
Housing Needs Assessment James City County and Williamsburg, Virginia

Prepared for James City County and the City of Williamsburg

Prepared by

**Center for Housing Research
Virginia Tech
Blacksburg, Virginia**

Casey J. Dawkins, PhD
C. Theodore Koebel, PhD
Marilyn S. Cavell
Patricia L. Renneckar

December 2007

For further information contact: Casey Dawkins, Director, Virginia Tech Center for Housing Research,
Blacksburg, Virginia 24061
Phone: (540) 231-3993, Fax: (540) 231-7331
E-mail: dawkins@vt.edu, website: <http://www.vchr.vt.edu>



Virginia Polytechnic Institute and State University

TABLE OF CONTENTS

EXECUTIVE SUMMARY	1
INTRODUCTION.....	8
BACKGROUND ON HOUSING ISSUES	10
James City County	10
City of Williamsburg	11
College of William and Mary	14
Williamsburg/James City County Area	16
HOUSING MARKET CHARACTERISTICS.....	18
Homeownership	18
Building Permits	19
Housing Stock	21
Vacancy Rates	22
POPULATION	24
Population Change	24
Migration	27
James City County	28
Williamsburg.....	30
PROJECTED HOUSING DEMAND.....	32
James City County Demand Projections	32
Williamsburg Demand Projections	43
INCOME AND POVERTY	52
Household Income	52
Adjusted Gross Income	53
Family Income	54
HUD Area Median Family Income	55
Poverty	55
Affordable Housing Gap	57
James City County, Affordability Gap	57
City of Williamsburg, Affordability Gap.....	60
EMPLOYMENT AND HOUSING.....	64
Commuting Patterns	64
James City County	64
Williamsburg.....	67
Employment	70
Economic Indicators, Historical Triangle	70
Employers	71
Wages.....	73
Interdependence of Employment, Wages, and Housing.....	73
Workforce Housing	79
Landscaping and Groundskeeping Workers	81
Retail Sales.....	84
Firefighters and Police Officers	86

Elementary School Teachers.....	89
Registered Nurses	91
Implications for Housing Affordability	94
HOUSING COSTS	97
Rental Housing	97
House Values, Census	100
House Values, Real Estate Data	103
Median Sale Price Trends	106
Home Mortgage Disclosure Act Data	107
Housing Cost Overview	113
CONCLUSIONS	114
APPENDIX A	118

List of Tables

Table 1: Units in Structure by Area.....	21
Table 2: Vacancy Rates by Tenure by Area	23
Table 3: Top In-Migration Locations James City County, 2000-2005 (500 or more people)	28
Table 4: Top Out-Migration Locations James City County, 2000-2005 (500 or more people)	29
Table 5: Top Net migration Locations James City County, 2000-2005	30
Table 6: Top In-Migration Locations Williamsburg, 2000-2005 (200 or more people).....	31
Table 7: Top Out-Migration Locations Williamsburg, 2000-2005 (200 or more people)	31
Table 8: Top Net migration Locations Williamsburg, 2000-2005	31
Table 9: Ten Year Survival Rates for James City County	33
Table 10: Five Year Survival Rates for James City County.....	35
Table 11: Population Projections by Age Category	37
Table 12: Total Households by Year, James City County	38
Table 13: Owner and Renter Households by Year, James City County.....	39
Table 14: Households Projected by Age of Householder, James City County.....	40
Table 15: Households Projected by Type of Householder, James City County	40
Table 16: Households Projected by Household Income, James City County, ALT2 Projection	41
Table 17: Ten Year Survival Rates for Williamsburg City	43
Table 18: Five Year Survival Rates for Williamsburg City.....	44
Table 19: Population Projections by Age Category, Williamsburg City	45
Table 20: Total Households by Year, Williamsburg City	46
Table 21: Ownership Rates by Age of Householder, Williamsburg City and James City....	46
Table 22: Owner and Renter Households by Year, Williamsburg City.....	48
Table 23: Households Projected by Age of Householder, Williamsburg City.....	48
Table 24: Households Projected by Type of Householder, Williamsburg City	49
Table 25: Households Projected by Household Income, Williamsburg City, ALT Projection	49
Table 26: Household Income, 1999.....	52
Table 27: Estimated Median Household Income, 2004	53
Table 28: Median Adjusted Gross Income, Married Couple Filers by Year	53
Table 29: Family Income, 1999	54
Table 30: Poverty Rate by Tenure for the MSA, 2006	56
Table 31: Affordable Rental Housing Gap, James City County	58
Table 32: Affordable Ownership Housing Gap, James City County	59
Table 33: Affordable Rental Housing Gap, Williamsburg.....	61
Table 34: Affordable Ownership Housing Gap, Williamsburg	62
Table 35: Commuting Into and Out of James City County, 2000.....	64
Table 36: Commuting Into and Out of Williamsburg, 2000	67
Table 37: Employers in James City County with Over 500 Employees in 2006 (4th Quarter)	72
Table 38: Employers in Williamsburg with Over 500 Employees in 2006 (4th Quarter).....	72
Table 39: Jobs-Housing Balance in James City County and Williamsburg	74
Table 40: Top 20 Occupations, 2003-2006 (ranked by number of 2006 workers in the Virginia Beach MSA)	76
Table 41: Employment and Wages by Industry Sector, James City County	77
Table 42: Employment and Wages by Industry Sector, Williamsburg.....	78
Table 43: Affordable Housing for Landscaping and Groundskeeping Workers.....	83
Table 44: Affordable Housing for Retail Sales Workers	86
Table 45: Affordable Housing for Police and Fire Workers	88
Table 46: Affordable Housing for Elementary Teachers	91
Table 47: Affordable Housing for Registered Nurses.....	93
Table 48: Median Gross Rent for Jurisdictions in JCCWILL PUMA, 2000.....	98

Table 49: James City County, Single-family Detached.....	103
Table 50: James City County, Single-family Attached.....	104
Table 51: City of Williamsburg, Single-family Detached	104
Table 52: City of Williamsburg, Single-family Attached	105

List of Figures

Figure 1: Number of Single-family Building Permits by Year, James City County.....	19
Figure 2: Number of Multi-family and Condominium Building Permits by Year, James City County.....	20
Figure 3: Number of Single-family and Multi-family/Condominium Building Permits by Year, Williamsburg.....	21
Figure 4: Population of James City County, 1990, 2000, 2006 Est.....	24
Figure 5: Population of Williamsburg, 1990, 2000, 2006 Est.	25
Figure 6: Population by Age by Year, James City County.....	26
Figure 7: Population by Age by Year, James City County, Williamsburg.....	27
Figure 8: Poverty Rate by Age by Area, 2000.....	56
Figure 9: Employment by Area by Year.....	70
Figure 10: Gross Rent JCCWILL PUMA by Year.....	99
Figure 11: Median House Value, 2000.....	101
Figure 12: Average Days on Market by House Type, Jurisdiction, and Year.....	106

List of Maps

Map 1: Commuting Flow Into and Out of James City County, VA, 2000	66
Map 2: Commuting Flow Into and Out of Williamsburg, VA, 2000	69
Map 3: Median House Value by Census Tract, 2000, City of Williamsburg and James City County	102
Map 4: Median Loan Amount (pooled data 2004, 2005) by Census Tract, City of Williamsburg and James City County.....	108
Map 5: Income to Loan Amount Ratio* (pooled 2004, 2005) by Census Tract, City of Williamsburg and James City County	110
Map 6: Ratio of the Number of Mortgage Loans (pooled for 2004, 2005) to the Number of Housing Units by Census Tract, City of Williamsburg and James City County.....	112

EXECUTIVE SUMMARY

The Virginia localities of James City County and the City of Williamsburg jointly commissioned the Virginia Tech Center for Housing Research to prepare a 2007 report, “Housing Needs Assessment, James City County and City of Williamsburg”. The report provides information to help policy makers make informed decisions related to housing issues as they face the challenges of rising housing costs and search for ways of providing affordable housing options for all of their citizens.

James City County and Williamsburg are considerably affected by two factors: (1) the College of William and Mary has a substantial impact on rental demand; (2) the area’s historical resources create a need for preservation in the face of growth. Housing consumption is driven largely by the age of the population with younger households more likely to be renters. The rental rate in 2000 in Williamsburg was 55.7%, much higher than that of James City County (23.0%) and the state (31.9%). Consequently, students from William and Mary have a significant impact on the housing market in Williamsburg and to a lesser extent, surrounding areas (median age in James City County in 2000 was 40.8 compared to 22.6 in Williamsburg). As of 2006, there were 7,709 students at William and Mary with 5,859 living on-campus. Primarily renting, approximately 925 to 1,233 of the 1,850 off-campus students lived in the City of Williamsburg. Students occupied an estimated 18 to 24% of the rental stock in the City of Williamsburg (based on an assumed 2.5 students per unit and calculations using the 2000 Census) contributing to tight rental market conditions (the rental vacancy rate in 2000 was 3.9% in Williamsburg). Students also likely contribute to high rental costs as they compete with local residents. Students may be willing to pay more because they can share the cost of rent with other students and often have the benefit of student loans or the resources of their parents.

The historical significance, character, and beauty of the James City County/Williamsburg area make it an appealing area to visit and in which to live. Given James City County’s and Williamsburg’s worldwide significance, they have the responsibility for preserving the rich historical character of their communities as they face considerable demand for growth and development. In terms of housing units, James City County is one of the fastest growing counties in the nation. Based on the US Census number of estimated housing units, James City County was ranked the 66th fastest growing county in the nation with a 29.7% increase or nearly 5% growth per year in housing units between 2000 and July 2006. While less affected due to its limited geographical size (9 square miles compared to James City County’s 144), the City of Williamsburg (along with James City County) is experiencing growth partly as a result of the marketing efforts of the area’s large residential developers and the real estate community. Marketing the area heavily in Northern Virginia and other metropolitan markets has attracted many new residents (many of whom are retirees) to the James City County/Williamsburg area. In addition, as a relatively suburban component of the Virginia Beach metropolitan area, the James City County/Williamsburg area attracts residents from surrounding, more urban metropolitan jurisdictions.

The County and the City have responded to growth pressures in a number of ways.

- Embracing mixed-use development (the practice of allowing more than one type of use in a building or set of buildings) – residential housing units co-exist with commercial establishments in the developments of New Town in James City County and High Street in Williamsburg.
- Increasing number of multi-family (including condominiums) permits for residential construction– multi-family construction permits have been increasing in both James City County (based on 2006 data) and Williamsburg (based on partial 2007 data) while single-family detached permits have been declining. In 2006, single-family detached housing units accounted for only about half of new construction in James City County. Almost all permits for new construction in 2007 in Williamsburg have been for multi-family or condominium units.
- Both James City County and Williamsburg carefully plan large-scale development locations. James City County’s goal is to contain most development within the Primary Service Area which has or potentially has infrastructure for public services in place and Williamsburg is concentrating much of its new development in the centrally-located High Street project.

Associated with the growth in housing units, James City County has had solid job growth (average annual growth of 4.2% between 2000 and August 2007 as compared to 1.8% in the state) and low unemployment (2.7% in August 2007 as compared to the state rate of 3.1%). Job growth has been slower in the City of Williamsburg with a less than 1% average annual growth rate between 2000 and August 2007 and an unemployment rate of 5.6% in August 2007. Williamsburg’s employment environment is marked by substantial seasonal variation and part-time employment that characterize the recreation and hospitality/tourism industries. However, the hospitality/tourism sector is declining in proportion to other job sectors and the College of William and Mary, located in Williamsburg, provides employment stability. The future employment outlook (as predicted in a 2007 report by Chmura Economics&Analytics) is for a transition to more jobs in the service, transportation, and warehousing sectors.

Population also has been growing in both James City County and the City of Williamsburg (although at a slower pace than the County). According to UVa’s Weldon Cooper Center, the estimated population of James City County in 2006 was 59,183, increasing on average about 3.8% per year since 2000. The City of Williamsburg’s population (13,330 in 2006) grew an estimated 1.9% per year between 2000 and 2006. In comparison, population in the state increased about 1.8% on average per year over the same time period.

To look beyond current growth trends, the Virginia Tech Center for Housing Research used their Housing Demand Projection Model to project housing demand in James City County and the City of Williamsburg for 2010 and 2020. The model projects households by type, age, income and tenure, relying on housing consumption patterns reported in the Census and on the state’s official population projections prepared by the Virginia Employment Commission (VEC).

In James City County, the model projects an increase of 6,400 to 7,000 owner-occupied units and 1,200 to 1,400 renter-occupied units during the current decade, followed by increases between 2010 and 2020 in the ranges of 6,000 to 8,700 owner-occupied units and 1,600 to 2,300 renter-occupied units. The rental unit share in growth ranges from 15% to 22%, with the higher shares projected for 2010-2020. The market share in James City County for married-couple families (about 60%) is projected to remain fairly stable through 2020. Non-family households (single individuals, unmarried couples without children, and roommates) are the second largest and fastest growing household type in James City County.

In Williamsburg, the model projects an increase of 400 to 470 owner households for both 2000-2010 and 2010-2020 and an increase in rental demand of 124 to 253 occupied units from 2000 to 2010 and of 125 to 286 occupied units from 2010 to 2020. Demand for housing in Williamsburg is concentrated in the non-family category, which is projected to increase to 50% of households by 2020. Although most of these households are younger, the fastest growing segment will be seniors living alone. The market share of married-couple households is projected to go down by 2020.

Partially by-products of rapid growth, escalating housing costs and housing affordability are issues currently at the forefront in James City County and Williamsburg. Based on local real estate data, the average price of a single-family detached house in James City County was \$415,617 in 2006. The average price of a single-family detached house in 2006 in Williamsburg was \$440,187. The estimated average monthly rental cost in 2007 was \$1,077 according to a Virginia Tech Center for Housing Research September 2007 point-in-time survey of available 2-bedroom rental units in the broader James City County/Williamsburg area.

The housing price data examined fell within a time period of rapid change in market conditions. According to the National Association of Realtors, 30-year mortgage rates declined by more than 2 percentage points over the 2000–2005 period stimulating sales and contributing to a surge in housing prices. Following a period of robust home sales, higher prices coupled with uncertainty about the market have contributed to cooling of the sales market over the past few years. Since 2006, according to the Virginia Association of Realtors, sales are down, houses are staying on the market slightly longer, and the average sales price and median sales price (based on all housing types) have dropped (5.0% and 6.6% respectively) in the Williamsburg area. Applying a five percent decline to the 2006 average sales price of a single-family detached house would mean the average sales price of a single-family detached house in Williamsburg is currently about \$418,000 and in James City County about \$395,000.

In cooling markets, house prices for low- to moderately-priced homes ordinarily do not drop significantly and often continue to rise moderately. More likely to have an effect on the low-end market, is the tightening of credit as fallout resulting from the increase in high-risk lending practices over the past several years. While foreclosed properties could increase the stock of moderately-priced housing, tightened credit conditions may prevent

potential buyers from securing a mortgage loan to purchase those foreclosed properties, or for that matter, any other properties.

Wages and income in James City County and the City of Williamsburg have not kept pace since 2000 with the rapid rise in the cost of housing, making affordability a growing concern. Based on the Virginia State income tax returns of married couples (sometimes used as a surrogate for median family income), median adjusted gross income increased from 1999 to 2004 in both James City County and the City of Williamsburg (11% and 16% respectively compared to a state increase of 15.6%). In 2004, median household income estimated by the Census Bureau was \$66,180 for James City County and \$35,559 for the City of Williamsburg. Median household income increased from 1999 to 2004 for James City County (a 19% increase, slightly higher than the increase based on tax return data). The Census Bureau estimates showed a decline in median household income from 1999 to 2004 for Williamsburg (a 4% decrease rather than the increase shown by the tax return data). Regardless of the measure, it is clear that income grossly failed to keep up with rising housing prices.

Another indicator of income is average wage. The 2006 annual average wage was \$31,569 a year in James City County and \$30,318 a year in Williamsburg. Based on the affordability threshold of 30% of household income, a single-earner household with no additional income in James City County would be able to afford rental housing expenses of about \$789 per month and a single-earner household with no additional income in Williamsburg would be able to afford rental housing expenses of about \$758. Both are well below the estimated \$1,077 average rent derived from research that identified 2-bedroom rental properties available in September 2007 for the James City County/Williamsburg area.

A single-earner making the average wage without an additional income source would have a difficult time becoming a first-time homeowner. An annual wage in 2006 of \$31,569 in James City County or \$30,318 in Williamsburg would support a mortgage payment of approximately \$581 and \$568 respectively plus \$208 in James City County and \$190 in Williamsburg for additional monthly homeowner costs including mortgage insurance, taxes, and homeowner insurance. For a James City County worker, this translates into being able to afford a house costing \$91,524 and for a City of Williamsburg worker, a house costing \$89,502, well below the average cost of units for sale (in 2006 \$415,617 for a single-family detached or \$240,628 for a single-family attached housing unit in James City County or \$440,187 for a single-family detached or \$302,797 for a single-family attached housing unit in the City of Williamsburg).

Not only did average workers face a mismatch between their income and the cost of housing, they fell into the category of low-income, defined as having income between 50% and 80% of the U.S. Department of Housing and Urban Development (HUD) Area Median Family Income (AMFI) of \$60,300 in 2006. As such, their ability to afford housing was compounded by a housing affordability gap. A housing affordability gap exists when not enough housing units in the stock are affordable to certain income-level households partly because higher income households consume the units that are

affordable to those with lower incomes. Data are not available for 2006, but about 20% of James City County's and about 10% of Williamsburg's low-income renters lacked affordable housing in 2000 after adjusting for higher-income households occupying the affordable stock. Low-income owners were more affected. About 44% of James City County's and about 40% of Williamsburg's low-income owners lacked affordable housing after adjusting for higher-income households occupying the affordable stock.

A housing affordability gap forces the lowest income households in James City County and the City of Williamsburg to use a high portion of their income for housing. When considering all households with income below 80% of HUD AMFI, about 35% of James City County's and about 41% of Williamsburg's renters and half of the owners in both jurisdictions were forced to spend more than 30% of their income for housing.

To examine in more detail the relationship between wages and the cost of housing, the Center for Housing Research calculated affordability for workers in five occupations that are vital to the community (landscaping and groundskeeping workers, retail sales workers, police officers and firefighters, elementary school teachers, and registered nurses). Without additional income, individual wages alone were insufficient for workers in these "workforce" occupations to buy or rent in James City County or Williamsburg. The 2006 wages of two of the occupations examined (landscaping /groundskeeping workers and retail sales workers) were lower than what would have been required to purchase any housing unit on the market in the City of Williamsburg and were sufficient to enable the purchase of only a dozen homes sold in James City County. Only one 2-bedroom rental unit was available in the Williamsburg/James City County area under the affordability threshold for workers in these occupations (based on a 2007 point-in-time rental survey). While some housing units were affordable based on wages alone for workers in the other example occupations, workers still had to compete with each other, other low- to moderate-income workers, and higher-income workers for a limited number of affordable units.

Only additional sources of income from a second or third job, overtime hours, or wages from another household member opened up some reasonable opportunity for individuals working in five example occupations to buy or rent in James City County or Williamsburg. Even with income from additional sources supplementing their individual wage, there were limited opportunities for a retail sales worker to buy a home (less than 50 units affordable in Williamsburg and about 65 affordable in James City County in 2006). Although landscaping and groundskeeping workers had a lower average individual income than retail sales workers, they had more housing opportunities when considering all household income (most likely due to having multiple earners in the household). Housing opportunities were somewhat improved with the benefit of additional income sources for firefighters and police officers and registered nurses and much improved for elementary school teachers, many of whom likely benefited from having a higher-income individual in the household. The workforce housing analysis showed that one-person and one-worker households (often single-parents) were at a clear disadvantage needing to have significant earnings from investments or savings (unlikely for workers with low- to moderate-incomes), have a second or third job, or work

overtime hours in order to afford housing in James City County or the City of Williamsburg.

Reaching beyond the impact on the individual, housing costs affect the entire community. In order to sustain a viable, well-balanced community, governments must consider the sometimes conflicting needs and demands for jobs and workers, housing, transportation, services, and land. Both James City County and the City of Williamsburg have implemented some measures to address the issue of housing affordability.

- James City County has encouraged developers seeking rezoning approvals to proffer a portion of the residential units in proposed developments for affordable housing. Since 2001, the County has approved rezoning applications which have included proffers for over 250 affordable for sale units.
- The County has incorporated flexibility into its regulations regarding development, sometimes allowing smaller lot sizes, reduced set backs, waiver of fees, and other concessions. The City also allows flexibility in its development regulations through by-right provisions for cluster subdivisions, allowances for the reduction of yard requirements in certain zoning districts to encourage innovative and creative design, and the opportunity for special use permit density increases in the Center City area.
- James City County has approved rezoning of property and the application for Low Income Housing Tax Credit (LIHTC) financing for two affordable apartment complexes, totaling 274 units. The County has supported application by the owners of three older apartment complexes for LIHTC financing to undertake major rehabilitation to preserve approximately 340 existing affordable rental units. In conjunction with the Williamsburg Redevelopment and Housing Authority (WRHA), Williamsburg has developed 104 subsidized rental units in an effort to provide affordable rental housing for its residents. The WRHA recently created the Williamsburg Housing Corporation which can generate capital for affordable housing by selling tax credits to private investors under the federal Low Income Housing Tax Credit program and the Historic Preservation Tax Incentives program.
- James City County has partnered with Bay Aging and Peninsula Area Agency on Aging to secure funding for the development of 67 units of supportive housing for lower-income elderly residents.
- The James City County Office of Housing and Community Development works closely with other government agencies, non-profit organizations, the private sector, and community leaders to assist low- to moderate-income residents through loan programs, grants, rehabilitation and repair programs, revitalization and blight removal projects (Ironbound Square), rental assistance, homeless intervention programs, and first-time buyer programs such as the Affordable Housing Initiative Program (AHIP). AHIP is a public/private partnership dedicated to encouraging the production and sale of affordable homes to first-time homebuyers. Since 1991, the AHIP program has assisted 398 first-time home buyers successfully purchase an affordable home. The WRHA and the City of Williamsburg have developed 75 new owner-occupied single-family

housing units for qualified low- and moderate-income residents. Over the past ten years, \$6 million dollars of funding from the CDBG program have been used to support affordable housing and improve neighborhood infrastructure in Williamsburg.

Both James City County and the City of Williamsburg will need to continually evaluate their individual and collective housing needs. Finding ways to ensure housing is affordable for all residents is essential to the long term health of their communities, and an adequate supply of “workforce housing” or housing that is affordable to essential workers is especially critical to the well-being of the County and the City. If the cost of housing in a community is too high for the types of jobs available, then residents are forced to commute out to jobs with better pay or must move to an area where housing is more affordable and commute in. More than ever, the cost of commuting for individuals and communities is significant, involving time and money not to mention the impact on the environment both from fuel consumption and emission of greenhouse gases. In addition, attracting new residents to a community is difficult when the available jobs do not support the cost of housing. Achieving balance is desirable with James City County and the City of Williamsburg offering their residents good choices for employment and at the same time offering good choices for housing.

INTRODUCTION

This report, prepared by the Center for Housing Research at Virginia Tech, was commissioned by two eastern Virginia jurisdictions located adjacent to each other: James City County and the City of Williamsburg. These communities are located east of the Richmond metropolitan area in the growing Tidewater region of Virginia. With Williamsburg the much smaller partner in terms of population and area, James City County cradles Williamsburg to the northwest, west, and south. York County lies east of James City County and north and east of Williamsburg. As part of the Historic Triangle (also includes York County) James City County and Williamsburg share a rich past not only with each other, but with the world. For years, the appeal of these communities has brought tourists to the area from around the globe. Recently, that same appeal (heavily marketed by large residential developers and the real estate community) has spurred growth from retirees moving into the area. In addition, as a relatively suburban component of a larger metropolitan area, the James City County/Williamsburg area has attracted residents from surrounding, more urban metropolitan jurisdictions. A consequence of rapid growth, while not the sole factor, has been a significant rise in housing costs challenging policy makers in James City County and the City of Williamsburg to provide affordable housing options for all of their citizens.

We provide information that policy makers can use to make informed decisions related to housing issues. By James City County and the City of Williamsburg jointly commissioning this study, it is clear they recognize the need for a regional perspective. Still, in some instances we report information for each jurisdiction individually while in other instances information is consolidated. We relied on the most recent information available from a variety of sources. Providing recent demographic data at the jurisdiction level proved to be the most challenging.

James City County and the City of Williamsburg do not have the required population of 65,000 to be included in the American Community Survey (ACS) which provides annual updates of Census data. Therefore, Census information for James City County and the City of Williamsburg, other than some available estimates, was based on the 2000 decennial Census. To provide perspective, we sometimes compared data for James City County and the City of Williamsburg to the state as a whole, to the Virginia Beach Metropolitan Statistical Area (MSA), and to the City of Charlottesville or to the County of Albemarle due to their similarity with the Williamsburg area. To provide more recent information, we relied on 2006 ACS data for broader geographical areas, specifically the MSA or the Public Use Microdata Area (PUMA).

James City County and Williamsburg are two of the sixteen jurisdictions that comprise the Hampton Roads Region of Virginia. This region, also known as the Virginia Beach-Norfolk-Newport News Metropolitan Statistical Area¹ (which we refer to in this report as

¹ The Virginia Beach MSA includes the jurisdictions of Virginia Beach, Norfolk, Portsmouth, Newport News, Chesapeake, Surry County, Isle of Wight County, Hampton, James City County, Gloucester County, Poquoson, Williamsburg, Suffolk, Mathews County, York County, and Currituck County, NC. The geographic components of the Virginia Beach MSA changed between the 2000 U.S. Census and the Census

simply MSA), has experienced substantial population and economic growth in recent years. James City County has contributed significantly to this growth with Williamsburg to a lesser degree. While MSA data are helpful in terms of looking for regional trends and for comparison purposes, they are less helpful used as a surrogate for James City County and Williamsburg. With so many jurisdictions comprising the MSA, data available at the MSA level are not always reflective of individual jurisdictions.

James City County and Williamsburg also are included in a special Census-designated area referred to as a Public Use Microdata Area or PUMA. Data available by PUMA area are raw data or microdata with the most recent from the 2006 American Community Survey (ACS). PUMA defined areas must have a population of at least 65,000. Therefore rural or less urban PUMAs are comprised of several jurisdictions. In the case of James City County and Williamsburg, the PUMA of which they are a part includes six jurisdictions: James City County, York County, Gloucester County, Mathews County, and the independent cities of Poquoson and Williamsburg. While this grouping of areas is not an ideal surrogate for James City County and the City of Williamsburg, we believe it better reflects those areas than the MSA. For the most part, the PUMA represents James City County extremely well, but Williamsburg is quite unique from the other jurisdictions and therefore is not as well represented.

American Community Survey 2006 with the addition of Surry County, Virginia. In a few instances in this report, we provided comparative data for 2000 and 2006 for the MSA. While the geographies were different, Surry County had a population of less than 7,000 persons in 2000, so we made no adjustments in comparing the numbers.

BACKGROUND ON HOUSING ISSUES

James City County

James City County is widely known for Jamestown, the first permanent English settlement in America. Given that notoriety and the responsibility for conserving its rich past for millions of visitors from around the United States and the world, James City County must balance preservation with considerable demand for growth and development. In terms of housing units, James City County is one of the fastest growing counties in the country. Based on US Census number of housing unit estimates, James City County was ranked the 66th fastest growing county in the nation with a 29.7% increase (nearly 5% growth per year) in housing units between 2000 and July 2006.

The tremendous growth in residential development in recent years has also impacted commercial development in James City County. There has been significant retail growth in response to the influx of residents with the desire and need to purchase goods and services. James City County has embraced mixed use development as a means of managing growth in both the residential and commercial sectors. Development projects such as New Town (borders Williamsburg) provide residents good housing choices in close proximity to shopping while at the same time saving on land costs, reducing traffic, and preserving the rural character of the county.

According to the Comprehensive Plan, development in James City County will be concentrated within the Primary Service Area (PSA) through infill opportunities and acquisition of land already zoned for residential use. The PSA has approximately 20,000 existing parcels designated for residential development and is where most of the county's existing housing is located. The PSA has infrastructure in place or potentially in place including water and sewer and therefore is best suited for new development.

A by-product of rapid growth, escalating housing costs in James City County have brought the issue of affordability to the forefront. Based on local real estate data, the average price of a single-family house in James City County was \$415,617 in 2006. The estimated average monthly rental cost in 2007 was \$1,077 according to a Virginia Tech Center for Housing Research September 2007 point-in-time survey of available two bedroom rental units in the broader James City County/Williamsburg area.

Reaching beyond the impact on the individual, housing costs affect the entire community. In order to sustain a viable, well-balanced community, governments must consider the sometimes conflicting needs and demands for jobs and workers, housing, transportation, services, and land. James City County has been proactive in their approach to dealing with housing affordability. In order to promote development of affordable housing, the County has incorporated flexibility into its regulations regarding development sometimes allowing smaller lot sizes, reduced set backs, waiver of fees, and other concessions.

The County also encourages a range of housing types. Although the County has limited land zoned for moderate density (18 units per acre), multifamily housing has been one

solution to the demand for new housing. Production of townhouses and condominiums has been increasing (only one apartment complex was completed in the 1990s) with nearly 1,000 building permits for multi-family units and over 750 building permits for condominiums issued between 2000 and 2006.

In recent years, James City County has encouraged developers seeking rezoning approvals to proffer a portion of the residential units in proposed developments for affordable housing. Since 2001, the County has approved rezoning applications which have included proffers for over 250 affordable for sale units. The County has also approved rezoning of property and the application for Low Income Housing Tax Credit (LIHTC) financing for two affordable apartment complexes, totaling 274 units. The County has supported application by the owners of three older apartment complexes for LIHTC financing to undertake major rehabilitation to preserve approximately 340 existing affordable rental units. The County also has partnered with Bay Aging and Peninsula Area Agency on Aging to secure funding for the development of 67 units of supportive housing for lower income elderly residents.

The James City County Office of Housing and Community Development works closely with other government agencies, non-profit organizations, the private sector, and community leaders to implement a variety of programs targeted for those least able to afford housing. Low- to moderate-income residents are assisted through loan programs, grants, rehabilitation and repair programs, revitalization and blight removal projects (Ironbound Square), rental assistance, homeless intervention programs, and first-time buyer programs.

The primary first-time buyer program in James City County is the Affordable Housing Initiative Program (AHIP). AHIP is a public/private partnership dedicated to encouraging the production and sale of affordable homes to first-time homebuyers. A community-wide effort that involves the County, builders, developers, private lenders, and government finance agencies, the program assists first-time homebuyers with low interest rate loans and/or down payment assistance. Since 1991, the AHIP program has assisted 398 first-time home buyers successfully purchase an affordable home. During the first eight months of 2007 thirty-six AHIP participants with an average household income of \$35,952 closed on purchases with an average mortgage payment of \$863. [See Appendix A for a full description of the program.]

City of Williamsburg

The special character of Williamsburg brings a strong desire for preserving and enhancing the unique charm of the City. However, change has impacted Williamsburg in the form of skyrocketing housing prices, affecting both renters and owners. Williamsburg has a much higher rental rate (over half of housing is renter-occupied) than surrounding areas. To protect the health, safety and welfare of the residents of rental housing, and to insure that the quality of the City's rental housing stock is maintained, the City actively enforces its Property Maintenance Code, and created a Rental Inspection Program for four designated areas in 2003. Within these areas, inspections are required for all rental

properties, and must be repeated on a four year cycle. To date, 468 rental dwellings have been inspected under this program.

The constant supply of student renters, willing to share space and costs with other students and often backed by families with substantial incomes, has a significant impact on the rental market in Williamsburg. Local residents compete with students for a limited number of rental units. Williamsburg's low rental vacancy rate (3.9% in 2000) is an indication of a tight market which fosters higher rents. According to a Virginia Tech Center for Housing Research September 2007 point-in-time survey of available two bedroom rental units in the broader James City County/Williamsburg area, the average monthly rental cost was \$1,077. There are no recently built rental multi-family complexes in Williamsburg with the last complex, Clinton Gardens, completed in 1984. While multi-family complexes have been developed since that time, the focus has been on condominiums.

In order to promote development of affordable housing, Williamsburg has incorporated flexibility into its regulations. The City considers by-right provisions for cluster subdivisions, allowances for the reduction of yard requirements in certain zoning districts to encourage innovative and creative design, and the opportunity for special use permit density increases in the Center City area.

In an effort to provide affordable rental housing for its residents, the City in conjunction with the Williamsburg Redevelopment and Housing Authority (WRHA) has 104 existing subsidized rental units. The Blayton Building, an apartment complex with 38 elderly rental units, accounts for a portion of the 104 subsidized units. While the City does not offer Section 8 vouchers, some renters use vouchers from James City County or York County to live in the City.

