guiding other children into worlds of dreams and hopes.

The 25-year-old radical upstart *Generic Theatre* in Norfolk's historic Ghent district continues to hold its offbeat niche as the region's primary off-Broadway playhouse. Its annual New Plays for Dog Days Festival in late summer attracts new plays by scores of playwrights for inaugural premiers, offering experimental theater followed by lively and animated discussions with playwrights, actors and local denizens. Rooted in the city's parks and recreation department and underwritten by the Virginia and Norfolk Commissions for the Arts, the Generic, whose name derives from the idea of "theater in a plain wrapper," has developed a prickly reputation for testing the limits. Its risk-taking independence and artistic merits are enabled by the generosity of the city of Norfolk, which continues to pay rent for this 80-seat theater on 21st Street.



After internal fighting and the removal of several directors, the Generic, as critic Montague Gammon III noted in a March 13, 2006, interview, is “in flux.” Yet, Gammon added that it has “an opportunity to re-invent itself,” and to continue its progressive tradition of edgy, topical, controversial and sometimes hilariously wacky works. Recent works have remained edgy, such as “Frozen,” a play that humanizes pedophiles and challenges a restorative justice. Board member Patty Ray recognizes that it is not unusual for nonprofit organizations to go through change; in fact, finding the right fit of leadership is strategic to a growing, creative management. The challenges of relocation and restructuring occurring at the same time offer a fresh opportunity to grow. What remains starkly evident is the tension between the theater’s financial stability and its need to play to popular audience tastes. In its mission to develop innovative plays, the Generic remains committed to new

play development, “corralling off” designated funds so that it might cultivate its Playwrights’ Forum and Dog Days Festival.

Although not in direct competition with the Generic, Norfolk’s *40th Street Stage* shares a common mission, offering an intimate 70-seat theater with notable flexibility. This nontraditional space offers audiences raw theatrical experiences. Often in collaboration with the 40th Street Stage, the sometimes-resident *Elizabeth River Theatre Company* (ERT) is more an itinerant and innovative enfant terrible among local troupes, where everything from “Der Fledermaus” and one-act “cosmic comic-romantic fables” to performance art and interactive audience improvisation and spiritual theater can be on the bill.

Already in its brief history, the ERT has earned a progressive reputation for intensely acted and provocative shows. It has demonstrated a commitment to do its own bold and adventurous works and to develop a sophisticated theatrical palate in Hampton Roads audiences. Motivated by the non-bourgeoisie idea that theater can happen anywhere, the ever-changing ERT began performing in “found spaces” (office buildings, parlors, etc.) before it temporarily shared its current location. Emerging from an organic process of stage production, the ERT does not perform traditional theatrical seasons. Rather, artistic directors Gerald Schwarz and Jim Turner, managing director Frankie Little Hardin and technical director Scott Quirk find shows that display the talents of the Hampton Roads-based acting community. Once the artistic staff selects the proper show, the team works carefully to produce a cohesive product that communicates a relevant artistic statement for the community. Its venues have ranged from an office tower to an old house in Portsmouth.

Key to understanding part of the success of the community theater circuit is to recognize the “removable feast” of good peripatetic actors who wander from show to show. The casting of certain high-quality actors draws fellow artists to audition for a particular show, usually making it a notable success.

FINANCIAL AND ECONOMIC FACTORS

Several excellent Southside theatrical organizations already mentioned (VSC, VOA, VMT, Generic Theatre and Hurrah Players) received munificent general operating financial support from The Norfolk Foundation’s Business Consortium for Arts Support, a nonprofit that coordinates support from local area businesses and foundations, with the greater percentage of its funds being awarded to the region’s largest arts organizations. For these nonprofit arts groups, the consortium is the greatest source of unearned income.

In 2003, H. Blount Hunter Retail and Real Estate Research Co. conducted a thorough project on performing arts for the Norfolk Commission for the Arts, attempting to quantify the possible economic impact of cultural arts on the southeastern Virginia region (<http://www.norfolkdevelopment.com/arts-culture/documents/survey2004.pdf>). According to the study, “The return-on-investment in small-audience organizations was greater in FY-03 than among large-audience organizations, although the absolute dollar value of net positive fiscal impact from large-audience organizations was greater than the dollar value of net fiscal impact of small-audience organizations.” Various organizations benefited from additional subscriptions and coordinated marketing. However, others outside Norfolk did not. As one arts leader noted, certain organizations were favored. Often, too, one had to

fight the “big elephant” on the visiting stage, namely that there is only so much discretionary income to go around, and this past year “The Lion King” ate it all up.

A related and somewhat haunting concern swirls around whether local theater is close to the point of saturation, even with the Virginia Arts Festival trying to produce entertainment year-round. “We are not Chicago or Philly,” notes American Theatre artistic director Michael Curry, “and yet it has suddenly become ‘sexy’ to build a theater.” Virginia Beach is planning the opening of its cultural “urban center,” the Sandler Center for the Performing Arts, in 2007. The city has committed \$35 million from meal and hotel taxes to support the Sandler. Located in its emerging Town Center, this professional-quality center for the arts will feature a premier 1,200-seat state-of-the-art concert hall. Curry suggests that perhaps one should look first at the struggles of the Virginia Stage Company and the dreamy visions of Chesapeake and Suffolk to build and see if “they” will come.

The two key issues to be addressed concern the economy and the audiences. First, what will the decelerating economy of Hampton Roads support? As Curry voiced it, “There seems to be less expendable money. If one spends \$40 at the amphitheater, what is left behind? While the arts organizations need to cooperate and work together, all must realistically recognize that there is not unlimited potential. For example, the competition for movies is now that one can buy a DVD of a film for \$10 at Target. What will happen to theater?”

Second, will an audience of theatrical connoisseurs develop that will appreciate more than large, known, entertaining shows? Many theatrical directors have expressed concern that a sophisticated theatrical palate must be carefully and intentionally cultivated so that the menu for Hampton Roads may be as diverse as its population.

FINAL THOUGHTS

It is worth noting the lingering words of wisdom from Montague Gammon III, namely, that “the most important assets for the performing arts in Hampton Roads are not the bricks and mortar, but the visionary individuals who give their lives and energies to the arts.” Not only is the region’s history of theater grounded in people like Chris Hanna, Michael Curry, Rob Cross, Jeff Meredith, Gillette Elvgren, Erlene Hendrix, Hugh Copeland, and the talented and dedicated faculties of Hampton Roads’ academic theater departments, but the future of our area’s performing arts also resides in them. These are living stones that make for a splendid monument of theater in Hampton Roads.

THEATERS AND PERFORMING ARTS COMPANIES PHOTOS

Chapter Cover	“Guys and Dolls,” Courtesy of Regent University
Page 62	Wells Theatre Interior, Courtesy of Virginia Stage Company
Page 63	“La Traviata,” Courtesy of Virginia Opera Association
Page 64	“Macbeth,” Courtesy of American Theatre
Page 66	Ferguson Center for the Arts Exterior, Robert Benson Photography
Page 69	“Peer Gynt,” Courtesy of Regent University “Contact,” Courtesy of Virginia Stage Company “Lazer Vaudeville,” Courtesy of American Theatre
Page 70	“A Christmas Carol,” Courtesy of Virginia Stage Company “Romeo and Juliet,” Courtesy of Virginia Opera Association
Page 72	Bill Cosby in Concert, Courtesy of Ferguson Center for the Arts

The Youth of Hampton Roads



THE YOUTH OF HAMPTON ROADS: PRIDE OR PROBLEM?

More than 400,000 people in Hampton Roads (some 26 percent of our population) are under 18 years of age. They represent our hopes and dreams for the future and accordingly benefit from huge investments we make in their health, education, artistic and spiritual growth, and entertainment. Still, even as we delight in bragging about their accomplishments and exploits, they also generate significant worries and concerns when they encounter problems. Malnutrition, illness, educational failures, antisocial behavior, anomie and brushes with the law are among the major causes of worry and uncertainty about a significant number of our youth.

What is the actual state of our youth and how are they doing in some critical areas? Are they sources of pride, or problems, or both? We provide some evidence here.

DEMOGRAPHICS

As the overall population of Hampton Roads has grown, so has the number of children in the area. Those under age 18 grew by more than 67,000 between 1990 and 2000, a 20 percent increase. **However, contrary to the belief of some that our population is progressively becoming younger, the percentage of youth below age 18 increased by only .1 percent during this period. Indeed, the number of preschool-aged children fell by nearly 8 percent (Table 1). This presages a maturation of our population in the future.** By contrast, the proportion of youth in Richmond grew by about 2.5 percent during the same time period.

Though 68 percent of children in Hampton Roads live in married-couple families, this measure varies widely among localities (Table 2). Among the larger cities within the region, only 54.5 percent of youth live in married-couple families in Portsmouth and 55 percent in Norfolk, but more than 75 percent in Chesapeake, Isle of Wight and Virginia Beach. Related to this, Portsmouth and Norfolk also have the highest incidence of situations where grandparents are responsible for their own grandchildren.

These familial arrangements are particularly significant when one considers the economic impact family status likely has on a child (Graph 1). **In every locality considered here, married-couple families earn at least \$32,000 more than a family headed by a single mother.** Families headed by a single father fare much better, but an average income gap of \$26,796 still exists. Thus, taking Hampton as an example, families headed by a single mother earn only 37 percent of the income earned by married-couple families; families headed by a single father earn 62 percent of what the two-parent families make.

When children live in a family headed by a single mother, they are much more likely to be in poverty. A 2006 National Bureau of Economic Research study by Hoynes, Page and Stevens found that the entire increase in the national poverty rate between

**TABLE 1
DEMOGRAPHIC CHARACTERISTICS, YOUTH IN HAMPTON ROADS
1990 AND 2000**

Age Group	Number 1990	Percent of Total Population	Number 2000	Percent of Total Population
Under Age 5	110,241	8.5%	101,518	7.1%
Ages 5 to 9	86,739	6.7%	129,065	9.3%
Ages 10 to 14	86,492	6.7%	108,094	7.5%
Ages 15 to 17	47,688	3.7%	60,644	4.2%
TOTAL	331,660	26.3%	399,321	26.4%

