Housing Market Conditions and Housing Needs in Chesterfield County, Virginia

2000 and 2010

Virginia Tech Center for Housing Research

September 2003

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Virginia Polytechnic Institute and State University

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2000 and 2010

Prepared for Chesterfield County

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Executive Summary

The demand for housing in Chesterfield County has increased at a steady pace. The county has become the region's largest location of owner-occupied housing, particularly for family housing. It plays an important role in providing affordable homeownership opportunities as well as ownership opportunities for minorities. In addition, the county is important as a source of rental housing for families and increasingly for the elderly (many of whom probably were homeowners within the county). The County has a much smaller share of the regional market for rental housing for non-elderly singles and unrelated individuals.

Overall growth during the current decade is anticipated to be somewhat less than that during the 1990's, but will continue to be substantial.

The private market will meet most of the projected increase in demand for housing in the county in due course. Some market segments, however, warrant careful attention and might need public intervention to assure the development of adequate, affordable housing. These include:

- Ownership opportunities for lower income and lower-middle income families.
- Ownership opportunities for single-parent households, including attention to the housing needs of post-divorce families.
- Continued opportunities for homeownership by minorities, including access to financing.
- Sufficient development of rental housing to meet projected demand for new households formed by young adults and for low and moderate-income families.
- Affordable renter housing for families. Renters with extreme cost burdens should be the target for rental assistance and social services to help prevent the damage that can accompany this situation.
- Affordable independent-living residences for the elderly.
- Creation of a housing trust program and examination of HUD's 811 program can offer people with disabilities independent living in a community.
- Development of programs to promote healthy and safe independent living for the elderly aging-in-place.

The affordability of homeownership helps drive the anticipated growth in the County for the next decade resides. With 41% of the newly constructed single-family units between 1997 and 2002 assessed for $150,000 or less (13% below $100,000), many more potential young homeowners will be looking to the Chesterfield market for their first or second place of residence.

In addition to the predominately family characteristic of Chesterfield's housing market, the county is characterized by the economic prosperity and stability of its neighborhoods. The vast majority of Chesterfield is a very stable market of newly developed neighborhoods and older neighborhoods that have aged gracefully. In contrast to the general pattern of prosperity in the county, some older neighborhoods have experienced population losses, declines in incomes, and other signs of increased stress. Housing problems in the county are very "micro" in location, typically affecting groups of blocks or even individual blocks rather than larger neighborhoods. These micro-areas of emerging housing problems are located in three geographic clusters—a Reams cluster, a Jefferson Davis Highway cluster, and a small cluster at the confluence of the James and Appomattox River. The County should plan for expanding demand for public services in these areas and look for opportunities to stabilize and improve neighborhood conditions. These areas could become the hubs for converting properties from owner to renter occupancy unless new rental housing is developed to meet projected demand. Such conversions can diminish confidence in the economic vitality of the neighborhood and spawn disinvestment.

In seeking opportunities to address current and projected needs for lower- and moderate income housing, the County should consider further investigation of policies and programs that focus on dispersing affordable housing options and service delivery hubs throughout the County. Such inclusionary efforts could help the county to avoid issues associated with concentrating large low-income populations in small clusters, while encouraging income diverse communities, and promoting transportation linkages and access to employment opportunities.

Introduction

The Virginia Center for Housing Research (VCHR) was contracted to perform a housing market and needs analysis to assist the planning efforts of Chesterfield County, Virginia. This report summarizes the findings of that analysis, describes trends from 1990-2000 and projects growth from 2000-2010, and identifies important characteristics of housing in Chesterfield. The data used for this effort primarily came from the 1990 and 2000 Censuses, the VCHR Housing Model, and the Chesterfield Planning Department.

The report is organized into seven sections: population growth and household composition; race and ethnicity; incomes and poverty; housing tenure, values and rents; elderly households and person with disabilities; and projected housing demand; and housing production. The first three sections pertain mostly to the demographic characteristics of Chesterfield. The following three sections examine the housing trends in relationship to tenure, disability status, age and demand. The last section examines the supply of housing and addresses whether the supply of housing is keeping up with projected demand. The report concludes with an outline of significant findings and provides an overall assessment of the County's housing market.