Although Williamsburg has no tax credit properties which could be a means for providing affordable housing to renters who are elderly or have a disability, the WRHA recently created the Williamsburg Housing Corporation. As a non-profit organization, the Williamsburg Housing Corp. can generate capital for affordable housing by selling tax credits to private investors under the federal Low Income Housing Tax Credit program and the Historic Preservation Tax Incentives program. This capital can be used to create or preserve affordable housing opportunities within Williamsburg.

One controversial solution for affordable housing is the use of older hotels and motels. Older, family-owned motels have been used for temporary housing for foreign students, primarily from Eastern Europe, with J1 Visas. The City has provisions in its Zoning Ordinance for using hotels and motels for employee housing which has allowed the conversion of one older motel into the Busch "International Housing Village" providing housing for up to 350 foreign students with J1 Visas. This special use permit option could be used to establish other similar facilities in appropriate locations.

Controversy over housing too many of these workers, who are employed for the summer by businesses throughout the Williamsburg area, has sparked much debate over allowing such arrangements to continue. The City has recently adopted an ordinance establishing a

90-day limit for a stay in a hotel or motel including reporting provisions to improve the enforceability of the regulation. Mostly located on older commercial corridors and close to residential areas, some of these older hotels are being demolished.

Affordability is also an issue for owners. Based on local real estate data, the average price of a single-family house in Williamsburg was \$440,187 in 2006. High costs, however, do not just affect first-time home buyers or owners hoping to move into Williamsburg. Long-time residents are impacted as well. Owners are the minority in Williamsburg leaving a smaller portion of residents to share the real estate tax burden. The 2007 tax rate in Williamsburg at 54 cents is one of the lowest in the area due to alternate sources of revenue such as the meal tax and lodging tax. However, due to increased values, even this relatively low tax rate could strain budgets, particularly those of homeowners with fixed incomes, and impact the ability of homeowners to properly maintain their property. It is not surprising that Williamsburg's Housing Plan as outlined in the 2006 Comprehensive Plan promotes property maintenance and neighborhood preservation by encouraging growth in owner-occupied housing.

Williamsburg has land available for new and infill development to accommodate approximately 2,500 new houses. In addition, the Comprehensive Plan states a commitment to preservation of open space and sensitive environmental areas. Currently, densities for Williamsburg's residential areas range from 3 to 14 dwelling units per net acre, and proposals to increase density have met with much opposition. The Comprehensive Plan promotes limiting high density residential development to existing areas, and introducing new mixed use developments such as High Street Williamsburg and Quarterpath at Williamsburg to accommodate new higher density development.

The WRHA, along with the City, have also developed 75 new owner-occupied single-family housing units for qualified low- and moderate-income residents located in the Crispus Attucks subdivision (1975) and on Strawberry Plains Road (2001). While Williamsburg is not a federally recognized Community Development Block Grant (CDBG) entitled community, the City and WRHA have secured CDBG funds through the state to help provide affordable housing. Over the past ten years, \$6 million dollars of funding from the CDBG program, WRHA and the City have been used to support affordable housing and improve neighborhood infrastructure. This funding covered the Strawberry Plains project, plus projects in the Wales Subdivision and Braxton Court area.

The Wales subdivision on Ironbound Road received a CDBG in 1996 to revitalize the northern developed portion of the 1940's subdivision. This project, in cooperation with Housing Partnerships, resulted in the renovation of several houses and many infrastructure improvements: 300 feet of new sewer line and connections to nine existing houses; upgraded water lines and new fire hydrants; street improvements; and a new storm drain to replace existing drainage ditches along Roland Street.

Braxton Court is an historic African-American residential neighborhood on Scotland Street near the William and Mary campus and a CDBG-targeted neighborhood. This ongoing CDBG project, which focuses on neighborhood restoration and rehabilitation,

began in 2004. It will demolish seven buildings, rehabilitate eight low and moderate income dwellings, and create five new homeownership opportunities for low and moderate income households. The project also includes street and sidewalk reconstruction, underground wiring, landscaping and creation of new parking.

Future plans for development of affordable owner-occupied units are recommended by the Comprehensive Plan for the Wales subdivision, the mixed-use area on Strawberry Plains Road, Highland Park, and the Blayton Building property in the Center City area. Since manufactured housing is not allowed in the City, this is not an affordable housing option for Williamsburg residents.

College of William and Mary

Housing consumption is driven largely by the age of the population with younger households more likely to be renters. The location of the College of William and Mary in Williamsburg contributes to relatively low median age within the City. The median age in 2000 for the City of Williamsburg was 22.6. By comparison, the median age for other jurisdictions in the region in 2000 were: James City County 40.8 and York County 36.5. Consequently, students from William and Mary have a significant impact on the housing market in Williamsburg and to a lesser extent, surrounding areas.

As of 2006, there were 7,709 students at William and Mary with 5,859 living on-campus and 1,850 living off-campus primarily in rental units. Although an estimated one third to one half of William and Mary students live in James City County, York County, or other areas, the remaining off-campus students live close to the College in the City of Williamsburg. Due to its relatively small size and number of rental housing units, students have a large impact on Williamsburg. To better understand just how much of an effect the students have on the rental market in Williamsburg, we produced a rough estimate of the number of units consumed by students. Assuming one half to two thirds of off-campus students live in Williamsburg and 2.5 students per rental unit, we calculated that students occupied roughly 385 to 513 units or about 18 to 24% of the rental stock in the City of Williamsburg in 2000 leaving about 1,585 to 1,841 rental units for everyone else².

With so many of Williamsburg rental units consumed by students, a tight market fostered high rental costs in Williamsburg as well as adjacent James City County. In 2000, the median monthly gross rent for the City of Williamsburg was \$616 and \$703 in James City County. In 2007, we estimated an average monthly rent of \$1,077 for a 2-bedroom apartment for Williamsburg and immediate vicinity (based on 60 units listed for rent during the week of September 8, 2007).³ While many families, single-person households,

² To get this estimation, we divided the adjusted number (first one half, then two thirds) of 2006 off-campus students by 2.5. We divided the result by a vacancy rate factor of .961 (or 100 – the estimated 2000 renter vacancy rate of 3.9/100) to get the gross rental units needed by students. We subtracted the number of units needed for students from the 2000 number of renter-occupied and vacant for rent units to determine the number of gross rental units available to non-students.

³ The methodology for our rental cost estimation is described under rental housing in the housing cost section if this report.

and elderly would have a difficult time paying rent this high, students can share the cost with other students making a 2-bedroom unit at \$1,077 seemingly more affordable at \$540 per person. While obviously many students pay for living expenses on their own or with student loans, a large number of students depend on parents who have greater resources (especially if the parents live in higher paying areas) to pay their rent. Consequently, non-students in the community competing in the rental market are seriously disadvantaged by artificial demographics.

Adjacent James City County has responded to the tight rental market conditions in 2000 by increasing their number of rental units. This growth in apartments has softened the rental market slightly and resulted in a few vacancies both in James City County and Williamsburg. However, most of the new construction consists of high amenity complexes with associated rents priced too high for low- to moderate-income households. For example, Oxford New Town, a new complex with units still under construction, offers two bedroom apartments starting at \$1,185 per month with rents as high as \$1,470 for a two bedroom townhouse style apartment with garage. Affordable to students who can share costs and appealing to professionals as well, the Oxford New Town is located in James City County, only about 10 minutes from the William and Mary campus.

With William and Mary students a significant force within the Williamsburg community, the College and local officials strive to maintain a good relationship. The 2003 Sharpe Class, a Community Scholar Partnership at the College of William and Mary, worked with the Williamsburg Planning Director to create an on-line resource for students thinking about living off-campus. The site provides students with up-to-date information on City regulations and links to information to make the apartment finding process less burdensome to students thinking about moving off-campus.

In addition, in 2004 the group created and administered a survey to William and Mary students for the purpose of determining student wants and needs related to the City of Williamsburg. The survey included some housing related questions:

- Do you live in housing provided by the College or off-campus?
- If you live off-campus, did you choose to live off-campus, or did the College fail to provide housing for you?
- Do you have interest in student-oriented housing the City of Williamsburg?

The survey had 827 voluntary respondents 30% of whom lived off-campus. According to the College of William and Mary, off-campus students were over-represented in this sample since only about 25% of the entire student body lived off-campus. Of the respondents living off-campus, 14% lived off campus because the College failed to provide them with housing, while the remaining 86% lived off-campus of their own choice.

As student standing increased, so did the likelihood of living off-campus. All freshmen lived on-campus, while 19% of sophomores lived off-campus, 34% of juniors lived off-

campus, and 42% of seniors lived off-campus. The survey showed 81% of graduate students lived off-campus.

There was high interest in living off-campus. The survey showed that nearly two thirds of respondents were interested in living in off-campus student-oriented housing in Williamsburg. Nearly a quarter of those surveyed indicated they were not interested in living off-campus, and the remainder had no opinion.

The City of Williamsburg is committed to regulations that encourage appropriate off-campus housing as a supplement for college students. Many students rent units in large multi-family complexes on the edge of the City. However, students also tend to live with other students in single-family houses located in residential areas of Williamsburg. The City has an ordinance prohibiting more than 3 non-related persons living in the same dwelling, however, this is hard to monitor and infractions are sometimes difficult to prove in court. The presence of students in otherwise quiet, community-oriented neighborhoods has caused concern among some town residents for the health and stability of their neighborhoods.

The City of Williamsburg Comprehensive Plan notes the responsibility of the College of William and Mary to provide an appropriate amount of student housing on the campus. The need for the provision of appropriate student-oriented off-campus is also discussed. Options for increasing the supply of student housing by the College include additional dormitory space on the main campus, retaining the Dillard Complex for student housing or student apartments, and construction of new student housing in conjunction with the development of the new School of Education.

Williamsburg/James City County Area

Due to the close proximity of James City County and the City of Williamsburg, issues affecting one generally affect the other. They share a school system and a transportation system. The hospitality and tourism industries are a major influence on the economy of both James City County and Williamsburg. James City County residents work in Williamsburg and residents of Williamsburg work in James City County. And, the reason behind this study, James City County and Williamsburg share the dilemma of providing affordable housing for their residents. Retirees moving into the area have had an impact on housing prices in both James City County and Williamsburg. And students from the College of William and Mary compete with local residents for rental units creating a tight renter market affecting both jurisdictions.

In many ways, however, the two jurisdictions are quite different in their ability to deal with housing issues and their approach as well. With a total area of 144 square miles, James City County is much larger than Williamsburg (9 square miles) and has significant development potential (as well as considerable recent and ongoing development). While smaller in area and population, Williamsburg is far from built out, with several major developments underway that will allow for approximately 2,500 new dwelling units, with a build out population estimated to be 19,000, allowing room for almost 6,000 additional

citizens (about a 40% increase). The population in James City County is getting older due to the influx of retirees to new developments in the County. Although Williamsburg is also attracting retirees especially to luxury condominium developments, the population of Williamsburg is younger partly due to the influence of the College of William and Mary. While James City County residents want the character of their community to stay intact, there is still demand for residential and commercial development. The very culture of Williamsburg is about preservation and keeping things unspoiled.

Both James City County and the City of Williamsburg need to continually evaluate their individual and collective housing needs. Finding ways to ensure housing is affordable for all residents is essential to the long term health of their communities. The following sections provide information on existing housing characteristics and costs, demographics, and projected housing demand that can be used to set sound housing policy.

HOUSING MARKET CHARACTERISTICS

According to Census estimates, there were an estimated 26,949 housing units in 2006 in James City County, a 29.7% increase from the reported 20,772⁴ units in 2000 distinguishing it as the 66th fastest growing county in the nation. The number of housing units increased between 2000 and 2006 in Williamsburg as well. In 2006, Williamsburg had an estimated 4,598 housing units compared to 3,923 in 2000, an increase of 17.2%. Unfortunately, the Census does not provide any additional housing estimates for the two areas and James City County and the City of Williamsburg are both too small (less than 65,000 in population) to be included in the annual Census, the American Community Survey (ACS). So the most recent data available for the number of occupied units in James City County and the City of Williamsburg is the decennial Census. In 2000, James City County had 19,003 occupied units or households, 14,640 of which were owners and the remaining 4,353 were renters. Williamsburg had 3,619 occupied units or households of which 1,602 were owners and 2,017 were renters.

Homeownership

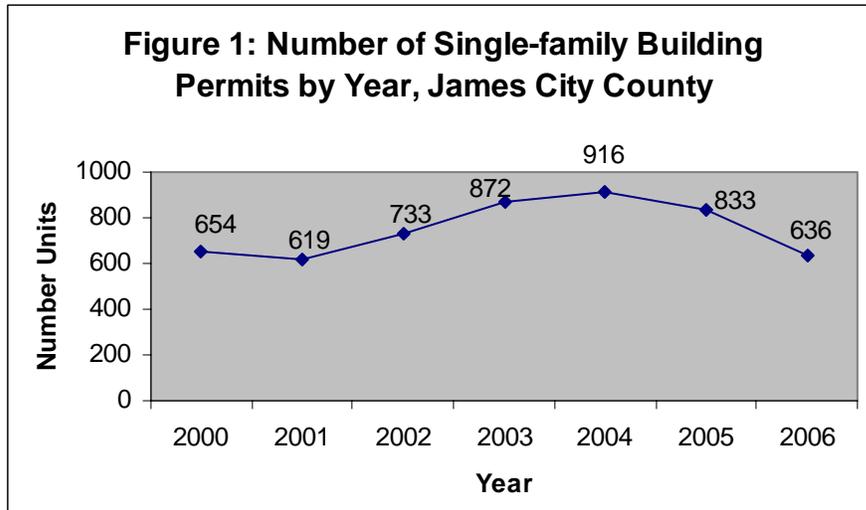
The homeownership rate for James City County was 77% in 2000, considerably higher than Virginia's rate of 68.1% and the MSA rate of 63.0%. The homeownership rate for Williamsburg was 44.3% in 2000. As the urban center of the area, Williamsburg historically has had a larger concentration of multi-family rental housing than the surrounding jurisdictions. The relatively low homeownership rate is also partly due to the College of William and Mary students renting in Williamsburg (the City of Charlottesville, VA, home to the University of Virginia, had a homeownership rate of 40.8% in 2000).

In order to see if homeownership rates increased between 2000 and 2006, we used the 2000 Public Use Microdata Sample (PUMS) file and the 2006 PUMS file from the Census ACS. For the Public Use Microdata Area or PUMA (consists of the jurisdictions James City County, York County, Gloucester County, Mathews County, and the independent cities of Poquoson and Williamsburg) the homeownership rate increased from 76.1% to 76.6% between 2000 and 2006. While based on a broader area, we might reasonably assume that the ownership rate increased in James City County by about the same amount. The homeownership rate may have benefited from low interest rates during the 2003 to 2004 time period. However, the rapid rise in housing costs in the past few years may have impacted ownership rates negating any gains made since 2000. Williamsburg is so unlike the other jurisdictions in the PUMA, the PUMA trend may not be a valid estimate.

⁴ The number of housing units in 2000 was revised by the Census Bureau to 21,037 and used as the basis for the percent change calculation.

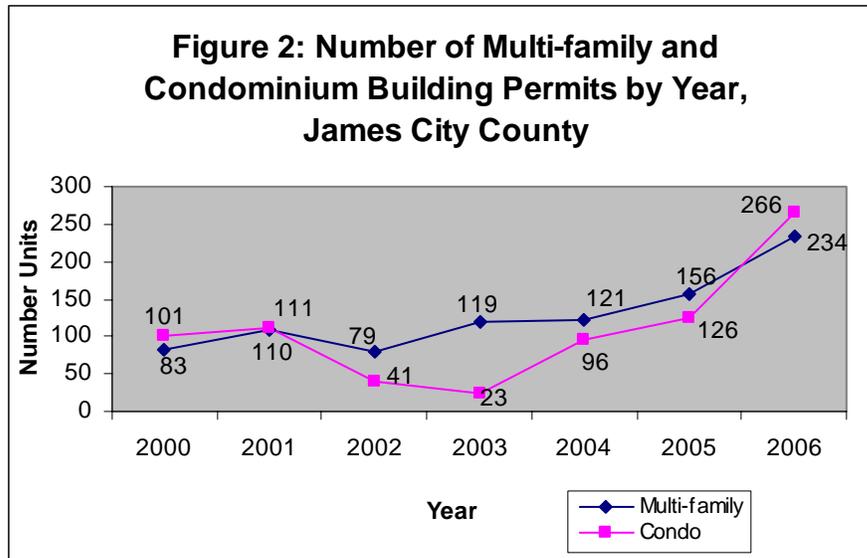
Building Permits

The number of single-family building permits issued showed an increase in James City County between 2001 and 2004 (increased from 619 permits in 2001 to a high of 916 permits in 2004). After a slight decrease between 2004 and 2005, the number of single-family permits issued decreased by nearly 25% between 2005 and 2006 when the number of building permits issued for single-family permits fell to its lowest number since 2001. (See Figure 1.)



Source: James City County

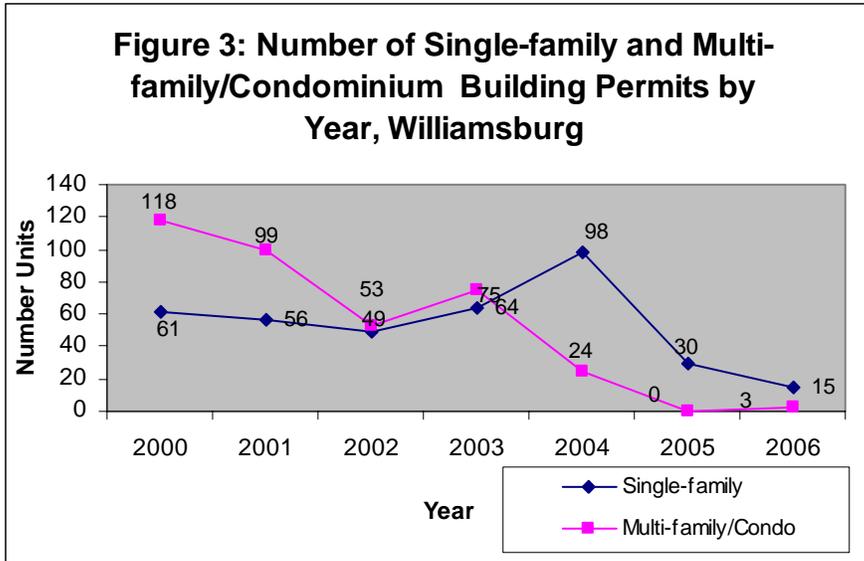
Multi-family (primarily townhouses) and condominium building permits accounted for on average about one fourth of building permit activity in James City County from 2000 to 2006. Multi-family (includes duplexes, townhouses, and other multi-family) building permit activity increased each year except in 2002 and peaked in 2006 with 234 permits issued. (See Figure 2.) The number of building permits for condominiums dropped between 2001 and 2003 but rebounded in 2004, increased in 2005, and rose to a high of 266 condominium building permits in 2006.



Source: James City County

In the City of Williamsburg, as shown in Figure 3, a period of fairly stable single-family building permit activity was followed by a peak in 2004 with 98 permits issued. Single-family residential building activity in Williamsburg then declined by over two thirds from 2004 to 2005. The decline in single-family building permits continued into 2006 but at a slower rate. There was significant multi-family/condominium building activity in Williamsburg over the seven year time period. From 2000 to 2004, multi-family/condominium permits out-numbered single-family permits. However, with a high of 118 multi-family/condominium permits in 2000, the activity steadily dropped except for a slight rebound in 2003. By 2005, there was little or no multi-family/condominium activity.

While not shown in Figure 3, multi-family and condominium housing construction is starting to pick up again in Williamsburg. So far in 2007, the City has issued permits for 191 apartments (in High Street), seven townhouses (three in High Street and four in the Village at Quarterpath), and 12 condominiums (in Wyndham West). Brisk construction is expected in the City over the next several years as many more units have received site plan approval (53 townhouses and 330 condominiums in High Street, 24 condominiums in Wyndham West, and 36 townhouses in the Village of Quarterpath). In 2007, the City also issued one building permit for a single-family unit in the Village of Quarterpath and has approved site plans for 41 additional single-family units in that development.



Source: City of Williamsburg

Housing Stock

In 2000, nearly three quarters of the housing stock in both Virginia and the Virginia Beach MSA was comprised of single-family units (72% and 71% respectively). Table 1 shows that in 2000 about 80% of the housing stock in James City County consisted of single-family units. Over two-thirds of the total stock was detached single-family units, and James City County had relatively few apartments (about 15%). Manufactured homes (formerly referred to as mobile homes) accounted for nearly 7% (1,413) of James City County's housing stock. For many residents, particularly in rural areas, manufactured homes are an affordable housing option.

Table 1: Units in Structure by Area

Units in Structure	James City County		Williamsburg		PUMA			
	2000		2000		2000		2006	
1, detached single-family	13,899	66.9%	1,892	48.8%	46,484	72.5%	58,394	71.8%
1, attached single-family	2,536	12.2%	319	8.2%	5,195	8.1%	7,350	9%
2 apartments	238	1.1%	132	3.4%	577	0.9%	784	1%
3 or 4	520	2.5%	385	9.9%	1,633	2.5%	2,637	3.2%
5 to 9	784	3.8%	388	10.0%	2,850	4.4%	3,551	4.4%
10 or more	1372	6.6%	708	18.2%	3,079	4.8%	3,596	4.5%
Mobile home	1,413	6.8%	56	1.4%	4,285	6.7%	4,962	6.1%
Boat, RV, van, etc.	10	0.0%	0	0.0%	28	0.0%	0	0.0%
Total housing units	20,772		3,880		64,131		81,274	

Source: US Census 2000 and PUMS 2000 and 2006

About 57% of Williamsburg’s housing stock in 2000 was single-family units (compared to 55% for the City of Charlottesville). Less than half of the total stock was single-family detached units. About 41% of Williamsburg’s stock consisted of apartments with 2 or more units, slightly less than that of Charlottesville (45%).

As would be expected, the proportion of single-family units in 2000 was higher in the PUMA than in either James City County or the City of Williamsburg due to the large number of student apartments in those jurisdictions. If the trend over time, however, for James City County and Williamsburg was similar to that of the PUMA (the proportion of single-family housing in the PUMA stayed constant between 2000 and 2006, comprising 81% of the housing stock in both time periods), we can assume there was little change in single-family housing as a proportion of the housing stock from 2000 to 2006. We estimate single-family units comprised about 80% of the housing stock in James City County in 2006 and 57% of the housing stock in Williamsburg in 2006.

Vacancy Rates

The vacancy rate⁵ is a key indicator of the adequacy of the supply of housing relative to demand. A five percent vacancy rate is largely accepted as a minimum benchmark for a sufficient number of housing units available for occupancy by people searching for housing. Vacancy rates below five percent often reflect “tight” housing markets where prices can escalate rapidly and supply is low. Rates significantly above five percent can reflect “weak” markets where prices (and maintenance) can be depressed by an excess supply of housing.

In 2000, the rental vacancy rates for the state and the MSA respectively were 5.2% and 5.6%, both slightly above the benchmark 5% rate indicating a sufficient number of units. The rental vacancy rate for James City County in 2000 was 11.2% indicating more than sufficient rental units while the rental vacancy rate for Williamsburg was 3.9% reflecting a very tight rental market.

With no recent data on vacancy rates for James City County or Williamsburg, we used Census microdata to look at the trend in rental vacancy rates from 2000 to 2006 in the broader PUMA. As shown in Table 2, the rental vacancy rate for the PUMA in 2000 was 4.8% but rose to 7.1% in 2006. This would indicate that in 2006 renters had more rental options than in the past, at least within the broader area. If this trend can be applied to James City County and the City of Williamsburg, it would be a signal that rental prices should be leveling off in response excess rental units and a loosening of the market. However, in this instance, the microdata may reflect neither James City County nor Williamsburg. The vacancy rate for James City County in 2000 was considerably higher than that of the PUMA making comparison risky. In addition, with few newly-constructed rental units, it is likely that the rental vacancy rate in James City County has

⁵ The vacancy rate includes only those units for sale or rent and available for occupancy (units for sale or rent / (units for sale or rent + occupied units)). In contrast, total vacant units include these units as well as units rented or sold but not occupied (vacant units used for seasonal, recreational or occasional use; vacant units used for migrant workers; and “other” vacant units not available for occupancy).

decreased since 2000. While Williamsburg’s vacancy rate in 2000 was fairly close to that of the PUMA, it is likely as well that the rental vacancy rate in Williamsburg has decreased rather than increased as there have not been any new apartment complexes built in Williamsburg since 2000 (although, there are currently 191 apartments under construction as a part of the High Street Williamsburg project).

Table 2: Vacancy Rates by Tenure by Area

	Area			
	James City County	Williamsburg	PUMA	
Vacancy Rate	2000	2000	2000	2006
Renter	11.2%	3.9%	4.8%	7.1%
Owner	2.3%	2.1%	1.3%	1.5%

Source: US Census 2000 and 2000 and 2006 PUMS

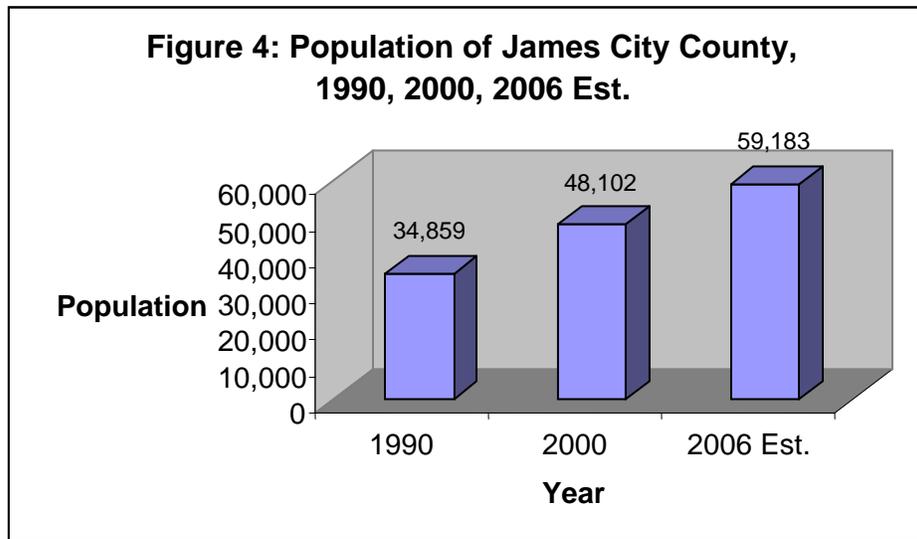
Similar to the state and MSA, with 2000 owner vacancy rates of 1.5% and 1.8% respectively, owner vacancy rates for James City County (2.3%), the City of Williamsburg (2.1%), and the PUMA (1.3%) were extremely tight. The owner vacancy rate for the PUMA rose marginally from 2000 to 2006 but was still tight at 1.5% (see Table 2) signaling that supply barely responded to demand between 2000 and 2006 in the broader area ownership market. The decrease in interest rates over the same period prompted large scale demand for owner housing and fueled higher prices, especially in James City County and Williamsburg. So owner vacancy rates for those two jurisdictions likely decreased, unlike the PUMA that saw a slight rise in rates.

The impact of a tight housing market is most severe for those seeking lower-cost owner housing. Without a subsidized program, it is virtually impossible to expand the supply of lower-cost housing through new construction due to land and construction costs. The alternative is that affordable housing opportunities are found within the existing market. However, with a severe housing shortage, older and lower quality units become more and more attractive to people with higher incomes. Extremely low vacancy rates lead to “bidding wars” when home seekers compete for units that come on the market, with sellers often receiving bids well above their asking price. This shrinks the supply of housing affordable to households with modest incomes by displacing them with households having higher incomes and by increasing the market price for these units. Those displaced must find housing outside of the high cost area or pay a high proportion of their income for housing.

POPULATION

Population Change

The population of an area and the makeup of that population have a significant impact on housing. From 1990 to 2006, the population of James City County grew by 70% (see Figure 4) based on the 2006 population estimates provided by the Weldon Cooper Center at UVA.⁶ The population reported by the US decennial Census increased by about 38% between 1990 and 2000 or an average of 3.8% a year. The rate of growth in James City County held steady but strong between 2000 and 2006 based on an estimated 23% increase in population, also an average of about 3.8% a year. In comparison, the population in Virginia increased an average of 1.8% a year between 2000 and 2006 and the MSA increased an average of only .8% a year.

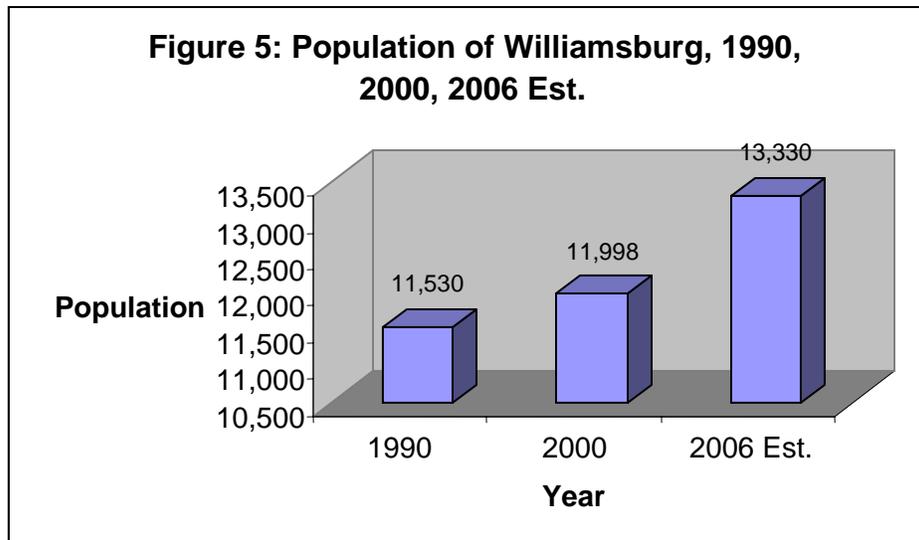


Source: US Census 1990 and 2000; 2006 Population Estimate from the Weldon Cooper Center, UVA

The population growth in the City of Williamsburg was less dramatic than that of James City County with about a 16% increase between 1990 and 2006 based on estimates from the Weldon Cooper Center (See Figure 5). [Note: the Census Bureau population estimates for Williamsburg showed a slight decrease in population from 2000 to 2006, but the estimates provided by the Weldon Cooper Center have been more accurate in Virginia than the Census Bureau's estimates.] Unlike James City County, the population of Williamsburg is growing at a faster pace now than in the previous decade. The growth rate between 1990 and 2000 was only 4%, an average increase of .4% a year. The

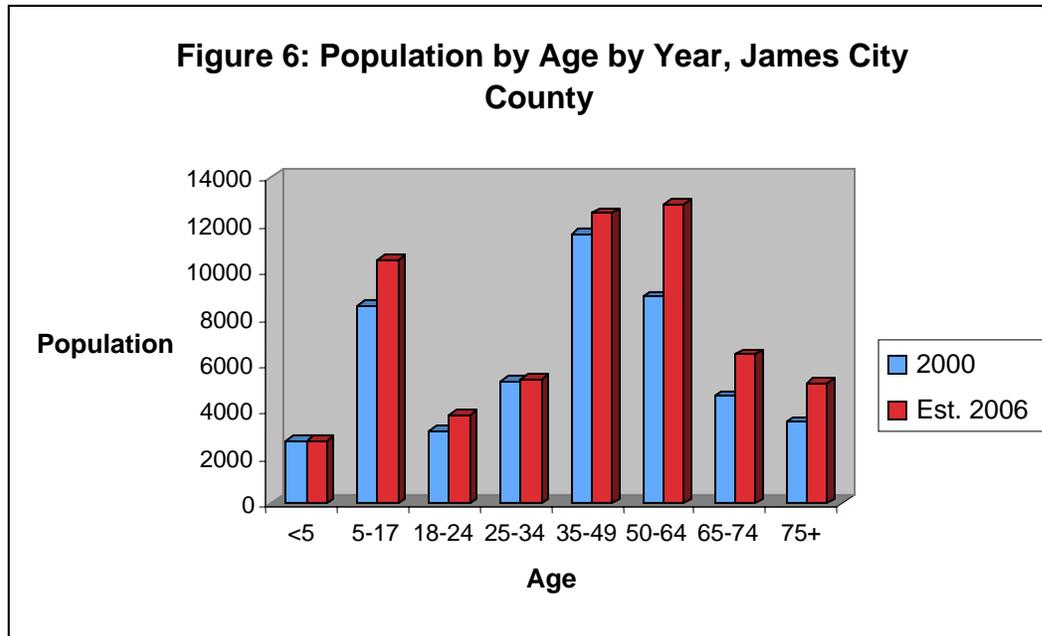
⁶ We chose to use the Weldon Cooper Center population estimates versus those produced by the US Census Bureau. The Weldon Cooper Center uses a ratio-correlation method to calculate population estimates. This method takes into account information from tax returns, building permits, school enrollment, birth records, and driver's license records. The Weldon Cooper estimates also take into account institutional population which includes students living in college dormitories. In contrast, the Census Bureau population estimates use a component estimate methodology primary based on tax records and often producing a different result.

estimated growth between 2000 and 2006 in Williamsburg (11% or an average 1.9% a year) outpaced Virginia's 8% and the MSA's 4.6% growth in population over the same time period.