Source: U.S. Census

TABLE 2

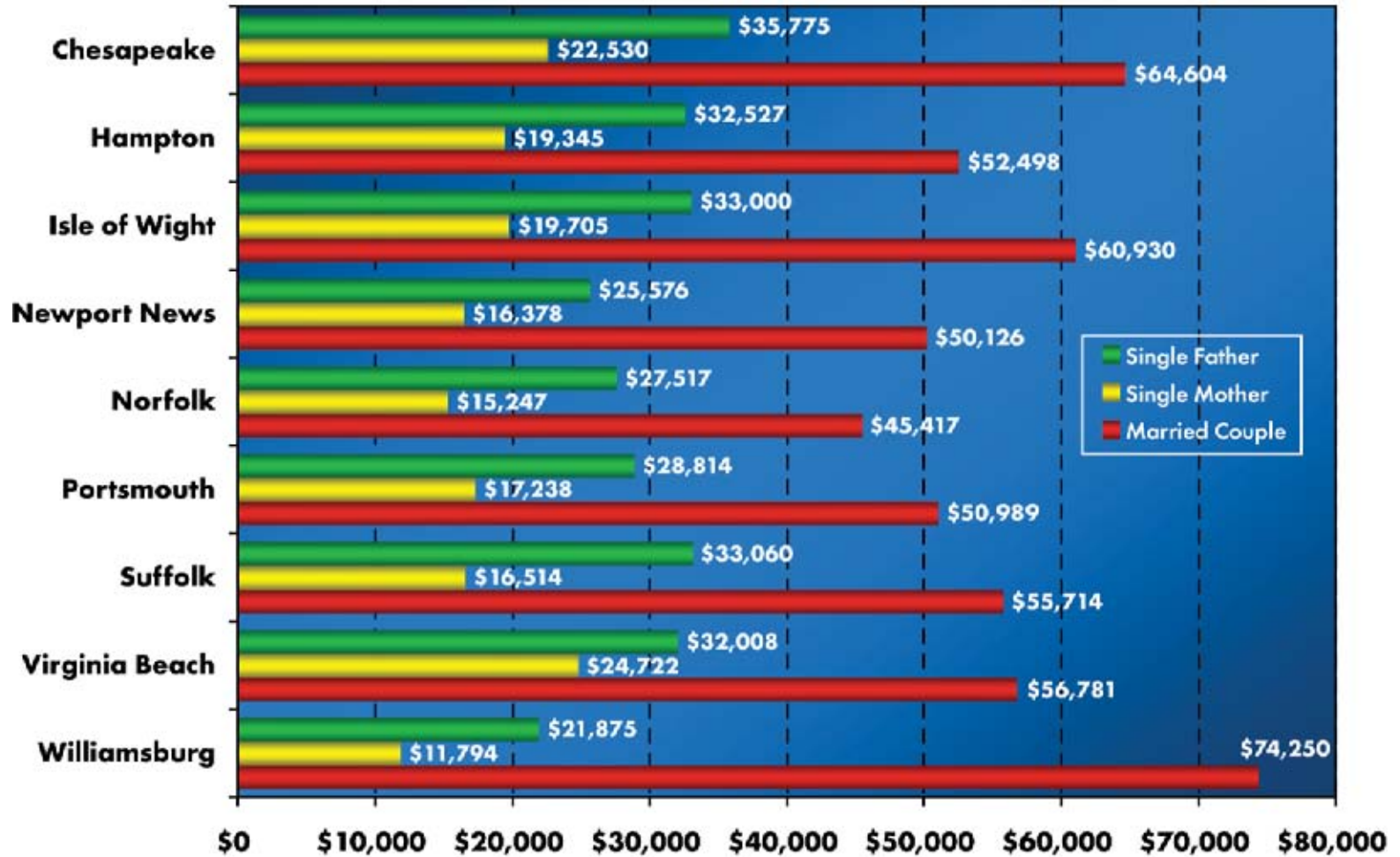
FAMILIES AND MARITAL STATUS IN HAMPTON ROADS, 2000

	Married-Couple Family	Single-Parent Family	Percent Married
Chesapeake	38,655	12,399	75.7
Hampton	19,568	11,185	63.6
Isle of Wight	5,125	1,554	76.7
Newport News	26,959	16,977	61.4
Norfolk	26,249	21,465	55.0
Portsmouth	11,446	9,575	54.5
Suffolk	10,621	4,783	68.9
Virginia Beach	81,225	25,472	76.1
Williamsburg	5,069	1,732	74.5
Hampton Roads	220,477	103,793	68.0
Virginia	645,504	236,689	73.2
Source: U.S. Census			

1980 and 2006 could be accounted for by the rise in the proportion of families headed by single mothers. The data presented in Graph 1 provide strong support for this notion in Hampton Roads.

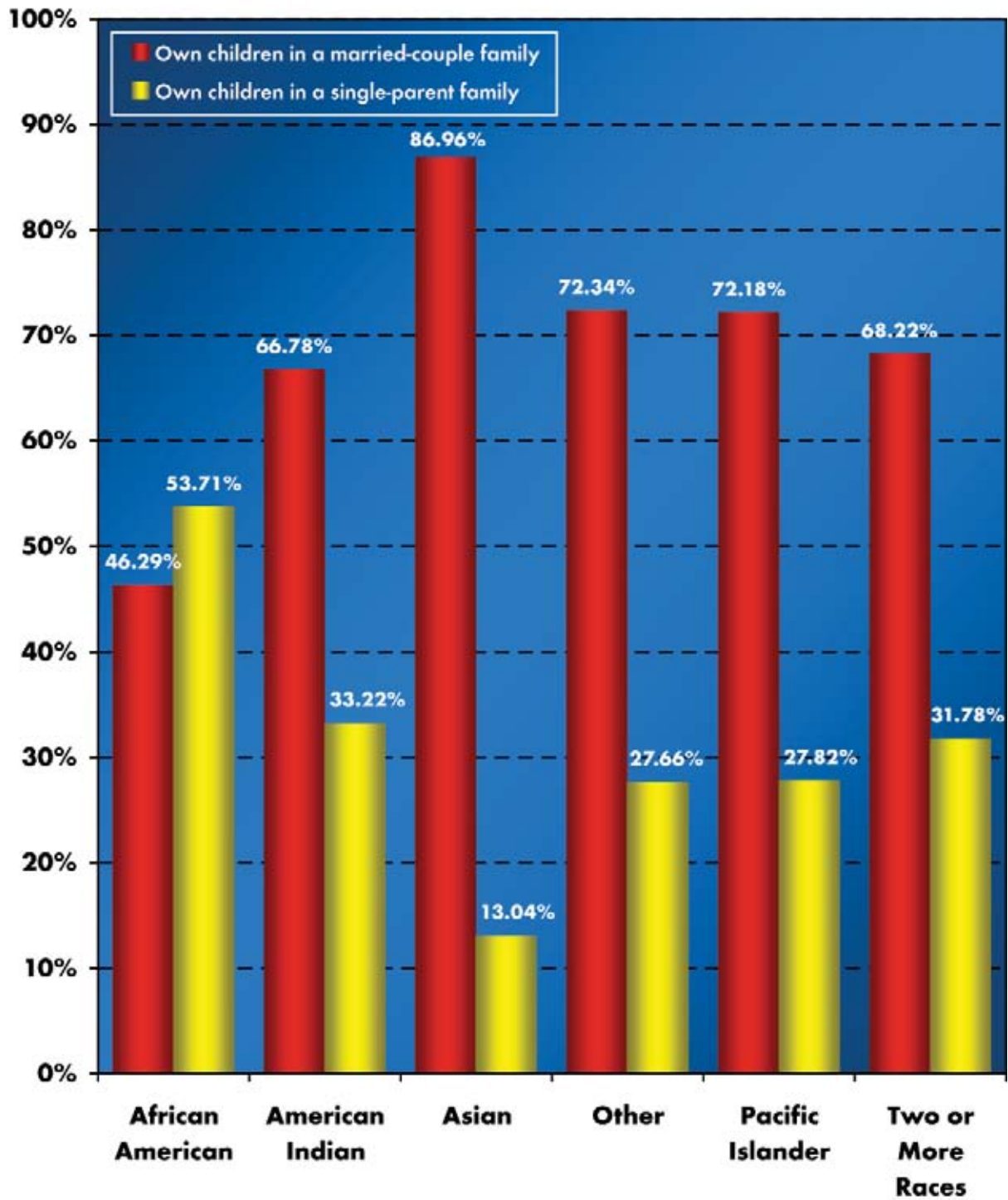
The racial disparities in familial arrangements are astonishingly large (Graph 2). More than 81 percent of white families are headed by married couples, but only 46 percent of African American families fall into the same category. Notably, the comparable percentage for Asian Americans is almost 87 percent. As we shall see, these family relationships directly influence the progress of our youth. Young people in single-parent families are much more likely to grow up in poverty and subsequently to have problems in school and with the law.

GRAPH 1
MEDIAN FAMILY INCOME BY FAMILY TYPE
HAMPTON ROADS, 2000



Source: U.S. Census

GRAPH 2
FAMILY TYPE BY RACE IN HAMPTON ROADS, 2000



Source: U.S. Census

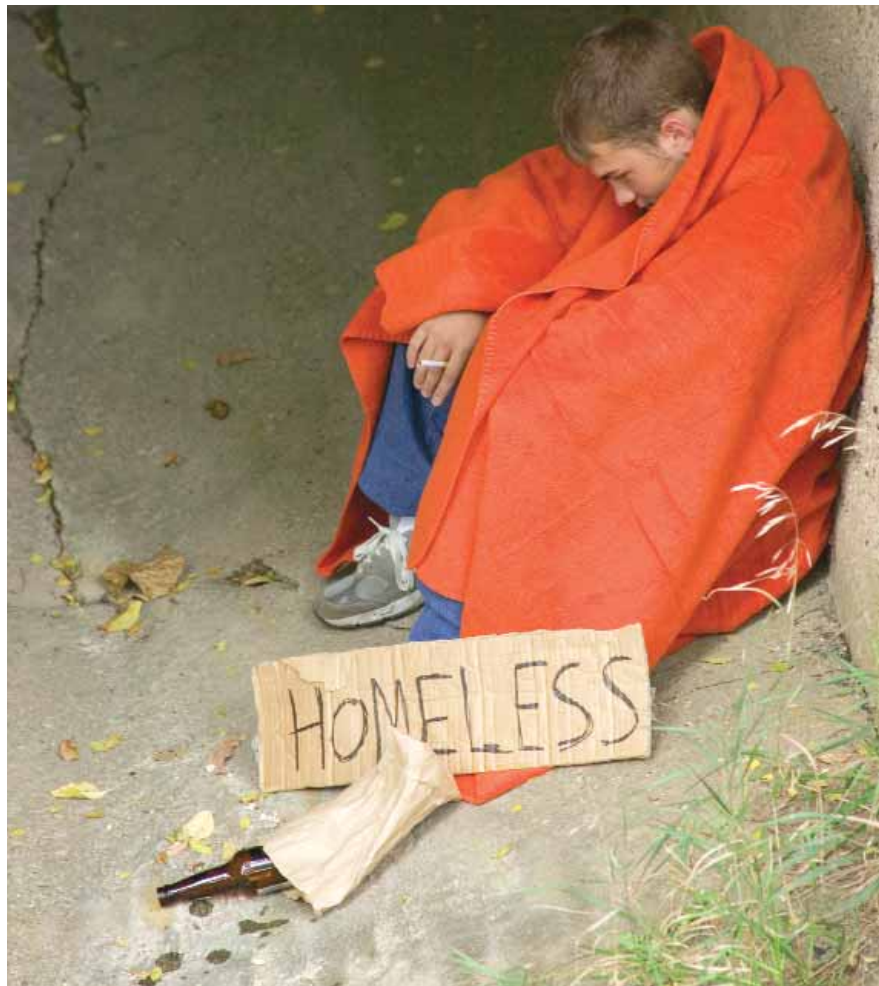
POVERTY AND CRIME

Though the region overall falls slightly under the national average for poverty rates of 17.6 percent, as Graph 3 illustrates, almost 25 percent of children in Portsmouth live in poverty and almost 27 percent are in the same status in Norfolk. Conversely, the percentage of children in Williamsburg living in poverty is only 10 percent.