1. Population Growth and Household Composition

Chesterfield County is growing faster than the Metropolitan Statistical Area (MSA) and consequently has an increasingly larger share of the overall metropolitan housing market. From 1990 to 2000, the MSA's population increased 15.1% while Chesterfield County's population increased 24.2%. Since Chesterfield County has a larger share of families than non-families (single person households and unrelated individuals), the average household size is much larger in Chesterfield, with 2.77 persons per household compared with 2.57 for the MSA.

The county and the MSA have very similar mobility rates, with nearly one-half of its residents having moved during 1995-2000. The County had a slightly lower rate of in-migration from outside the county between 1995 and 2000 (25.9%) than the MSA (27.5%). The county's higher overall growth rate appears to be due to higher proportion of births in the county and possibly to less out-migration from the county to other areas.

Population increase during the 1990s was more rapid (60% or more) in the southwestern portion of the county to both sides of Route 360, in the southeast section of the county bordered by Route 10 and I-95 and the Chesterfield-Swift Creek area (Map 1). Several areas of the county increased by 35.0%-59.9% and other areas grew less rapidly.

Areas of population decline or limited growth mostly were adjacent to the City of Richmond or in the Ettrick area. Some population loss along dense, commercial corridors can be expected. What were once more desirable neighborhoods become less so as they become more commercialized and heavily traveled. Some older suburban areas now are facing many of the same challenges faced by central city neighborhoods decades ago. If ignored, both residential and commercial areas can deteriorate and decline, triggering substantial population declines and disinvestment. The County should monitor these areas closely and implement neighborhood improvement programs as needed to stem population loss.

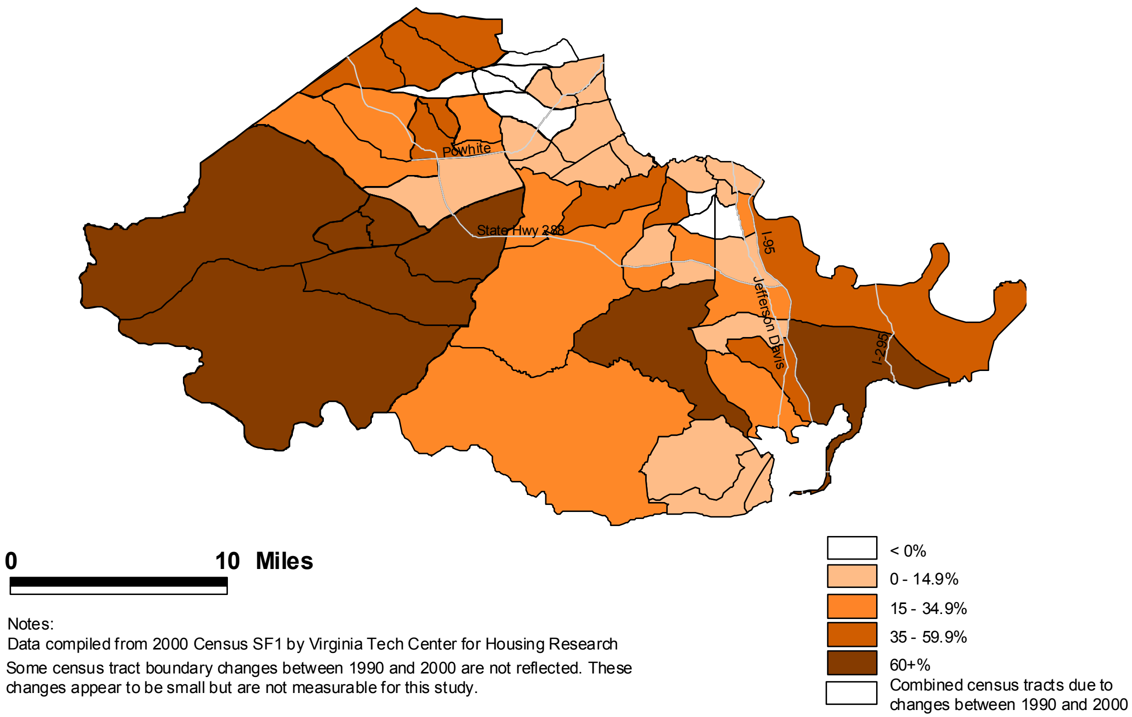
In 1990, 22.0% of total households in the MSA lived in the county; by 2000 this increased to 24.2%. The county has an even larger share of the owner-occupied segment of the housing market, with 28.9% of all homeowners in the metro area living in Chesterfield County in 2000. The county's share of the metropolitan renter market is much smaller, but also growing, going from 12.6% of the MSA in 1990 to 14.3% in 2000.