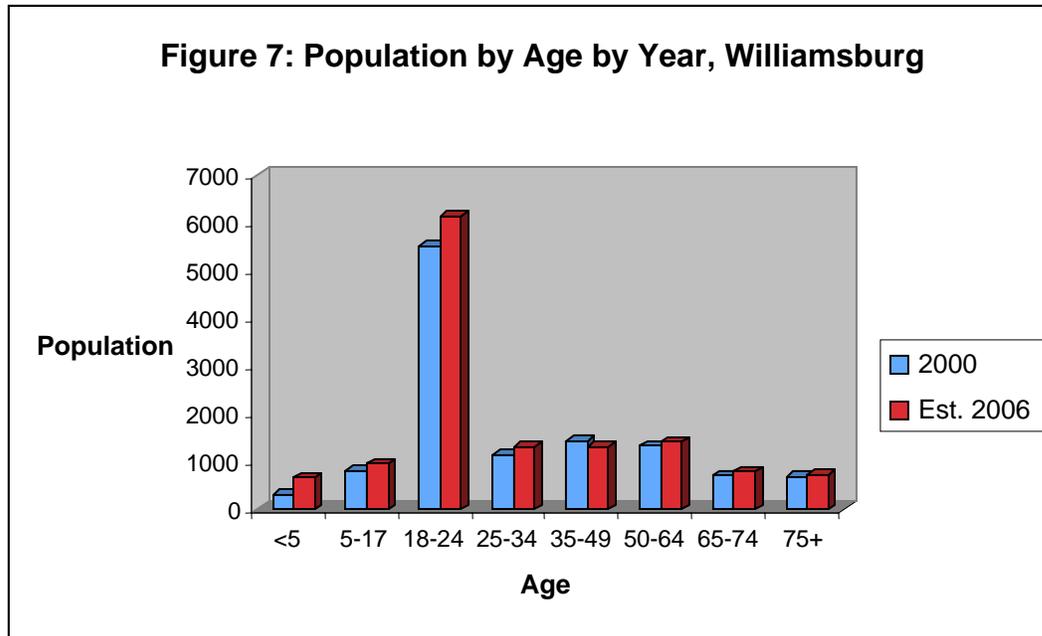
Source: US Census 1990 and 2000; 2006 Population Estimate from the Weldon Cooper Center, UVA

The age of the population in an area has implications for housing. In James City County, the population is becoming older according to 2006 estimates from the Weldon Cooper Center (see Figure 6). The increase in the number of older persons likely can be attributed to the growing number of retirees attracted to the area. The three oldest age groups all grew by 40% or more between 2000 and 2006. While the largest increase (47%) from 2000 to 2006 was for the 75 or older group, the 45% growth in the 50-64 year-old age group suggests many relatively young retirees may have moved into the area.



Source: US Census 2000; 2006 Population Estimate from the Weldon Cooper Center, UVA

In Williamsburg, the under 5 age group increased by over 100% between 2000 and 2006 (see Figure 7). The age group with the next largest increase (17%) was the 5-17 year-old category. Based on the 2006 estimates, Williamsburg is becoming younger while James City County is becoming older. The 35-49 year-old age group in Williamsburg was the only category showing a decline between 2000 and 2006 (-7%). The over 50 age categories each grew slightly between 2000 and 2006. As with James City County, retirees have relocated to Williamsburg where they tend to favor condominium living. There was an 11% increase 65-74 year-olds which likely is a reflection of the retiree immigrants. The dominate age category of 18-24 year-olds in Figure 7 clearly shows the demographic impact of the College of William and Mary on the City of Williamsburg. In 2000, there were 5,524 18-24 year-olds. In 2006, the number of 18-24 year-olds was estimated at 6,127, an increase of 11% since 2000.



Source: US Census 2000; 2006 Population Estimate from the Weldon Cooper Center, UVA

Three factors influence population change: natural births, natural deaths, and migration. In the case of James City County and the City of Williamsburg, migration has been a significant factor affecting population.

Migration

In recent years, many people have been attracted by the many attributes of the Historic Triangle. The resulting migration into James City County and the City of Williamsburg between 2000 and 2005 has affected the overall population growth. The US Census Bureau and the Weldon Cooper Center at UVA both provide migration estimates. In addition, the Internal Revenue Service provides a special data file from which we estimate net migration of tax filers. Both the Census and the IRS data use the tax return method for estimating migration. The Weldon Cooper Center uses a ratio-correlation method that not only takes into account tax returns, but includes housing stock, school enrollment, birth records, and driver's license data. The Weldon Cooper estimates also take into account institutional population which includes students living in college dormitories.

To find out the localities to which residents of James City County and the City of Williamsburg moved and the localities from which they came, we used the annual IRS Migration data from 2000 to 2005. The Internal Revenue Service special data file identifies every city or county throughout the US with 10 or more tax filers moving into (or out of) the locality and provides the number of exemptions associated with each of those localities. The number of exemptions is an approximation of the number of people moving between localities (we use the terms "people" or "population" instead of "exemptions"). We estimated annual net migration by matching the IRS data for in-

movers and out-movers by locality and then aggregated these annual estimates from 2000 to 2005.

James City County

The Census Bureau estimates that during the five year period James City County’s population increased by 9,109 people due to in-migration. Similarly, the UVa Weldon Cooper Center estimates a net migration of 10,297 people to James City County during approximately the same time period. Based on IRS estimates, net migration was 8,984 people between 2000 and 2005.

The largest portion of in-migrants to James City County came from outside the state (38%). The next largest (nearly 28%) contributor of in-migration to James City County over the five year period came from neighboring localities (Newport News, York County, Williamsburg, Gloucester and New Kent County) with the majority of those in-migrants coming from Newport News, York County and Williamsburg (see Table 3). The Washington, D.C. metropolitan area also provided a significant number of in-migrants to James City County during this time period (6% of in-migrants relocated to James City County from the various jurisdictions in the D.C. metro area with the largest number coming from Fairfax County, VA followed by Montgomery County, MD and Prince William County, VA).

Table 3: Top In-Migration Locations James City County, 2000-2005 (500 or more people)

Newport News, VA	3,659
York County, VA	1,933
Williamsburg, VA	1,057
Hampton, VA	930
Fairfax County, VA	825
Virginia Beach, VA	570
Other Flows - inside Virginia	1,678
Other Flows - outside Virginia	10,164
Total In-migration	26,966

Source: IRS and Center for Housing Research

About 40% of out-migrants relocated to other states. Of jurisdictions that received 500 or more out-migrants from James City County, all were located adjacent to James City County (see Table 4). The Richmond metropolitan area, particularly New Kent County, was also a popular destination for out-migrants during the five year period.

Table 4: Top Out-Migration Locations James City County, 2000-2005 (500 or more people)

Newport News, VA	-2,216
York County, VA	-1,280
Williamsburg, VA	-696
New Kent County, VA	-649
Other Flows - inside Virginia	-1,409
Other Flows - outside Virginia	-7,089
Total Out-migration	-17,982

Source: IRS and Center for Housing Research

Net migration for James City County estimated from the IRS migration files from 2000 to 2005 was a gain of 8,984 persons (i.e. exemptions). The IRS and Census Bureau estimates for this time period were fairly consistent with a difference of only 1.4%. However, the net gain of 10,297 persons estimated by Weldon Cooper was 14.6% higher than the IRS estimate. There are several reasons why tax records would underestimate total migration. New (mainly young) workers might be filing their own tax return for the first time, and some adults do not have income requiring a tax return. Plus there are some inaccuracies in any estimate. Although the IRS migration files appear to underestimate migration into the region, they are the only source of annual data on the previous locations of people moving into the region.

As shown in Table 5, James City County’s largest net gain from a particular location over the five year period was from Newport News (1,485). Typical regional dynamics (housing prices, job location, commuting patterns, etc.) could be responsible for this shift in population to James City County. Another notable gain was from Fairfax County, VA in Northern Virginia. James City County’s net increase in population coming from Williamsburg (361 persons) could be the effect of the city’s rising housing costs and competitive rental market among both college students and non-college affiliated households. Proximity to the College of William and Mary and downtown Williamsburg makes James City County a practical alternative for some students and households.

The only significant net loss for James City County over the five year period was to the Richmond Metropolitan Area including the City of Richmond, Henrico County, Hanover County, and New Kent County (located adjacent to James City County and accounting for the largest net loss, 272 persons, between 2000 and 2005). The 2000 Census County to Workplace County Flows special tabulations likewise show over 400 persons commuting out of the county to work in Richmond area jurisdictions, so it is likely that the out-migration to the Richmond Metro area was partially a result of job relocation.

Table 5: Top Net migration Locations James City County, 2000-2005

James City County, VA Total Net	8,984
Net Gain Jurisdictions	
Newport News, VA	1,485
York County, VA	710
Hampton, VA	484
Fairfax County, VA	475
Williamsburg, VA	361
Foreign - APO/FPO ZIPs	330
Virginia Beach, VA	204
Top Net Loss Jurisdictions	
New Kent County, VA	-292
Richmond, VA	-78

Source: IRS and Center for Housing Research

Williamsburg

The Census Bureau estimates that between 2000 and 2005 the City of Williamsburg’s population decreased by 288 people due to out-migration. However, the UVa Weldon Cooper Center estimates a net gain of 1,685 people to Williamsburg over approximately the same time period. The annual IRS Migration data estimates a net loss of 158 persons from Williamsburg for the five year period. The different methods used explain the inconsistency in the migration numbers. The Weldon Cooper estimates are likely more accurate than those of the US Census and the special IRS data file. Using the special IRS data file, however, is the only way to calculate migration between localities.

One point worth noting is that there were few jurisdictions identified as having in- or out-migrants to Williamsburg. Only nine jurisdictions were named in the IRS migration data during the five year period. These jurisdictions contributed 1,211 in-migrants and 1,726 out-migrants during the time period. The remaining in- and out-migrants were scattered across the country and were grouped as “other flows – inside Virginia”, “other flows – outside Virginia” and “other flows – foreign”.

The majority of in-migration (36%) to Williamsburg over the five-year period came from the three adjacent jurisdictions of James City County (23% of total), Newport News (9% of total) and York County (4% of total). The second largest group of in-migrants came from outside Virginia with 35% (see table 6) although no one jurisdiction from outside the Commonwealth stood out in leading in-migration to Williamsburg.

**Table 6: Top In-Migration Locations
Williamsburg, 2000-2005 (200 or more
people)**

James City County	696
Newport News	267
Other flows - Foreign	210
Other Flows - inside Virginia	561
Other Flows - outside Virginia	1,074
Total In-migration	3,056

Source: IRS and Center for Housing Research

The pattern of out-migration from Williamsburg over the five year period was clear. Of the 3,214 out-migrants 42% relocated either in James City County or Newport News, most likely to remain within the region but to escape the higher living costs in Williamsburg (see Table 7).

**Table 7: Top Out-Migration Locations
Williamsburg, 2000-2005 (200 or more
people)**

James City County	-1,057
Newport News	-288
Other Flows - outside Virginia	-920
Other Flows - inside Virginia	-568
Total Out-migration	-3,214

Source: IRS and Center for Housing Research

Williamsburg's largest net gain over the five year period was from localities outside Virginia however, gain from these jurisdictions was minor (see Table 8). In sum, Williamsburg had a net loss of population due to migration, although the individual net losses were small (due to reciprocal in and out-migration). The only significant net loss was to James City County (loss of 361 persons).

**Table 8: Top Net migration Locations
Williamsburg, 2000-2005**

Williamsburg, VA Total Net	-158
Net loss Jurisdictions	
James City County	-361
Fairfax County	-41
Newport News	-21
York County	-17
Other Flows - Same State	-7
Top Net Gain Jurisdiction	
Other Flows - Diff State	154
Hampton	5

Source: IRS and Center for Housing Research

PROJECTED HOUSING DEMAND

The housing demand projections rely on the state's official population projections prepared by the Virginia Employment Commission (VEC) and on housing consumption patterns reported in the 2000 Census and in the 2004, 2005 and 2006 American Communities Surveys (ACS). Since the ACS data are not yet available for James City County and Williamsburg, the ACS results for Virginia were used to estimate trends in home ownership rates between 2000 and 2005.

The reliability of the demand projections depends in large measure on the VEC population projections for these two communities. The demand model reflects the projection of the adult population in 10-year age groups, as only the adult population has a direct influence on housing demand. The youngest age category in the model represents 15-24 year olds, which includes the ages when many young adults form independent households. There are three components of population change: births, deaths and migration. All people of ages 15 and older in the year 2010 would have been born prior to the year 2000 and in 2020, only 15-19 year olds would have been born after 2000. Consequently, the projected population is almost entirely determined by death rates and migration. Death rates are fairly stable and changes would mainly influence the older population. Migration rates are much more difficult to project.

To help evaluate the reasonableness of the VEC projections, we examined recorded changes in age-specific cohorts from 1990 to 2000 and projected changes across the periods of 2000 to 2010 and 2010 to 2020. We also examined age-specific changes for the population estimated for 2005 using the population estimates prepared by the University of Virginia's Weldon Cooper Center. These estimates are based on more recent data measuring population trends, including migration, than the 2000 Census.

James City County Demand Projections

Our evaluation of the VEC population projections for James City County indicate that they might significantly over project adults between the ages of 20 and 39 and under project adults aged 50 and over. This evaluation was based in part on the cohort analysis presented in Table 9. This table presents the "survival rate" for 10-year age cohorts across the span of a decade. The age categories provided in the table represent the age group at the end of the 10-year span shown for each column.

Table 9: Ten Year Survival Rates for James City County

Age at End of Period	Census 1990-2000	VEC 2000-2010	VEC 2010-2020
10-19	1.2620	1.2606	1.2255
20-29	1.0235	1.3386	1.2520
30-39	1.2666	1.7292	1.1854
40-49	1.2408	1.2853	1.1805
50-59	1.3044	1.1858	1.1325
60-69	1.4782	1.2249	1.2137
70-79	1.1916	1.1781	1.1918
80+	0.7378	0.6847	0.6488

Source: CHR calculations based on Census and VEC data

For example, there were 26.2% more 10-19 year olds in the year 2000 in James City County than there were 0-9 year olds in 1990. (Significant shifts in these trends are noted by shaded cells in the table.) Net in-migration is the only way this cohort could numerically increase. Of course, an increase in this population group during the 1990s is very consistent with the increase in school enrollments during the decade. Given that James City County is an attractive location for families moving into the region, it is not surprising that net in-migration for this age group is projected to continue. (Most population projections assume that net in-migration will slow over time, which is consistent with the VEC projection for 2020.)

The implied net-migration projections from 2000 to 2010 and 2010 to 2020 for the next cohort (20-29 years at the end of each period) display a dramatic departure from the 1990 to 2000 pattern. Most people in this age group form independent households rather than remaining to live with parents. Many independent young adults prefer to live in apartments rather than single-family houses due to housing cost and life-style considerations. As a result, they often leave lower density suburban locations for higher density urban locations. Between 1990 and 2000, the cohort ending in the 20-29 age category only increased by 2.4%. Although this suggests that James City County is sufficiently attractive to maintain this cohort, it clearly was not a magnet for net in-migration during the 1990s. In contrast, the VEC projections indicate that the 20-29 year old age category will increase relative to 10-19 year olds from ten years prior by significant levels of net in-migration (33.9% and 25.2%). If the VEC projection proves accurate, net in-migration of 20-29 year olds would have a major impact on apartment and townhouse demand in James City County and would suggest the need for more land to be planned and zoned for higher density development of this sort. Our analysis of age-specific population estimates for 2005 indicates that although there appears to be an increase in net-migration among 25-29 year olds, the VEC projection for the 20-29 age category for 2010 and 2020 is higher than justified by the growth trend through 2005. We recommend a lower population projection for this age group.

The VEC projection for 30-39 year olds in 2010 suggests an even more radical departure from the 1990 to 2000 trend. Although the 1990 to 2000 trend for the cohort ending in this age group indicates significant net in-migration (the cohort grew by 26.7% during the 1990s), the VEC projection for 2010 indicates that net in-migration for this age group will jump to 72.9% and then drop to 18.5% from 2010 to 2020. The population estimates for 2005 do not indicate a substantial spike in net in-migration for 30-39 year olds in the current decade and suggest instead a slowing of net in-migration for this age group. Consequently we recommend a lower population projection for 2010 and 2020 for this category.

The VEC projections for 40-49 year olds imply a slight increase in net in-migration during the current decade compared to 1990-2000, followed by a reduced level during 2010-2020. This pattern appears reasonable and is generally in line with the population estimates for 2005.

Our analysis also indicates that the VEC projections for 50-59 year olds and for 60-69 year olds might be too low for 2010 and 2020. These cohorts were in the 40-49 and 50-59 year old age categories in 1990 and increased by 30.4% and 47.8% during the 1990s. Given that the death rate starts to inch up in these age categories, the implied net in-migration would be even higher than indicated by these rates. The VEC projections, however, reduce the rate of growth for cohorts progressing into these age groups substantially over the current and next decades. We do not know of any change in the appeal of James City County for these age groups to suggest this level of reduction in net in-migration. In fact, we would expect the rate of growth to possibly increase especially for the 60-69 age group due to James City County's appeal to retirees. In addition, the 2005 population estimates point to possibly a higher rate of net in-migration for these ages than existed during the 1990s. We recommend a higher alternative projection for these age groups for 2010 and 2020.

The 1990 to 2000 population changes and the 2005 estimates indicate fairly significant net in-migration for 70-79 year olds. (Changes in these older age cohorts are influenced more significantly by death rates, so the implied net in-migration is higher than suggested by the ratios in Table 9.) The VEC projections assume that the 1990-2000 patterns will continue over the subsequent two decades. We do not recommend any changes for the projections for this age group. Death rates obviously become higher at age 80 and above. Between 1990 and 2000, the Census counts indicate that there were 2,525 people aged 70 and older in 1990 in James City County. The size of this cohort dropped to 1,863 people aged 80 and older in 2000 (a 73.8% "survival" rate). The ten-year survival rates for the VEC projections to 2010 and 2020 for this age category are 68.5% and 64.9% (but 72.6% for 2020-2030 period, which we do not show). We recommend a higher alternative projection for the population aged 80 and older for 2010 and 2020, but also suggest that these projections be used with caution as noted below.

The Weldon Cooper age-specific population estimates for 2005 were also used to evaluate the accuracy of the VEC age-specific projections. Between 2000 and 2005⁷, five-year cohorts advance to the next older age category. As with the previous table, Table 10 presents “survival rates” for the cohort advancing into the age category shown in the table. These estimates indicate that between 2000 and 2005 young adults aging into the 20-24 year old category had net out-migration from James City County, but there was a sizeable net in-migration of young-adults in the 25-29 age category (this group would be 30-34 years old by 2010).

Table 10: Five Year Survival Rates for James City County

Age at End of Period	Weldon Cooper 2000-2005	VEC 2005-2010
5-9	1.345	1.337
10-14	1.284	0.920
15-19	0.989	0.997
20-24	0.917	1.380
25-29	1.238	1.426
30-34	1.016	1.443
35-39	1.085	1.649
40-44	1.170	1.244
45-49	1.051	1.056
50-54	1.191	1.120
55-59	1.185	1.003
60-64	1.341	1.026
65-69	1.289	0.921
70-74	1.131	1.003
75-79	1.066	0.936
80-84	0.996	0.819
85+	0.542	0.755

Source: CHR calculations based on Weldon Cooper Center at UVa and VEC data

The estimates also point to net in-migration of each of the older five-year cohorts up to age 75 and the net in-migration rates for the population between age 50 and 74 are very high (a 15% increase between 2000 and 2005 for a cohort would become a 30% increase if sustained through 2010). The rapid increases in 5-9 and 10-14 year olds between 2000 and 2005 (about 30%) suggest that families with children comprise a large component of net in-migration into James City County. The “empty nester” and “active adult” cohorts (55-59, 60-64, 65-69, and 70-74) are also moving to James City County at rapid rates. The 2005 population estimates for the 75-79 age group suggest net in-migration even for this category, although the effect of migration is increasingly offset by losses due to death. The five-year “survival” rate for the oldest age category of 80+ was 75.4%, which is the equivalent of a 50% survival rate over ten years. Since this is the open-ended age

⁷ The 2000 period is as of April 1, whereas 2005 is as of July 1. Consequently the 2000-2005 period covers an extra three months.

category, survival rates are very much influenced by the proportion of the 80+ population within the 70 and older age group that is surviving to the next period. In 1990, the 80+ population was 30% of the 70+ category. By 2000 it was 33% and by 2010 it is projected to be around 40%. As a result, the ten-year survival rates for the 70+ population will decline as more of this population is in the 80+ category.

To calculate an alternative projection for 2010, we averaged the age-specific 2000-2005 survival rates calculated from the Weldon Cooper population estimates and the 1990-2000 survival rates based on the decennial censuses and then applied these survival rates to the appropriate age categories in 2000 to obtain the 2010 projection. To calculate an alternative projection for 2020, we reduced the age-specific 2000-2010 survival rates by 75% to reflect the tendency for migration rates to drop over time. These rates were applied to the appropriate age specific groups in 2010 to obtain the 2020 projection.

The adjusted population projections (ALT 1) for 2010 and 2020 are shown in Table 11 for the age group categories used in the housing demand model, which assumes that household formation only occurs among the population aged 15 and older (householders were only 12% of the 15-24 age group in James City County in 2000, with the remainder being dependents, roommates or spouses in households rather than the householder). The adjusted projections have little effect on the total population aged 15 and older compared with the VEC projections for 2010 (-959), but increase the 2020 projection by 2,624. This alternative projection also has a fairly major impact on the distribution across age groups. In comparison with the VEC projection, for 2010 the alternative projection reduces the 15 to 44 year old population projected for 2010 by 4,584 and increases the 45 and older population by 3,625. For 2020 the alternative projection reduces the VEC projection by 5,348 for 15 to 54 year olds and increases the population aged 55 and older by 7,972.

Table 11: Population Projections by Age Category

2010

Age	VEC	ALT 1	ALT 2	ALT1-VEC	ALT2-VEC
15-24	8,664	7,930	8,469	-1,579	-195
25-34	7,660	5,667	6,116	-1,658	-1,544
35-44	7,871	6,015	6,015	-1,567	-1,856
45-54	9,486	10,064	10,064	281	578
55-64	8,487	10,108	10,108	2,052	1,621
65-74	6,965	7,878	7,878	1,876	913
75+	6,464	6,977	6,977	441	513
Total 15+	55,597	54,638	55,627	-153	30

2020

Age	VEC	ALT 1	ALT 2	ALT1-VEC	ALT2-VEC
15-24	8,605	9,459	8,163	-1,579	-442
25-34	9,836	8,658	10,259	-1,658	423
35-44	9,570	6,264	6,976	-1,567	-2,594
45-54	8,993	7,275	7,695	281	-1,298
55-64	10,985	13,348	14,443	2,052	3,458
65-74	10,822	13,346	14,425	1,876	3,603
75+	10,229	13,314	12,800	441	2,571
Total 15+	69,040	71,664	74,763	-153	5,723

Source: CHR calculations based on Census and VEC data

We also developed a third projection that continues the 1990-2005 age-specific survival rates through 2020 without any slowing in the rate of net in-migration. In addition, under this projection we assumed that cohorts aging into the 20-29 age category would increase by 20% through net in-migration rather than by the historical trend of less than 2%. Although this projection is nearly the same for the total population aged 15 and older as the VEC projection for 2010, it still shifts the age distribution away from the 25-34 and 35-44 year old categories into the older categories. It also increases the 2020 projection for the population aged 15 and older by 5,723 people.

The projected age structure of the population has significant impact on housing demand. The population aged 15-24 has the lowest propensity among adult age groups to form households and most of these households are in the rental market. The probability of being a householder increases with age, as does the probability of being in an owner-occupied house.

By definition, the number of occupied housing units is equal to the number of households. The total number of housing units includes vacant units. Increases in housing demand thus reflect increases in the number of households in an area. Housing demand in James City County is projected to grow steadily from 2000 to 2020, but more so if the population growth is in the older rather than the younger adult age categories.

Between 1990 and 2000, housing demand in James City County increased by 6,033 households or 46.5%. Using the VEC population projection, households would increase by 7,821 between 2000 and 2010, and then by 7,533 between 2010 and 2020. This represents a 41.2% growth rate for 2000-2010 and a much slower 28.1% for 2010-2020. (See Table 12.)

Table 12: Total Households by Year, James City County

	Census	VEC Pop	ALT1	ALT2
1990	12,968			
2000	19,001			
2010		26,822	26,957	27,237
2020		34,355	35,930	38,102
Change				
1990-2000	6,033			
2000-2010		7,821	7,956	8,236
2010-2020		7,533	8,973	10,865
% Change				
1990-2000	46.5%			
2000-2010		41.2%	41.9%	43.3%
2010-2020		28.1%	33.3%	39.9%

Source: CHR calculations based on Census and VEC data

As explained in the review of population trends, we think a higher growth rate is more likely in James City County. Alternative Projection 1 (ALT 1 in Table 12), assumes that the age-specific cohort trends established across 1990-2005 will continue through 2010 and then moderate by 75% of those rates for 2010-2020. This projection indicates an only slightly higher increase in households between 2000 and 2010 (7,956) than using the VEC population projection but a much larger increase (8,973) between 2010 and 2020. These represent increases of 41.9% and 33.3% respectively.

Even higher growth would occur with in-migration of very young adults in their early to mid-twenties and with continuation of the 1990-2005 growth rates unabated through to 2020. Under this projection (Alternative 2, shown as ALT 2 in Table 12), demand increases by 8,236 households between 2000 and 2010 and by another 10,865 households between 2010 and 2020, increases of 43.3% and 39.9% respectively. Under the ALT 2 projection, James City County would have more than 38,000 households by 2020 (double its size in 2000) and would require approximately 1,000 new housing units each year. (The average number of residential permits from 2000 to 2006 was 990.) If developed at an average density of four units per acre, an additional 5,000 acres will be needed for housing, about 5% of the land area of the county. At lower densities, more land would be consumed. Since about 76% of the residential building permits have been for single-family units over the past seven years, low density development has been the established pattern. Increased infrastructure and non-residential development associated with housing would require land as well.

Nearly 80% of the households in James City County are homeowners and the projections suggest that homeownership demand will continue to be robust, with a slight increase in the ownership rate from 77.0% in 2000 to approximately 79.1% in 2020. (See Table 13.) Future trends depend on a variety of factors that cannot be projected with accuracy (particularly interest rates), but the demographic trends remain strong.

Table 13: Owner and Renter Households by Year, James City County

	Owner Households				Renter Households			
	Census	VEC Pop	ALT 1	ALT 2	Census	VEC Pop	ALT 1	ALT 2
1990	9,507				3461			
2000	14,607				4,394			
2010		21,005	21,393	21,562		5,817	5,564	5,675
2020		26,973	28,376	30,130		7,382	7,554	7,972
Change								
1990-2000	5,100				933			
2000-2010		6,398	6,786	6,955		1,423	1,170	1,281
2010-2020		5,968	6,983	8,568		1,565	1,990	2,297

Source: CHR calculations based on Census and VEC data

During the current decade, we project an increase between 6,400 to 7,000 owner-occupied units and from 1,200 to 1,400 renter occupied units, followed by increases between 2010 and 2020 in the ranges of 6,000 to 8,700 owner-occupied units and 1,600 to 2,300 renter-occupied units. The rental unit share in growth ranges from 15% to 22%, with the higher shares projected for 2010-2020.

Based on building permits issued between 2000 and 2006, on average about 13% of total units built between 2000 and 2006 in James City County were multi-family units not including condominiums. According to 2000 Census data reporting the number of units in the structure and the year it was built, about 20% of the units built since 1950 were multi-family. With 2006 showing the largest number of multi-family building permits since 2000, the number of multi-family units built in 2006 were about on par with the percent of units built since 1950 that were multi-family (multi-family units not including condominiums accounted for 21% of the units built in 2006, more in line with expected growth trends).

Some single-family houses are occupied by renters and some units in multi-family structures are owner-occupied. Older single-family units are more likely to be rented than newer units, but the stock of older single-family units available to filter to rental housing is probably inadequate to meet this projected increase in demand. Additionally, much of the increase is among renters in age groups and household types that are more likely to prefer townhouses and apartments over single-family detached houses.

Most new household formations occur among young adults as they leave their parents' homes. This age group is also the most mobile in responding to employment opportunities. Even in the projection (ALT1) assuming a very low level of in-migration

among young adults, the James City County housing market has to absorb about 4,000 new households formed by younger people (under 35 years old) over a decade (Table 14). Under the higher in-migration assumptions for young adults used in the VEC projection, this demand increases to 5,000 units. With over half of these younger households in the rental market, the demand for rental units will likely be strong if an adequate supply can be developed.

Table 14: Households Projected by Age of Householder, James City County

	2000	2010			2020		
		VEC	ALT1	ALT2	VEC	ALT1	ALT2
15 to 24 years	621	1,065	975	1,042	1,058	1,163	1,004
25 to 34 years	2,515	3,654	2,703	2,917	4,692	4,130	4,893
35 to 44 years	3,858	3,861	2,950	2,950	4,694	3,072	3,422
45 to 54 years	4,099	5,521	5,858	5,858	5,234	4,234	4,479
55 to 64 years	2,999	4,610	5,491	5,491	5,967	7,251	7,846
65 to 74 years	2,878	4,365	4,938	4,938	6,783	8,365	9,041
75 and older	2,031	3,745	4,043	4,043	5,927	7,714	7,417
Total	19,001	26,822	26,957	27,237	34,355	35,930	38,102

Source: CHR calculations based on Census and VEC data

Most of the households in James City County are married-couple families (61.8% in 2000) and the market share for this household type is projected to remain fairly stable through to 2020 (ranging from 59.6% to 60.3% depending on the projection series). (See Table 15.) Non-spousal families (mostly single-parent families) accounted for only 11.9% of households in 2000 and are projected to decline in market share to around 10% by 2020. Non-family households (single individuals, unmarried couples without children, and roommates) are the second largest and fastest growing household type in James City County, with 26.4% of all households and projected to increase to around 30% by 2020.

Table 15: Households Projected by Type of Householder, James City County

	2000	2010			2020		
		VEC	ALT1	ALT2	VEC	ALT1	ALT2
Married Couple Families	11,735	16,277	16,491	16,621	20,724	21,414	22,945
Non-spousal Families	2,254	3,039	2,856	2,907	3,714	3,541	3,795
Non-families	5,012	7,506	7,609	7,710	9,917	10,976	11,362
<65	3,252	4,507	4,313	4,413	5,204	4,963	5,319
65+	1,760	2,999	3,296	3,296	4,713	6,013	6,043

Source: CHR calculations based on Census and VEC data

This shift toward non-family households is a bit deceiving, however, as it is concentrated among the 65 and older population, where the death of a spouse often changes the household type from a married-couple family to a non-family (single individual). Changes in death rates for this age group could result in more married-couple families surviving intact for longer periods. In addition, in-migrants in this age group might be more likely to be married-couples. Nonetheless, as this population ages in place, spousal

deaths will undoubtedly increase the number on seniors living alone in James City County.

Projections of housing demand by income (in 1999 dollars), household type and age are presented in Table 16. Demand is spread fairly evenly across the income categories shown and is projected to increase at each level of income. The demographics (age and household type) for each income category varies significantly (detailed table cells for age, household type and income with 500 or more households are shaded). Households with incomes below \$25,000 are most likely to be non-families. This lower-income, non-family market segment is split between two groups—younger people starting out in the housing market and seniors, many of whom are probably surviving spouses.