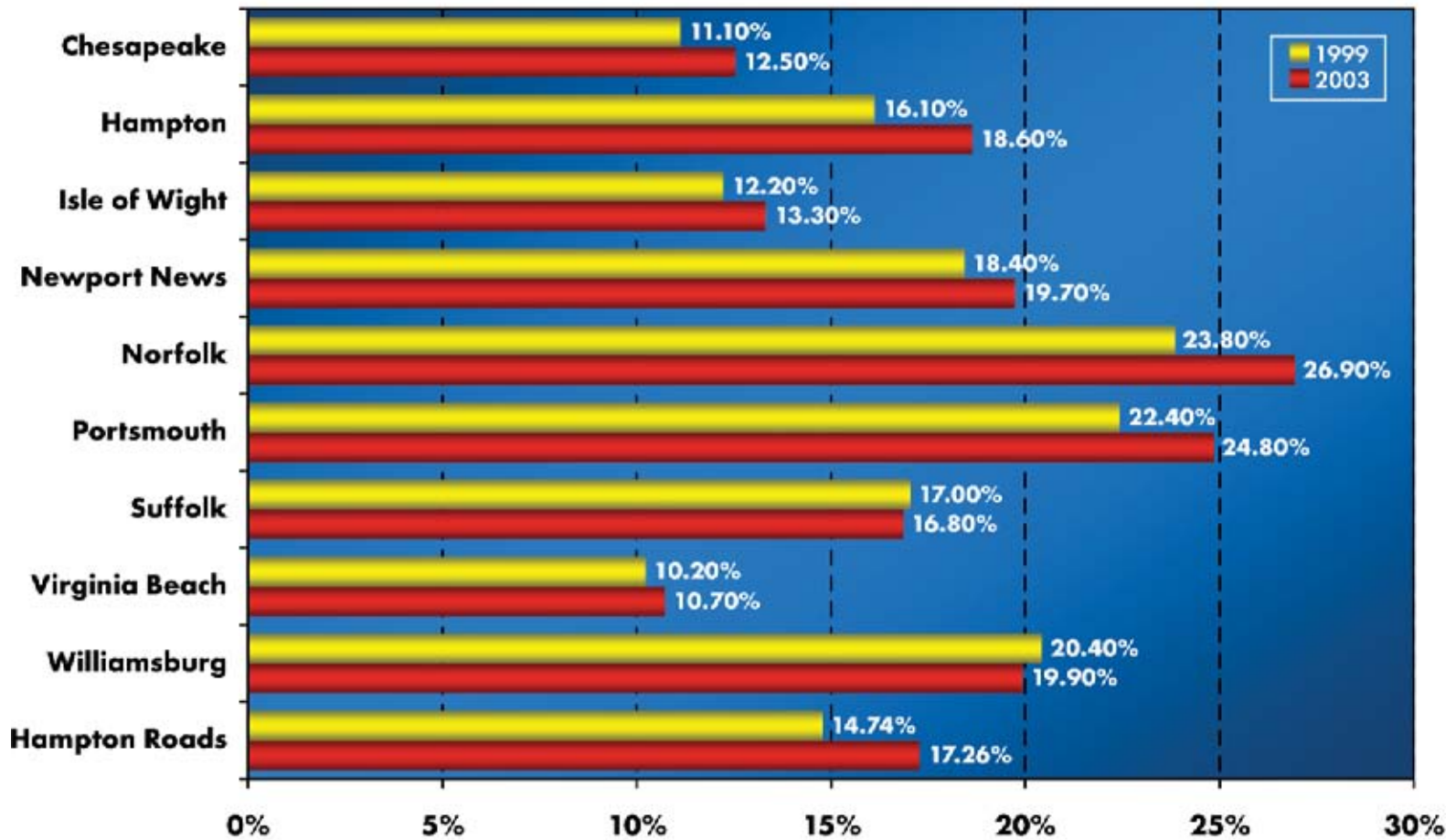
It's of interest that nearly every locality in Hampton Roads, except Suffolk and Williamsburg, experienced a slight rise in its child poverty rate between 1999 and 2003. Still, compared to other selected metropolitan areas in the South in 2003, Hampton Roads is not an outlier. Our child poverty rate falls in the middle of similar cities throughout the southeastern United States, though it is higher than Richmond's. However, our rate is lower than rates in cities such as Jacksonville and Charleston and almost 2 percent lower than the U.S. rate.

Juvenile crime rates tend to reflect economic and social indicators, some of which are demographic and economic, but others of which are cultural. When a youth is referred to a judicial or court service unit in the region, this is referred to as a "juvenile intake." The referral might come from neighbors, school personnel or a variety of other individuals, in addition to police. A referral does not necessarily result in an arrest.

Referral rates to a court service unit vary across our region, but generally are highest on the Peninsula, and in those areas where poverty rates also are high (Graph 4). Intake is, however, the first step into the juvenile justice system, and as such, these figures present a window on approximate juvenile crime and antisocial behavior. The intake rates of juveniles in Hampton Roads are well below those of Richmond and Charleston and are about 2.5 percent below the U.S. rate. This is, by all odds, a bit of good news.



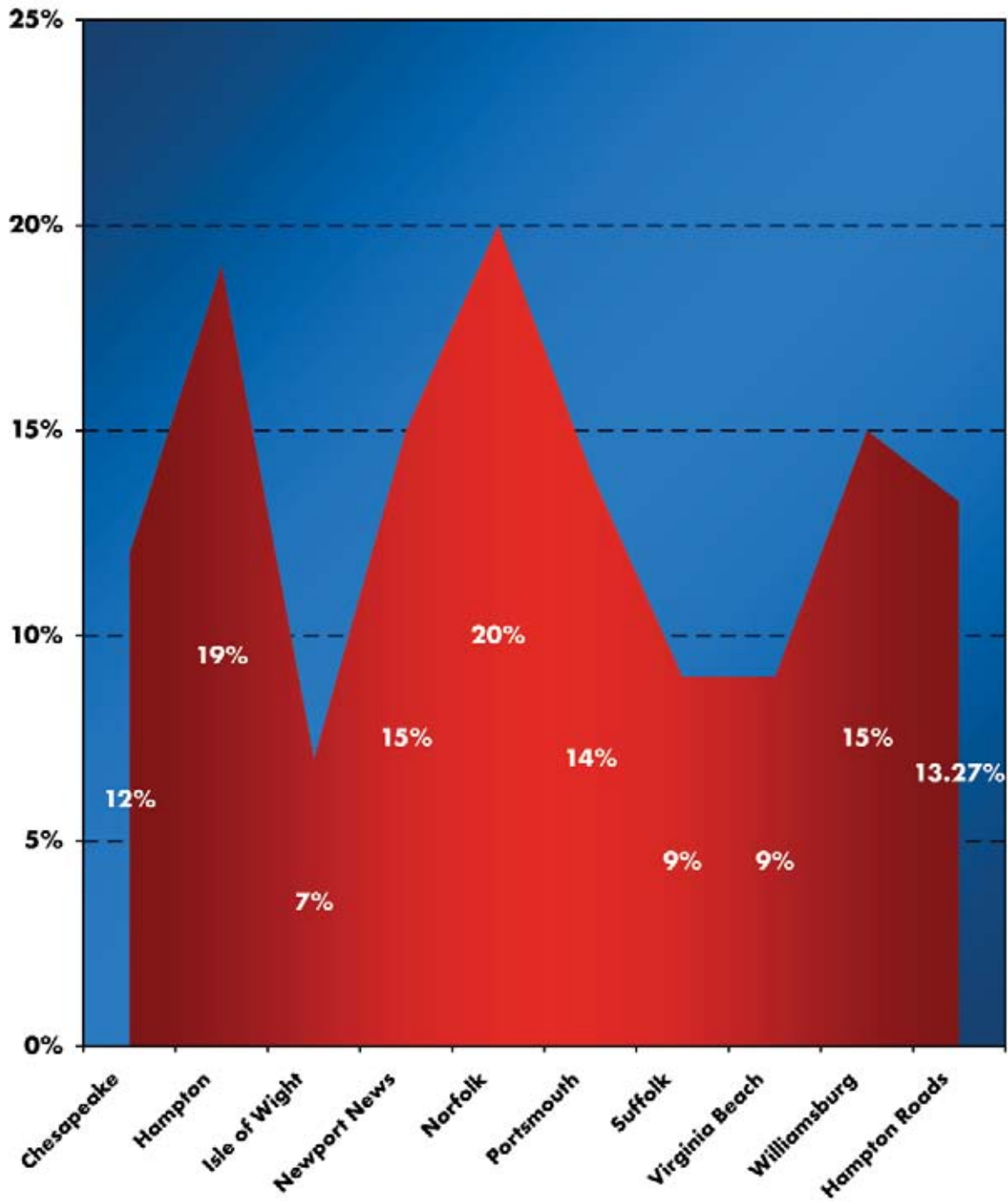
GRAPH 3
PERCENTAGE OF POPULATION UNDER AGE 18 IN POVERTY
IN HAMPTON ROADS, 1999 AND 2003



Poverty defined as \$18,660 for two adults and two children in 2003; \$16,700 in 1999.

Source: U.S. Census

**GRAPH 4
JUVENILE INTAKE RATES IN HAMPTON ROADS, 2004**



Number of cases per 100 adolescents ages 13-17 referred to intake in a court service unit for a complaint, 2004.

Source: Anne E. Casey Foundation

HEALTH

Children born to a single mother usually start out at a disadvantage. Non-marital births have nearly doubled in the past 25 years and Hampton Roads has seen no exception to that trend (Table 3). In 2004, 37.57 percent of all births in Hampton Roads occurred where an unmarried mother was involved (but 45.8 percent in Norfolk and 50.3 percent in Portsmouth). The U.S. rate was 34 percent.

Critically, Hampton Roads produces a relatively high percentage of babies born with low birth weights (9.49 percent compared to 7.8 percent nationally). Though medical advances have done much to improve the outcomes of children born with weights under 5.5 pounds, these children still face educational disabilities and health problems such as respiratory infections at higher rates than normal birth-weight babies.

TABLE 3

BIRTH DATA FOR HAMPTON ROADS, 2004

2004	Chesapeake	Hampton	Isle of Wight	Newport News	Norfolk	Portsmouth
Total Live Births	2,975	1,977	355	3,206	4,094	1,647
Non-marital Live Births	982	877	133	1,406	1,877	825
Percentage	33	44.4	31.8	43.9	45.8	50.3
Low Birth Weight <5.5 lbs	260	196	26	307	423	199
Percentage	8.7	9.9	7.3	9.6	10.3	12.1
Began Prenatal Care in First 13 Weeks	2,607	1,649	332	2,743	3,333	1,237
Percentage	87.6	83.4	93.5	85.6	81.4	75.1

2004	Suffolk	Virginia Beach	Williamsburg	Hampton Roads
Total Live Births	1,186	6,665	676	22,781
Non-marital Live Births	408	1,886	182	8,559
Percentage	34.4	28.3	26.9	37.57
Low Birth Weight <5.5 lbs	121	582	48	2,162
Percentage	10.2	8.7	7.1	9.49
Began Prenatal Care in First 13 Weeks	1,061	5,922	572	19,456
Percentage	86.5	88.9	84.6	85.4

<http://www.vdh.state.va.us/HealthStats/stats.asp>

When teenagers have babies, the progeny nearly always are born out of wedlock. The region has significantly higher teen pregnancy rates than both the nation-at-large and comparable metropolitan areas (Table 4). Not surprisingly, this affects infant mortality. Infant mortality in Hampton Roads is significantly above the national average, particularly in those areas that have the highest teen pregnancy rates and lowest prenatal care percentages.