Family households, particularly married-couple families, are much more predominant in Chesterfield County than in the MSA. Over three-fourths (77.2%) of all households are families in the county compared to 67.5% in the MSA. Married-couples are more predominant in the Chesterfield housing market than in the MSA as a whole, although the trend in Chesterfield is toward greater diversity of household types (as elsewhere). In 2000, 63.2% of the county's households were married-couple families compared to the MSA at 49.8%. The proportion of married-couple households experienced similar declines in both places, down from 67.8% and 53.4% respectively in 1990. The county has proportionately fewer "other family" households (mainly single parents) than the MSA (14.0% and 17.8%, respectively).

Non-family households—single persons and unrelated individuals living together—are much less likely to live in Chesterfield than elsewhere in the MSA (22.8% versus 32.4%), particularly single-person households (18.5% versus 26.3%). This likely reflects a combination of consumer choice and housing supply. Chesterfield is overwhelmingly a "family" housing market and offers fewer amenities attractive to singles than elsewhere in the MSA. Reflecting this pattern, the housing stock in Chesterfield is more heavily oriented to single-family housing, with 85.5% of the county's housing supply compared to 74.7% of the MSA.

Map 1

Percent Change in Total Population by Census Tract, 1990 - 2000 Chesterfield County, Virginia



Notes:
Data compiled from 2000 Census SF1 by Virginia Tech Center for Housing Research
Some census tract boundary changes between 1990 and 2000 are not reflected. These changes appear to be small but are not measurable for this study.

2. Race and Ethnicity

Chesterfield's population is more likely to be white and less likely to be black than the MSA's population. Over three-fourths (76.5%) of Chesterfield identifies their race as white compared with 64.9% in the MSA. Hispanics were only 2.7% and 2.3% of the populations in the county and MSA, respectively, in 2000.

Segregation of minorities has been a long-time feature of American housing markets and reflects both discriminatory practices against blacks by whites and consumer preferences of blacks and whites. We calculated the segregation index for 1990 and 2000 to gauge segregation of blacks in Chesterfield. This index has a value of 1.0 under conditions of complete segregation and 0.0 when the black population is spatially distributed exactly as is the white population. Values between 0 and 1 can be interpreted as the percentage of the black population that would have to move in order to achieve an index of 0. The index was calculated at both the block group (representing approximately 1000 people) and the census tract (about 3,000-5,000 people).

The block group segregation index for Chesterfield County was .438 in 1990 and .424 in 2000, while the census tract index was .345 and .357. Greater concentration at the block group level than the census tract level is common. The MSA tract level index was .606 in 1990 and .570 in 2000 (a block level index for the MSA is unavailable at this time).