Table 16: Households Projected by Household Income, James City County, ALT2 Projection

	<\$25,000	\$25,000-49,999	\$50,000-74,999	\$75,000-99,999	\$100,000+
2000					
Total	3465	4816	4122	2682	3916
Married-couple	826	2506	2795	2158	3451
<35	147	459	381	273	232
35-54	311	1015	1383	1018	1616
55-64	88	436	375	358	797
65+	278	596	655	508	805
Non-spousal Families	594	875	451	174	160
<35	295	209	33	14	14
35-64	252	564	343	119	106
65+	47	102	76	41	40
Non-families	2046	1434	877	350	305
<65	1273	939	603	233	204
65+	773	495	274	117	102
2010					
Total	5084	6798	5750	3840	5766
Married-couple	1172	3512	3814	3051	5072
<35	180	550	452	326	278
35-54	330	1096	1487	1150	1890
55-64	161	798	687	655	1460
65+	502	1067	1188	919	1444
Non-spousal Families	736	1085	605	254	228
<35	377	264	41	18	17
35-64	273	632	424	160	136
65+	86	189	140	76	74
Non-families	3175	2201	1331	535	467
<65	1727	1274	818	317	276
65+	1448	927	513	218	191

	<\$25,000	\$25,000-49,999	\$50,000-74,999	\$75,000-99,999	\$100,000+
2020					
Total	7478	9615	7931	5278	7800
Married-couple	1736	4978	5254	4165	6813
<35	281	883	735	526	445
35-54	305	1000	1360	1018	1636
55-64	231	1141	982	936	2086
65+	919	1955	2177	1685	2646
Non-spousal Families	1007	1402	751	331	304
<35	552	394	61	27	26
35-64	297	663	433	165	143
65+	157	346	256	140	135
Non-families	4736	3235	1926	782	683
<65	2082	1536	986	382	333
65+	2654	1699	940	400	349

Source: CHR calculations based on Census and VEC data

The largest income category is the \$25,000-49,999 group, of which more than half are married-couple families. Married-couples between the ages of 35-54 with incomes between \$25,000-49,999 represent the second largest market segment in James City County with incomes below \$50,000. Married-couple families between the ages of 35-54 and with incomes above \$50,000 make up the largest market segment in the county in both 2000 and 2010, but will steadily give way to the 55-64 and 65+ married-couple and the 65+ non-family segments by 2020.

The non-spousal family market is more concentrated in the 35-64 age group with incomes between \$25,000 and \$75,000. Some of these families are probably the result of the dissolution of married-couple households. Divorce or separation often result in a downward shift in household income and can be highly disruptive in housing trajectories (e.g. going from owning to renting housing). This is a market segment that might require closer examination by James City County housing officials, as the housing problems facing this portion of the non-spousal family market are often overlooked by housing programs.

The lower-income 65+ non-family market segment is projected to increase significantly during the current and next decades. Many non-family seniors are home owners living alone and those with very limited incomes (e.g. below \$25,000) who might need assistance with housing maintenance and property taxes. About 30% of non-family seniors with incomes below \$25,000 are renters and also might need assistance in order to remain in James City County.

Williamsburg Demand Projections

The large college student population in Williamsburg presents a difficult challenge in projecting the younger adult population, as most of the students move out of the area upon graduation and do not age up into the next age cohort in Williamsburg. As indicated in Table 17, the 10-19 year old population is about four times the size of the 0-9 year old cohort from ten years earlier. Similarly the 20-29 year old population in 2000 was about 1.7 times the size of the 10-19 year old cohort. This bulge in the young adult population is very common among college towns.

Table 17: Ten Year Survival Rates for Williamsburg City

Age at End of Period	Census 1990-2000	VEC 2000-2010	VEC 2010-2020
10-19	4.1878	4.4127	3.4041
20-29	1.7071	1.9799	1.6025
30-39	0.2173	0.2102	0.2009
40-49	0.9165	0.8035	0.8584
50-59	1.2527	1.0942	1.3089
60-69	1.4231	1.0651	1.2344
70-79	0.9022	1.1144	1.2179
80+	0.3830	0.5953	0.5588

Source: CHR calculations based on Census and VEC data

The VEC projects the 10-19 year old population in Williamsburg to increase slightly between 2000 and 2010 (going from 2,542 to 2,780) before receding to 2,468 by 2020. A similar pattern is projected for 20-29 year olds, increasing to 5,033 in 2010 and then dropping to 4,455 in 2020. The VEC projections for 30-39 year olds are in line with the cohort survival pattern of 1990 to 2000.

Changes in young age groups can also reflect migration and birth patterns among permanent residents, further complicating an evaluation of the VEC projections. The 2005 population estimates by the Weldon Cooper Center indicate that the 10-14 year old population has increased by 28.4% above the 5-9 year old cohort from five years earlier, while the 15-19 year old population has been fairly stable. (See Table 18.) The VEC projections for 10-14 year olds for 2010 may be too low, but the impact on housing would not be felt until this population starts to form independent households during the 2010 to 2020 period.

Table 18: Five Year Survival Rates for Williamsburg City

Age at End of Period	Weldon Cooper 2000-2005	VEC 2005-2010
5-9	1.1285	0.3852
10-14	1.1820	0.5871
15-19	8.1308	7.1355
20-24	1.7490	1.6850
25-29	0.2128	0.2116
30-34	0.8448	0.7048
35-39	0.9025	0.6229
40-44	0.9738	0.7921
45-49	0.8746	0.9191
50-54	0.9908	1.2505
55-59	0.9859	1.1050
60-64	1.1158	0.9546
65-69	1.0724	1.0821
70-74	0.9406	1.0913
75-79	0.8872	1.1197
80-84	0.8282	1.2843
85+	0.4614	0.5236

Source: CHR calculations based on Weldon Cooper Center at UVa and VEC data

We do not recommend any adjustment to the VEC projections for the under 30 population, except for holding the young adult population (15-24) stable after 2010.

The VEC projections for cohorts between the ages of 40 and 69 indicate a sharp drop in survival rates between 2000 and 2010, followed by a rebound between 2010 and 2020. The projection for the 30-34 year population also appears to be low compared to the 2005 population estimates. Compared to the 2005 estimates, the VEC projections might be over-projecting 45-59 and 70+ year olds. We recommend an alternative projection that averages the 1990-2000 and 2000-2005 survival rates for these age groups. This average places higher weight on the more recent 2000-2005 trend. For 2010-2020, we reduce the adjusted survival rates by 75%.

The VEC and alternative (ALT) population projections for Williamsburg are presented in Table 19 for the age groups used in the housing demand model. For the age 15+ population in 2010 the alternative projection is only 301 people higher than the VEC projection, but the differences shift the age distribution away from the 65+ population to the 35-64 population. The projections diverge even more for 2020, with the alternative projection adding 1,790 people under the age of 55 and reducing the 55 and older population by 252.

Table 19: Population Projections by Age Category, Williamsburg City

2010

Age	VEC	ALT	ALT-VEC
15-24	6,770	6,770	0
25-34	1,352	1,352	0
35-44	702	1,103	401
45-54	963	952	-11
55-64	972	1,137	165
65-74	999	930	-69
75+	1,008	823	-185
Total 15+	12,766	13,067	301

2020

Age	VEC	ALT	ALT-VEC
15-24	5,757	6,770	1,013
25-34	1,515	1,515	0
35-44	799	1,304	505
45-54	818	1,090	272
55-64	1,147	1,087	-60
65-74	1,383	1,228	-155
75+	1,352	1,316	-36
Total 15+	12,771	14,309	1,538

Source: CHR calculations based on Census and VEC data

The projections for total households for Williamsburg using the VEC population series are 4,157 households by 2010 and 4,670 by 2020 (Table 20). The alternative projection is for 4,274 households by 2010 and 5,027 by 2020. Both projections indicate significantly more growth in housing demand in Williamsburg than the small increase of 149 households from 1990 to 2000. Under the lower projection, Williamsburg will grow by about 1,000 households between 2000 and 2020; the higher projection is for an increase of 1,400 households.

Table 20: Total Households by Year, Williamsburg City

	Census	VEC Pop	ALT
1990	3,468		
2000	3,617		
2010		4,157	4,276
2020		4,670	5,030
Change			
1990-2000	149		
2000-2010		540	659
2010-2020		513	754
% Change			
1990-2000	4.3%		
2000-2010		14.9%	18.2%
2010-2020		12.4%	17.6%

Source: CHR calculations based on Census and VEC data

The projections vary significantly in the age detail of household growth. The VEC based projections result in more households aged 55 and older and fewer between the ages of 35-54 by 2020. The small number of 35-44 year old householders under the VEC based projections (339 in 2010 and 386 in 2020) is difficult to explain as it implies a fairly high out-migration whereas the most recent population estimates indicates very little net out-migration for this age cohort. The alternative projection suggests a much more stable age structure without any significant disruptions in market segments.

The majority of housing units in Williamsburg are occupied by renters (56% in 2000), but this is heavily influenced by the bulge in the market associated with the college student population and possibly with younger workers in the tourism industry. Very few householders under 25 years of age were owners (4.6%) in 2000. A low rate of ownership for this age group is not unusual. But the ownership rate remains comparatively low in Williamsburg through to the 45 to 54 year old age category (Table 21).

Table 21: Ownership Rates by Age of Householder, Williamsburg City and James City County, 2000

	Williamsburg	James City County
15 to 24 years	4.6%	16.1%
25 to 34 years	12.1%	56.0%
35 to 44 years	28.1%	78.7%
45 to 54 years	46.3%	85.1%
55 to 64 years	75.2%	88.5%
65 to 74 years	75.9%	91.0%
75 and older	78.5%	65.6%
total	44.3%	77.0%

Source: US Census

For every age category except 75+, the ownership rate in Williamsburg is below the corresponding rate in James City County. These disparities narrow substantially above age 55 except for non-spousal families. The gap in ownership rates between the two locations only narrows to ten percentage points for the 65-74 year old age category. These gaps suggest impediments to home ownership in Williamsburg for married-couple families and for non-spousal families until much later in life. The higher ownership rates in Williamsburg for the population aged 55 and older could be associated with retirees moving into the community rather than any increase in opportunities for ownership for someone progressing into this age group locally.

The primary impediments to ownership are high cost and a fairly inelastic supply of housing. The stock of older single-family homes in most communities provides the best opportunities for affordable home ownership. The Williamsburg housing market, however, is highly unusual if not unique in that it is shaped both by college student demand for housing and the historic character of the Colonial Williamsburg area. Both of these factors can result in fewer units available for ownership by families in the age groups where ownership rates remain very low in Williamsburg. College student demand (as well as demand from young service workers in the tourism industry) can lead to conversion of older, single-family housing to rental units. At the same time, demand for owner-occupied housing near Colonial Williamsburg could push housing prices for these units beyond the means of many families.

The 2000 Census data indicate that a significant portion of the older, single-family housing stock in Williamsburg is renter-occupied: 42% of single family units built prior to 1980 were occupied by renters, whereas only 12% of the single-family units built between 1980 and March 2000 were renter-occupied.

Additionally, older single-family houses are subject to conversion into multiple units. While the Census data do not document this, a high proportion of residential structures with 2-4 units (70%) were built between 1960 and 1989. This is also a period when a higher proportion of the built residential stock was in structures with 5 or more units, so it is not clear if the expansion of the 2-4 unit stock was due to conversions of single-family units or in structures originally built as multi-family.

If Williamsburg followed the state's trend toward increased home ownership between 2000 and 2005, we project that the ownership rate will increase from 44.3% in 2000 to 47.0% in 2010 and 49.2% by 2020 under our alternative population projection. The VEC population projection results in an older population and thus higher ownership rates: 48.5% by 2010 and 51.5% by 2020. We project an increase between 400 and 470 owner households for both 2000-2010 and 2010-2020 (Table 22). We project an increase in rental demand between 124 and 253 occupied units from 2000 to 2010 and between 125 and 286 occupied units from 2010 to 2020. The higher demand projections are more consistent with recent demographic trends.

Table 22: Owner and Renter Households by Year, Williamsburg City

	Owner Households			Renter Households		
	Census	VEC Pop	ALT	Census	VEC Pop	ALT
1990	1,262			2,206		
2000	1,602			2,015		
2010		2,018	2,008		2,139	2,268
2020		2,407	2,476		2,264	2,554
Change						
1990-2000	26.9%			-8.7%		
2000-2010		26.0%	25.3%		6.2%	12.6%
2010-2020		19.3%	23.3%		5.8%	12.6%

Source: CHR calculations based on Census and VEC data

There were 745 residential building permits issued for Williamsburg from 2000 through 2006, averaging 106 units per year. This is more than sufficient to accommodate the higher projected demand—either indicating an even faster rate of growth, replacement of older units, higher vacancy or demand for second homes. The proportion of units built in multi-family structures is much higher in Williamsburg than in James City County (50% vs. 24%) and exceeds the share of growth projected for the rental market under the high growth projection (although condominiums account for a significant number of multi-family units).

The projected growth in housing demand under the high growth scenario points to growth in demand for all age groups (Table 23). But in comparison to the VEC-based projection, the high growth scenario points to significantly more growth for the under age 55 (516 more households than in the VEC projection) and 156 fewer households above this age by the year 2020.

Table 23: Households Projected by Age of Householder, Williamsburg City

	2000	2010		2020	
		VEC	ALT	VEC	ALT
15 to 24 years	537	634	634	539	634
25 to 34 years	565	660	660	740	740
35 to 44 years	467	339	532	386	629
45 to 54 years	625	629	622	534	712
55 to 64 years	517	598	700	706	669
65 to 74 years	434	608	565	841	747
75 and older	473	689	563	925	900
Total	3,617	4,157	4,276	4,670	5,030

Source: CHR calculations based on Census and VEC data

Demand for housing in Williamsburg is concentrated in the non-family category, which we project to increase to 2,519 households by 2020 (Table 24). Non-family households

are projected to go from 47% of the total to 50%. Although most of these households are younger, the fastest growing segment will be seniors living alone (increasing from 422 in 2000 to 773 households in 2020). Married-couple households are projected to go from a market share of 40% down to 38%.

Table 24: Households Projected by Type of Householder, Williamsburg City

	2000	2010		2020	
		VEC	ALT	VEC	ALT
Married Couple Families	1,550	1,550	1,602	1,803	1,906
Non-spousal Families	477	477	510	536	602
Non-families	1830	2,129	2,163	2,332	2,519
<65	1408	1,523	1,643	1,508	1,746
65+	422	607	520	823	773

Source: CHR calculations based on Census and VEC data

Projections of housing demand by income (in 1999 dollars), household type and age are presented in Table 25. Although households with incomes below \$25,000 (in 1999 dollars) constitute one-third of the housing market in Williamsburg, most of these are non-family households. Many of these lower income, non-family households are young people (42% of this household type is under the age of 35), either living alone or with roommates. A significant number of seniors (65+) are in this category.

Table 25: Households Projected by Household Income, Williamsburg City, ALT Projection

	<\$25,000	\$25,000-49,999	\$50,000-74,999	\$75,000-99,999	\$100,000+
2000					
Total	1237	1103	566	240	472
Married-couple	121	388	321	135	383
<35	42	70	69	23	16
35-54	25	129	114	47	154
55-64	7	80	42	31	99
65+	47	109	95	34	114
Non-spousal Families	147	147	69	17	58
<35	73	38	6	1	2
35-64	60	79	47	10	38
65+	14	30	16	6	18
Non-families	969	567	176	88	31
<65	766	474	86	61	21
65+	203	94	90	26	9

	<\$25,000	\$25,000-49,999	\$50,000-74,999	\$75,000-99,999	\$100,000+
2010					
Total	1455	1302	671	285	563
Married-couple	143	467	377	161	455
<35	49	83	81	27	19
35-54	27	140	119	49	158
55-64	9	108	57	42	135
65+	58	137	120	43	144
Non-spousal Families	169	167	82	21	72
<35	86	44	7	2	3
35-64	65	86	55	11	47
65+	18	38	20	8	22
Non-families	1144	668	212	104	36
<65	893	553	100	72	25
65+	250	116	112	32	11
2020					
Total	1695	1514	820	338	663
Married-couple	180	552	452	188	535
<35	54	90	89	30	21
35-54	31	163	138	56	183
55-64	8	103	54	40	129
65+	86	196	171	61	203
Non-spousal Families	194	202	96	26	85
<35	93	49	7	2	3
35-64	76	99	59	12	49
65+	25	55	30	12	33
Non-families	1322	759	272	124	43
<65	950	587	106	76	27
65+	372	172	166	48	17

Source: CHR calculations based on Census and VEC data

The table highlights age, type and income segments of 100 or more households with shading. The larger upper income (\$100,000+) segments are married-couple families aged 35 and over. The larger segments with incomes between \$25,000-\$49,999 and \$50,000-74,999 are married-couple families in the 35-54 and 65+ categories, as well as non-families either above or below age 65. These families could be prime candidates for first-time home buyer programs and for rental housing developed under the Low Income Housing Tax Credit program.

The larger lower income segments are non-family households (either below or above age 65). Lower income non-family households are seldom the target of housing assistance unless they are elderly. Between 2000 and 2020, the low and moderate income senior

non-family segment is projected to increase significantly. Housing costs, including utilities and taxes, can be particularly burdensome for low-income seniors. Area churches and civic organizations should be encouraged to help find effective ways to deal with the housing needs of the community's low-income senior population.

Non-spousal families under the age of 35 are most likely to have lower incomes. These families are probably the most in need of public assistance in obtaining adequate housing. The fairly small size of this market segment in Williamsburg should make it easier to target scarce public resources toward addressing problems of housing cost burdens or otherwise inadequate housing.

INCOME AND POVERTY

Household Income

Based on the 2000 Census, the median household income for James City County was \$55,594 and the median household income for the City of Williamsburg was \$37,093. Household income is the income figure generally reported and includes non-family households made up of single persons or non-related individuals. However, household income for both James City County and the City of Williamsburg is affected by the large number of households composed of students at the College of William and Mary who generally have low incomes. Single-person households and households consisting of unrelated persons make up non-family households who in 2000 had median income of \$30,907 in James City County and \$23,116 in Williamsburg, much lower than all households which include families. As is evident from the high concentrations of college age population, unrelated student households have a significantly greater impact on household incomes in the City than in James City County. Because of the student impact, a more accurate representation of income for both James City County and Williamsburg may be family income (see following section).

Table 26 shows the distribution of household income in 2000 for James City County and Williamsburg. About 44% of James City County households had income of less than \$50,000 compared to 64% of Williamsburg households. About one-fifth of households in James City County had household income of \$100,000 or more a year and about 13% of Williamsburg households had income above that level.

Table 26: Household Income, 1999

Household Income 1999	James City County		Williamsburg	
	Households	%	Households	%
Less than \$10,000	1,032	5.4%	394	10.9%
\$10,000 to \$19,999	1,642	8.6%	526	14.5%
\$20,000 to \$34,999	2,662	14.0%	780	21.6%
\$35,000 to \$49,999	2,976	15.6%	626	17.3%
\$50,000 to \$74,999	4,131	21.7%	570	15.8%
\$75,000 to \$99,999	2,686	14.1%	241	6.7%
\$100,000 to \$199,999	3,170	16.6%	388	10.7%
\$200,000 or more	750	3.9%	91	2.5%
Median	\$55,594		\$37,093	

Source: Census 2000

With no ACS data available for James City County and Williamsburg, we had to rely on income estimates for data beyond what was reported in the 2000 Census. The most recent data available is from the 2004 US Census Small Area Income and Poverty Estimates. James City County was estimated to have median household income of \$66,180 while the City of Williamsburg was estimated to have median household income of \$35,559 (see Table 27). The estimated 2004 median household income for Virginia, \$51,103, fell between that of James City County and Williamsburg.

While the 2004 median estimated household income for James City County was significantly higher than the 2000 Census median, the 2004 small area income estimate for Williamsburg was less than median household income reported in the 2000 Census. Although there is uncertainty about the accuracy of any estimate, if median income based on all households in Williamsburg decreased between 2000 and 2004, this would mean an increase in households at the bottom of the income ladder.

Table 27: Estimated Median Household Income, 2004

Area	Median Household Income 2004
James City County	\$ 66,180
Williamsburg	\$ 35,559

Source: US Census Small Area Income and Poverty Estimates

Adjusted Gross Income

For more solid evidence of income decline or growth, we examined median adjusted gross income for married couples as reported on state tax records. It is important to note that income based on Virginia State income tax returns of married couples only reflects the income of married couples and not the income of single filers or those who do not earn enough income to file a tax return. So while the married couple median adjusted gross income based on tax returns is sometimes used as a surrogate for median family income, it cannot be compared directly to Census median family income which includes all families. However, income data from tax returns can provide some information on the increases or decreases in income over time. Table 28 shows for James City County, Williamsburg, and the Virginia Beach MSA the median adjusted gross income for 1999 (corresponds with the 2000 Census) and 2004 (the most recent available) for married couple filers. James City County had an increase in median adjusted gross income from 1999 to 2004 but at a level below that of the MSA and state (11.1% compared to 18.1% and 15.6% respectively). Williamsburg's 16% increase between 1999 and 2004 was 2% less than the MSA's rate but outpaced the state by a small margin (.4%).

Table 28: Median Adjusted Gross Income, Married Couple Filers by Year

Area	Median Adjusted Gross Income 1999	Median Adjusted Gross Income 2004	Percent Change
James City County	\$ 61,315	\$ 68,116	11.1%
Williamsburg	\$ 50,274	\$ 58,310	16.0%
MSA	\$ 48,928	\$ 57,770	18.1%
Virginia	\$ 53,745	\$ 62,109	15.6%

Source: Weldon Cooper Center (based on Virginia state tax records) and Center for Housing Research

Dollars not adjusted for inflation.

The state tax records for married couple filers show that median income increased between 1999 and 2004 for James City County agreeing with median household income Census trend data. However, the data for Williamsburg are conflicting. While the Census estimated that Williamsburg’s median household income decreased from 1999 to 2004, the state tax records for married couple filers (more reflective of family income) showed median income increased. Otherwise, when single filers and those with too little income to file a tax return were not included, incomes rose in Williamsburg between 1999 and 2004. In a college town, examining income trends based on median adjusted gross income of married couple tax filers is probably more accurate.

Family Income

As mentioned in the prior section on household income, median family income by definition excludes non-family households which consist of single person households or households with unrelated members, therefore making median family income a more accurate income figure for areas impacted by significant student populations. The 2000 Census median family income for James City County was \$66,171 and the median family income for the City of Williamsburg was \$52,358 (\$54,169 in Virginia). While median family incomes are almost always higher than median household incomes, relative to James City County, Williamsburg’s median family income was markedly higher than its median household income indicating greater student impact in Williamsburg. Table 29 shows the distribution of family income in 2000 for James City County and the City of Williamsburg. Just over one third of families in James City County had income of less than \$50,000 while nearly half of families in Williamsburg had income of less than \$50,000. About one quarter of families in both jurisdictions had annual income greater than \$100,000. Families were more likely to have incomes of \$100,000 or more than were households (26% of families compared to 21% of households in James City County and 24% of families compared to 13% of households in Williamsburg).

Table 29: Family Income, 1999

Family Income 1999	James City County		Williamsburg	
	Households	%	Households	%
Less than \$10,000	398	2.8%	85	4.7%
\$10,000 to \$19,999	780	5.6%	110	6.0%
\$20,000 to \$34,999	1461	10.4%	299	16.4%
\$35,000 to \$49,999	2230	15.9%	342	18.8%
\$50,000 to \$74,999	3238	23.1%	379	20.8%
\$75,000 to \$99,999	2319	16.6%	165	9.1%
\$100,000 to \$199,999	2906	20.8%	350	19.2%
\$200,000 or more	663	4.7%	91	5.0%
Median	\$66,171		\$52,528	

Source: Census 2000

HUD Area Median Family Income

The U.S. Department of Housing and Urban Development (HUD) has its own estimates for median family income⁸. The 2007 HUD area median family income (AMFI) estimate for James City County and the City of Williamsburg (both based on the Virginia Beach MSA) is \$64,100. The HUD AMFI is the income estimate used for programs such as Section 8 housing vouchers and the Low Income Tax Credit program. A family is considered low-income if the family income is between 50% and 80% of the HUD AMFI, very low-income if the family income is 30% to 50% AMFI, and extremely low-income if the family income is less than 30% AMFI (for a family of four in James City County or Williamsburg, about \$19,250 in 2007).

Poverty

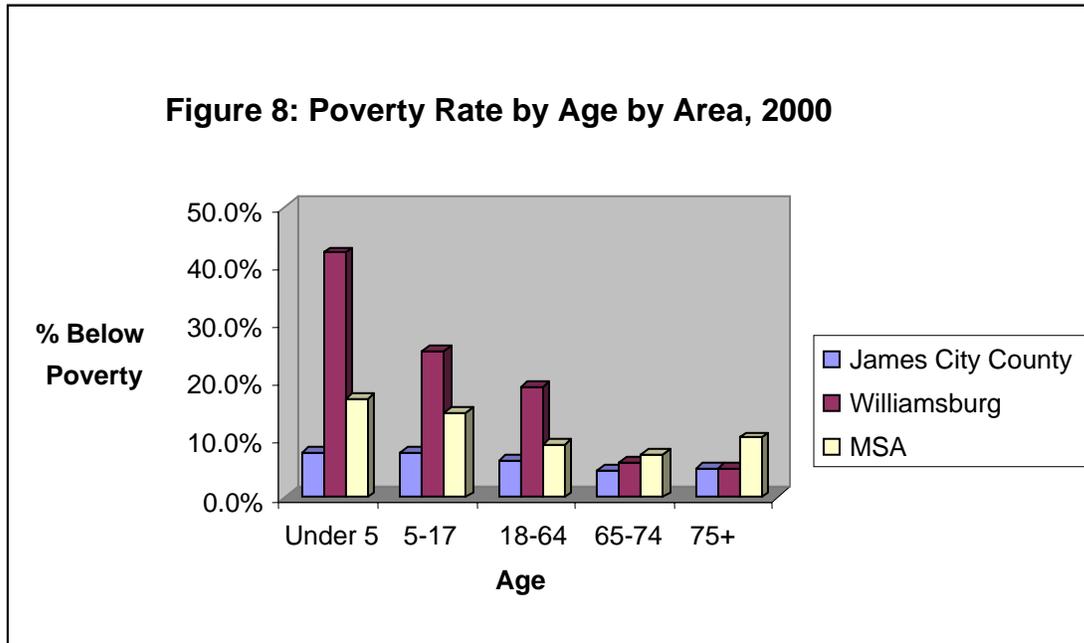
Based on the 2000 Census, the poverty rate for James City County was 6.4%, almost the same as the 1990 rate of 6.3%. The estimated poverty rate in 2004 (most recent available) based on the US Census Small Area Income and Poverty Estimates was 6.6% for James City County. Williamsburg's poverty rate increased from 16.2% in 1990 to 18.3% in 2000. The estimated poverty rate in 2004 based on the US Census Small Area Income and Poverty Estimates was 17.3% for the City of Williamsburg. As mentioned earlier, estimates must be viewed with caution. The estimates indicate poverty went up slightly in James City County and declined slightly in the City of Williamsburg between 2000 and 2004.

The 2000 poverty rate for James City County was below the poverty rate for the MSA (10.6%) and the state (9.6%) while the 2000 poverty rate for Williamsburg was notably higher than the MSA and state rates. While data are not available for the individual jurisdictions, based on the 2006 American Community Survey (ACS), the 2006 poverty rate for the MSA dropped slightly relative to 2000 at 9.7%. [Note: When comparing decennial census data to that of the ACS, one should use caution. The ACS was based on population for whom poverty was determined over the past 12 months, whereas the decennial Census was based on population for whom poverty was determined in 1999 (or over the past year which is different from over the past 12 months).]

The poverty rate is dependent upon age (see Figure 8). The poverty rates in 2000 for Williamsburg decreased with age. The poverty rates for the MSA in 2000 tended to drop as age increased except for a slight increase in the 75+ age group compared to the 65-74 age group. Departing from a more normal distribution, James City County had fairly stable poverty rates across age groups with only slightly higher rates for the two youngest age groups. The age group mostly responsible for the relatively high overall 2000 poverty rate in Williamsburg was the under 5 age group which had a poverty rate of 42.1% (136 out of 323 children under the age of 5 for whom poverty status was determined were below poverty). James City County, on the other hand, had a poverty rate of 7.8% for this

⁸ The HUD median family income estimate is based on the 2000 Census and updated using county-level Bureau of Labor Statistics earnings data, the Census Current Population P-60 data, and state-level data from the ACS.

youngest age group. Both jurisdictions had relatively low poverty rates for the elderly (65+) with a rate of 4.8% for James City County and a rate of 5.5% for Williamsburg.



Source: Census 2000

Data were not available for poverty rate broken down by tenure (owners and renters) for James City County and Williamsburg. However, looking at the MSA based on ACS 2006, the relationship between tenure and poverty is clear as shown in Table 30. Families who rented their home as compared to families who owned were much more likely to be living below the poverty level (18.3% of renter families were below poverty while 2.9% of owner families were below poverty). Considering the large portion of renters in Williamsburg, we can assume the impact was more significant than at the MSA level.

Table 30: Poverty Rate by Tenure for the MSA, 2006

Tenure	MSA
All Families	7.4%
Owner Families	2.9%
Renter Families	18.3%

Source: Census ACS 2006

Affordable Housing Gap

To estimate the deficit/surplus of the housing units that are affordable to certain household income groups both for renter and owner-occupied households, we performed an affordable housing gap analysis. A housing unit is generally considered affordable if the household occupying that unit spends less than 30% of their household income to live in that unit. The 2000 Census Comprehensive Housing Affordability Strategy (CHAS) provides special tabulations as a source for estimating the affordability gap. Using the special tabulations, we focused on three household income groups: extremely low-income (household income < 30% of median family income), very low-income (household income \geq 30% and < 50% of median family income), and low-income (household income \geq 50% and < 80% of median family income). While extremely low-income renters typically face the most severe shortage of affordable housing, availability of affordable housing is not limited to this lowest income group.

James City County, Affordability Gap

Based strictly on the counts of renters and rental units as estimated by the 2000 CHAS data, James City County had a deficit of eight rental units affordable to the extremely low-income renters (households with income less than 30% of the area median family income of \$48,000 in 1999). However, to more accurately estimate the units available, the housing gap analysis takes into consideration higher-income households occupying housing units affordable to households in a lower income group. Higher-income households occupied over 70% of the units affordable to the <30% AMFI renter households and occupied over 60% of affordable units for the very low-income households.

Consequently, as seen in Table 31, when adjusting for higher income renters living in the units affordable to the < 30% AMFI households, a much greater housing gap emerged. We estimated that 392 renters or nearly 60% of renters in the extremely low-income category lacked affordable rental units as well as nearly half of the very low-income renters. Nearly 20% of low-income renters (earning less than 80% AMFI) faced an affordable housing gap. Overall, about 35% of James City County's lowest income renters were forced to spend a larger portion of their income for housing than the less than 30% threshold indicated by the U.S. Department of Housing and Urban Development (HUD) as a nominal measure for housing affordability.

Table 31: Affordable Rental Housing Gap, James City County

Household Income	Renter Households	Total Units (Occupied + Vacant for Rent)	Surplus /Deficit Units	Units Occupied by Households within Income Limits	% Units Occupied by Households above Income Limits	Housing Gap (Renters Lacking Affordable Units*)	Housing Gap (% Renters Lacking Affordable Units)
<30% AMFI (Extremely low)	657	544+105=649	-8	160	70.6%	392	59.7%
<50% AMFI (Very low)	1,356	1,299+189=1488	132	510	60.7%	657	48.4%
<80% AMFI (Low)	2,204	3,124+289=3413	1209	1481	52.6%	434	19.7%

Source: U.S. Census 2000 CHAS and Center for Housing Research

*Affordable housing units are defined as those costing less than 30% of household income derived by subtracting units occupied by households within income limits from the total occupied units and then adding deficit units or subtracting surplus units.

Low-income homeowners in James City County were affected to a greater extent by an affordable housing gap than were renters (see Table 32). [Note: The extremely low-income owners and very low-income owners were collapsed into one category referred to as very low-income.] The very low-income owners (household income <50% AMFI) had a surplus of 207 affordable units before taking into account higher-income owners living in those units. However, after adjusting for higher-income owners who occupied nearly three quarters of the units affordable to this very low-income group, there was a deficit of affordable units. The housing gap for owners with incomes <50% AMFI was 774 units or nearly two-thirds of very low-income owners lacked affordable housing. For owners with incomes <80% AMFI there was a surplus of 2,478 affordable units based on stock alone. However, when taking into account that 3,652 or over 70% of affordable units were occupied by owners with higher incomes, the housing gap for low-income owners was 1,174 meaning 44% of low-income owners lacked affordable housing. Overall, about 50% of James City County’s lowest income owners were forced to spend more than 30% of their income on housing.

Table 32: Affordable Ownership Housing Gap, James City County

Household Income	Owner Households	Total Units (Occupied + Vacant for Sale)	Surplus/ Deficit Units	Units Occupied by Households within Income Limits	% Units Occupied by Households above Income Limits	Housing Gap (Owners Lacking Affordable Units*)	Housing Gap (% Owners Lacking Affordable Units)
<50% AMFI (Very Low)	1,228	1,395+40=1,435	207	414	70.3%	774	63.0%
<80% AMFI (Low)	2,662	5,055+85=5,140	2,478	1403	72.3%	1,174	44.1%

Source: U.S. Census 2000 CHAS and Center for Housing Research

*Affordable housing units are defined as those costing less than 30% of household income derived by subtracting units occupied by households within income limits from the total occupied units and then adding deficit units or subtracting surplus units..