If we had a magic wand available for our use, there would be few more auspicious times we could wave it than to reduce the number of teenage births in Hampton Roads. Children born to teenage mothers usually cannot be supported financially by their parents even when the father takes responsibility. Hence, they are born into poverty and frequently end up being raised by grandparents. In the most heart-rending cases, a new child enters a home in which the mother is 15 years old and the grandmother is 30 years old. This is a recipe for poverty and

**TABLE 4
TEENAGE PREGNANCY DATA AND INFANT MORTALITY, HAMPTON ROADS, 2004**

Statistic	Chesapeake	Hampton	Isle of Wight	Newport News	Norfolk	Portsmouth
Total Teen Pregnancies	450	379	47	536	841	367
Preg. Rate/1,000 for Population Ages 10-19	27.1	35.8	21.6	40.3	52.5	53.4
Pregnancies Ages <15	9	6	0	8	27	11
Preg. Rate/1,000 Population Ages <15	1	1.3	0	1.1	3.5	3
Pregnancies Ages 15-17	155	114	22	141	258	120
Preg. Rate/1,000 Population Ages 15-17	28.8	37.5	33.4	35.7	61.4	57.4
Pregnancies Ages 18-19	286	259	352	387	556	236
Preg. Rate/1,000 Ages 18-19	107.2	93.6	71	170.3	136.1	203.8
Infant Death Rate/1,000 Live Births	10.4	14.2	11.3	10.3	10.5	12.8

Statistic	Suffolk	Virginia Beach	Williamsburg	Hampton Roads
Total Teen Pregnancies	192	921	78	3,811
Preg. Rate/1,000 for Population Ages 10-19	34.3	28.8	16.1	35.26
Pregnancies Ages <15	6	15	3	85
Preg. Rate/1,000 Population Ages <15	2.1	.9	1.5	1.8
Pregnancies Ages 15-17	71	252	21	1,154
Preg. Rate/1,000 Population Ages 15-17	38.9	25.2	17.8	35.8
Pregnancies Ages 18-19	115	654	54	2,572
Preg. Rate/1,000 Ages 18-19	134.3	125.5	31.1	121.9
Infant Death Rate/1,000 Live Births	10.1	7.8	4.4	10.0

deprivation, and the truth is, this is an area where Hampton Roads does not fare well compared to other metropolitan regions and the nation.

Comparisons of regional per capita income levels often focus on educational attainment and similar variables. However, the source of educational attainment differentials often begins with teenage birth rates. Children born to teenagers start with a disadvantage and they never catch up. Thus, it already may be determined that per capita income and economic growth in Hampton Roads will lag other regions in 2025 because of the excessively high level of teenage births and underweight births we are recording now.

EDUCATION

Graduation from high school has become a virtual necessity for anyone who wishes to aspire to a prosperous life in the United States. Graph 5 provides discouraging news with respect to Hampton Roads. Whereas more than 76 percent of Virginians who are ninth-graders graduate from high school four years later, most communities within Hampton Roads fall below that level, with Norfolk graduating only 39 percent of its ninth-graders four years later.

The comparatively low high school graduation rates within our region reflect a variety of factors, many of which we already have noted. One can, however, use nationally standardized tests to measure the learning and progress of the region's students. The limited amount of evidence available concerning the performance of Hampton Roads students on the National Assessment of Educational Progress (NAEP) that is given to students in grades 4, 8 and 12 suggests that our students perform at about the national average (see <http://nces.ed.gov/nationsreportcard>). For example, as a state, Virginia's science achievement scores are above the national average. Only 20 percent of K-12 Virginians perform below what is termed the "basic" level on the science portion of the NAEP, while the national average is 34 percent. Further, the gap between white and African American students has been narrowing in the Commonwealth and the same trend appears to hold in Hampton Roads.

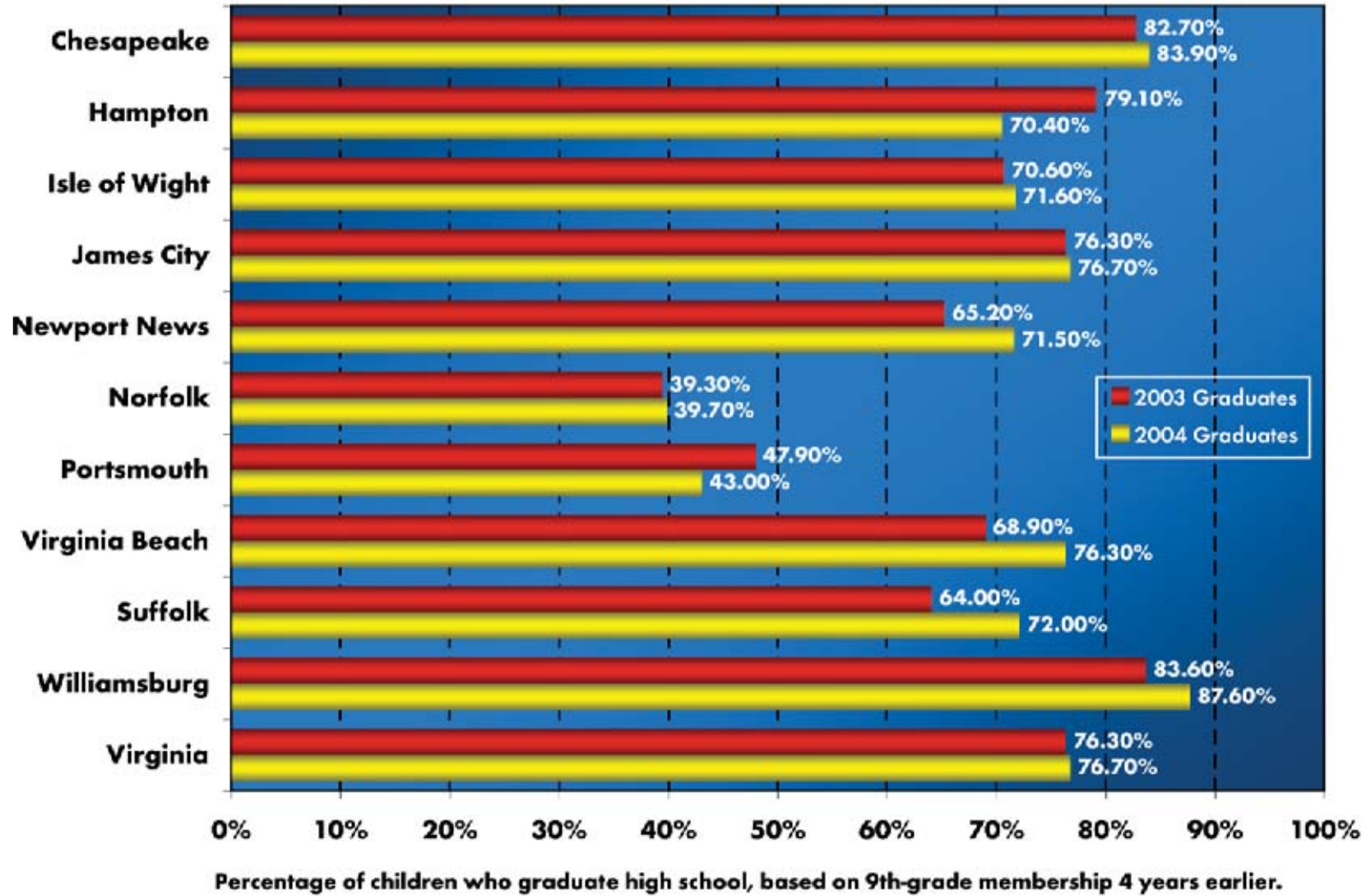
On the other hand, while the performance of high school juniors and seniors on the well-known Scholastic Aptitude Test (SAT) is not reported on a regional basis, evidence from Old Dominion University strongly suggests that the average SAT score of a Hampton Roads high school junior or senior is 10 points to 20 points below Virginia and national averages. There is a strong correlation between high school graduation rates and SAT scores, resulting in students in jurisdictions such as Virginia Beach and Poquoson scoring well above state and national averages, but those in cities such as Norfolk and Portsmouth scoring well below these averages.

The implications of this SAT score evidence are discouraging for students who wish to pursue higher education. In our most urban cities, approximately 60 percent of ninth-graders do not graduate from high school four years later and as many as 30 percent to 40 percent never graduate from high school, even with a G.E.D. diploma. Clearly, these students are ineligible for admission to four-year state universities. However, a large proportion of those who do graduate are unlikely to be admitted to most of the Commonwealth's four-year public universities.

The average SAT score of a new freshman student at Old Dominion University approximates 1070 (about 60 points above the national average) and students with an SAT below 830 are not admitted. Even a student with an 830 SAT score would have to have a 3.9 high school grade point average to be considered for admission, and a student with a 970 SAT score would have to present a 2.7 high school GPA. Depending upon the year, this means that half or more of the students who actually do graduate from one of our urban public high schools are not admissible at Old Dominion.

This is not the end of the world for such students; other four-year opportunities exist, and Tidewater Community College (TCC) and Thomas Nelson Community College (TNCC) are quite viable alternatives. TCC, after all, advertises "From here, go anywhere," and many students do exactly that, often while working and raising families, or during or after military service. Even so, no one would confuse the products of a typical high school of Hampton Roads with the graduates of a typical high-achievement high school in Northern Virginia.

**GRAPH 5
HIGH SCHOOL GRADUATION RATES IN HAMPTON ROADS, 2004-2005**



Source: www.vakids.org

WHAT DOES THIS EVIDENCE SAY TO US?

At the beginning of this chapter, we asked whether the region's youth are a source of pride or a source of problems. The honest answer is – they are both. While Hampton Roads is home to hundreds of thousands of healthy young people who are growing up in two-parent, stable homes, achieve well in school and will graduate from high school, it also includes 100,000 or more young people below the age of 18 who are much less fortunate. It probably is unfair to label such youngsters as “problems,” but more accurate to refer to them as societal challenges. The members of this youthful underclass, who constitute almost 10 percent of our regional population, frequently exhibit the following characteristics:

- **Born to a teenage, unmarried mother**
- **Born underweight (below 5.5 pounds)**
- **Born into poverty**
- **Raised by grandparents or relatives**
- **Record low achievement in schools**
- **Likely to have multiple brushes with the law**
- **Unlikely to graduate from high school in four years**
- **Unlikely to be admissible to a four-year public institution such as Old Dominion University.**

Not all members of the youthful underclass exhibit all of these characteristics, but a depressingly large number do. These young people start behind other children and not surprisingly, therefore, usually finish behind. Very few things in life are inevitable, but honesty requires us to say that the deck is stacked against these young people from the time they leave the hospital nursery. Twenty years later, these same individuals will struggle in labor markets, earn low incomes, perhaps become parents before they should and experience frequent brushes with the law.

Yes, a majority of youth within the region do not fit this general stereotype and we are blessed with tens of thousands of highly motivated, high-achieving youth. Still, the evidence we have reported here should be sobering to anyone who believes that the general prosperity of the region has rubbed off on nearly everyone.

Many of those who read the State of the Region report live stable lives in fairly well-defined environments. Hence, we may not have frequent contact with youth who were born underweight to an unmarried mother, grew up in poverty, became parents themselves at age 15, dropped out of school, subsequently earned no more than the minimum wage and ended up in prison. Familiar or not, each individual in such a circumstance nevertheless represents both a personal human tragedy and a distinct challenge to the entire body politic.