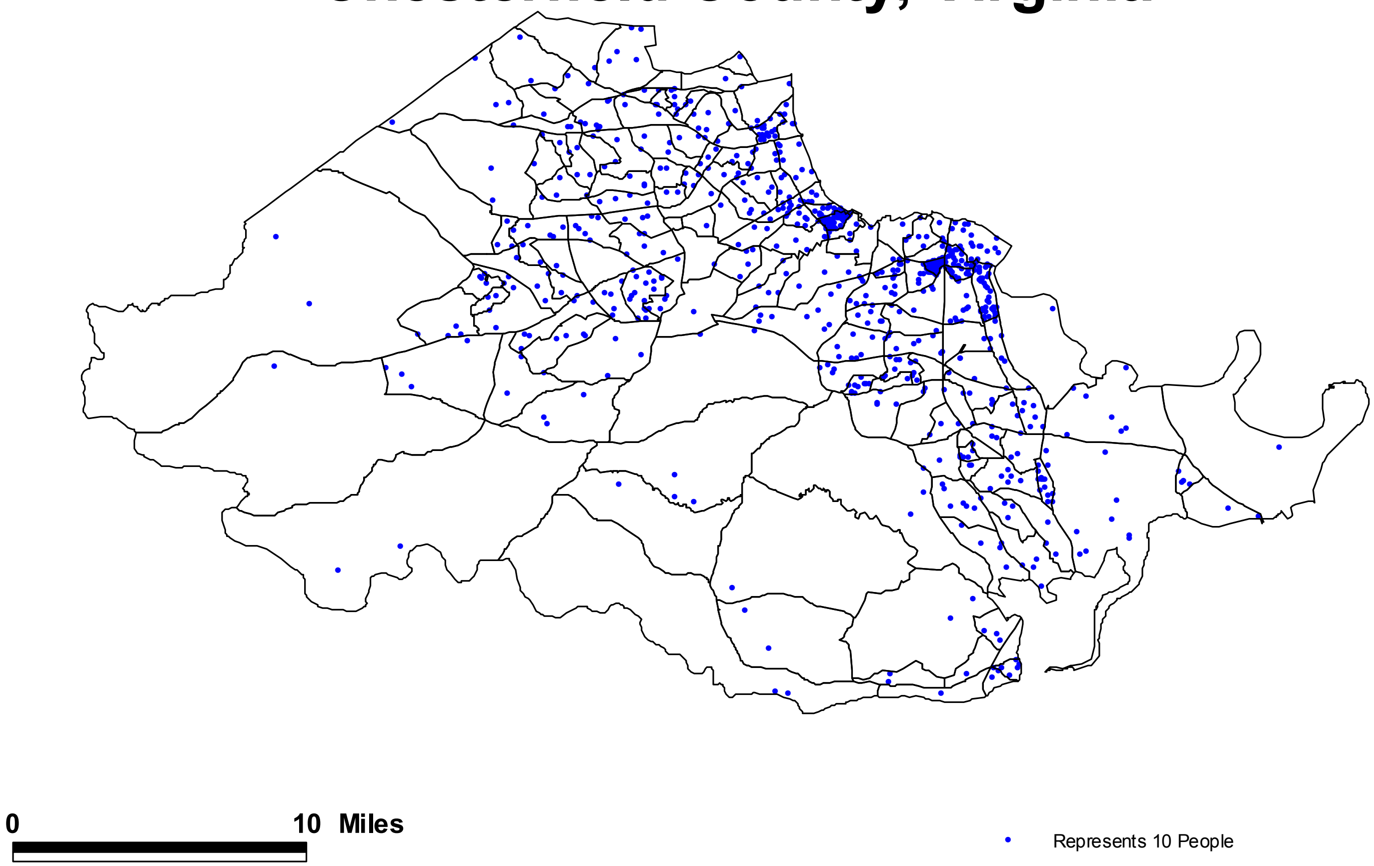
Interpreting segregation indexes is difficult. Obviously, lower values are more desirable than higher values. At the same time, even a purely random distribution would result in some block groups or tracks having a higher proportion of blacks than others. An index of 0 is not only impractical but would probably be considered undesirable by everyone. Currently, according to the Lewis Mumford Center for Comparative Urban and Regional Research at the State University of New York at Albany, segregation indexes of 0.60 or higher are considered to be very high, while indexes of 0.30 or below are "fairly low." Only 21 of 331 metropolitan areas in the US had values of .30 or below in 2000 (and only 4 of the 21 were outside the western US).