In James City County, about 12% of very low-income (incomes below 50% of AMFI) renters were elderly and a fifth of the very low-income owners were elderly. Elderly very low-income renters and their younger counterparts were comparable in that about three quarters of both groups fit the definition of having a housing problem (pay greater than 30% of income for housing, are overcrowded with over 1.01 persons per room, and/or do not have complete bathroom or kitchen facilities). However, very low-income elderly owners had a slightly higher incidence of housing problems than did non-elderly owner households (74% compared to 69%). High housing cost is the dominant component that identifies a household as having a housing problem. The affordable housing gap forces low-income owners and renters to pay excessively high portions of their income for their housing. Often the very low-income renters are competing with higher income renters for the same unit. Although most homeowners have fixed payments for principal and interest, their property tax, utilities and insurance costs escalate over time and usually at a much greater rate than their income, especially for elderly homeowners.

Based on this gap analysis, James City County would need subsidies for 1,049 very low-income renters and 774 very low-income owners in order to overcome its affordable housing deficit for these income groups. The County is challenged by limited funding for the Low Income Housing Tax Credit program and a waiting list for Section 8 vouchers. While providing elderly tax credit apartment units for low and moderate income senior

citizens would help reduce the deficit, it falls short of meeting the need of assistance especially since the non-elderly make up the majority of the very low-income renters.

City of Williamsburg, Affordability Gap

Based strictly on the counts of renters and rental units as estimated by the 2000 CHAS data, the City of Williamsburg had a deficit of 269 rental units affordable to the extremely low-income renters (households with income less than 30% of the area median family income of \$48,000 in 1999). However, to more accurately estimate the units available, the housing gap analysis takes into consideration higher-income households occupying housing units affordable to households in a lower income group. Higher-income households occupied over 45% of the units affordable to the <30% AMFI renter households and occupied over half of affordable units for the very low-income households.

Consequently, as seen in Table 33, when adjusting for higher income renters living in the units affordable to the < 30% AMFI households, a much greater housing gap emerged. We estimated that 348 renters or nearly 80% of renters in the extremely low-income category lacked affordable rental units as well as over two thirds of the very low-income renters. Low-income renters fared better with only 10% of renters earning less than 80% AMFI impacted by an affordable housing gap. Overall, about 41% of Williamsburg's lowest income renters were forced to spend a larger portion of their income for housing than the less than 30% threshold indicated by the U.S. Department of Housing and Urban Development (HUD) as a nominal measure for housing affordability.

The gap analysis for Williamsburg, however, needs to be viewed with reserve. Because college students account for about 18 to 24% of renters in Williamsburg, the percent renters lacking affordable units is probably exaggerated in this gap analysis. Student incomes are included in the CHAS data set which uses household income as a percent of Area Median Family income to determine income categories. Therefore it is likely that student renters were substantially represented in the low to extremely-low income household income categories (most likely the <30% AMFI category). Since student renters often have outside resources for paying rent, it can be argued that "true" low-income renters were over-estimated in the CHAS data set.

Table 33: Affordable Rental Housing Gap, Williamsburg

Household Income	Renter Households	Total Units (Occupied + Vacant for Rent)	Surplus /Deficit Units	Units Occupied by Households within Income Limits	% Units Occupied by Households above Income Limits	Housing Gap (Renters Lacking Affordable Units*)	Housing Gap (% Renters Lacking Affordable Units)
<30% AMFI (Extremely Low)	442	79+94=173	-269	90	46.7%	348	78.7%
<50% AMFI (Very Low)	701	273+243=516	-185	220	55.4%	458	65.3%
<80% AMFI (Low)	1,101	873+988=1,861	760	935	48.3%	113	10.2%

Source: U.S. Census 2000 CHAS and Center for Housing Research

*Affordable housing units are defined as those costing less than 30% of household income derived by subtracting units occupied by households within income limits from the total occupied units and then adding deficit units or subtracting surplus units.

Low-income homeowners in the City of Williamsburg were affected to greater extent by an affordable housing gap than were renters (see Table 34). [Note: The extremely low-income owners and very low-income owners were collapsed into one category referred to as very low-income.] The very low-income owners (household income <50% AMFI) had a deficit of affordable units even before taking into account higher-income owners living in those units. However, after adjusting for higher-income owners who occupied about 68% of the units affordable to this very low-income group, the deficit of affordable units grew to 98 affecting three fourths of very low-income owners. With two thirds of units affordable to the low-income owners occupied by higher income households, over 40% of owners with incomes <80% AMFI lacked affordable housing. Overall, half of Williamsburg’s lowest income owners were forced to spend more than 30% of their income for housing.

Table 34: Affordable Ownership Housing Gap, Williamsburg

Household Income	Owner Households	Total Units (Occupied + Vacant for Sale)	Surplus/ Deficit Units	Units Occupied by Households within Income Limits	% Units Occupied by Households above Income Limits	Housing Gap (Owners Lacking Affordable Units*)	Housing Gap (% Owners Lacking Affordable Units)
<50% AMFI (Very Low)	132	104+0=104	-28	34	67.3%	98	74.2%
<80% AMFI (Low)	336	536+4=540	204	196	63.4%	136	40.5%

Source: U.S. Census 2000 CHAS and Center for Housing Research

*Affordable housing units are defined as those costing less than 30% of household income derived by subtracting units occupied by households within income limits from the total occupied units and then adding deficit units or subtracting surplus units.

In Williamsburg, only 10% of very low-income (incomes below 50% of AMFI) renters were elderly while 80% of the very low-income owners were elderly. The non-elderly very low-income renters had far greater incidence of housing problems (defined as households who pay greater than 30% of income for housing, are overcrowded with over 1.01 persons per room, and/or do not have complete bathroom or kitchen facilities) than elderly very low-income renters (87% of non-elderly compared to 57% of elderly very low-income renters). Over half of the very low-income elderly owners had a housing problem. Of the 26 very low-income non-elderly owners reported in the CHAS tabulations, only 15% had a housing problem. High housing cost is the dominant component that identifies a household as having a housing problem. Student renters in Williamsburg most likely skew the incidence of housing problems among non-elderly renters. Regardless, the affordable housing gap forces low-income renters and owners to pay excessively high portions of their income for their housing. Often the very low-income renters are competing with higher income renters, or in the case of Williamsburg, students with outside family support for the same unit. Although most homeowners have fixed payments for principal and interest, their property tax, utilities and insurance costs escalate over time and usually at a much greater rate than their income, especially for elderly homeowners.

Based on this gap analysis, the City of Williamsburg would need subsidies for 806 very low-income renters and 234 very low-income owners in order to overcome its affordable

housing deficit for these income groups. The impact of student renters makes finding affordable rental units for local very low-income residents more challenging than in markets lacking student influence. There are currently 104 subsidized rental units in the City. The WRHA operates three subsidized apartment complexes on Mimosa Drive (14 units), Highland Park (29 units) and New Hope Road (38 units). In addition, the WRHA operates the Blayton Building, a 38 unit elderly housing apartment complex on Scotland Street. While the elderly are only a small portion of renters facing an affordability gap, providing additional elderly tax credit apartment units for low and moderate income senior citizens would help reduce the deficit. There is a potential to add 20 units of subsidized elderly housing on the Blayton Building property on Scotland Street.

EMPLOYMENT AND HOUSING

Commuting Patterns

James City County

Commuting patterns reveal the interrelationship between jobs and homes. According to the 2000 Census, nearly half (9,337) of James City County's 20,152⁹ total workers lived and worked in James City County while the remainder lived in a range of jurisdictions outside the county and commuted into work. Table 28 contains the number of in-commuters (workers who lived outside of James City County but commuted to a job located in James City County) and out-commuters (workers who lived inside James City County but commuted to a job located in another jurisdiction). In 2000, James City County had more people commute out of the county for work (12,534 workers) than travel into the county for jobs (10,815 persons) creating a net loss of 1,719 workers.

Table 35 lists the jurisdictions with the highest number of in-commuters (500 or more) to James City County. Nearly all of James City County's in-commuters came from nearby jurisdictions. Newport News had the largest number of in-commuters (32%) followed by York County (18%).

Table 35 also lists jurisdictions with out-commuters from James City County (only shows jurisdictions associated with the top in-commuter jurisdictions but all the top out-commuter jurisdictions are shown) along with the net number of commuters. In 2000, the City of Williamsburg was the destination for the largest number of out-commuters from James City County with 4,499 persons or over one third of out-commuters. Additional out-commuters from James City County went to Newport News and York County for work (20% and 17%, respectively).

**Table 35: Commuting Into and Out of James City County, 2000
(Jurisdictions with 500 or more In-Commuters)**

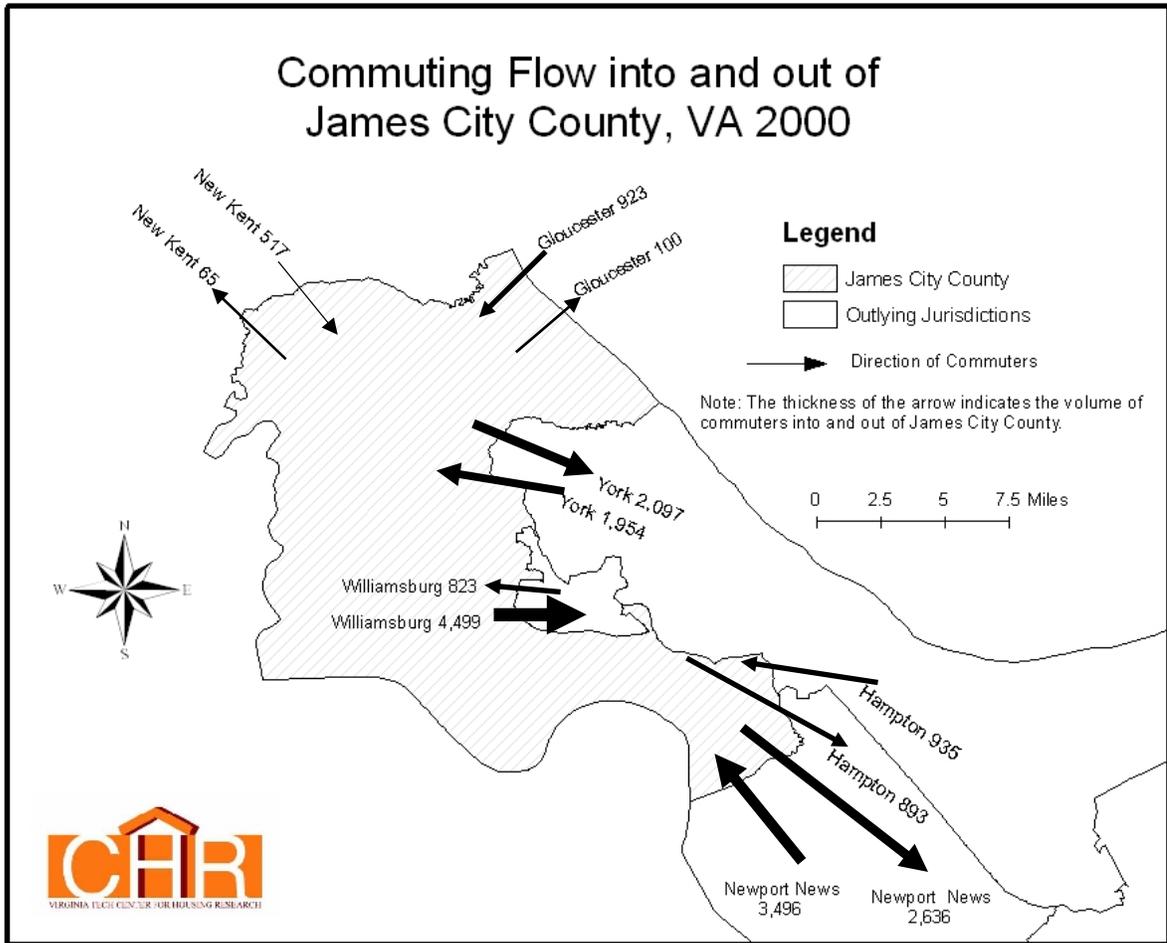
Jurisdictions	In Commuters	Out Commuters	Net Commuters
Newport News, VA	3,496	2,536	960
York County, VA	1,954	2,097	-143
Hampton, VA	935	893	42
Gloucester, VA	923	100	823
Williamsburg, VA	823	4,499	-3,676
New Kent County, VA	517	65	452
Total- includes all jurisdictions with commuters	10,815	12,534	-1,719

Source: US Census 2000 and Center for Housing Research

⁹ Source: US Census special tabulation county-to-county worker flow file. Foreign jurisdictions were eliminated from the counts.

Map 1 shows the flow of commuters into and out of James City County in 2000. The map makes clear two commuting patterns in James City County. The first pattern is the exchange of workers that occurred in 2000 between James City County and York County, Newport News, and Hampton. While the exchange of in and out-commuters was not equal, the economic interdependence between these jurisdictions in 2000 is clear. The second pattern apparent from the map was the heavy out flow of workers from James City County to Williamsburg in 2000. Of Williamsburg's 13,738 total workers in 2000, in-commuters from James City County accounted for 33%.

Map 1: Commuting Flow Into and Out of James City County, VA, 2000



Williamsburg

In 2000, Williamsburg had 13,738¹⁰ total workers, either persons living and working in the City or persons commuting in to take advantage of the many jobs available in the City. The City of Williamsburg had more people commute in for work (11,526 workers) than people commute out to work (2,021) resulting in a net gain of 9,505 workers.

Of the total workers, only 2,212 or 16% lived and worked in Williamsburg. Nearly all (99%) in-commuters to Williamsburg traveled 20 miles or less to work. Table 36 lists the jurisdictions with the highest number of in-commuters (500 or more) to Williamsburg. Williamsburg received the largest number of workers from neighboring James City County (4,499 workers or 40% of all in-commuters) followed by Newport News (21%) and York County (15%).

Williamsburg provided few out-commuters to neighboring jurisdictions. Table 36 also lists jurisdictions with out-commuters from Williamsburg (only shows jurisdictions associated with the top in-commuter jurisdictions but all the top out-commuter jurisdictions are shown) along with the net number of commuters. Only three jurisdictions received over 300 workers from Williamsburg. The largest number of out-commuters (823 or 41%) worked in James City County.

**Table 36: Commuting Into and Out of Williamsburg, 2000
(Jurisdictions with 500 or more In-Commuters)**

Jurisdictions	In Commuters	Out Commuters	Net Commuters
James City County, VA	4,499	823	3,676
Newport News, VA	2,393	314	2,079
York County, VA	1,672	324	1,348
Hampton, VA	620	164	456
Gloucester County, VA	554	38	516
Total- includes all jurisdictions with commuters	11,526	2,021	9,505

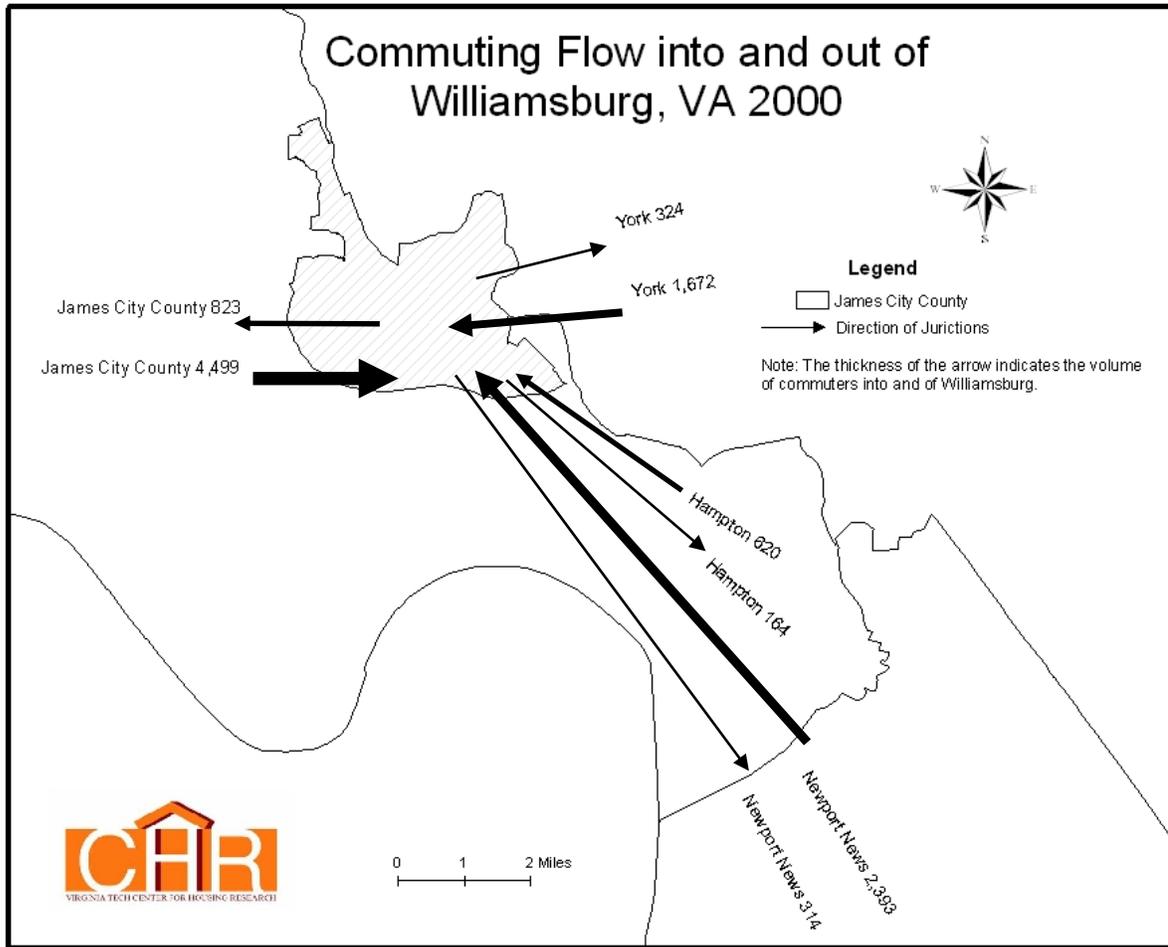
Source: US Census 2000 and Center for Housing Research

Map 2 shows the commuting flow in and out of Williamsburg in 2000. The relatively small number of jurisdictions receiving in-commuters from Williamsburg or providing out-commuting workers to the City was concentrated immediately surrounding Williamsburg continuing down the I-64 South corridor.

¹⁰ Source: US Census special tabulation county-to-county worker flow file. Foreign jurisdictions were eliminated from the counts.

The most notable pattern the map shows is the imbalance between in-commuters and out-commuters. The thick arrows pointing into Williamsburg from James City County, Newport News and York County emphasize the inflow of workers to the City from the neighboring jurisdictions. There are several reasons for the larger inflow of workers to Williamsburg represented by this map. The City's tourism industry creates many jobs and drives other factors that position Williamsburg as the economic leader in the region. However, Williamsburg's high housing costs and tight rental market force workers to live outside the city and commute to work. The small geographic area of the City compared with the surrounding jurisdictions results in a proportionally much more limited supply of housing units and the creation of affordable housing opportunities. It would not be possible for Williamsburg to house most or all of its workers with the City boundaries.

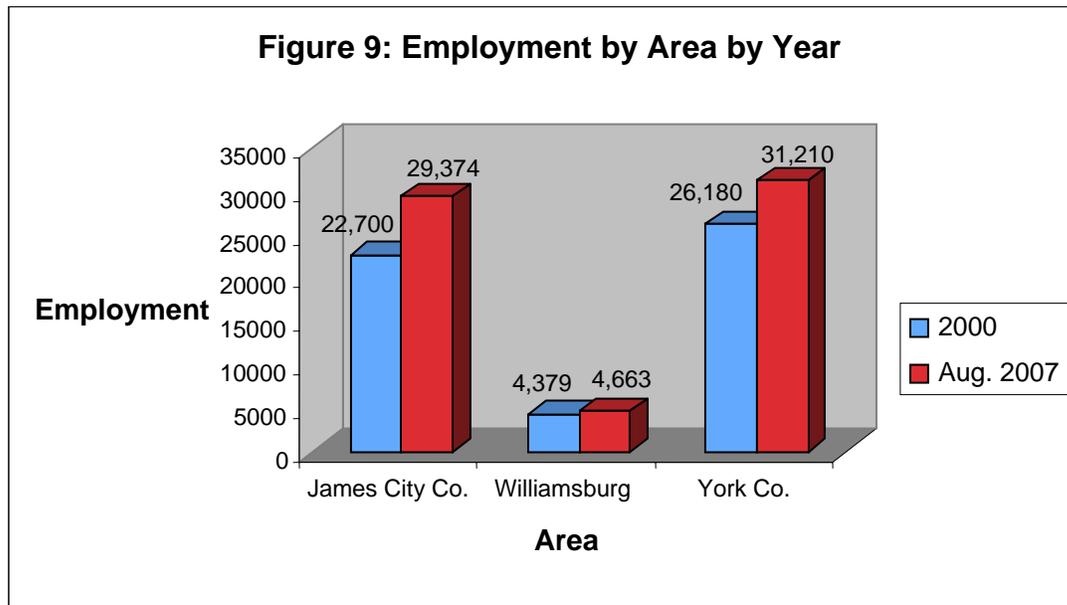
Map 2: Commuting Flow Into and Out of Williamsburg, VA, 2000



Employment

Economic Indicators, Historical Triangle

According to the Virginia Employment Commission (VEC) as of August 2007 there were 65,247 civilian employees in the Historic Triangle (includes York County as well as James City County and the City of Williamsburg). As shown in Figure 9, employment has grown in all three areas since 2000 with the largest growth occurring in James City County (increased by 29% or an average annual increase of approximately 4.2%). The City of Williamsburg experienced only small growth in employment between 2000 and August 2007 (increased by 7% or an average annual increase of approximately .9%). In comparison, employment in the state grew an average 1.8% a year between 2000 and 2007. Employment growth in the Historic Triangle area is part of a consistent trend. Employment in the area has been growing over the past ten years according to a 2007 report *Assessing the Future Labor Market in the Greater Williamsburg Area* prepared by Chmura Economics&Analytics (hereafter referred to as Chmura) for the Greater Williamsburg Chamber & Tourism Alliance.



Source: Virginia Employment Commission

Employment growth is expected to continue in the Historic Triangle area. Based on a survey of businesses conducted by Chmura, there is an anticipated growth of 3.1% in existing businesses in the area over the next 10 years equating to 20,000 additional jobs. New developments will add another 27,000 jobs. The result is an anticipated doubling of the workforce in the next ten years. While employment in the triangle area is heavily dependent upon the hospitality or tourism industry, the Chmura report states that there is a shift toward more services and transportation and warehousing jobs. According to the Chmura report, the percentage of employment from the hospitality sector decreased by 4% over the past decade (from 31% of total employment to 28% of total employment). This trend has significant implications since service jobs are more permanent and pay better wages than do jobs in the hospitality industry.

Growth in jobs is generally accompanied by low unemployment. The unemployment rate is a vital indicator of the economic health of an area. As of August 2007, the unemployment rate for the Historical Triangle area was 2.7% down from 3.4% in 2002. In comparison the unemployment rate for Virginia was 3.1% in August 2007, down from 4.2% in 2002. The relatively low unemployment rate of the Historical Triangle area shows that its economy is strong. For the most part, residents who want jobs are working even though those jobs may be low wage positions.

James City County had the lowest unemployment rate (2.4%) of the three jurisdictions as of August 2007 and York County was a close second with an unemployment rate of 2.5%. James City County's unemployment rate has been remarkably stable since the mid-1990s ranging from a low of 1.9% in 1999 to a high of 3.2% in 2002. Since 2002, the unemployment rate in James City County has dropped slowly, but steadily to its current rate.

Williamsburg was the outlier with an unemployment rate of 5.6% in August 2007, much higher than that of its surrounding jurisdictions and the state. Williamsburg unemployment rates are generally higher due to the dominance of the hospitality sector, an industry known for part time jobs and high turnover. The August unemployment rate in Williamsburg was lower than the annual unemployment rate (5.8% in 2006) as were the rates in the months of the first quarter of the year due to greater demand or need for workers on the part of employers during the summer months.

Employers

With the focus of this report James City County and the City of Williamsburg, we looked at the largest employers in these two jurisdictions. It is important to note, however, that York County is very similar to James City County in its composition of employers with a large number from the government and retail trade industries. Jurisdictions such as Newport News to the east of James City County and Williamsburg have substantial numbers of employers from the manufacturing sector, a rather weak industry component in both James City County and Williamsburg. The manufacturing industry traditionally offers better wages than the government, education, retail trade, and accommodation and food services industries that dominate in James City County and Williamsburg.

The top employers of an area, as measured by the number of employees, significantly impact the region's economy. The types of positions these employers offer and the pay associated with those positions largely determines the level of household spending and housing consumption of their employees. According to the VEC there were seven employers in James City County as of the 4th Quarter 2006 with 500 or more employees (Table 37). The largest employer and the only employer with over one thousand employees was the Williamsburg James City County School Board. The School Board provides a workplace that is stable and offers a variety of jobs. However, as an educational industry, wages are moderate to low. Three of the seven largest employers cater to hospitality and tourism (Water Country USA, Busch Properties, and Anheuser Busch, Inc.). A large number of their employees are seasonal or part time workers. Consequently wages are generally low and turnover rates are

high. Noticeably missing from the top seven employer list is a manufacturer and the associated relatively high wages.

Table 37: Employers in James City County with Over 500 Employees in 2006 (4th Quarter)

Williamsburg James City County School Board
Eastern State Hospital
Water Country USA
County of James City
Busch Properties
Anheuser Busch, Inc.
Wal Mart

Source: VEC

According to the VEC there were five* employers in the City of Williamsburg as of the 4th Quarter 2006 with 500 or more employees (Table 38). Three, the College of William and Mary, Colonial Williamsburg Foundation, and Colonial Williamsburg Hotel had over one thousand employees. Sentara Healthcare and Aramark Campus, which provides food service to the College, both employed over 500 people. The largest employer, the College of William and Mary provides a variety of jobs with a broadly ranging pay scale. However, it is a state institution with most positions in the moderate to low paying range. Two of the largest employers (Colonial Williamsburg Hotel and Aramark) fall within the accommodation and food services industry sector which typically is marked by seasonal fluctuation in employment, part time positions, high turnover, and low compensation rates.

Table 38: Employers in Williamsburg with Over 500 Employees in 2006 (4th Quarter)

College of William and Mary
Colonial Williamsburg Foundation
Colonial Williamsburg Hotel
Sentara Healthcare*
Aramark Campus

Source: VEC

*Sentara Healthcare has since moved to a new location in York County

As the top employer in Williamsburg, the College of William and Mary provided over 3,240 full and part time jobs in 2006 and over 60% of those jobs were full time. In addition, 18% of these jobs were full-time instructional positions likely garnering higher salaries than full-time staff positions.

Wages

The 2006 average weekly wage in James City County was \$607 according to the Bureau of Labor Statistics Quarterly Census of Employment and Wages (BLS). The 2006 average weekly wage in the City of Williamsburg was \$583. The average weekly wage would be equivalent to an annual average wage of \$31,569 a year in James City County and \$30,318 a year in Williamsburg. In comparison, the annual average wage for the state was \$44,051 in 2006. While the state experienced a 4.2% increase in wages from 2005 to 2006, the annual average wage in James City County increased by 6.1% over the same time period. Williamsburg, however, did not keep pace with the state or James City County. The annual average wage in Williamsburg increased 2.3% from 2005 to 2006.

Based on the affordability threshold of less than 30% of household income, a single-earner household in James City County would be able to afford housing expenses of about \$789 per month and a single-earner household in Williamsburg would be able to afford housing expenses of about \$758. Using the estimated \$1,077 average rent derived from our research of two-bedroom rental properties available in September 2007 for the James City County/Williamsburg area (described in detail in the section Rental Housing), there is a mismatch between rental costs and wages for the average worker with no additional income.

A single-earner making the average wage without an additional income source would have a difficult time becoming a first-time homeowner. An annual wage in 2006 of \$31,569 in James City County or \$30,318 in Williamsburg would support a mortgage payment of \$581 and \$568 respectively plus approximately \$208 in James City County and \$190 in Williamsburg for additional monthly homeowner costs including mortgage insurance, taxes, and homeowner insurance (according to the calculations used to determine affordability for workforce occupations described in detail in the section Workforce Housing). For a James City County worker this translates into being able to afford a house costing \$91,524 and for a City of Williamsburg worker, a house costing \$89,502.

Interdependence of Employment, Wages, and Housing

There are many factors that drive the decision of where to live and where to work. Income, for most households, is dependent on salary and wages from employment. Since a household's income dictates what type of housing they can afford, cost of housing is a key factor in where that household lives. If the cost of housing in a community is too high for the types of jobs available, then residents are forced to commute out to jobs with better pay or must move to an area where housing is more affordable and commute in. More than ever, the cost of commuting for individuals and communities is significant, involving time and money not to mention the impact on the environment both from fuel consumption and emission of greenhouse gases. In addition, attracting new residents to a community is extremely difficult when the available jobs do not support the cost of housing. Most communities hope to offer their residents good choices for housing and at the same time offer good choices for employment.

James City County is well-balanced in regard to where its workers live. About half of those working in James City County lived there with the other half commuting in according to the 2000 Census. At the same time, roughly the same number of James City County residents commuted out to work in other jurisdictions as the number of workers who commuted in (see Commuting Pattern section). Williamsburg, in contrast, has many more jobs than can be filled by local residents. In 2000, there were about the same number of workers who both lived and worked in Williamsburg as workers who commuted out to other areas. But to supply the need for workers, about 84% of jobs in Williamsburg were filled by commuters from other jurisdictions. Both James City County and Williamsburg have enough jobs. But can the types available jobs support and sustain healthy growth and development and can workers most vital to the safety community, such as police and fire personnel, afford to live in the community in which they work?

Based on number of units, the supply of housing in both James City County and the City of Williamsburg is keeping up with the increase in the number of workers. According to the VEC, between 2000 and 2006, the number of jobs across all industries in James City County increased by 5,873 and the number of jobs across all industries in Williamsburg increased by 157 (see Table 39). The number housing units reported in excess of those needed based on job growth between 2000 and 2006 as presented in Table 39 are based in part on assumptions and estimates and should viewed with caution.¹¹

Table 39: Jobs-Housing Balance in James City County and Williamsburg

	James City County 2000-2006	Williamsburg 2000-2006
Increase in jobs 2000-2006	5,873	157
Increase in housing units needed based on ratio = 1.16 workers/household in 2006 in James City County and 1.06 workers/household in 2006 in Williamsburg (job increase/ratio)	5,067	148
Increase in housing units 2000-2006	6,177	718
Housing units in excess of those needed based on job growth	1,110	570

Source: U.S. Census, VEC, and Center for Housing Research

¹¹ We used the VEC employed workers (not seasonally adjusted) as the jobs variable in our calculation. No data or estimates for number of households were available at the county level for 2006. We assumed that the household to housing unit ratio in 2006 would be consistent with the household to housing unit ratio in 2000. We used the decennial Census to get the number of households and housing units in 2000. We calculated the 2000 household to housing unit ratio and multiplied it by the number of estimated housing units in 2006 (obtained from the US Census Population Estimate website) to estimate the number of households in 2006. We calculated a ratio of workers in 2006 to households in 2006. We divided the 2000-2006 difference in jobs by the 2006 worker to household ratio to estimate the number of housing units needed based on job growth. We subtracted the housing units needed based on jobs from the 2000-2006 difference in housing units to get the deficit or surplus of housing units beyond those needed based on job growth.

Given the average number of workers per household in James City County (2006 ratio of workers to households was 1.16) a gain of 5,873 jobs equated to an increase in housing demand of 5,067 units. In other words, for every 1.16 jobs gained in James City County between 2000 and 2006, there was an associated increase of one household in need of a housing unit. From 2000 to 2006, the supply of housing units increased (net) by 6,177 units. Therefore the increase in housing units was sufficient to meet housing demand based on job growth with an excess of 1,110 housing units.

Based on a 1.06 average number of workers per household in Williamsburg in 2006, a gain of 157 jobs equated to an increase in housing demand of 148 units. In other words, for every 1.06 jobs gained in Williamsburg between 2000 and 2006, there was an associated increase of one household in need of a housing unit. From 2000 to 2006, the supply of housing units increased (net) by 718 units resulting in 570 housing units exceeding those needed to meet job growth.

While in both James City County and the City of Williamsburg gross housing production kept up with housing demand based on job creation between 2000 and 2006, newly constructed homes are expensive to produce and purchase. As can be seen in Table 40, a predominance of jobs in the MSA (wage data for specific occupations are not available at the jurisdiction level) provided wages that supported only modest housing. Only two of the top twenty occupations (based on number of workers in 2006) in the MSA had average earnings above \$50,000 (a bench mark chosen by the research team based on recent housing prices and the incomes needed to afford them). The top seven occupations earned less than \$25,000 per year. As a result, much of the workforce in the metropolitan area job market faces housing affordability challenges especially in the homeownership market.