In an earlier chapter, we pointed out that, one way or another, the region is going to pay for the costs of traffic congestion. We'll pay either through the costs of traffic jams and congestion if we choose to ignore the problem, or we'll pay by increased expenditures on transportation. The same circumstance applies to the challenges presented by our youth. We can ignore the facts presented here, but inevitably we will pay for that inattention by confronting the issues of public health problems, children without parents, dysfunctional behavior, lower incomes, elevated crime rates and, ultimately, the higher taxes that must be levied and paid to deal with these situations.

Alternatively, we have the opportunity to devise intelligent public policies that will address these challenges at their roots, especially where the high incidence of teenage, underweight births is concerned. Such policies will cost more now, but generate substantial benefits later. As the muffler commercial advises us, “You can pay me now or pay me later.” So it is in Hampton Roads with respect to our youth.

Beach Replenishment



BEACH REPLENISHMENT: WHO BENEFITS, WHO PAYS, WHO SHOULD PAY?

Beaches always have been important to the region. In 2007, we will mark the 400-year anniversary of the first landing on the beach at Cape Henry and the subsequent establishment of the first permanent English colony in North America at Jamestown.

Our beaches serve us in multiple ways. To some, they are residences; to others, beaches are places to engage in recreation, or locations for military bases, or sites for business and port activities.

However, beaches also serve ecological and natural purposes and host a variety of animals, fish and fowl. Coastal ecosystems (micro-organisms, worms, crabs, birds, turtles and the like) also benefit from wide, clean beaches and non-polluted, adjacent waters.

One of the most important ecological and natural functions of wide, sandy beaches is to reduce the power of the waves in hurricanes and northeasters. Reduced wave power in turn diminishes the damage inflicted on shore buildings, roads and other marks of civilization.

Though Virginia boasts more than 5,000 miles of shoreline, including the Chesapeake Bay, it has only 29.14 miles of public beaches. Hampton Roads claims 89 percent of those beaches (26 miles) and most of this beach frontage is in the city of Virginia Beach.

The natural pounding of the ocean redistributes beach sand from one location to another. Storms and hurricanes accentuate this movement. Thus, one beach will disappear even as another forms. Willoughby Spit, for example, is the product of a series of storms and hurricanes that hit Norfolk between 1799 and 1807. More recently, in 2003, Hurricane Isabel depleted the sand on the Spit and the city of Norfolk subsequently spent \$3.8 million to place 428,000 cubic feet of new sand there.



The redistribution of sand by waves and wind is a never-ending process, and shifting has been augmented by a slow, but steady rise in the sea level within Hampton Roads. Since the colonists arrived in the early 1600s, the sea level has increased 5.8 feet.

Thus, a variety of natural forces causes many beaches to reshape themselves or even disappear over time. In many parts of the world, little attention is paid to this age-old phenomenon. Such is not the situation in Hampton Roads, however, where beaches are extremely valuable assets that provide residences for tens of thousands of people and serve as the locus of the region's thriving tourist industry. If a beach becomes smaller, or even disappears, this adversely impacts the economic welfare and livelihoods of numerous people.

In 2005, according to Old Dominion University economists Vinod Agarwal and Gilbert Yochum, tourists who visited the city of Virginia Beach spent \$838 million on or near its beaches. This is the catalyst for significant physical economic development. The assessed value of real estate in 2006 of the four areas of the city usually considered to be beach locales – Croatan, Ocean Beach Park, Oceanfront and Sandbridge – was slightly more than \$4 billion, according to Paul Schirle, systems analyst for the city's Center for Geospatial Information Services.

It is no surprise, therefore, that maintaining or improving beaches by means of sand replenishment is a major interest of several cities in our region, but especially Virginia Beach. However, beach replenishment can be pricey, with the cost of replacing sand on beaches in developed areas ranging from \$3 million to \$20 million per mile. More than \$150 million was spent in the region on beach replenishment between 1996 and 2003. About two-thirds of that cost was borne by the federal government.

Beach replenishment is not a one-time effort; maintenance is required. A beach is analogous to road and bridge infrastructure that must be maintained and upgraded. The size of the expenditures associated with beach replenishment naturally leads us to a series of questions:

1. How well does beach replenishment work?
2. Who benefits from beach replenishment?
3. Who pays for beach replenishment?
4. Does beach replenishment harm the environment?
5. In light of the benefits and costs, who should pay for beach replenishment?

We provide answers to these questions in the sections that follow.

DOES BEACH REPLENISHMENT WORK?

The success (or failure) of beach replenishment typically is judged in economic terms. The costs of beach nourishment ordinarily are easy to ascertain, though on occasion there are spinoff environmental costs that are ignored. The major benefits are four-fold:

- Appealing beaches attract residents and tourists, whose increased enjoyment is difficult to quantify, but nonetheless real.
- Attractive beaches entice tourists who spend money and pay taxes.
- Property values on and near beaches increase; this benefits both the owners and localities.
- Infrastructure on or near beaches is less susceptible to storm damage.

Let's examine each of these in turn to help us assess whether beach replenishment works.

A ROUGH APPROXIMATION OF THE CONSUMPTION VALUE OF BEACHES TO THE CITIZENS OF VIRGINIA BEACH

Economists are famous for paying comparatively little attention to what people say they prefer, but instead concentrating on how they actually behave. In the context of beaches, this means that while we acknowledge that people say they enjoy beaches and value them, we will not pay much attention unless their actual behavior demonstrates this.

If people value beaches, then they should be willing to pay higher prices for housing near beaches and willing to accept lower wages (holding other things constant) in order to lead a “beach life.” These are testable propositions and Glenn Bloomquist, Mark Berger and John Hoehn did so in the American Economic Review in March 1988. They found that people who lived in a county that contained an ocean beach were willing to pay higher prices for housing, and willing to accept lower wage rates, in order to live there. In 1988 prices, they computed the value of this inclination to be \$467.72 per household annually.

Updating this to 2006 gives us an annual value of \$1,100 per household. Approximately 160,000 households exist in Virginia Beach, so a rough approximation of the consumption value of Virginia Beach’s beaches to its citizens is $160,000 \times \$1,100 = \176 million. This is \$400 per citizen in 2006 prices. Per capita income in the city was about \$35,000 in 2006. Therefore, our rough-and-ready estimate of the implicit consumption value of the resort city’s beaches to its citizens is $\$400/\$35,000 = 1.14$ percent of their incomes. This is substantial.

When sand on ocean beaches is replenished, it makes those beaches more attractive; without sand replenishment, the same beaches would still be attractive, but less so. What proportion of the \$176 million consumption beach value just computed would remain if the beaches were not replenished? We cannot provide a precise answer to this question, but can observe that oceanfront property without a sandy beach still has considerable value. Several local real estate agents suggested to us that about one-half of the value of traditional Virginia Beach oceanfront property would remain even if much of the sand disappeared from those beaches.

Let’s assume these Realtors are in the ballpark with their estimate that half of the value of oceanfront property in Virginia Beach is due to beach replenishment. **Then, we can approximate the consumption value of replenishing these beaches to the citizens of Virginia Beach at \$88 million annually. Other benefits, for example, the reduction of storm damage because of beach replenishment, are additional. Needless to say, this dwarfs the average annual cost of beach replenishment to all parties, which averages about \$15 million annually.** Thus, beach replenishment clearly pays off for Virginia Beach even though it probably is true that some citizens benefit far more than others. Those who live on or near the beach, and those who patronize the beaches frequently, are the biggest gainers, but every citizen benefits somewhat.

REGIONAL TOURISM

Since 1951, the city of Virginia Beach has replenished portions of its “resort beach” (which runs south from 43rd Street to Rudee Inlet) every year. Recently, this has involved importing about 400,000 cubic yards of sand annually to counteract long-term erosion.

The economic impact of tourism is very significant to the economy of Hampton Roads. Professors Agarwal and Yochum of ODU’s Department of Economics have for many years estimated the economic impact of tourism for the city of Virginia Beach. Table 1 summarizes trends in taxes paid by tourists who have visited Virginia Beach over the past six years. Between 2000 and 2005, the number of nights hotel rooms were occupied grew by approximately 6 percent, while the tax revenues derived from these hotel rooms increased almost 40

Year	Hotel Room Nights	Tax Revenues (millions)
2000	2,026,249	\$50.5
2001	1,972,465	\$53.6
2002	2,062,202	\$62.3
2003	2,143,120	\$65.6
2004	2,124,642	\$68.8
2005	2,143,221	\$70.5

Sources: Virginia Beach Tourism Economic Impact Study, Old Dominion University Economic Forecasting Project, and Tourism Economic Indicators Report of the City of Virginia Beach (various years)

percent. Among other things, these numbers reflect a gradual, but distinct movement in the direction of upscale tourism in Virginia Beach.

Repeat visitors to our beaches are economically important because they provide a dependable stream of spending to the local economy. In theory, beaches that have been replenished with sand should attract more repeat visitors. Table 2 depicts a weak, but positive relationship (though not statistically significant) between beach nourishment one year and the percentage of visitors the next year who were repeat visitors. While hardly conclusive, these data provide at least a basis for the argument that beach replenishment makes an eventual difference with some tourists.

PROPERTY VALUES AND TAXES

Waterfront property nearly always is valued more highly than nearby land with no waterfront. The Bloomquist-Berger-Hoehn study cited above captures some of this. Property values in areas on or within several blocks of the Atlantic Ocean in Virginia Beach appear to be about 25 percent higher than comparable properties located elsewhere in the city. The assessed value of real estate in the four neighborhoods commonly considered oceanfront was \$4.02 billion in 2006 (this was about 9 percent of the aggregate assessed valuation within the city).¹ Though the 25 percent premium is a ballpark estimate, it suggests that in the

absence of oceanfront with wide, sandy beaches, the assessed value of these properties would have been \$3.2 billion. As above, let's assume that one-half of the \$800 million premium can be attributed to beach replenishment. This means the increase in assessed valuation due to beach replenishment is approximately \$400 million.

Private individuals and businesses that have experienced the estimated \$400 million increase in the assessed valuation of their property no doubt are grateful, but for them this is a two-edged sword. Higher assessed valuations mean higher real estate tax payments. In 2006, Virginia Beach's real estate tax rate is \$.99 per \$1,000 of assessed value. Hence, these property owners will pay an additional \$3.96 million (which we will round to \$4 million) in taxes to the city as a consequence. While this additional tax obligation will inflict pain on the property owners, they will recoup some of that expenditure by means of additional services the city of Virginia Beach supplies. Further, they always have the option of selling their property and, as one property owner put it, "taking our money and run."

Note carefully that this analysis is based upon two critical assumptions. First, we have assumed a 25 percent ocean neighborhood real estate price premium. Second, we have assumed only half of this premium is due to beach replenishment. To the extent these values differ from reality, then our estimates of a \$400 million increase in property values and \$4 million in additional annual real estate tax payments change.

REDUCED STORM DAMAGE

Our region's proximity to the Atlantic Ocean makes it vulnerable to coastal storms that cause damage by flooding, waves and erosion. Sandy beaches typically respond to storm conditions by changing their profile to sandbars under water that break the waves further offshore. In general, the wider the beach, the farther will be the distance from the ocean to beach structures, and hence the lower the damage that will occur to them during a storm.

¹Actual property values were higher because in recent years Virginia Beach has assessed real estate at about 76 percent of market value. This suggests that the actual market value of the oceanfront property was \$5.29 billion.