Chesterfield County's tract-level index would place it among the bottom 17% of metropolitan areas in the nation in 2000. It is also well below the level of segregation for the Richmond MSA, although a lower proportion of blacks live in Chesterfield than in the MSA.

Although we have not calculated the segregation index for other minorities, the Hispanic population in Chesterfield County is distributed widely throughout the county, as shown in Map 2.

Map 2

Hispanic Population by Block Group, 2000
Chesterfield County, Virginia



Note:
Data compiled from 2000 Census SF1 by Virginia Tech Center for Housing Research

3. Incomes and Poverty

The median household income in 1999 was 25% higher in Chesterfield County than in the MSA ($58,537 and $46,800). This was even more so for blacks than whites. For black households in Chesterfield, the median income was $50,589, 55% higher than the median for black households in the MSA. For white households, the median of $60,917 was only 15% higher than the median household income for whites in the MSA.

There were approximately 12,000 persons living below the poverty level in the county in 2000, but the county's poverty rate of 4.5% was less than half that of the metropolitan area's rate of 9.3%. The poverty rate for blacks was significantly higher than for whites, but less so in the county than the MSA (8.0% and 18.6%, respectively). A two-to-one ratio of metropolitan poverty to county poverty rates exists across the age spectrum. As elsewhere, children are more likely to be in poverty than adults, with children under 5 years having the highest rate of 6.6%.

Table 1. Poverty Rates by Age, 2000

	Chesterfield County, Virginia	Richmond--Petersburg, VA MSA
Total 1999	11,586	89,389
1999 below poverty	4.50%	9.30%
Under 5 years	6.60%	14.10%
5 years	6.00%	14.30%
6 to 11 years	6.50%	13.40%
12 to 17 years	5.30%	10.70%
18 to 64 years	4.00%	8.00%
65 to 74 years	2.90%	7.50%
75 years and over	4.30%	9.50%