Table 40: Top 20 Occupations, 2003-2006 (ranked by number of 2006 workers in the Virginia Beach MSA)

Occupation Title	Workers		%	2006 Annual
	2003	2006	Change	Average Wage
1. Retail Salespersons	25,570	27,590	7.5%	\$22,450
2. Office Clerks, General	19,070	25,320	25.3%	\$24,970
3. Cashiers	18,990	24,310	18.7%	\$16,010
4. Combined Food Preparation and Serving Workers, Including Fast Food	15,330	18,740	11.0%	\$15,880
5. Waiters and Waitresses	11,850	15,040	13.8%	\$16,230
6. Laborers and freight, stock, and material movers	12,570	13,710	10.8%	\$21,410
7. Janitors and Cleaners, Except Maids and Housekeeping Cleaners	10,820	12,100	13.5%	\$18,500
8. Registered nurses	10,410	11,840	10.8%	\$54,020
9. Customer service representatives	12,130	10,810	-14.8%	\$27,960
10. Stock clerks and order fillers	9,250	10,350	4.9%	\$21,680
11. Bookkeeping, accounting, and auditing clerks	8,380	9,640	0.6%	\$30,750
12. Elementary school teachers, except special education	7,930	8,500	6.9%	\$49,310
13. Sales representatives, wholesale and manufacturing, except technical and scientific products	6,320	7,910	26.4%	\$55,930
14. Maintenance and repair workers, general	6,320	7,370	8.9%	\$31,690
15. Maids and housekeeping cleaners	6,450	6,730	15.0%	\$16,430
16. Nursing aides, orderlies, and attendants	7,460	6,620	-12.7%	\$20,110
17. First-line supervisors/managers of retail sales workers	7,120	6,620	-12.6%	\$40,380
18. Teacher Assistants	5,970	6,600	9.1%	\$20,910
19. Truck drivers, light or delivery services	6,120	6,330	20.3%	\$22,860
20. First-line supervisors/managers of office and administrative support workers	7,620	6,100	-16.4%	\$45,880

***Bold for jobs paying more than 50k/year**

Source: US Department of Labor, Bureau of Labor Statistics (May 2003 and May 2006) and Center for Housing Research

In contrast to the MSA employment and wage data for individual occupations presented in Table 40, Table 41 and Table 42 show the 2006 employment and wage averages by broadly defined industry sectors for James City County and the City of Williamsburg. The numbers reported in these tables are averages and include seasonal employment. For comparison purposes, the tables show average employment for 2003 and the percent change in average employment between 2003 and 2006. The tables are sorted by percent change in average employment from 2003 to 2006. The industry sector that experienced the greatest growth between 2003 and 2006 is shown first and the industry sector that experienced the greatest decline is last.

Table 41 shows that in James City County, Trade, Transportation and Utilities (includes retail sales) was the industry sector with the largest growth in average employment (over 25%) between 2003 and 2006. Professional and Business Services was a close second with 24% growth. The Service-Providing Domain was by far the largest employment sector with an average of 21,009 workers in 2006 and grew 13% between 2003 and 2006. The Leisure and Hospitality sector was the next largest employment sector and with 11% growth between 2003 and 2006, lagging slightly behind the Service-Providing Domain. The Construction sector in James City County lost ground between 2003 and 2006 with a 13% decline in average employment.

The number one growing industry sector, Trade, Transportation and Utilities, had an average annual wage of \$25,272 in 2006 and of the top five growing industry sectors, only the Professional and Business Services sector had an average annual wage above \$30,000. In James City County, the more stable industries (those with the little growth) and the industries showing a decline, with the exception of the Other Services sector, all had relatively high average annual wages.

Table 41: Employment and Wages by Industry Sector, James City County

Industry*	Average Employment 2003	Average Employment 2006	Percent Change 2003-2006	Average Annual Wage 2006
Trade, Transportation and Utilities	3,961	4,980	25.7%	\$25,272
Professional and Business Services	2,055	2,546	23.9%	\$42,328
Information	220	259	17.7%	\$27,040
Service-Providing Domain	18,586	21,009	13.0%	\$28,496
Leisure and Hospitality	5,731	6,370	11.1%	\$16,640
Public Administration	703	759	8.0%	\$39,572
Education and Health Services	4,001	4,294	7.3%	\$35,828
Financial Activities	1,356	1,455	7.3%	\$40,924
Manufacturing	1,847	1,868	1.1%	\$59,436
Goods-Producing Domain	4,024	3,773	-6.2%	\$48,412
Construction	2,136	1,859	-13.0%	\$38,220
Other Services	560	347	-38.0%	\$25,168

*We excluded Natural Resources and Mining due to small numbers.
 Source: VEC; 2006 Quarterly Census of Employment and Wages (seasonally adjusted) and Center for Housing Research

Table 42 shows that in the City of Williamsburg, Public Administration was the industry sector with the largest growth in average employment (nearly 20%) between 2003 and 2006. The Professional and Business Services sector was second with 9% growth. All other industry sectors in Williamsburg experienced a decline in average employment between 2003 and 2006 with the Financial Activities sector showing the greatest decline (over 25%). The Leisure and Hospitality sector was second in declining average employment with a 13% loss. Employment in the Service-Providing Domain, by far the largest employment sector in 2006 with an average of 16,246 workers, declined 8% between 2003 and 2006. The numbers in Table 42 were established prior Sentara Healthcare’s move to Yorktown in late 2006, so the decline in the Education and Health sector would now be greater. Based on seasonally adjusted average employment numbers, overall employment in Williamsburg declined between 2003 and 2006 by about 8% (all industry average employment in 2006 was 16,633 whereas in 2003 it was 18,119). However, as shown in Figure 9, not seasonally adjusted employment increased in Williamsburg between 2000 and 2007.

Unlike James City County, the top growing industry sector in Williamsburg, Public Administration, had one of the highest average annual wages in 2006 as did the only other growing industry sector, Professional and Business Services (\$42,848 and \$42,380 respectively). Of the three sectors with less than 5% decline in employment between 2003 and 2006, all had an average annual wage above \$40,000. In Williamsburg, the lowest average annual wages tended to be associated with the industry sectors showing the most decline with the exception of the Financial Activities sector.

Table 42: Employment and Wages by Industry Sector, Williamsburg

Industry*	Average Employment 2003	Average Employment 2006	Percent Change 2003-2006	Average Annual Wage 2006
Public Administration	302	360	19.2%	\$42,848
Professional and Business Services	1,186	1,298	9.4%	\$42,380
Construction	369	365	-1.1%	\$43,888
Goods-Producing Domain	401	387	-3.5%	\$42,432
Education and Health Services	4,379	4,186	-4.4%	\$43,004
Trade, Transportation and Utilities	2,982	2,783	-6.7%	\$23,036
Service-Providing Domain	17,717	16,246	-8.3%	\$30,004
Other Services	392	353	-9.9%	\$22,568
Leisure and Hospitality	7,611	6,652	-12.6%	\$20,384
Financial Activities	702	522	-25.6%	\$49,140

*We excluded Natural Resources and Mining, Manufacturing, and Information due to small numbers.
Source: VEC; 2006 Quarterly Census of Employment and Wages (seasonally adjusted) and Center for Housing Research

The pattern of growth in average employment for James City County is fairly closely aligned with the Chmura report's assessment of the combined three jurisdictions comprising the Historic Triangle. This is not surprising since James City County and Yorktown share many similarities and together account for a sizeable portion of the Chmura's study area. The decline in average employment in the construction sector in James City County as shown in Table 41 likely is a reflection of the low interest rates in 2003 that fueled the construction industry but cooled once interest rates began to rise. As described in the Chmura report, current and upcoming development projects in James City County will contribute to a healthy construction sector in James City County. In addition to a strengthening construction industry, sectors related to technology and professional services are expected to grow in the Historic Triangle area while hospitality and leisure sectors are expected to continue to account for a smaller portion of the area's employment. A shift toward less seasonal industry sectors should help increase wages in the area even though the average wages in the growth industries are still relatively low.

When examined apart from the overall area that also includes James City County and York County, the uniqueness of Williamsburg stands out. It is geographically much smaller than its two counterparts and therefore has fewer development opportunities. This, coupled with the decline in the hospitality industry in the early 2000s, and high economic growth in the surrounding counties, has resulted in employment in the City that is either minimally growing or declining. Williamsburg's seasonally adjusted average employment growth declined between 2003 and 2006, a pattern which can be expected to continue until the hospitality sector and less variable industry sectors are more in balance. Although Williamsburg's largest business, the College of William and Mary, provides very stable employment, the City's employment base is otherwise heavily dependent upon the hospitality and tourism sectors that are marked by substantial seasonal variation. While James City County is also affected by seasonal impacts of employment, Williamsburg's size make it especially vulnerable. As reported in the Chmura report, the economy of the Williamsburg area is in transition and diversifying from the hospitality industry that has been dominate in the past. As shown in Table 42, growth in higher income occupation sectors are getting a stronger hold in Williamsburg where the two growing industry sectors had respectable average annual wages. This trend should bring the annual average wage for Williamsburg closer to that of the state and more in line with the cost of housing in the area.

Workforce Housing

To examine housing affordability in the James City County/Williamsburg area for people with low- to modest-wage jobs, we estimated the number of affordable owner units (based on 2005/2006 pooled data) and renter units for people in five occupations representing a mixture of growing metropolitan jobs, locally significant jobs, and critical public service jobs.

- Landscaping and groundskeeping workers
- Retail Sales Workers
- Police Officers and Firefighters
- Elementary School Teachers
- Registered Nurses

We created a table to summarize housing affordability for both the ownership and rental markets for each of these occupations. The following provides a description for the terms and methodology used in these tables.

- Individual annual wage represents the published May 2006 Bureau of Labor Statistics MSA mean annual wage for a particular occupation. The number of workers in the various occupations was also based on metro level data published by the Bureau of Labor Statistics.
- The median annual household income per wage is the median household income for households with at least one member of the household working in a particular occupation. Using the 2006 Census PUMS or microdata, we calculated the median ratio of household income per individual wage (Median HHI/W) for each occupation by dividing the total household income with at least one person working in the occupation by the income of a single earner in the occupation and calculating the median based on all workers in that occupation. [Note: the PUMA includes the jurisdictions of York County, Gloucester County, Mathews County, and the City of Poquoson in addition to James City County and the City of Williamsburg.] For each occupation, we multiplied the Median HHI/W by the mean annual wage reported by the BLS to estimate the median household income per wage.
- We calculated the affordable maximum home purchase price (max. price) for each occupation using the individual mean average wage (assumes only one worker in the household in that occupation and no additional income) and median household income per wage (assumes at least one worker in the household in that occupation but takes into consideration the income of other household workers and other sources of income) in conjunction with a 30% of income affordability threshold and other cost factors of ownership. The other cost factors were mortgage rate, homeowner insurance, mortgage insurance, and local property taxes. We assumed a mortgage rate of 6.53% based on HSH Associates' 2006 national average for 30-year loans, we applied a set homeowner insurance rate of \$70 per month (this is the national average cost in 2006 as determined by the Insurance Information Institute), we assumed \$80 per month for mortgage insurance (the estimated national monthly average by the Mortgage Insurance Companies of America), and we applied the 2006 tax rate (in the case of James City County, .77 and in the case of the City of Williamsburg, .54). As a separate analysis, we recalculated the affordable maximum home purchase price for each occupation introducing an estimated \$65 monthly cost for homeowner association dues in James City County (we did not do a recalculation for Williamsburg) as an additional cost factor. We also calculated the affordable maximum monthly gross rent (max. rent) for each occupation using a 30% of income threshold.
- We estimated the number of owner units affordable to those in our example occupations. We used the total number of single-family and multi-family residential housing units sold between 2005 and 2006 (combined total of detached and attached) in James City County and again for the City of Williamsburg based on the sales price from real estate tax assessment records of each jurisdiction. In James City County the assessment records included some properties under construction with low sales prices not reflecting the completed sales price. To reduce the effect of unrealistic 2005 sales

prices for properties under construction, we eliminated any units built in 2004 or 2005 (and a few with year built recorded as 2006 or 2007). For units sold in 2006, we eliminated any units built in 2005 or 2006 (and a few with year built recorded as 2007). For Williamsburg, we only eliminated a few properties. For units sold in 2005, we eliminated any units with year built recorded as 2006 or 2007. For units sold in 2006, we eliminated any units with year built recorded as 2007. For both jurisdictions, eliminating these properties should have minimally affected the resulting number of units we estimated as affordable. Units constructed in 2004 or more recently would have sales prices in the higher range, above the affordability thresholds for the occupations used in this study and not counted anyway. If any under-construction property was counted because its sales price fell below the affordability threshold of an occupation, that property would contribute to an overstatement of the number of affordable units available to workers in that occupation. Also contributing to a possible overstatement of the number of affordable units actually available, affordable units are in the competitive market and equally available to those with higher incomes.

- We estimated the number of rental units affordable to those in our example occupations. We recorded the number of 2-bedroom units available for rent in September 2007 and the average monthly rent for those units by calling as many apartment complexes that we could identify in the James City County/Williamsburg area. We added the number of two bedroom units (and recorded the monthly rent) advertised as available on September 8, 2007 in the weekend real estate classified section of *The Virginia Gazette*. [For a full description of the methodology, see the section on Rental Housing.] Unlike the estimated number of affordable owner units, the number of affordable rental units was likely understated rather than overstated. We limited our search to 2-bedroom units, and while we attempted to identify as many available rental units as possible, some were likely missed.

Landscaping and Groundskeeping Workers

In 2006, there were 5,630 landscaping and groundskeeping workers in the Virginia Beach metropolitan area earning an annual individual average wage of \$21,930. Since no reliable wage data were available at the jurisdiction level, we assumed landscaping and groundskeeping workers looking to buy or rent in Williamsburg or James City County had an annual individual wage of \$21,930. Based on this individual wage, we used Census microdata to calculate an estimated annual median household income for households with at least one landscaping or groundskeeping worker. We assumed landscaping and groundskeeping workers looking to buy or rent in Williamsburg or James City County had annual household income of \$56,724.

Column 1 of Table 43 shows that in 2006 an individual working as a landscaper or groundskeeper with no other means of income other than their annual individual wage of \$21,930 could afford to pay a maximum of \$58,630 to buy a house in Williamsburg or a maximum monthly rent payment of \$548. In addition, column 1 shows that there were no affordable units for sale in 2005 and 2006 (based on 2005 and 2006 real estate assessment records of the number of single-family and multi-family residential units sold at a price equal

or below the maximum price determined as affordable). We estimated that landscaping and groundskeeping workers could not afford any available advertised market rate 2-bedroom rental units.

Column 2 of Table 43 considers household income rather than individual wage in determining affordability of buying or renting in Williamsburg. Most households with at least one person working as a landscaper or groundskeeper had more than one source of income. Based on a 2.59 ratio of household income to individual wage for landscaping and groundskeeping workers (calculated using data from the 2006 Census PUMS microdata), we estimated an annual median household income of \$56,724 in 2006 for this occupation group. Column 2 shows what households in this occupation could afford to pay for a house or for rent along with the number of affordable units for sale or rent in Williamsburg. Based on the estimated annual median household income for a household with at least one person working as a landscaper or groundskeeper, we calculated a maximum purchase price of \$186,689 and a maximum rent payment of \$1,418. Based on 2005 and 2006 real estate tax assessment sales records, there were 112 residential units in Williamsburg that households with at least one landscaping or groundskeeping worker could afford. We estimated that there were 40 affordable advertised market rate 2-bedroom rental units in the City of Williamsburg.

Column 3 of Table 43 shows that in 2006 an individual working as a landscaper or groundskeeper with no other means of income could afford to pay a maximum of \$57,021 to buy a house in James City County or a maximum monthly rent payment of \$548. In addition, column 3 shows that there were 13 affordable units for sale in 2005 and 2006 (based on 2005 and 2006 real estate assessment records of the number of single-family and multi-family residential units sold at a price equal or below the maximum price determined as affordable). Column 3 shows a recalculation of the maximum affordable purchase price for James City County adding a \$65 monthly cost for homeowner association dues, a common expense in the County. The maximum purchase price after adding the extra monthly cost was \$47,714 and the number of affordable units for sale in 2005 and 2006 dropped to 12. We estimated that landscaping and groundskeeping workers could not afford any available advertised market rate 2-bedroom rental units.

Column 4 of Table 43 considers household income rather than individual wage in determining affordability of buying or renting in James City County. Most households with at least one person working as a landscaper or groundskeeper had additional sources of income. Based on a 2.59 ratio of household income to individual wage for landscaping and groundskeeping workers (calculated using data from the 2006 Census PUMS microdata), we estimated an annual median household income of \$56,724 for this occupation group. Column 4 shows what households in this occupation could afford to pay for a house or for rent along with the number of affordable units for sale or rent in James City County. Based on the estimated annual median household income for a household with at least one person working as a landscaper or groundskeeper, we calculated a maximum purchase price of \$181,565 and a maximum rent payment of \$1,418. Based on 2005 and 2006 real estate tax assessment sales records, there were 183 residential units in James City County that households with at least one landscaping or groundskeeping worker could afford. Column 3 shows a recalculation of the maximum affordable purchase price for James City County

adding a \$65 monthly cost for homeowner association dues, a common expense in the County. The maximum purchase price for household with at least one landscaper or groundskeeper after adding the extra monthly cost was \$172,259 and the number of affordable units for sale in 2005 and 2006 dropped to 145. We estimated there were 40 affordable advertised market rate 2-bedroom rental units in James City County.

Table 43: Affordable Housing for Landscaping and Groundskeeping Workers

	Afford in Williamsburg City		Afford in James City County	
	Individual Wage (Average Wage)	Household Income (Median HHI/W)	Individual Wage (Average Wage)	Household Income (Median HHI/W)
Area Income*	\$21,930	\$56,724	\$21,930	\$56,724
Home Ownership				
Maximum Price (no homeowner association dues)*	\$58,630	\$186,689	\$57,021	\$181,565
Est. Number of Affordable Units (Single-family and Multi-family units sold 2005/06 under max.)	0	112	13	183
Maximum Price (with homeowner association dues of \$65 per month)*			\$47,714	\$172,259
Est. Number of Affordable Units (Single-family and Multi-family units sold 2005/06 under max.)			12	145
Rental				
Area Maximum Affordable Rent (30% of Income)*	\$548	\$1,418	\$548	\$1,418
Est. Number of Affordable Units (Units available for rent September 2007 under max.)	0	40	0	40

Source: Center for Housing Research and other sources as documented in methodology write-up.

*Income and rent are based on the average mean wage for the MSA and are not adjusted for the individual jurisdiction. The maximum price is different for Williamsburg and James City County only because of the difference in property tax. James City County has two affordability estimates, one does not include a monthly fee for homeowner dues and the second includes a \$65 estimated cost for homeowner dues.

Retail Sales

In 2006, retail sales jobs accounted for about 27,590 workers at the metro level earning an annual individual average wage of \$22,450. Since no reliable wage data were available at the jurisdiction level, we assumed retail sales workers looking to buy or rent in Williamsburg or James City County had an annual individual wage of \$22,450. Based on this individual wage, we used Census microdata to calculate an estimated annual median household income for households with at least one retail sales worker. We assumed retail sales workers looking to buy or rent in Williamsburg or James City County had annual household income of \$41,521.

Column 1 of Table 44 shows that in 2006 an individual working as a retail sales worker with no other means of income other than their annual individual wage of \$22,450 could afford to pay a maximum of \$60,544 to buy a house in Williamsburg or a maximum monthly rent payment of \$561. In addition, column 1 shows that there were no affordable units for sale in 2005 and 2006 (based on 2005 and 2006 real estate assessment records of the number of single-family and multi-family residential units sold at a price equal or below the maximum price determined as affordable). We estimated that retail sales workers could afford only one of the available advertised market rate 2-bedroom rental units.

Column 2 of Table 44 considers household income rather than individual wage in determining affordability of buying or renting in Williamsburg. Most households with at least one person working as a retail sales worker had more than one source of income. Based on a 1.85 ratio of household income to individual wage for retail sales workers (calculated using data from the 2006 Census PUMS microdata), we estimated an annual median household income of \$41,521 in 2006 for this occupation group. Column 2 shows what households in this occupation could afford to pay for a house or for rent along with the number of affordable units for sale or rent in Williamsburg. Based on the estimated annual median household income for a household with at least one person working as a retail sales worker, we calculated a maximum purchase price of \$130,735 and a maximum rent payment of \$1,038. Based on 2005 and 2006 real estate tax assessment sales records, there were 44 residential units in Williamsburg that households with at least one retail sales worker could afford. We estimated that there were 33 affordable advertised market rate 2-bedroom rental units in the City of Williamsburg.

Column 3 of Table 44 shows that in 2006 an individual working as a retail sales worker with no other means of income could afford to pay a maximum of \$58,882 to buy a house in James City County or a maximum monthly rent payment of \$561. In addition, column 3 shows that there were 14 affordable units for sale in 2005 and 2006 (based on 2005 and 2006 real estate assessment records of the number of single-family and multi-family residential units sold at a price equal or below the maximum price determined as affordable). Column 3 shows a recalculation of the maximum affordable purchase price for James City County adding a \$65 monthly cost for homeowner association dues, a common expense in the County. The maximum purchase price after adding the extra monthly cost was \$49,576 and the number of affordable units for sale in 2005 and 2006 dropped to 12. We estimated that retail sales workers could afford only one of the available advertised market rate 2-bedroom rental units.

Column 4 of Table 44 considers household income rather than individual wage in determining affordability of buying or renting in James City County. Most households with at least one person working as a retail sales worker had additional sources of income. Based on a 1.85 ratio of household income to individual wage for retail sales workers (calculated using data from the 2006 Census PUMS microdata), we estimated an annual median household income of \$41,521 for this occupation group. Column 4 shows what households in this occupation could afford to pay for a house or for rent along with the number of affordable units for sale or rent in James City County. Based on the estimated annual median household income for a household with at least one person working as a retail sales worker, we calculated a maximum purchase price of \$127,147 and a maximum rent payment of \$1,038. Based on 2005 and 2006 real estate tax assessment sales records, there were 66 residential units in James City County that households with at least one retail sales worker could afford. Column 3 shows a recalculation of the maximum affordable purchase price for James City County adding a \$65 monthly cost for homeowner association dues, a common expense in the County. The maximum purchase price for household with at least one retail sales worker after adding the extra monthly cost was \$117,841 and the number of affordable units for sale in 2005 and 2006 dropped to 51. We estimated that there were 33 affordable advertised market rate 2-bedroom rental units in James City County.

Table 44: Affordable Housing for Retail Sales Workers

	Afford in Williamsburg City		Afford in James City County	
	Individual Wage (Average Wage)	Household Income (Median HHI/W)	Individual Wage (Average Wage)	Household Income (Median HHI/W)
Area Income*	\$22,450	\$41,521	\$22,450	\$41,521
Home Ownership				
Maximum Price (no homeowner association dues)*	\$60,544	\$130,735	\$58,882	\$127,147
Est. Number of Affordable Units (Single-family and Multi-family units sold 2005/06 under max.)	0	44	14	66
Maximum Price (with homeowner association dues of \$65 per month)*			\$49,576	\$117,841
Est. Number of Affordable Units (Single-family and Multi-family units sold 2005/06 under max.)			12	51
Rental				
Area Maximum Affordable Rent (30% of Income)*	\$561	\$1,038	\$561	\$1,038
Est. Number of Affordable Units (Units available for rent September 2007 under max.)	1	33	1	33

Source: Center for Housing Research and other sources as documented in methodology write-up.

*Income and rent are based on the average mean wage for the MSA and are not adjusted for the individual jurisdiction. The maximum price is different for Williamsburg and James City County only because of the difference in property tax. James City County has two affordability estimates, one does not include a monthly fee for homeowner dues and the second includes a \$65 estimated cost for homeowner dues.

Police Officers and Firefighters

Police officers and firefighters are critical components of any community and are representative of the importance of an adequate supply of workforce housing. In 2006, police officers accounted for about 3,960 workers and firefighters accounted for about 2,610 workers at the metro level earning an annual individual average wage respectively of \$42,710 and \$39,770. For the purposes of this study, we examined police officers and firefighters together as one combined public safety occupation category. We averaged the annual individual average wage amounts for police officers and firefighters to get a combined annual individual average wage of \$41,240. Although wages were available at the local level for these occupations, they were fairly consistent with the metro data. For consistency (with the other occupations), we used the metro data and assumed police officers and firefighters looking to buy or rent in Williamsburg or James City County had an annual individual wage of \$41,240. Based on this individual wage, we used Census microdata to calculate an

estimated annual median household income for households with at least one police officer or firefighter. We assumed police officers for firefighters looking to buy or rent in Williamsburg or James City County had annual household income of \$82,480.

Column 1 of Table 45 shows that in 2006 an individual working as a police officer or firefighter with no other means of income other than their annual individual wage of \$41,240 could afford to pay a maximum of \$129,700 to buy a house in Williamsburg or a maximum monthly rent payment of \$1,031. In addition, column 1 shows that there were 42 affordable units for sale in 2005 and 2006 (based on 2005 and 2006 real estate assessment records of the number of single-family and multi-family residential units sold at a price equal or below the maximum price determined as affordable). We estimated that police officers or firefighters could afford 33 of the available advertised market rate 2-bedroom rental units.

Column 2 of Table 45 considers household income rather than individual wage in determining affordability of buying or renting in Williamsburg. Most households with at least one person working as a police officer or firefighter had more than one source of income. Based on a 2.00 ratio of household income to individual wage for police officer or firefighters (calculated using data from the 2006 Census PUMS microdata), we estimated an annual median household income of \$82,840 in 2006 for this occupation group. Column 2 shows what households in this occupation could afford to pay for a house or for rent along with the number of affordable units for sale or rent in Williamsburg. Based on the estimated annual median household income for a household with at least one person working as a police officer or firefighter, we calculated a maximum purchase price of \$281,482 and a maximum rent payment of \$2,062. Based on 2005 and 2006 real estate tax assessment sales records, there were 226 residential units in Williamsburg that households with at least one police officer or firefighter could afford. We estimated that there were 60 affordable advertised market rate 2-bedroom rental units in the City of Williamsburg.

Column 3 of Table 45 shows that in 2006 an individual working as a police officer or firefighter with no other means of income could afford to pay a maximum of \$126,140 to buy a house in James City County or a maximum monthly rent payment of \$1,031. In addition, column 3 shows that there were 65 affordable units for sale in 2005 and 2006 (based on 2005 and 2006 real estate assessment records of the number of single-family and multi-family residential units sold at a price equal or below the maximum price determined as affordable). Column 3 shows a recalculation of the maximum affordable purchase price for James City County adding a \$65 monthly cost for homeowner association dues, a common expense in the County. The maximum purchase price after adding the extra monthly cost was \$116,834 and the number of affordable units for sale in 2005 and 2006 dropped to 51. We estimated that police officers or firefighters could afford 33 of the available advertised market rate 2-bedroom rental units.

Column 4 of Table 45 considers household income rather than individual wage in determining affordability of buying or renting in James City County. Most households with at least one person working as a police officer or firefighter had additional sources of income. Based on a 2.00 ratio of household income to individual wage for police officers or firefighters (calculated using data from the 2006 Census PUMS microdata), we estimated an

annual median household income of \$82,480 for this occupation group. Column 4 shows what households in this occupation could afford to pay for a house or for rent along with the number of affordable units for sale or rent in James City County. Based on the estimated annual median household income for a household with at least one person working as a police officer or firefighter, we calculated a maximum purchase price of \$273,758 and a maximum rent payment of \$2,062. Based on 2005 and 2006 real estate tax assessment sales records, there were 600 residential units in James City County that households with at least one police officer or firefighter could afford. Column 3 shows a recalculation of the maximum affordable purchase price for James City County adding a \$65 monthly cost for homeowner association dues, a common expense in the County. The maximum purchase price for household with at least one police officer or firefighter after adding the extra monthly cost was \$264,451 and the number of affordable units for sale in 2005 and 2006 dropped to 549. We estimated that there were 60 affordable advertised market rate 2-bedroom rental units in James City County.

Table 45: Affordable Housing for Police and Fire Workers

	Afford in Williamsburg City		Afford in James City County	
	Individual Wage (Average Wage)	Household Income (Median HHI/W)	Individual Wage (Average Wage)	Household Income (Median HHI/W)
Area Income*	\$41,240	\$82,480	\$41,240	\$82,480
Home Ownership				
Maximum Price (no homeowner association dues)*	\$129,700	\$281,482	\$126,140	\$273,758
Est. Number of Affordable Units (Single-family and Multi-family units sold 2005/06 under max.)	42	226	65	600
Maximum Price (with homeowner association dues of \$65 per month)*			\$116,834	\$264,451
Est. Number of Affordable Units (Single-family and Multi-family units sold 2005/06 under max.)			51	549
Rental				
Area Maximum Affordable Rent (30% of Income)*	\$1,031	\$2,062	\$1,031	\$2,062
Est. Number of Affordable Units (Units available for rent September 2007 under max.)	33	60	33	60

Source: Center for Housing Research and other sources as documented in methodology write-up.

*Income and rent are based on the average mean wage for the MSA and are not adjusted for the individual jurisdiction. The maximum price is different for Williamsburg and James City County only because of the difference in property tax. James City County has two affordability estimates, one does not include a monthly fee for homeowner dues and the second includes a \$65 estimated cost for homeowner dues.

Elementary School Teachers

Elementary school teachers play a vital role in our communities. They accounted for about 8,500 workers on the metro level earning an annual individual average wage of \$49,310 in 2006. Although wages were available at the local level for teachers, they were fairly consistent with the metro data. For consistency (with the other occupations), we assumed elementary teachers looking to buy or rent in Williamsburg or James City County had an annual individual wage of \$49,310. Based on this individual wage, we used Census microdata to calculate an estimated annual median household income for households with at least one elementary teacher. We assumed elementary teachers looking to buy or rent in Williamsburg or James City County had annual household income of \$145,686.

Column 1 of Table 46 shows that in 2006 an individual working as an elementary teacher with no other means of income other than their annual individual wage of \$49,310 could afford to pay a maximum of \$159,401 to buy a house in Williamsburg or a maximum monthly rent payment of \$1,233. In addition, column 1 shows that there were 89 affordable units for sale in 2005 and 2006 (based on 2005 and 2006 real estate assessment records of the number of single-family and multi-family residential units sold at a price equal or below the maximum price determined as affordable). We estimated that elementary teachers could afford 35 of the available advertised market rate 2-bedroom rental units.

Column 2 of Table 46 considers household income rather than individual wage in determining affordability of buying or renting in Williamsburg. Most households with at least one person working as a elementary teacher had more than one source of income. Based on a 2.95 ratio of household income to individual wage for elementary teachers (calculated using data from the 2006 Census PUMS microdata), we estimated an annual median household income of \$145,686 in 2006 for this occupation group. Column 2 shows what households in this occupation could afford to pay for a house or for rent along with the number of affordable units for sale or rent in Williamsburg. Based on the estimated annual median household income for a household with at least one person working as an elementary teacher, we calculated a maximum purchase price of \$514,111 and a maximum rent payment of \$3,642. Based on 2005 and 2006 real estate tax assessment sales records, there were 335 residential units in Williamsburg that households with at least one elementary teacher could afford. We estimated that there were 60 affordable advertised 2-bedroom market rate rental units in the City of Williamsburg.

Column 3 of Table 46 shows that in 2006 an individual working as an elementary teacher with no other means of income could afford to pay a maximum of \$155,027 to buy a house in James City County or a maximum monthly rent payment of \$1,233. In addition, column 3 shows that there were 119 affordable units for sale in 2005 and 2006 (based on 2005 and 2006 real estate assessment records of the number of single-family and multi-family residential units sold at a price equal or below the maximum price determined as affordable). Column 3 shows a recalculation of the maximum affordable purchase price for James City County adding a \$65 monthly cost for homeowner association dues, a common expense in the County. The maximum purchase price after adding the extra monthly cost was \$145,720 and the number of affordable units for sale in 2005 and 2006 dropped to 94. We estimated

that elementary teachers could afford 35 of the available advertised market rate 2-bedroom rental units.