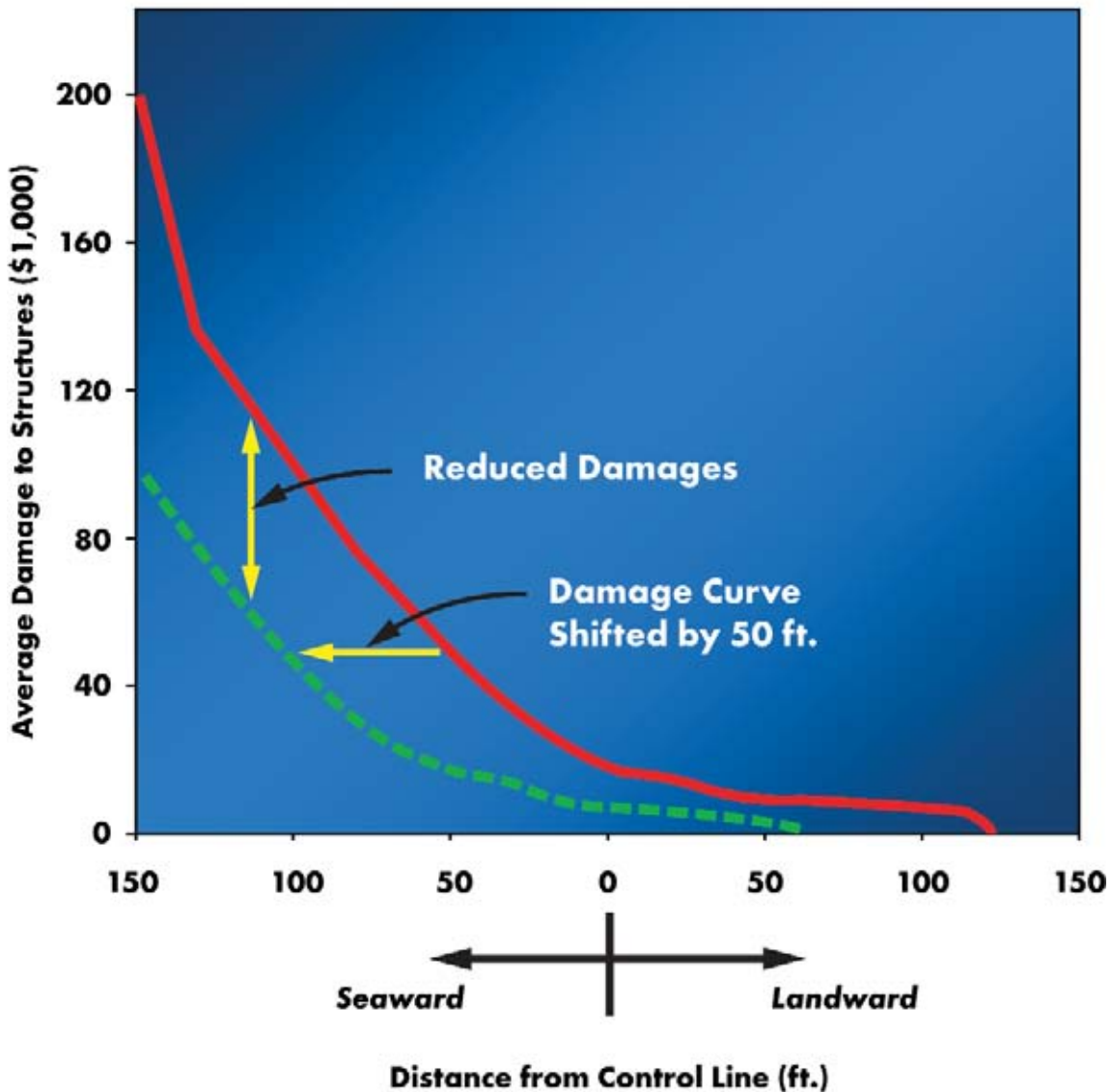
Year	Repeat Visitor Percentage	Previous Year's New Sand (cubic feet)
1994	71.8	311,790
1995	68.6	303,318
1996	69.4	289,450
1997	75.0	300,000
1998	72.7	3,200,000
1999	75.8	4,000,000
2000	73.6	0
2001	73.0	0
2002	78.0	3,200,000
2003	78.2	4,000,000
2004	77.6	0

Sources: Virginia Beach Tourism Economic Impact Study, Old Dominion University Economic Forecasting Project and U.S. Army Corps of Engineers

The textbook example in this regard is Hurricane Eloise (1975) in Florida, whose storm damages are illustrated in Graph 1. The red curve depicts actual damages (thousands of dollars) to 540 structures relative to their distance in feet from the ocean. The green curve represents the reduction in damages that a 50-foot-wide beach nourishment project would produce. The difference is easily observable.

In 2002, "Operation Big Beach" was completed to widen the Virginia Beach oceanfront 300 feet as part of the Beach Erosion Control and Hurricane Protection Project. This was a joint effort between the U.S. Army Corps of Engineers and the city of Virginia Beach. Figure 1 (dated summer 2002) shows beach width being increased by mining 3.5 million cubic yards of sand offshore and then placing it on beaches ranging from 89th Street in the north to Rudee Inlet in the south.

**GRAPH 1
HURRICANE DAMAGE TO STRUCTURES
COMPARED TO DISTANCE FROM THE OCEAN**



Source: Hurricane Eloise (1975), adapted from Dean, 1988.

FIGURE 1



City of Virginia Beach “resort beach” under construction to 300-ft width at 40th Street in summer 2002. The entire project included a new seawall/boardwalk system, wider dunes on the north end and storm water drainage pump station, as well as a new, wide beach from Rudee Inlet to 89th Street (6 miles), requiring about 3.5 million cubic yards of sand obtained offshore.

Sandbridge Beach, located in southern Virginia Beach, currently is the site of a joint beach nourishment project between the city of Virginia Beach and the Corps of Engineers. Sand replenishment took place here in 1998 and again in 2003, when 2 million cubic yards of sand widened the beach 100 feet to 150 feet over almost five miles of oceanfront. This beach replenishment made a big difference when Hurricane Isabel hit in September 2003. Graph 2 displays the estimated annual damages due to flooding at Sandbridge without a wider beach (indicated in red) and with the 2003 nourishment project (indicated in green). However, note that when very strong storms hit, even a wider beach will not prevent flood damage.

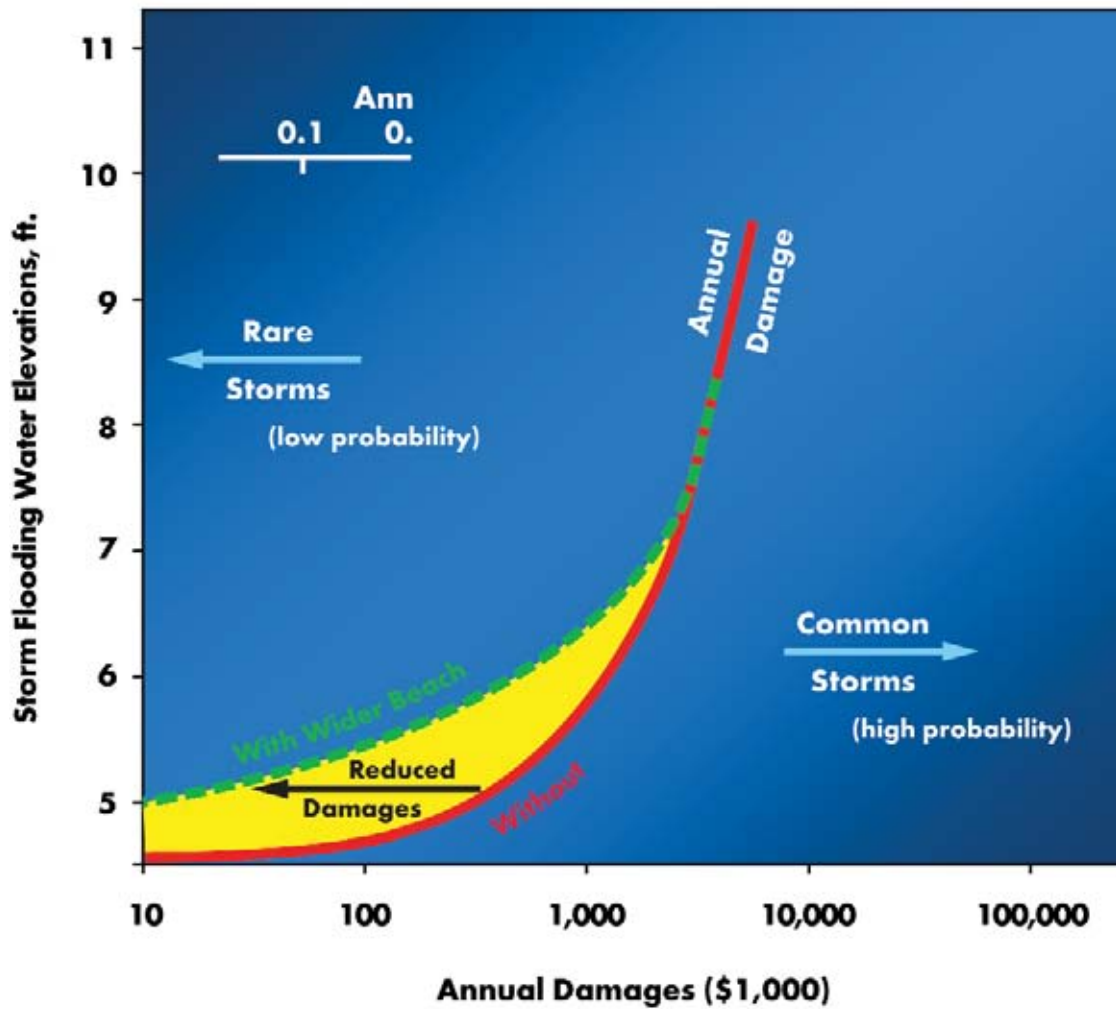
Hurricane Isabel (Sept. 18, 2003) provided a severe test for the beaches of Hampton Roads. Flood levels were the second highest ever recorded and only 1.6 inches below the record set in August 1933. Isabel occurred during a time of relatively low tides. Otherwise, it would have established the region’s all-time record for flooding.

The Corps of Engineers conducted post-Isabel damage surveys and estimated that the “resort beach” nourishment project prevented \$82 million in damages (\$52 million in residential property, \$15 million in commercial property and \$15 million in infrastructure such as roads, sewers, power, water lines and the new oceanfront boardwalk). Similar studies of Sandbridge found \$23 million in damage prevention by the beach nourishments in 1998 and 2003.

The U.S. Navy Dam Neck facility also benefited from the 1996 nourishment project. More than \$18 million in potential Isabel damage was avoided to multistory housing facilities and the 16-inch gunnery range at the oceanfront. This is an average of \$2.3 million per year over the eight-year period of beach replenishment.

Storm damage reduction benefits from beach replenishment during Hurricane Isabel totaled \$131 million, according to the Corps of Engineers, and are summarized in Table 3.