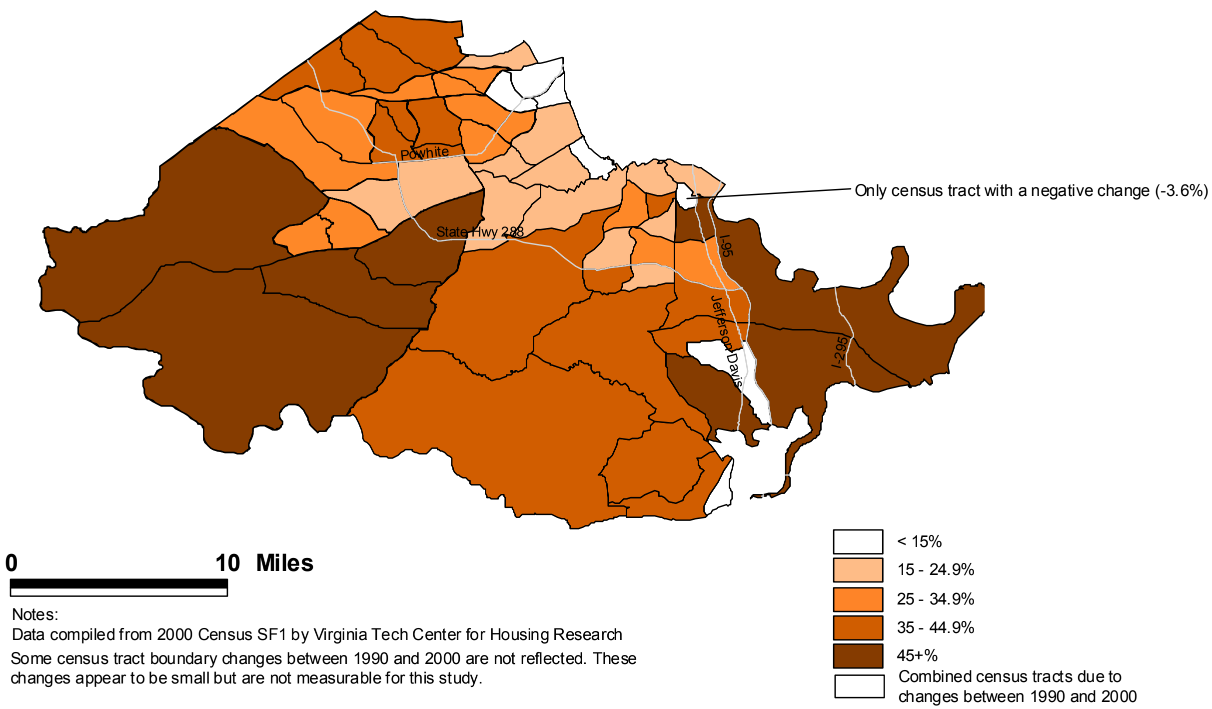
*Source: Bureau of Census, Census 2000

In contrast to the general pattern of prosperity in Chesterfield County, some older neighborhoods experienced declines in median household incomes (Map 3). Areas where median incomes increased less than 35% essentially declined in real purchasing power (general inflation increased prices 32% during the decade). Often declines in incomes are due to out-migration of the areas with higher income households and in-migration of lower-income households. In any event, most of the older neighborhoods of the county experienced declines in real (inflation adjusted) incomes and median incomes in one area even declined in nominal terms. Slow population growth and reductions in real incomes should be seen as early warning signs that the market dynamics in these neighborhoods might require public attention to avoid significant deterioration.

As shown in Map 4, these are also areas with larger numbers of persons in poverty. Three “clusters” exist: a cluster adjacent to the City of Richmond, near Belmont Road and Chippenham; a Jefferson Davis Highway cluster, and a small cluster in the Ettrick area at the confluence of the Appomattox and James Rivers.

Map 3

Percent Change Median Household Income by Census Tract, 1990 - 2000 Chesterfield County, Virginia



Notes:
Data compiled from 2000 Census SF1 by Virginia Tech Center for Housing Research
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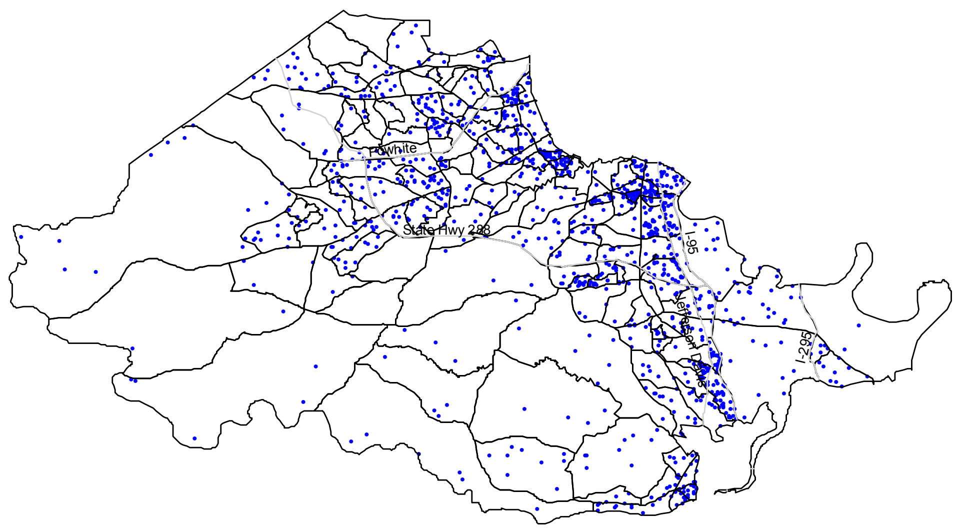
Map 4

Number of Persons in Poverty by Block Group, 2000
Chesterfield County, Virginia



0 10 Miles

• Represents 10 people

Note:
Data compiled from 2000 Census SF1 by Virginia Tech Center for Housing Research

Higher prevalence of female-headed households with minor children is another indicator of higher-risk households, both for housing needs and a variety of social service needs. As shown in Map 5, there were few female headed families with children aged 6 and under throughout the county. The few households in this category are clustered in the same areas of the county previously mentioned. There are significantly more female-headed families with children under 18 throughout the county (Map 6). As before, these households are clustered primarily in the older, Reams community and the Jefferson Davis corridor.