Column 4 of Table 46 considers household income rather than individual wage in determining affordability of buying or renting in James City County. Most households with at least one person working as an elementary teacher had additional sources of income. Based on a 2.95 ratio of household income to individual wage for elementary teachers (calculated using data from the 2006 Census PUMS microdata), we estimated an annual median household income of \$145,686 for this occupation group. Column 4 shows what households in this occupation could afford to pay for a house or for rent along with the number of affordable units for sale or rent in James City County. Based on the estimated annual median household income for a household with at least one person working as an elementary teacher, we calculated a maximum purchase price of \$500,003 and a maximum rent payment of \$3,642. Based on 2005 and 2006 real estate tax assessment sales records, there were 1,478 residential units in James City County that households with at least one elementary teacher could afford. Column 3 shows a recalculation of the maximum affordable purchase price for James City County adding a \$65 monthly cost for homeowner association dues, a common expense in the County. The maximum purchase price for household with at least one elementary teacher after adding the extra monthly cost was \$490,096 and the number of affordable units for sale in 2005 and 2006 dropped to 1,461. We estimated that there were 60 affordable advertised market rate 2-bedroom rental units in James City County.

Table 46: Affordable Housing for Elementary Teachers

	Afford in Williamsburg City		Afford in James City County	
	Individual Wage (Average Wage)	Household Income (Median HHI/W)	Individual Wage (Average Wage)	Household Income (Median HHI/W)
Area Income*	\$49,310	\$145,686	\$49,310	\$145,686
Home Ownership				
Maximum Price (no homeowner association dues)*	\$159,401	\$514,111	\$155,027	\$500,003
Est. Number of Affordable Units (Single-family and Multi-family units sold 2005/06 under max.)	89	335	119	1,478
Maximum Price (with homeowner association dues of \$65 per month)*			\$145,720	\$490,696
Est. Number of Affordable Units (Single-family and Multi-family units sold 2005/06 under max.)			94	1,461
Rental				
Area Maximum Affordable Rent (30% of Income)*	\$1,233	\$3,642	\$1,233	\$3,642
Est. Number of Affordable Units (Units available for rent September 2007 under max.)	35	60	35	60

Source: Center for Housing Research and other sources as documented in methodology write-up.

*Income and rent are based on the average mean wage for the MSA and are not adjusted for the individual jurisdiction. The maximum price is different for Williamsburg and James City County only because of the difference in property tax. James City County has two affordability estimates, one does not include a monthly fee for homeowner dues and the second includes a \$65 estimated cost for homeowner dues.

Registered Nurses

Registered Nurses accounted for about 11,840 workers on the metro level in 2006 earning an annual individual average wage of \$54,020. Since no reliable wage data were available at the jurisdiction level, we assumed registered nurses looking to buy or rent in Williamsburg or James City County had an annual individual wage of \$54,020. Based on this individual wage, we used Census microdata to calculate an estimated annual median household income for households with at least one registered nurse. We assumed registered nurses looking to buy or rent in Williamsburg or James City County had annual household income of \$103,886.

Column 1 of Table 47 shows that in 2006 an individual working as a registered nurse with no other means of income other than their annual individual wage of \$54,020 could afford to

pay a maximum of \$176,736 to buy a house in Williamsburg or a maximum monthly rent payment of \$1,351. In addition, column 1 shows that there were 102 affordable units for sale in 2005 and 2006 (based on 2005 and 2006 real estate assessment records of the number of single-family and multi-family residential units sold at a price equal or below the maximum price determined as affordable). We estimated that registered nurses could afford 39 of the available advertised market rate 2-bedroom rental units.

Column 2 of Table 47 considers household income rather than individual wage in determining affordability of buying or renting in Williamsburg. Most households with at least one person working as a registered nurse had more than one source of income. Based on a 1.92 ratio of household income to individual wage for registered nurses (calculated using data from the 2006 Census PUMS microdata), we estimated an annual median household income of \$103,886 in 2006 for this occupation group. Column 2 shows what households in this occupation could afford to pay for a house or for rent along with the number of affordable units for sale or rent in Williamsburg. Based on the estimated annual median household income for a household with at least one person working as a registered nurse, we calculated a maximum purchase price of \$360,266 and a maximum rent payment of \$2,597. Based on 2005 and 2006 real estate tax assessment sales records, there were 278 residential units in Williamsburg that households with at least one registered nurse could afford. We estimated that there were 60 affordable advertised market rate 2-bedroom rental units in the City of Williamsburg.

Column 3 of Table 47 shows that in 2006 an individual working as a registered nurse with no other means of income could afford to pay a maximum of \$171,886 to buy a house in James City County or a maximum monthly rent payment of \$1,351. In addition, column 3 shows that there were 144 affordable units for sale in 2005 and 2006 (based on 2005 and 2006 real estate assessment records of the number of single-family and multi-family residential units sold at a price equal or below the maximum price determined as affordable). Column 3 shows a recalculation of the maximum affordable purchase price for James City County adding a \$65 monthly cost for homeowner association dues, a common expense in the County. The maximum purchase price after adding the extra monthly cost was \$162,579 and the number of affordable units for sale in 2005 and 2006 dropped to 133. We estimated that registered nurses could afford 39 of the available advertised market rate 2-bedroom rental units.

Column 4 of Table 47 considers household income rather than individual wage in determining affordability of buying or renting in James City County. Most households with at least one person working as a registered nurse had additional sources of income. Based on a 1.92 ratio of household income to individual wage for registered nurses (calculated using data from the 2006 Census PUMS microdata), we estimated an annual median household income of \$103,886 for this occupation group. Column 4 shows what households in this occupation could afford to pay for a house or for rent along with the number of affordable units for sale or rent in James City County. Based on the estimated annual median household income for a household with at least one person working as a registered nurse, we calculated a maximum purchase price of \$350,379 and a maximum rent payment of \$2,597. Based on 2005 and 2006 real estate tax assessment sales records, there were 1,062 residential units in

James City County that households with at least one registered nurse could afford. Column 3 shows a recalculation of the maximum affordable purchase price for James City County adding a \$65 monthly cost for homeowner association dues, a common expense in the County. The maximum purchase price for household with at least one registered nurse after adding the extra monthly cost was \$341,073 and the number of affordable units for sale in 2005 and 2006 dropped to 1,014. We estimated that there were 60 affordable advertised market rate 2-bedroom rental units in James City County.

Table 47: Affordable Housing for Registered Nurses

	Afford in Williamsburg City		Afford in James City County	
	Individual Wage (Average Wage)	Household Income (Median HHI/W)	Individual Wage (Average Wage)	Household Income (Median HHI/W)
Area Income*	\$54,020	\$103,886	\$54,020	\$103,886
Home Ownership				
Maximum Price (no homeowner association dues)*	\$176,736	\$360,266	\$171,886	\$350,379
Est. Number of Affordable Units (Single-family and Multi-family units sold 2005/06 under max.)	102	278	144	1,062
Maximum Price (with homeowner association dues of \$65 per month)*			\$162,579	\$341,073
Est. Number of Affordable Units (Single-family and Multi-family units sold 2005/06 under max.)			133	1,014
Rental				
Area Maximum Affordable Rent (30% of Income)*	\$1,351	\$2,597	\$1,351	\$2,597
Est. Number of Affordable Units (Units available for rent September 2007 under max.)	39	60	39	60

Source: Center for Housing Research and other sources as documented in methodology write-up.

*Income and rent are based on the average mean wage for the MSA and are not adjusted for the individual jurisdiction. The maximum price is different for Williamsburg and James City County only because of the difference in property tax. James City County has two affordability estimates, one does not include a monthly fee for homeowner dues and the second includes a \$65 estimated cost for homeowner dues.

Implications for Housing Affordability

The occupations we chose to examine represent a sample of workers who provide essential services and who form “the backbone of any successful community”.¹² A shortage of “workforce housing” or housing that is affordable to essential workers of a community can lead to a decline in economic advancement and growth. Landscaping and groundskeeping workers ensure that Williamsburg and James City County remain attractive not only for their residents, but for the tourists who help drive the economy of the region. Similarly, retail sales workers, who account for the largest number of workers of our example occupations, are vital to the commercial and economic health of the community. With 27,590 workers in the MSA in 2006, the size of the retail sales workforce magnifies the problem of affordability for workers as they compete with each other and those with higher incomes for housing. Police officers and firefighters provide indispensable safety and security for residents and provide additional benefit by living close to their jobs and among other residents of Williamsburg and James City County. Attracting and retaining the best elementary teachers is obviously in the best interest of the community and having affordable housing opportunities for those teachers is necessary to be competitive with other jurisdictions. Having an adequate number of registered nurses is critical to a healthcare system that is responding and will continue to respond to the growing number of older citizens moving to Williamsburg and James City County for retirement. Determining to what extent housing affordability is an issue for workers in these vital occupations can help equip Williamsburg’s and James City County’s policy makers with the knowledge they need to address the impact of housing costs on the vitality and continued success of their communities.

The results of the calculations of what individuals working in the five example occupations could afford to buy or rent show that without additional income, individual wages alone were insufficient. The 2006 wages of landscaping and groundskeeping workers and retail sales workers were lower than what would have been required to purchase any housing unit on the market in the City of Williamsburg. About one dozen homes were sold in James City County affordable to workers in those service occupations. Only one¹³ affordable 2-bedroom rental unit was available in the Williamsburg/James City County area. Clearly based on their individual wages alone, workers in those occupations would need a housing subsidy to reside in either Williamsburg or James City County.

In order to afford housing in Williamsburg or James City County, landscaping and groundskeeping workers and retail sales workers needed income from additional sources. However, even when using household income that included income from other sources to calculate the number of housing units that those workers could afford to buy, the numbers were low. Retail sales workers were the least likely of the example occupations to have enough income from sources other than their individual wages to afford to buy a home (less than 50 units affordable in Williamsburg and about 65 affordable in James City County). The median household income for retail sales workers was about 1.8 times the annual average individual wage of workers in that occupation indicating that many retail sales workers did

¹² Lisa Arthur, [Miami Herald, June 6, 2006](#).

¹³ This is an estimation based on a point-in-time September 2007 survey of available rental units in the Williamsburg/James City County area.

not have the benefit of a second, higher income worker in the household. Landscaping and groundskeeping workers had a much higher ratio of household income to individual wage (2.59) which indicates those workers tended to live in households with multiple workers or worked additional jobs. This meant that while having a lower average individual wage, landscapers and groundskeepers could afford a greater number of the homes on the market than retail sales workers when basing the calculation on household income that included all income sources. Choices in the rental market improved for both landscaping and groundskeeping workers and retail sales workers when more than individual wages were considered. When landscaping and groundskeeping workers and retail sales workers had income from additional sources, they could compete for about half of the rental units available on the market.

Based solely on wages from their occupation, police officers and firefighters, elementary teachers, and registered nurses fared better in the housing market than groundskeeping workers and retail sales workers. Still, there were less than 50 homes for purchase affordable to police officers and firefighters in Williamsburg and less than 65 affordable homes for purchase in James City County. There were about 100 homes for purchase in Williamsburg and less than 150 homes in James City County that elementary school teachers and registered nurses could afford. Less than 40 2-bedroom rental units were affordable to registered nurses in the Williamsburg/James City County area and even fewer for police officers and firefighters and elementary school teachers who had no other income to supplement their individual wage.

When using household income that included income beyond the individual wage to calculate the number of available housing units that police officers and firefighters, elementary school teachers, and registered nurses could afford, the numbers increased significantly over those calculated using the 2006 individual wage alone. The opportunities for police officers and firefighters to purchase a home were still limited, however, with about 226 affordable housing units available in Williamsburg and 600 affordable housing units available in James City County. Elementary school teachers benefited the most by including additional income. It is likely that many elementary teachers are married to other professionals whose incomes combined with the elementary teacher's individual wage greatly improved the financial standing of the household (the median household income for elementary school teachers was about 2.95 times the annual average individual wage of elementary teachers). With the additional household income, there were 335 for purchase housing units in Williamsburg and nearly 1,500 for purchase housing units in James City County that households with at least one elementary teacher could afford. When police officers and firefighters, elementary teachers, and registered nurses had income from additional sources, they could compete for any rental unit available on the market.

Even though the housing opportunities much improved with the benefit of additional income sources for workers in the occupations we examined, the number of affordable properties for purchase and the number of affordable rental units that we calculated for each of our occupations were generous estimates. It is important to consider that the workers have to compete not only with each other but with other comparable income-level households for a limited supply of affordable housing. And in a competitive market, low- to moderate-income

workers must also compete with those in better paying occupations for many of the same units.

In addition, getting the additional income that helps provide more housing opportunities is not always easy. For some, having an additional worker in the household contributing to household income is the answer. One-person and one-worker households, however, need to have significant earnings from investments or savings (unlikely for workers with low- to moderate-incomes), have a second or third job, or work overtime hours in order to afford housing.

HOUSING COSTS

Income, employment, and housing costs are interconnected. Residents of a community need housing. Most need a job in order to afford that housing and the types of jobs and what those jobs pay can determine how much housing one can afford. A community wants the right balance between what jobs pay and what housing costs. However, wages and income in James City County and the City of Williamsburg have not kept pace since 2000 with the rapid rise in the cost of housing. Many residents cannot afford to own a home as discussed in the prior section on workforce housing and struggle to afford rents. We begin this section on housing costs by discussing the rental market and follow with a discussion of house values and homeownership costs. We further evaluate house values and loan activity within Census tracts of James City County and the City of Williamsburg to get a better understanding of where costs are the highest and lowest.

Rental Housing

The number of College of William and Mary students who live off-campus impact the rental housing markets in James City County and Williamsburg. Students have less impact on the rental market in James City County than in Williamsburg, but still influence the type and cost of rental housing. Although about one-third¹⁴ of William and Mary students rent in James City County, students account for a relatively small number of overall renters (roughly 600 of 4,363 James City County renters in 2000). However, many of the rental units available in James City County are targeted at professionals or students who can double or triple up and share rent and command high rents that affect the overall rental market.

Students have a greater impact on the rental market in the City of Williamsburg primarily because more College and William and Mary students live in Williamsburg and Williamsburg is a small city. In 2000, Williamsburg had 2,017 renters and roughly half were college students. In addition, renting is the predominant tenure status with renter units accounting for 55.7% of the occupied housing units in 2000. Rental prices reflect the student influence as well. As in James City County, rents for units in the large student complexes are fueled by students who can share space and costs with other students and often have financial support from their parents. The high rent student complexes coupled with a scarcity of rental housing (based on a 3.9% vacancy rate in 2000) have significant bearing on rental costs although Williamsburg median monthly gross rents in 2000 were more in line with those of the MSA than were James City County median monthly gross rents.

In 2000, the median monthly gross rent for James City County was \$703 and the median monthly gross rent for the City of Williamsburg was \$616 compared to \$650 median gross rent for Virginia. While median gross rent of \$615 for the MSA was comparable to Williamsburg in 2000, it was considerably lower than that of James City County. Rental units in James City County are mostly located within large, relatively new student apartment complexes. While that is somewhat the case in Williamsburg, many rental units within

¹⁴ The City of Williamsburg estimates that about one third to one half of William and Mary students live in James City County or Yorktown and the remaining live in Williamsburg. Based on 1,850 off-campus students in 2006, about 925 to 1,233 students lived in Williamsburg versus 617 to 925 elsewhere.

Williamsburg also are located within residential and/or older, more urban neighborhoods commanding somewhat lower rents. The rents in the Williamsburg/James City County area follow the same pattern as rents in the Charlottesville/Albemarle area largely due to the college student influence (the 2000 median gross rent in the City of Charlottesville was \$596 and the median gross rent in adjacent Albemarle County was \$712).

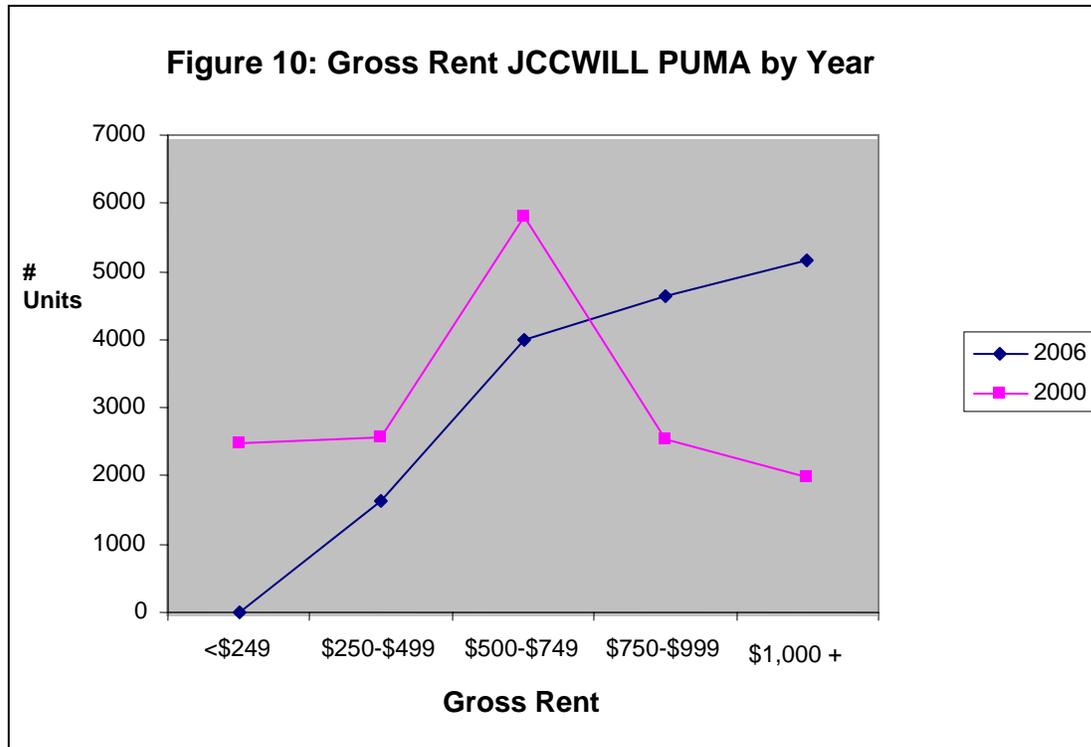
While Census data are not available beyond 2000 for James City County and the City of Williamsburg, the median gross rent for the PUMA (includes James City County, York County, Gloucester County, Mathews County, and the independent cities of Williamsburg and Poquoson) increased 40% from 2000 to 2006 (\$610 and \$853 respectively). Rents are generally lower in the more rural jurisdictions of the PUMA area and higher in James City County, York County, and Williamsburg (see Table 48 which shows monthly median gross rent in 2000 for each jurisdiction in the PUMA.)

Table 48: Median Gross Rent for Jurisdictions in JCCWILL PUMA, 2000

	Gloucester	James City County	Mathews	York	Poquoson	Williamsburg
Median Gross Rent	\$527	\$703	\$506	\$708	\$697	\$616

Source: US Census 2000

As seen in Figure 10, the increase in monthly gross rent between 2000 and 2006 in the PUMA reflects an overall increase in higher priced rental units (costing more than \$500 a month) and a decline in the number of more affordable rental units (in 2006, there were no units available under \$250). As a result, low- to moderate-income households were forced to pay more of their income for rental housing in 2006 than in 2000. In 2000, 17% of those making less than \$20,000 a year paid 50% or more of their income for rent. By 2006, 67% of those making less than \$20,000 a year paid 50% or more of their income for rent. However for all income groups, those paying 50% or more of their income for rent remained stable between 2000 and 2006 at about 15%.



Source: US Census Public Use Microdata 2000,2006

Even considering the unique rental situation driven by a student market in the James City County and Williamsburg, it would be reasonable to assume that those two areas experienced an increase in median gross rent between 2000 and 2006 somewhat comparable to the 40% increase in the PUMA. Applying the 40% increase to the 2000 median gross rents of James City County and Williamsburg would yield an estimated \$983 median gross rent in 2006 for James City County and an estimated \$861 median gross rent in 2006 for the City of Williamsburg.

In order to get a better estimate of current rental prices in the James City County/Williamsburg area we conducted a point-in time survey of rents. Choosing a two-bedroom apartment as our standard, we researched how many units were available or could be identified as soon to be available for rent and at what price in the Williamsburg/James City County area. We waited until the after the start of the fall semester at the College of William and Mary to complete the rental availability portion of this project to ensure that our survey reflected the maximum state of renter demand within the study area.

We searched online classifieds in Williamsburg’s local newspaper *The Virginia Gazette* to identify as many outlets as possible for finding available rental units in the Williamsburg/James City County area. Also, using several online apartment search engines (forrent.com, apartmentfinder.com, etc.) we compiled a list of apartment complexes in Williamsburg and the surrounding area. Based on our research, during the week of September 8, 2007 we called apartment complexes and asked:

- If they had any two bedroom units available,
- If so, how many were currently available or would be available prior to November 1, 2007 and
- What was the average rent of their two bedroom units

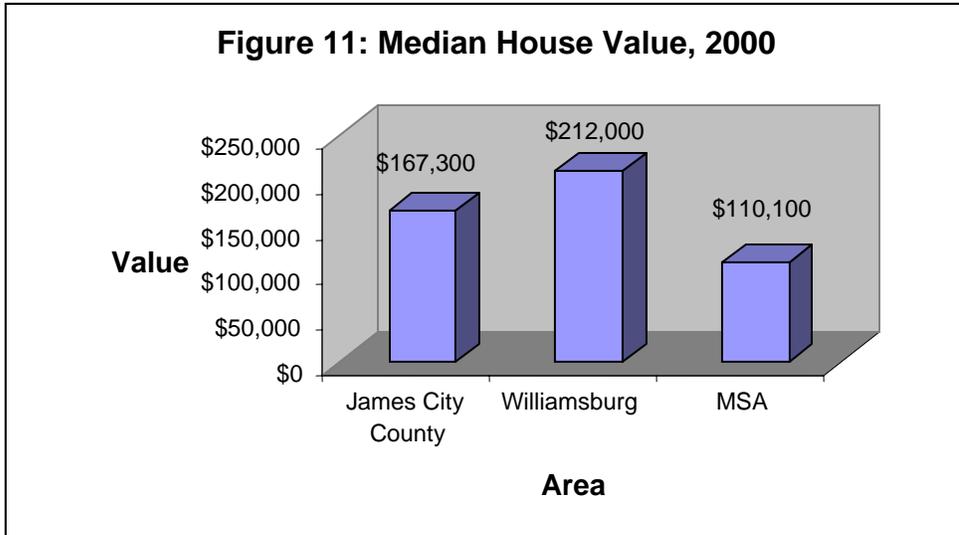
Ideally we would have conducted a single day point-in-time survey, but since the majority of the apartment complexes contacted required a 60 day notification for vacating a unit, we were able to get a much larger sample by including units known to be coming available prior to November.

In addition to calling apartment complexes, we compiled a list of two bedroom units advertised as available on September 8, 2007 in the weekend real estate classified section of *The Virginia Gazette*. We carefully eliminated any duplicate rental information. While it is unlikely our methodology captured all two-bedroom rental units actually available on the market, it was a credible simulation of what a person looking for a two-bedroom unit would be able to find.

The point-in-time survey of rentals available in the James City County/Williamsburg area identified 60 two-bedroom units available for rent. The monthly rents ranged from a low of \$550 (one available unit) to a high of \$1,500. Only four units were available under \$700. Based on the 60 units, the average monthly rent was \$1,077 and the median monthly rent was \$987. The point-in-time rental study revealed that 1) few rental units were available and 2) the cost of those units was beyond the means of many would be renters.

House Values, Census

At the time of the 2000 Census, house values were already high eliminating home ownership as an option for many residents of James City County and Williamsburg. The median house value for James City County based on the Census 2000 was \$167,300 and the median house value for the City of Williamsburg was \$212,000 (see Figure 11).



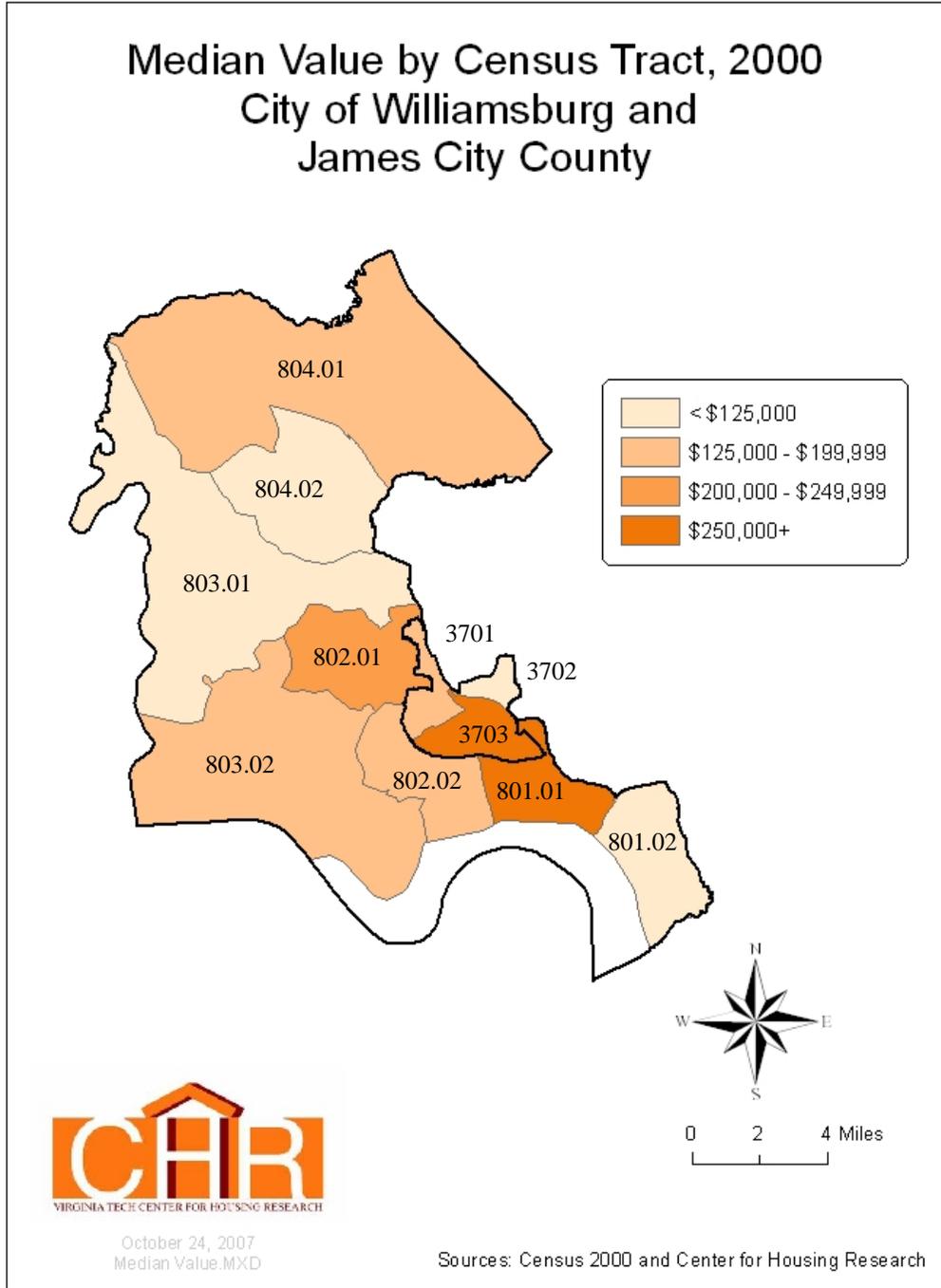
Source: US Census 2000

More revealing than value alone is how incomes match up with housing costs. The median monthly owner costs for owners with a mortgage as a percentage of household income in 2000 for James City County was 21.6% while the City of Williamsburg's was 20.4% (the general rule states that a household should not pay over 30% of household income for housing). Although the majority of owners were not paying too much for housing, those at the lower end of the income scale were. Of James City County owners making less than \$35,000 a year, 57% paid over 30% of their income for housing costs. Of Williamsburg owners making less than \$35,000 a year, half paid over 30% of their income for housing costs.

James City County's and Williamsburg's median values were significantly higher than the median values of Virginia (\$125,400) and the MSA (\$110,100). Median owner costs for owners with a mortgage as a percentage of household income for the MSA (23.3%) was slightly higher than those of James City County and the City of Williamsburg. So while house values were generally higher in James City County and the City of Williamsburg than in the MSA, the affordability for their residents was slightly better or comparable to that of residents of the broader region.

Within James City County and the City of Williamsburg, Map 3 displays the median house value in 2000 by census tract. The darkest shaded areas indicate the more affluent areas which include the eastern half of Williamsburg and the eastern part of James City County adjacent to Williamsburg.

Map 3: Median House Value by Census Tract, 2000, City of Williamsburg and James City County



Historically low interest rates over the past several years and an influx of affluent retirees with an appetite for high end housing have impacted house values since 2000. Unfortunately, more recent Census data are not available for James City County or Williamsburg to show this impact. While an analysis of values for the PUMA in 2000 and 2006 does not adequately show the increase in values for James City County and the City of Williamsburg, it at least shows the trend of rising values in the broader area. In 2000, the median house value for the PUMA was between \$125,000 and \$150,000 (data available only in ranges). In 2006, the median house value for the PUMA was between \$250,000 and \$300,000.

House Values, Real Estate Data

For additional analysis of home values in James City County and the City of Williamsburg, we used real estate data from the Williamsburg Area Multiple Listing Service.¹⁵ We examined existing and new single-family detached and single-attached home sales for James City County and the City of Williamsburg from 2000 to 2006 (see Tables 49 through 52). Over that time period there were a total of 9,819 residential sales in James City County and Williamsburg combined. The average sales price ranged from a low in 2000 of \$144,780 for attached units in James City County to a high in 2006 of \$440,187 for detached units in the City of Williamsburg.

For James City County the average sales price for single-family detached units increased by 86% between 2001 and 2006 (for consistency, we did not compare from 2000 due to the small numbers of sales reported for attached units). As shown in Table 49, the number of single-family detached sales in James City County stayed fairly consistent throughout the time period with a slight dip in sales in 2002 and then dropping off in 2006. The average sales price also rose steadily with the largest annual gain (20%) between 2004 and 2005 but moderated considerably in 2006 (only a 5% increase between 2005 and 2006). Still, the average sales price for a single-family detached unit in James City County was a record \$415,617 in 2006. According to the Virginia Association of Realtors, average sales prices have dropped in the James City County/Williamsburg area. For single-family detached units and attached units combined, the average sales price based on sales through September 2007 declined 5.0% from 2006 (\$341,295 in 2007 and \$359,194 in 2006).

Table 49: James City County, Single-family Detached

Year	# Listings Sold	Avg. Sold Price	Days on Market
2000	806	\$222,521	92
2001	1063	\$222,985	95
2002	988	\$246,402	84
2003	1077	\$278,712	80
2004	1090	\$332,951	60
2005	1180	\$394,705	61
2006	1004	\$415,617	75

Source: Williamsburg Area MLS

¹⁵ The Williamsburg Area Multiple Listing data were provided by Sue Strasser.

The average sales price for single-family attached units rose by 77% in James City County between 2001 and 2006. (See Table 50.) While the number of units sold jumped significantly between 2001 and 2002 (from 26 to 120), the average price went down slightly. The average sales price increased by nearly 35% between 2002 and 2003. After moderate increases in average sales price in 2004 and 2005, the average sales price for single-family attached units in James City County rose by 14% between 2005 and 2006 (from \$211,008 in 2005 to \$240,628 in 2006).

Table 50: James City County, Single-family Attached

<u>Year</u>	<u># Listings Sold</u>	<u>Avg. Sold Price</u>	<u>Days on Market</u>
2000	1	\$270,000	285
2001	26	\$155,412	26
2002	120	\$145,473	70
2003	131	\$195,814	82
2004	131	\$207,240	56
2005	73	\$211,008	36
2006	79	\$240,628	65

Source: Williamsburg Area MLS

The increase in average sales price between 2001 and 2006 was dramatic for single-family detached units in Williamsburg with the average sales price increasing by over 150%. (See Table 51.) While the number of units sold dropped significantly between 2001 and 2002 (from 208 to 68), the average price went up drastically. The average sales price in Williamsburg was \$171,800 in 2001 and \$298,058 in 2002, an annual increase of 74%. Prices continued to increase at a more modest rate (11% in 2003 and 16% in 2004, slowed considerably in 2005 with only a 3% gain, and increased 11% between 2005 and 2006. With the number of sales down slightly from recent years, the average sales price for a single-family detached unit in 2006 for the City of Williamsburg was \$440,187.

Table 51: City of Williamsburg, Single-family Detached

<u>Year</u>	<u># Listings Sold</u>	<u>Avg. Sold Price</u>	<u>Days on Market</u>
2000	109	\$188,396	89
2001	208	\$171,800	69
2002	68	\$298,058	75
2003	89	\$332,992	68
2004	80	\$385,211	50
2005	110	\$398,449	59
2006	74	\$440,187	66

Source: Williamsburg Area MLS

As shown in Table 52, the sales market for single-family attached units in Williamsburg has been strong in recent years. From 2002 to 2006, single-family attached unit sales accounted

for the majority of home sales in Williamsburg significantly outperforming single-family detached sales. In general, condominiums and townhouses were priced more reasonably and their values did not escalate as dramatically as did single-family attached units. The average sales price for single-family attached units in Williamsburg increased 55% between 2001 and 2006. The number of single-family attached sales increased from 35 to 233 units from 2002 to 2003 (a reflection of new stock and prices competitive prices as compared to single-family attached units). The number of single-family attached units increased steadily each year from 2004 to 2006. Except for a drop in average sales price during the transition years of 2002 and 2003 when more units became available, the average sales price of attached units increased each year. The peak was a 20% increase in average sales price between 2004 and 2005. The average sales price for single-family attached units in Williamsburg was \$302,797 in 2006.