**GRAPH 2
DAMAGE TO STRUCTURES IN SANDBRIDGE GIVEN
VARIOUS LEVELS OF WATER DEPOSITED BY HURRICANES**



Source: Norfolk District, Corps of Engineers, Reevaluation Report, April 1996

TABLE 3

**BEACH NOURISHMENT COSTS PRIOR TO HURRICANE ISABEL (SEPT. 18, 2003)
AND ESTIMATED STORM DAMAGES AVOIDED DURING ISABEL**

Location	Nourishment Costs 1996 Through September 2003	Estimated Storm Damages Avoided During Hurricane Isabel
Virginia Beach (Oceanfront) (Sandbridge)	\$125.0 million \$ 10.0 million	\$ 82.0 million \$ 23.0 million
Norfolk (Ocean Park)	\$ 6.0 million	\$ 5.0 million
Hampton (Buckroe)	\$ 4.0 million	\$ 3.0 million
U.S. Navy (Dam Neck)	\$ 7.5 million	\$ 18.0 million
Totals	\$152.5 million	\$131.0 million

Source: U.S. Army Corps of Engineers

ENVIRONMENTAL CONSIDERATIONS

Beach nourishment is potentially harmful to the ecosystems at the replenishment site, at the area where the sand is borrowed and at adjacent beaches. Environmentally oriented organizations such as the Sierra Club and the national Public Interest Research Group (PIRG) frequently oppose beach replenishment. As the PIRG put it, “the pumping of sand for beach ‘nourishment’ or ‘replenishment’ actually works counter to beach health by damaging natural beach functions that are critical for plants, wildlife, and storm protection.” (U.S. PIRG, Southern Office, May 8, 2003)

The food chain on a beach begins with the tiniest organisms living in the spaces between the sand grains and includes the worms, crabs, sea turtles, marine mammals, fishes, shore birds and the physical habitat (plants and grasses) that comprise the ecological system. Because many beaches are nourished by pumping sand from offshore resources by dredges, these operations may create turbidity clouds, capture and kill turtles, and modify the underwater and on-land habitats in both diversity and numbers of species normally living at the coast.

Some of these effects are short-lived and perhaps not harmful to the local environment. For example, extremely fine-grained sediments make up only a small fraction of the borrow material in Hampton Roads; the resulting turbidity during dredging is low; and no living coral reefs exist nearby to be smothered by this action.

A joint permitting process (the U.S. Army Corps of Engineers, Virginia Institute of Marine Science and the various regional wetlands boards) attempts to scrutinize all beach nourishment projects within Hampton Roads for possible harm to the environment. Within Hampton Roads, there are four species of turtles (Kemp’s ridley, leatherback, hawksbill and green) that are included on the National Marine Fish Service list of endangered species. To minimize adverse impacts, intense monitoring of turtle nesting places is required when beach replenishment takes place, and sand dredges must have protective devices to avoid trapping turtles. It is not yet clear whether either the concerns or the efforts to deal with them are significant.

Still, a beach ecosystem consists of far more than turtles and we don’t yet know precisely how beach replenishment affects beach ecosystems.

WHO PAYS FOR BEACH NOURISHMENT NOW?

Currently, the costs of beach replenishment are shared. The federal government typically pays 65 percent of the costs of beach replenishment, and state and local governments pay 35 percent combined. Between 1995 and 2004, the federal government spent \$1.1 billion on beach replenishment (The Virginian-Pilot, Sept. 19, 2005) and Virginia alone received \$107 million in funding for this purpose (Surfrider Foundation, "State of the Beach 2005").

How are the lives of taxpayers in inland locations such as Peoria, Ill., or San Angelo, Texas, improved when beaches are replenished in Virginia? At first glance, the federal government's beach replenishment program appears to involve a massive redistribution of income from non-ocean beach users (easily the majority of Americans) to beach property owners, ocean towns and cities, and beach tourists. This is one of the reasons why the Public Interest Research Group has called for a reversal of the 65/35 federal versus local share of beach replenishment costs. The PIRG believes local property owners and governments benefit the most from beach replenishment and therefore should pay the largest share of the costs. The PIRG claims this would save federal taxpayers more than \$3 billion over the next few decades.

The city of Virginia Beach spent an average of \$5.5 million per year on beach replenishment during the past decade. Residents of Sandbridge pay a special add-on real estate tax to support beach replenishment. In 2005, this tax generated \$2.1 million.

BENEFITS VERSUS COSTS

Let's consider the benefits and costs that beach replenishment appears to confer on the major actors in Virginia Beach: the federal government, the Commonwealth of Virginia, private property owners and the city of Virginia Beach.

Economically speaking, the *federal government's* justification for beach replenishment logically should focus on the additional taxes it collects and the damages it avoids to its property when beach replenishment occurs. Yes, beach replenishment presumably increases the happiness of those who use the beaches, and generates economic activity, but we will evaluate those effects locally in order to avoid double counting.

With respect to additional federal tax payments that are produced by beach replenishment, it is apparent these are minimal. Ninety percent of the ocean-going tourists in Virginia Beach hail from the United States. Whatever expenditures they make in Virginia Beach would have been made anyway somewhere else in the country. **Economist Chris Colburn of Old Dominion University has approximated the additional federal tax collections generated by beach replenishment at \$944,000 annually.**

Current rules require the federal government to justify its beach replenishment contributions on the basis of the value of anticipated reductions in storm damages. Other factors, such as enjoyment, increased property values, increased tax payments and the like, may not be taken into consideration. Corps of Engineers data presented in Table 3 reveal storm damage reductions to the Dam Neck Navy Base because of beach replenishment to average \$1 million per year over the time period 1996 to 2003. No other federal installation was significantly affected by sand nourishment in Virginia Beach.

These two federal benefits amount to less than \$2 million annually, which is dramatically less than the approximately \$11 million per year the federal government has been spending on beach replenishment in Virginia Beach. This has prompted the Sierra Club to label federal funding of many beach replenishment efforts a "boondoggle" (Sierra Club, Chesapeake Chapter Newsletter Online, September-October 1998). It also explains why Presidents Bill Clinton and George W. Bush attempted to cut federal funding for such purposes.

The *Commonwealth of Virginia* similarly obtains financial benefits from beach replenishment. Analogous to the federal situation, the state benefits when it collects additional taxes from non-Virginians. It does not gain any net revenue when Virginians spend their money at the Virginia Beach oceanfront rather than, say, in Richmond or Fairfax County. It does gain revenue when non-Virginians spend money at the oceanfront. **Professor Colburn has estimated that the Commonwealth collects \$935,000**

in additional income taxes that it would not have collected anyway when beach replenishment occurs. By far, the greater impact is felt in sales taxes, where Colburn estimates that Virginia collects an additional \$23.1 million annually that it would not have collected anyway because of beach replenishment. In addition, beach replenishment has enabled state government to avert an average of \$100,000 per year in infrastructure damage to state highways and other assets. Thus, the total positive impact on state government because of beach replenishment in Virginia Beach is approximately \$24.1 million per year.

The Commonwealth contributes little to the payment of beach replenishment costs. In 1980, it created the Board on Conservation and Development of Public Beaches and established a matching grant fund to help local governments conserve and protect the 29 miles of public beaches that exist in 14 Virginia cities and counties.

Between 1980 and 1999, \$8.5 million in matching grant Commonwealth funds were allocated to local governments for their beaches. The average annual state expenditure for this purpose was about \$425,000. **Hence, the benefits the Commonwealth receives from beach replenishment in Virginia Beach are more than 50 times as large as its annual contribution for that purpose.**

Private individuals and property owners and the city of Virginia Beach reap the lion's share of the benefits from beach replenishment. To review, these benefits include the consumption value of the beaches, increased property values, increased tax collections and reduced storm damage. Let's consider each in turn.

The consumption value of beaches admittedly is difficult to quantify, but we reported the work of economists Bloomquist, Berger and Hoehn, which we updated and applied to Virginia Beach. We estimated this annual value to be \$176 million for the 440,000 citizens of Virginia Beach in 2006 and estimated that \$88 million of this was due specifically to beach replenishment.

Property values on the oceanfront, we noted earlier, appear to be about 25 percent higher than the values of comparable properties just a few blocks away. The Bloomquist-Berger-Hoehn study captures some of this. However, let's work with a hypothetical example to see what difference this makes in terms of property values and taxes.

If a non-oceanfront property is worth \$400,000, then a comparable oceanfront property will be valued at \$500,000. However, all of this \$100,000 increased value cannot be attributed to beach replenishment, since oceanfront property premiums exist nationwide even where no usable beaches exist. Hence, as we did above, we will reduce this by one-half, leaving us with \$50,000 as the beneficial contribution of beach replenishment to the value of a \$500,000 oceanfront house.

Economically speaking, the city of Virginia Beach could argue this is an unearned increment in property values and should be redistributed to taxpayers who pay for beach replenishment. That this would be politically unpopular is beyond dispute. In any case, governments almost never attempt to extract the entire amount of unearned property value increases when they undertake other value-increasing public projects, for example, new roads, schools or parks. What governments frequently do, however, is extract a small proportion of that increased value by means of property taxes. Thus, in our example above, if the value of a typical property has increased by \$100,000, and the city of Virginia Beach assesses real estate at about 76 percent of its actual market value, and the city's tax rate is approximately \$.99 per \$100 of assessed valuation, then it would increase its tax bite on this hypothetical property by \$752. This is well less than 1 percent of the increased value that has accrued because of beach replenishment.

Overall real estate assessments in Virginia Beach increased by 23 percent between 2005 and 2006, but the city has not published any data that establish that oceanfront property assessments have increased more rapidly than other property. Still, the 25 percent price premium for oceanfront neighborhood properties appears, if anything, to be a conservative estimate.

Increased tax collections due to beach replenishment accrue primarily to the Commonwealth of Virginia and to the city of Virginia Beach. We approximated the Commonwealth's tax take at \$24 million per year. Economists Agarwal and Yochum estimated that the city of Virginia Beach collected about \$70 million in sales and hotel bed taxes because of beach tourism in 2005. Perhaps 20 percent of these taxes were paid by Virginia Beach residents, leaving a net of \$56 million. These are taxes the city otherwise would not have collected.

What proportion of this \$56 million addition to tax collections is due to beach replenishment? If beaches were not replenished and allowed to deteriorate gradually, then over the years one would predict a significant falloff in oceanfront tourism, perhaps

as much as 80 percent, based upon tourism patterns at other mid-Atlantic oceanfront locations where accessible, sandy beaches are not present. Let's assume the 80 percent estimate is correct. If there were no beach replenishment for many years, then we predict the city of Virginia Beach would collect only \$11.2 million in taxes (2006 prices). Thus, it would lose approximately \$45 million in tax collections without replenishment of the resort beach sand. The city, then, has far more at stake than the state or federal governments where tax collections are concerned.

Added to this are the additional tax collections the city of Virginia Beach enjoys because of the higher property values that accrue due to beach replenishment. As noted earlier, we approximated these tax revenues at \$4 million per year.

Reduced storm damage is a significant benefit that accrues from beach replenishment. Table 3 reveals that the estimated reduction in storm damage in Virginia Beach during Hurricane Isabel because of beach replenishment was \$105 million. This was preceded by eight years of beach replenishment. Hence, over this time span, the annual average reduction in storm damage was \$105 million/8 = \$13.1 million. Updating for inflation by means of the Consumer Price Index yields a \$14.4 million average annual damage reduction estimate for 2006. Assuming the same parties would benefit from beach replenishment proportionately in 2006 and future years as they did during Hurricane Isabel, we assign \$11.6 million of these storm reduction benefits to private individuals, \$2.6 million to the city of Virginia Beach and \$.2 million to the Commonwealth of Virginia.

Against these benefits, one must consider the funds the city of Virginia Beach expends on beach replenishment (these have averaged about \$5.5 million annually). Further, the city must take into account the additional costs it incurs because it must provide public services that address the oceanfront. These include the provision and repair of streets and sewers, public safety, crowd and traffic control, plus a variety of other public services including education, libraries, public transportation and social safety net services. One Virginia Beach official has estimated the value of these services to be about \$10 million, which is no small number. Even so, the benefits of beach replenishment clearly outweigh the corresponding costs when one includes all of the various sources of benefits that accrue from beach replenishment.

SUMMING UP THE BENEFITS AND COSTS

Table 4 discloses that even though the federal government currently pays almost two-thirds of the costs of beach replenishment in Virginia Beach, it is only a minor recipient of the benefits, deriving less than \$1 million annually in tax collections and an average of about \$1 million per year in reduced storm damage to federal property. Despite these puny numbers, the federal government has spent an average of about \$13 million per year on beach replenishment in the region, of which approximately \$11 million annually appears to have been in Virginia Beach.

The Commonwealth of Virginia benefits considerably more – our estimate is \$24.1 million per year. Nevertheless, the state contributes an average of only about \$425,000 to beach replenishment.

The major beneficiaries of sand replenishment on the Virginia Beach oceanfront are the citizens of Virginia Beach. Private individuals realize benefits from: (1) their ability to utilize more attractive beaches, which we have approximated at \$88 million annually, or \$200 per capita; (2) increased property values, which we have approximated at \$400 million; and (3) reduced storm damage, which though highly variable, has averaged \$11.6 million per year in the past decade.

The city of Virginia Beach benefits from beach replenishment via: (1) increased tax receipts derived from tourist expenditures, which we estimate to be \$24 million per year; (2) an estimated \$4 million in increased tax receipts generated by the \$400 million in increased property value; and (3) diminished storm damage to its public infrastructure (our estimate here is an average of \$2.6 million per year). Over the years, the city has, one way or another, paid about 30 percent of the cost of beach replenishment. This has averaged about \$5.5 million per year, or about half of the federal government's contribution, but more than a dozen times the state's contribution.

Of course, in evaluating the wisdom of spending money on beach replenishment, the city must take into account the additional costs it incurs because of the public services it must provide to support the oceanfront. These include streets and sewers, public safety and a variety of other public services, including education, libraries, public transportation, crowd control and social safety net services. One city official puts a rough estimate of these public services in the range of \$10 million annually.

Still, all things considered, it is fair to say that beach replenishment has been a good deal, financially speaking, both for the city of Virginia Beach and the Commonwealth of Virginia. The benefits that accrue to the city, its citizens and the state clearly exceed the costs.

WHO SHOULD PAY FOR SAND REPLENISHMENT?

Table 4 summarizes our rough estimates of the annual benefits and costs associated with beach replenishment for each of the major parties involved. Costs are indicated in brackets.

Private property owners pay property taxes and, as we have seen, those local taxes capture some of the benefits they receive when beach replenishment occurs. To some extent, property taxes reflect an ability to pay. Private property owners also pay local sales taxes, plus a variety of other taxes ranging from license fees to taxes on cable television. These are user-fee taxes. Still, one can see in Table 4 that residents receive far more benefits from beach replenishment than the costs they incur for it.

Table 4 also demonstrates that the incremental benefits accruing to the city of Virginia Beach are, net of the costs of the provision of public services to the oceanfront, clearly sufficient to pay for the costs of beach replenishment. Because of beach replenishment, the city of Virginia Beach collects approximately \$45 million in additional taxes from nonresidents, an additional \$2.1 million annually from the dedicated Sandbridge tax and an additional \$4 million in annual property tax revenue, for a total of \$51.1 million in additional taxes per year.

Type of Benefit or Cost	Private Individuals	Beneficiary City of Virginia Beach	Commonwealth of Virginia	Federal Government
Consumption Value	\$ 88 m.			
Increased Property Values	\$ 400 m.			
Reductions in Storm Damage	\$ 11.5 m.	\$ 2.6 m.	\$.1 m.	\$ 1 m.
Increased Tax Revenues		\$ 4 m. higher real estate taxes		
Revenues		\$ 45 m. tax payments non-Va. tourists		.9 m.
		\$ 2.1 m. Sandbridge tax		
			\$ 24 m. sales, income tax	
Tax Payments []	[\$ 4.0 m.] [\$ 2.1 m.]			
Cost of Services Provided		[\$5.5 m.] sand replenishment		[\$11 m.]
		[\$10 m.] addtl. services provided		
			[.4 m.] state contribution	
Totals	+\$493.4 m.	+\$38.2 m.	+\$23.7 m.	-\$9.1 m.

Against this, over the past decade, Virginia Beach has spent approximately \$5.5 million per year on beach replenishment. However, replenished beaches attract more tourists and residents who require services. Let's assume Virginia Beach spends \$10 million per year in supplying law enforcement, public and social services to the oceanfront, as estimated by a city official. Setting aside the consumption value of the city's beaches, but adding in a \$2.6 million in average annual reduction in storm damage, this means that Virginia Beach earns net revenue of approximately \$38.2 million from beach replenishment. Clearly, this is sufficient to pay for the costs of nourishing the resort city's beaches with sand.

Table 4 further reveals that the federal government is the big financial loser in beach replenishment, receiving only \$.9 million in additional tax revenues and benefiting from only an average of \$1 million per year in reduced storm damage. Against this, the federal government has been spending an average of \$11 million per year on beach replenishment in Virginia Beach.

Given this distribution of benefits and costs, who should pay for beach replenishment? There are as many theories about just taxation as there are stars in the sky. One person's ideal tax is another person's nightmare. Observing this, a wag once commented, "The only good tax is one that taxes you more and me less."

Even so, many people believe that the optimal tax system should contain a mixture of taxes that addresses the relative ability to pay on the part of those being taxed (such as an income tax and perhaps property tax) and takes into account those who actually use and receive benefits from the services government is providing (gasoline taxes and tolls provide examples here).

Following this logic, since the largest beneficiaries are private property owners and the government of the city of Virginia Beach, followed by the Commonwealth of Virginia, accordingly, they should pay the majority of the freight where beach replenishment is concerned. By comparison, the benefits that accrue to the federal government are dwarfed by the costs it bears, and there is only a flimsy rationale for forcing Americans in Bemidji or Pocatello to pay for beach replenishment in Virginia.

Who actually pays oceanfront-related taxes now? In the past, the city of Virginia Beach utilized higher sales taxes to help it fund beach replenishment. This increased sales tax rate often was referred to as the "sand tax," though only some of these revenues were used to replenish beaches. In 1995, the Sandbridge Beach subdivision was established as a special property tax district to generate revenue needed to supply most of the city's share of the cost of beach replenishment projects. In 2006, the Sandbridge real estate tax rate was \$.12 per \$1,000 of assessed value (which is added to the overall city tax rate of \$.99). In addition, Virginia Beach has established a 2.5 percent tax on property rentals at Sandbridge.

Beach replenishment is especially critical to Sandbridge residents because in a typical year, 5 feet to 10 feet of that neighborhood's beach will disappear as the ocean laps at the shore. The first beach nourishment project at Sandbridge took place in the summer of 1998. During the six-year period 2000–05, assessed property values rose from \$240 million to \$605 million, an average increase of 18 percent per year. By contrast, citywide property assessments increased an average of 7.8 percent per year during the same period. Of course, these numbers are not strictly comparable because of the changing roster of properties in each area, but they do suggest rapidly rising property values in Sandbridge. Indeed, *The Virginian-Pilot* (March 1, 2006) reported that the assessed valuations of two condominium complexes in Sandbridge shot up more than 90 percent in a single year.

The special Sandbridge tax district tax generated \$2.1 million in 2005. This amount of money, received annually, would appear to be sufficient to replenish the beach at Sandbridge. It is an excellent example of a specific tax upon those who most directly benefit from the replenishment of beach sand.

Sandbridge residents apparently see things differently from the voters of Dare County, N.C., who recently voted against a 1-cent increase in their local sales tax. Media coverage focused on the feelings of voters, who argued that beach replenishment efforts benefited only a select group of wealthy absentee oceanfront property owners from other states.

Dare County includes much of North Carolina's Outer Banks and such attractions as the Cape Hatteras National Seashore and the Wright Brothers National Memorial. Funds from the tax increase were to have been used to pay for beach replenishment efforts in the county. Beaches and beach-related activities are the core of the Dare County economy. The county's permanent population is about 30,000, but increases to more than 200,000 in the summer as people flock to cities such as Duck, Kill Devil Hills and Nags Head.

Our analysis of the benefits of beach replenishment suggests these benefits are more broadly diffused among the population than Dare County voters apparently perceived. **Still, this vote underlines the sense among many citizens that those who benefit most directly from sand replenishment should pay the cost. The Sandbridge special tax district satisfies this criterion.** At the same time, if one generally accepts the principle of user fees with respect to beach replenishment, then the massive contribution of the federal government to that activity becomes even more suspect.

FINAL THOUGHTS

The good burghers of Virginia Beach and the resort city's elected officials should exult in the fact that their expenditures on beach replenishment are quite cost-effective. The benefits of beach replenishment are substantially larger than the costs of such, and this also is true for the Commonwealth of Virginia.

Harsh to say, but the apparent dupe in the beach replenishment scenario is the federal government, which has been paying 65 percent of the costs, but coming nowhere close to realizing comparable benefits. A combination of pork barrel politics and economic ignorance has produced a federal program whose primary benefits accrue to certain localities and oceanfront citizens.

Sand replenishment redistributes income from all taxpayers nationwide to those who live on or near beaches. Income redistribution may be a legitimate goal of the federal government, for example, via our progressive federal income tax. **In the case of beach replenishment, however, the beneficiaries of the income redistribution are clustered in a small number of locations nationally and often include individuals with substantial incomes. The rationale for forcing a low-income resident of a housing project in Chicago to help pay for beach replenishment in Virginia Beach is slender, and were we actually to see the exchange of money involved, it would constitute an embarrassment. We agree with the Sierra Club and others that federal funding of beach replenishment should be reduced sharply.** Note that this is not the same as arguing that the federal government should not control and guide the process; the overlapping nature of beaches among the states and the presence of federal installations on beaches militates in favor of a national approach, just not as much national funding.

Needless to say, numerous caveats exist with respect to our analysis. One is non-economic. Sand on most beaches moves continuously along shorelines as time passes. These movements recognize no political or property boundaries, property assessment rules or laws. Thus, it's not always easy to pinpoint precisely who benefits when sand is deposited in location A. As time passes, and major storms hit the beaches, sand shifts and those living in location B soon may turn out to be the real beneficiaries, while the original winners in location A may now have little or no beachfront. Nothing is permanent where the oceanfront is concerned. As a consequence, actual property values on the oceanfront can fluctuate like the shifting sands.

Further, the estimates we have provided in this chapter are exactly that – estimates. They are not precise, though they do reflect reasonable assumptions and dispassionate analysis by individuals who have no ax to grind. The results are sufficiently robust to yield several important conclusions, none of which is very sensitive to the addition or subtraction of a few million dollars here or there to reflect different assumptions. We are able to say that:

- **Beach replenishment clearly pays off for the city of Virginia Beach and its citizens. Arguably, in some combination, both should pay a greater share of the cost.**
- **The Commonwealth of Virginia benefits significantly from beach replenishment, but pays little. Arguably, it should pay a greater share of the cost.**
- **The federal government absorbs most of the cost of beach replenishment, but receives scant benefits. Only if one believes that taxpayers thousands of miles away should subsidize beach users and property owners in Virginia Beach does it make sense for the federal government to continue its massive subsidies.**





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