Table 52: City of Williamsburg, Single-family Attached

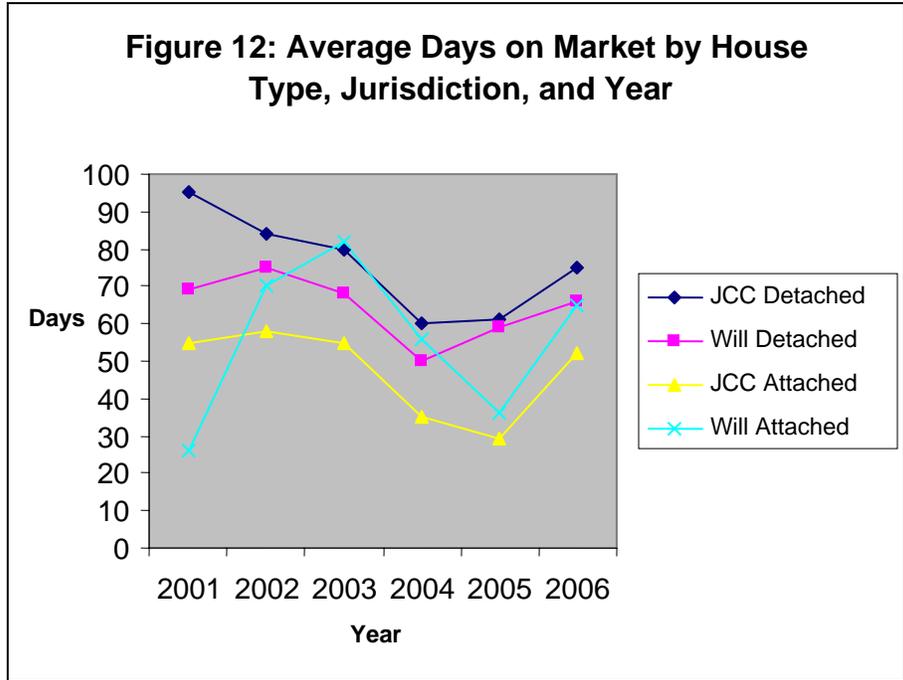
<u>Year</u>	<u># Listings Sold</u>	<u>Avg. Sold Price</u>	<u>Days on Market</u>
2000	5	\$144,780	86
2001	35	\$171,515	55
2002	233	\$162,190	58
2003	189	\$191,845	55
2004	224	\$222,439	35
2005	278	\$267,097	29
2006	348	\$302,797	52

Source: Williamsburg Area MLS

The average number of days that properties stay on the market is a significant indicator of market strength. Again only examining the trends from 2001 through 2006, the high for average days on market was in 95 in 2001 for detached single-family units in James City County. The low for average days of market (26 days) was in 2001 for attached single-family units in James City County. This pattern indicates that in 2001, James City County condominiums and townhouses were in demand compared to single-family detached units.

Figure 12 shows average days on market across years for both James City County and Williamsburg for detached single-family units and attached single-family units. The pattern of movement for detached units was similar for James City County and Williamsburg with Williamsburg the slightly tighter market throughout the period. Average days on market dropped between 2002 and 2004 but in response to higher prices and higher interest rates the detached market started to cool after 2004 as shown by longer average days on market. In James City County the average days on market trend for attached single-family units followed the same down and up pattern of detached units between 2001 and 2006. However, condominiums on average were on the market for a much shorter time period (less than two months for every year reported). Attached single-family units sold in Williamsburg, on the other hand, did not move as well between 2001 and 2003 as shown by a sharp increase in average days on market. Average days on the market for condominiums plummeted after

2003 for both James City County and Williamsburg and took about a year longer than detached units to feel the effects of rising interest rates and prices.



Source: Williamsburg Area MLS

Although by 2006 average days on market had increased across the board from a low during the 2004 and 2005, houses and condominiums were still turning over at about the same rate as 2000 and 2001. This indicates that despite the significant increase in prices, the market in 2006 was still strong.

Median Sale Price Trends

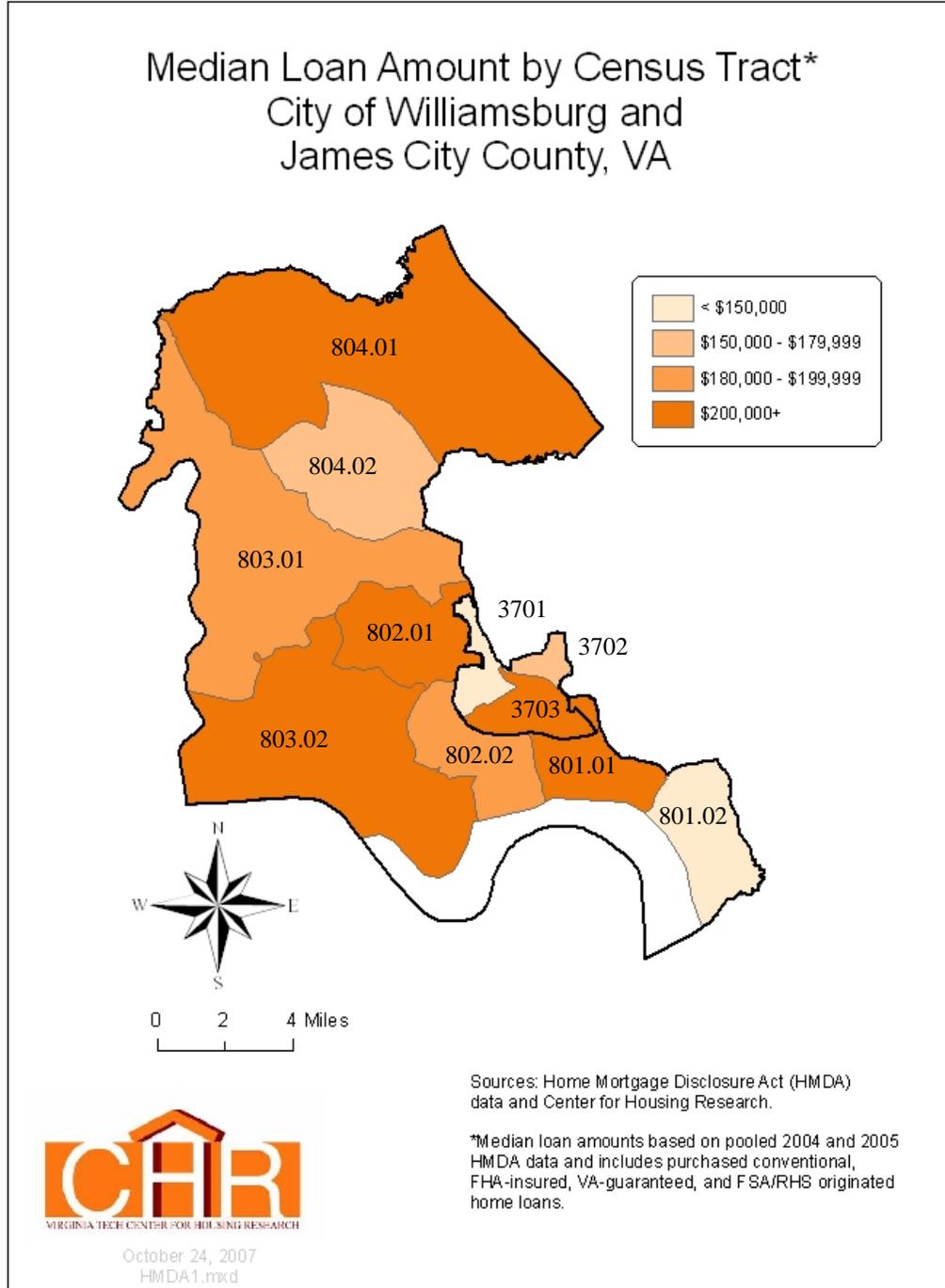
While the number of recent sales have been decreasing in markets across the country (2007 national sales estimates by the National Association of Realtors are down from peak sales in 2005 by about 15% for existing sales and down 34% for new construction), median prices have shown little decline (estimated to be down 1.2% from 2006 to 2007 according to the National Association of Realtors). However, in areas such as San Francisco, Boston, and the Williamsburg area where housing prices increased tremendously from 2003 to 2005, there have been greater declines in median prices. According to the Virginia Association of Realtors, the median sale price (includes all single-family unit types) in 2006 in the Williamsburg area was \$318,388. In 2007 (includes sales from January through September), the median price for the Williamsburg area as reported by VAR was \$297,450, down 6.6% from 2006. In comparison, while some other Virginia markets saw a decline, such as the Dulles area market (down 7.4%), 2007 median sale prices were up slightly from 2006 in the Hampton Roads market area (2.2%), the Richmond Metro market area (4.4%), and the Charlottesville market area (1.1%).

Home Mortgage Disclosure Act Data

Home Mortgage Disclosure Act (HMDA) data provides a better understanding of where housing investment has been taking place in James City County and in Williamsburg. Banks and other lending institutions are required by the federal government to collect and make public data on loan activity as a measure for monitoring fair lending and ensuring communities are being properly served. We pooled HMDA data for 2004 and 2005 and extracted loan information for our target areas. We aggregated by census tract the number of originated conventional, VA guaranteed, FHA insured loans, or FSA/RHS loans for home purchase and calculated the median loan amount and median applicant income. We then calculated a median applicant income to median loan amount ratio and the ratio of number of loans to number of housing units (from the U.S. Census 2000).

Map 4 shows median loan amounts in 2004 and 2005 by census tract. While median house value and median loan amount are not equivalent, they both are indicators of housing market activity and strength. The darkest shaded tracts had the highest median loan amounts (the highest at \$243,000 was tract 801.01, a largely residential tract including the Kingsmill area/neighborhood). The lighter shaded areas indicate the lowest median loan amounts with tract 801.02, the southern most census tract in James City County, having the lowest (\$108,000) median loan amount. Tract 801.02 encompasses several government owned properties, a large industrial area, and a sizable park/open space. Tract 3703 in Williamsburg also had a relatively low median loan amount (\$144,000) partly a factor of the comparatively low median household income in that tract (\$56,000 in 2000) indicating many households would be unable to borrow a large amount.

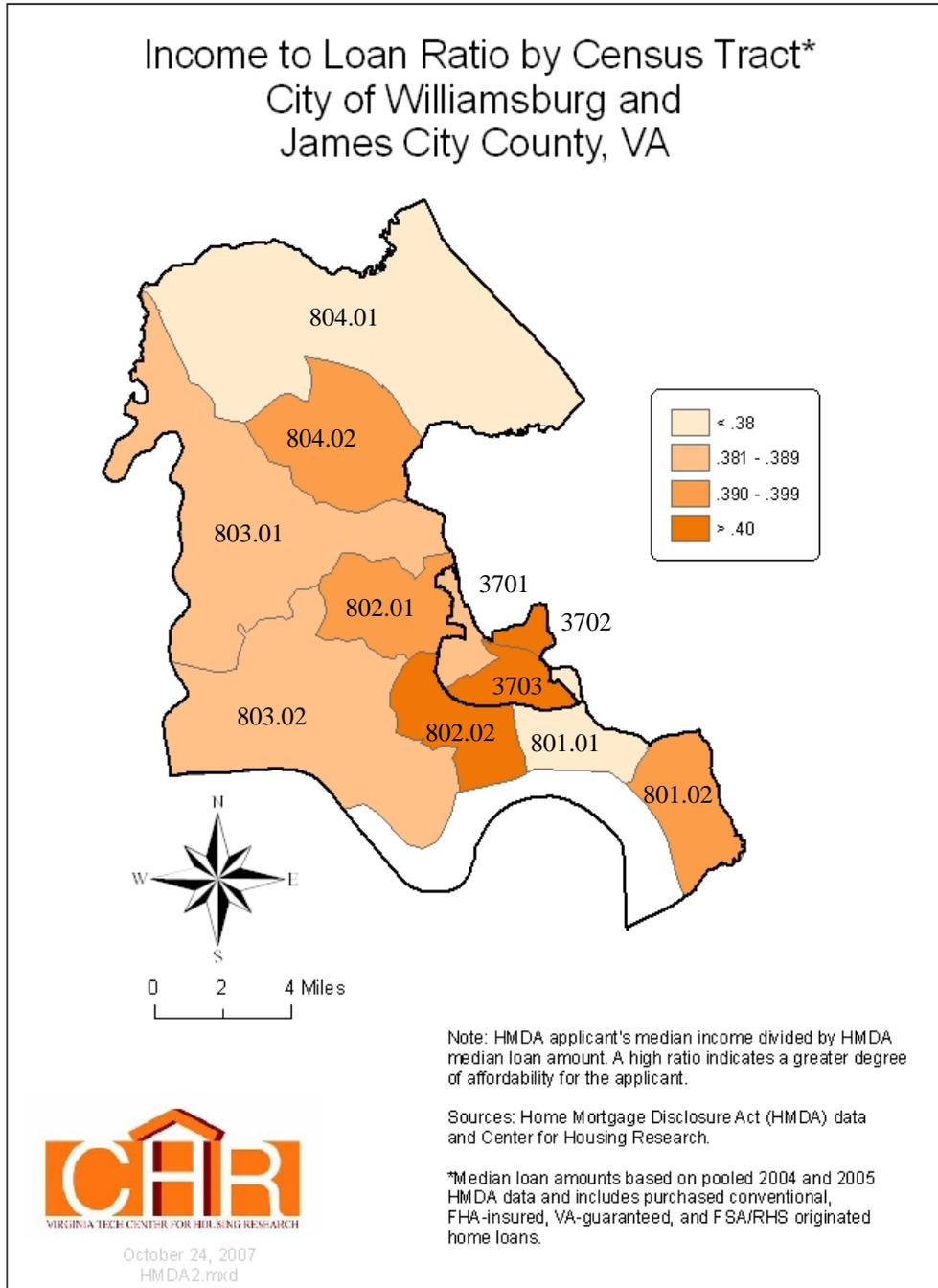
Map 4: Median Loan Amount (pooled data 2004, 2005) by Census Tract, City of Williamsburg and James City County



Again based on the pooled 2004-2005 HMDA data, we created a ratio of median income of loan applicants to median loan amount for each census tract (see Map 5). Census tracts with the highest ratios attracted owners that could most afford their new housing borrowing less and having adequate incomes to support that borrowing. Neighborhoods north of the CSX Railroad within Williamsburg's Tract 3702 had the highest ratio (.49). Several other census tracts in the region had high income to loan ratios including Tract 802.02 in James City County with a median income to median loan amount ratio of .42.

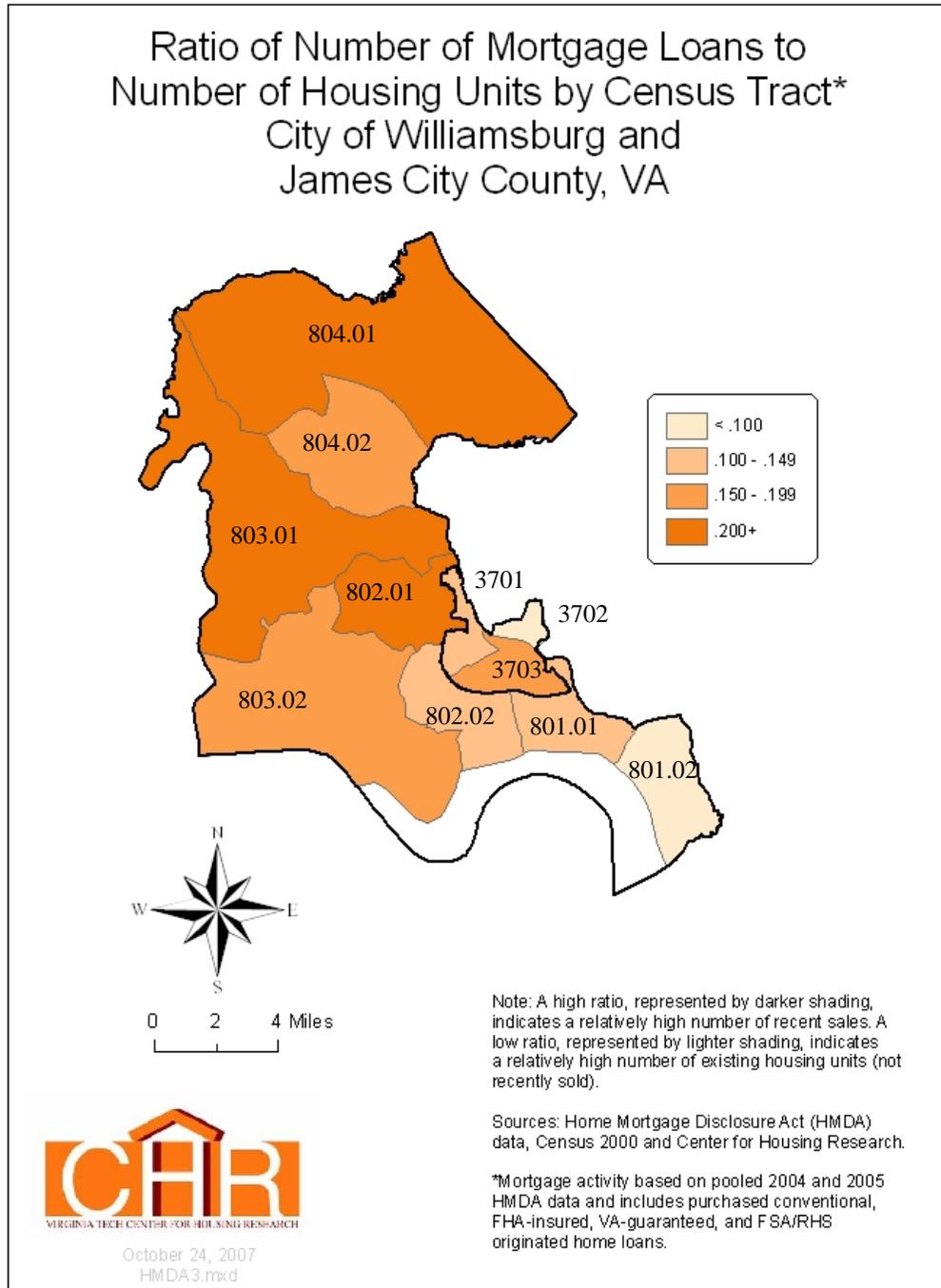
Census tracts with the lowest ratios attracted owners that borrowed more relative to their income. Two census tracts in James City County, 804.01 and 801.01, had ratios under .38. Tract 804.01 is the northern most census tract in the county and is zoned largely rural or low density residential. Tract 804.01 includes the Toano where many of the homes sold through the AHIP program are located. Tract 801.01 lies between Williamsburg and the James River. In addition to low ratios, these tracts had the highest median loan amounts. It is likely that new owners in the tracts with the lowest ratios reflect first time buyers with just enough income to afford buying a home. Some new owners in tracts with lower ratios could face significant housing cost burdens and have little discretionary funds for maintenance and upkeep of their property.

Map. 5: Income to Loan Amount Ratio* (pooled 2004, 2005) by Census Tract, City of Williamsburg and James City County



Also using the HMDA data, we created a ratio of the number of mortgage loans (pooled for 2004-2005) to the number of housing units (based on the 2000 Census) for each census tract in James City County and Williamsburg (see Map 6). A high ratio, represented by darker shading, indicates a relatively high number of recent sales in that tract. A low ratio, represented by lighter shading, indicates a more static area or a high number of existing homes that have not been recently built or sold. Stagnant areas include neighborhoods south of Williamsburg in James City County as well as neighborhoods north of the CSX Railroad within Williamsburg's Tract 3702. Tract 801.02, the southern most census tract in James City County, had the lowest ratio (.062). By far, Tract 804.01 had the highest ratio (.237) and the highest amount of sales activity. This northernmost tract while still largely rural, contains the growing communities of Norge and Toano.

Map 6: Ratio of the Number of Mortgage Loans (pooled for 2004, 2005) to the Number of Housing Units by Census Tract, City of Williamsburg and James City County



Housing Cost Overview

The housing price data that we examined fell within a time period of rapid change in market conditions. According to the National Association of Realtors, 30-year mortgage rates declined by more than 2 percentage points over the 2000–2005 period stimulating sales and contributing to a surge in housing prices. Following a period of robust home sales, higher prices coupled with uncertainty about the market have contributed to cooling of the sales market over the past few years. Now, in many markets around the country, home prices are stabilizing or dropping and homes for sale are staying on the market longer. Prices at the high end of the market may end up dropping in a cooling market, especially in the existing home sales market (according to VAR, the median sales price has dropped in the Williamsburg area in since 2006). The data provided by the Williamsburg Area Realtors show that houses in both James City County and Williamsburg were staying on the market longer in 2006 than in 2005, but on average less than one month longer.

In cooling markets, house prices for low- to moderately-priced homes ordinarily do not drop significantly and often continue to rise moderately. More likely to have an effect on the low-end market, is the tightening of credit as fallout resulting from the increase in high-risk lending practices over the past several years. While foreclosed properties could increase the stock of moderately-priced housing, tightened credit conditions may prevent potential buyers from securing a mortgage loan to purchase those foreclosed properties, or for that matter, any other properties.

A critical factor affecting the future of the housing market in the Williamsburg area as well as the nation is the trajectory of mortgage interest rates and their impact on sales and prices. Recent actions by the Federal Reserve show a commitment to keeping interest rates low.

CONCLUSIONS

This study discussed many of the factors that characterize and influence the housing market in James City County and the City of Williamsburg with particular focus on housing affordability. We used the most recent available data whenever possible drawing from the US Census, IRS migration data, MLS sales data, local real estate tax assessment data, and other sources. We presented statistics and showed trends in order to provide the information local officials need for making policy decisions regarding housing.

Based on our research and analysis, we can conclude that:

- The area is growing, especially James City County. Based on the US Census number of housing unit estimates released in September of 2007, James City County was ranked the 66th fastest growing county in the nation with a 29.7% increase (nearly 5% growth per year) in housing units between 2000 and July 2006. Partly through the marketing efforts of large residential developers and the real estate community, both James City County and Williamsburg are attracting a significant number of retirees who tend to favor high end condominium living. In addition, as a relatively suburban component of the Virginia Beach metropolitan area, the James City County/Williamsburg area attracts residents from surrounding, more urban metropolitan jurisdictions.
- Multi-family housing is accounting for an ever-increasing portion of newly-constructed residential housing in James City County and the City of Williamsburg.
- In James City County, we project an increase between 6,400 to 7,000 owner-occupied units and from 1,200 to 1,400 renter-occupied units during the current decade, followed by increases between 2010 and 2020 in the ranges of 6,000 to 8,700 owner-occupied units and 1,600 to 2,300 renter-occupied units. The rental unit share in growth ranges from 15% to 22%, with the higher shares projected for 2010-2020.
- The market share in James City County for married-couple families (about 60%) is projected to remain fairly stable through 2020. Non-family households (single individuals, unmarried couples without children, and roommates) are the second largest and fastest growing household type in James City County.
- In Williamsburg, we project an increase between 400 and 470 owner households for both 2000-2010 and 2010-2020. We project an increase in rental demand between 124 and 253 occupied units from 2000 to 2010 and between 125 and 286 occupied units from 2010 to 2020.
- Demand for housing in Williamsburg is concentrated in the non-family category, which we project to increase to 50% of households by 2020. Although most of these households are younger, the fastest growing segment will be seniors living alone. The market share of married-couple households is projected to go down by 2020.

- James City County has experienced solid job growth (average annual growth of 4.2% between 2000 and August 2007 as compared to 1.8% in the state) and low unemployment (2.7% in August 2007 as compared to the state rate of 3.1%). Job growth has been slower in the City of Williamsburg with a less than 1% average annual growth rate between 2000 and August 2007 and an unemployment rate of 5.6% in August 2007. Williamsburg's employment environment is marked by substantial seasonal variation and part-time employment that characterize the recreation and hospitality/tourism industries. However, the College of William and Mary, located in Williamsburg, provides stability and the hospitality/tourism sector is declining in proportion to other job sectors. The future employment outlook (as predicted in a 2007 report by Chmura Economics&Analytics) is for a transition to more jobs in the service, transportation, and warehousing sectors.
- Many jobs in James City County and the City of Williamsburg pay relatively low wages. In 2006, the average annual wage in James City County was \$31,569 and the average annual wage in the City of Williamsburg was \$30,318. This translates roughly into being able to buy a house in James City County that costs \$91,524 or to pay monthly rent of \$789 and in the City of Williamsburg being able to buy a house costing \$89,502 or to pay monthly rent of \$758.
- James City County and the City of Williamsburg have exceptionally high housing costs. According to local MLS real estate data, the average sales price in 2006 for a single-family detached house in James City County was \$415,617 and the average sales price in 2006 for a single-family detached house in the City of Williamsburg was \$440,187. Prices are moderating somewhat, however. In 2007 (includes sales from January through September), the average sales price and the median sales price for all housing types including single-family attached units for the Williamsburg area as reported by VAR were down from 2006 (5.0% and 6.6% respectively). The average monthly rent in 2007 in the James City County/Williamsburg area, as estimated by the Center for Housing Research, was \$1,077 for a 2-bedroom apartment.
- The presence of college students help drive up rental costs. Most students have support from family or loans to help with rental costs and students are able to share the costs of renting with other students (not a reasonable choice for a family). Students compete with local residents for a limited number of rental housing units.
- Owner vacancy rates in both James City County and the City of Williamsburg were extremely low in 2000 indicating a tight ownership market (2.3% and 2.1% respectively). The rental vacancy rate for the City of Williamsburg was also low (3.9%) indicating a tight rental housing market while the rental vacancy rate in James City County (11.2%) was above the 5% threshold that indicates supply is not keeping up with demand. However, with little newly-constructed multi-family rental housing, it is likely that the rental vacancy rate in James City County is lower now than in 2000.
- The impact of a tight housing market is most severe for those seeking lower-cost owner housing. Without a subsidized program, it is virtually impossible to expand the supply of

lower-cost housing through new construction due to land and construction costs. The alternative is that affordable housing opportunities are found within the existing market. However, with a severe housing shortage, older and lower quality units become more and more attractive to people with higher incomes. Extremely low vacancy rates lead to “bidding wars” when home seekers compete for units that come on the market, with sellers often receiving bids well above their asking price. This shrinks the supply of housing affordable to households with modest incomes by displacing them with households having higher incomes and by increasing the market price for these units. Those displaced must find housing outside of the high cost area or pay a high proportion of their income for housing.

- A housing affordability gap (not enough units affordable to certain income-level households partly because higher income households consume the units that are affordable to those with lower incomes) forces low-income households in James City County and the City of Williamsburg to use a high portion of income for housing. In 2000, about 35% of James City County’s lowest income renters and half of the lowest income owners were forced to spend a larger portion of their income for housing than the less than 30% threshold indicated by the U.S. Department of Housing and Urban Development (HUD) as a nominal measure for housing affordability. Overall, about 41% of Williamsburg’s lowest income renters and half of the lowest income owners in 2000 were forced to spend more than 30% of their income for housing.
- A shortage of “workforce housing” or housing that is affordable to essential workers of a community can threaten economic advancement and growth. Workers in occupations vital to the community have difficulty finding affordable housing in the James City County/Williamsburg area. The results of the calculations of what individuals working in five example occupations (landscaping/groundskeeping workers, retail sales workers, police officers and firefighters, elementary teachers, and registered nurses) could afford to buy or rent show that without additional income, individual wages alone were insufficient to live in James City County or Williamsburg. The 2006 wages of two of the occupations examined (landscaping and groundskeeping workers and retail sales workers) were lower than what would have been required to purchase any housing unit on the market in the City of Williamsburg. About one dozen homes were sold in James City County affordable to workers in those service occupations. Only one 2-bedroom rental unit was available in the Williamsburg/James City County area under the affordability threshold for workers in these occupations. While some housing units were affordable based on wages alone for the other example occupations, workers in these occupations had to compete with each other, other low- to moderate-income workers, and higher income workers for a limited number of affordable units.
- Only additional sources of income from a second or third job, overtime hours, or wages from another household member opened up some reasonable opportunity for individuals working in five example occupations (landscaping and groundskeeping workers, retail sales workers, police officers and firefighters, elementary teachers, and registered nurses) to buy or rent in James City County or Williamsburg. Even with income from additional sources supplementing their individual wage, there were limited opportunities for a retail

sales worker to buy a home (less than 50 units affordable in Williamsburg and about 65 affordable in James City County in 2006). Although landscaping and groundskeeping workers had a lower average individual income than retail sales workers, they had more housing opportunities when considering household income (most likely due to having multiple earners in the household). Housing opportunities were somewhat improved with the benefit of additional income sources for firefighters and police officers and registered nurses and much improved for elementary school teachers, many of whom likely benefited by having a household member making a higher wage.

- The workforce housing analysis showed that one-person and one-worker households (often single-parents) were at a clear disadvantage needing to have significant earnings from investments or savings (unlikely for workers with low- to moderate-incomes), have a second or third job, or work overtime hours in order to afford housing in James City County or the City of Williamsburg.

APPENDIX A

James City County Affordable Housing Incentive Program (AHIP)

Background

AHIP is a flexible public/private partnership program begun in 1991. Participating builders offer homes for sale at below market prices which qualify for special reduced rate mortgages and/or downpayment assistance.

Objectives

Provide moderate Income residents/workers assistance to become homebuyers and encourage production of affordable homes.

Partners

- James City County Office of Housing and Community Development (OHCD)
- Builders, Developers, Lenders, Government Financing Agencies

Incentives

Buyer Prequalification and Referral – OHCD solicits applications from potential first time homebuyers. OHCD determines whether applicants appear to meet loan-underwriting requirements. Applicants determined ineligible are provided information regarding actions required to become eligible. Eligible applicants are provided information about homes offered by AHIP builders in their price range. Eligible buyers are provided referral letter to AHIP builder stating price and terms of financing reservation. AHIP sales price reflects reduction in sales and marketing expense.

Low Interest Rate Mortgages – OHCD obtains reservations of special reduced rate mortgages from government finance agencies. Mortgage fund reservations include buyer income restrictions, property restrictions, sales price limits and various underwriting requirements.

Downpayment/Closing Cost Assistance – OHCD obtains reservations of funds to finance downpayment and closing costs from government finance agencies or local funding.

Fee Waivers – Building permit and inspection fees may be waived for AHIP homes presold to eligible buyers.

Property – Opportunities to purchase land, lots, or property suitable for rehabilitation provided to AHIP partners.

Related Programs

Downpayment Assistance Soft Seconds – builder/developers who proffer affordable homes may fund downpayment assistance which is provided as a 15 year deferred forgivable secondary mortgage held by James City County. This program allows for a

higher gross sales price, provides downpayment and closing funds for the buyer, and may eliminate the expense of mortgage insurance.

Home Buyer Seminars – Since 1992 OHCD has offered homebuyer classes taught by OHCD staff or participating lenders. Classes follow curriculum developed and accepted by government financing agencies. Class participants include AHIP buyers as well as other first time homebuyers.

Home Buyer Club – A program to assist participants prepare for homeownership through monthly educational meetings, counseling, peer support and goal setting.

James City County Employee Home Purchase Savings Program – a savings matching grant available for down payment and closing costs funded by the County General Fund available to JCC and JCSA employees.

Outcomes-Since 1990 OHCD has reviewed well over two thousand applications from potential buyers. Through September 2007, 399 first time homebuyers have purchased homes with special low interest rate first mortgages and/or downpayment assistance provided through the AHIP program.

Special Financing 2007

VHDA SPARC Mortgages –fixed rate first mortgages at 1% or ½% below the standard VHDA tax exempt rate Mortgage options include thirty year conventional insured, FHA, VA and RHS loans. Step Rate and FHA Plus options available.

Hampton Roads Regional Loan Fund

Down Payment Assistance from federal HOME funds allocation, may be used with VHDA SPARC

Federal Home Loan Bank of Atlanta-First-Time Homebuyer Program FHP

Down Payment Assistance of up to \$10,000 available through participating AHIP lender partners. Income limit 80% of area median income.

JCC Employee Home Purchase Savings Program

Down payment matching grants not to exceed \$3000. Income limit 110% of area median income.

VHDA HomeStride

Secondary financing up to \$20,000, no interest or payment for first three years, payments begin in fourth year at 5% interest rate amortized over 27 years. To be used with VHDA first mortgages. Income limit: \$63,000 for 1 or 2 person households, \$73,000 for 3 or more person household.