4. Housing Tenure, Values, and Rents

Chesterfield County can be easily described as a county of homeowners (Table 2). The county's overall ownership rate of 80.9% was substantially higher than the metro area's rate of 67.7%. The rate for whites was 83.8% (versus 75.4% in the MSA). Although lower than the ownership rate for whites in the county, the ownership rate for blacks of 71.0% not only exceeds the overall MSA rate, but also is nearly 20 percentage points higher than the MSA ownership rate for blacks (51.6%).

Table 2. Homeownership Rates by Race, 2000

	Chesterfield	MSA
White	83.80%	75.40%
Black	71.00%	51.60%
American Indian/Alaskan	66.40%	58.90%
Asian	73.80%	55.90%

*Source: Bureau of the Census, Census 2000

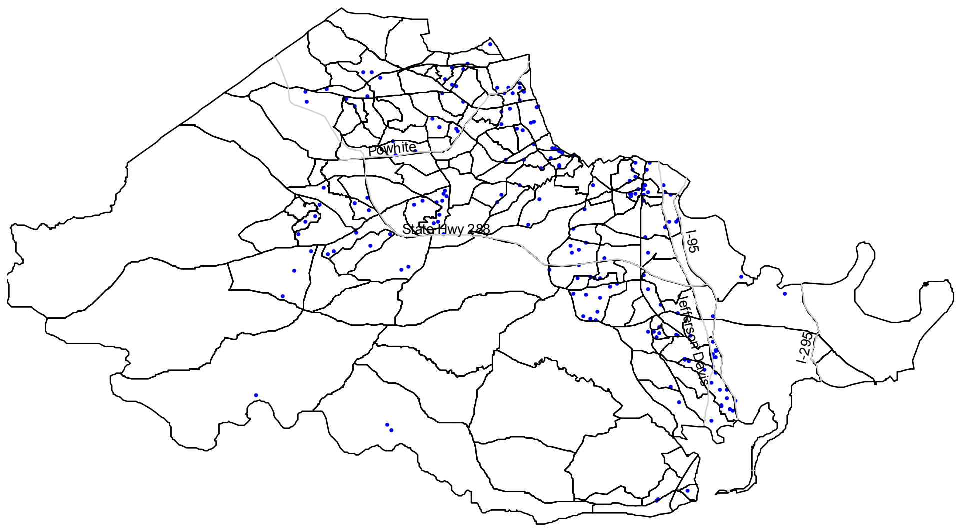
Homeownership is heavily influenced by a person's age. Young adults are typically better off renting than owning, at least until their employment and family lives are better established. The impact of age on homeownership is so strong that nearly 9-of-10 householders are homeowners at middle age (Table 3). The ownership rate, however, dropped slightly between 1990 and 2000 for all age groups below 45. This reflects changing demographics (e.g. a shift away from husband-wife families) and possibly increased problems with affordability for younger households.

Table 3. Homeownership Rate - Chesterfield County	2000	1990
15 to 24	29.20%	29.40%
25 to 34	64.60%	67.50%
35 to 44	82.10%	84.00%
45 to 54	88.00%	87.10%
55 to 64	90.20%	90.60%
65 to 74	90.70%	90.20%
75 and older	83.10%	80.50%

*Source: Bureau of the Census, Census 2000

Map 5

Number of Female Headed Households with Children 6 Years and Younger by Block Group, 2000 Chesterfield County, Virginia



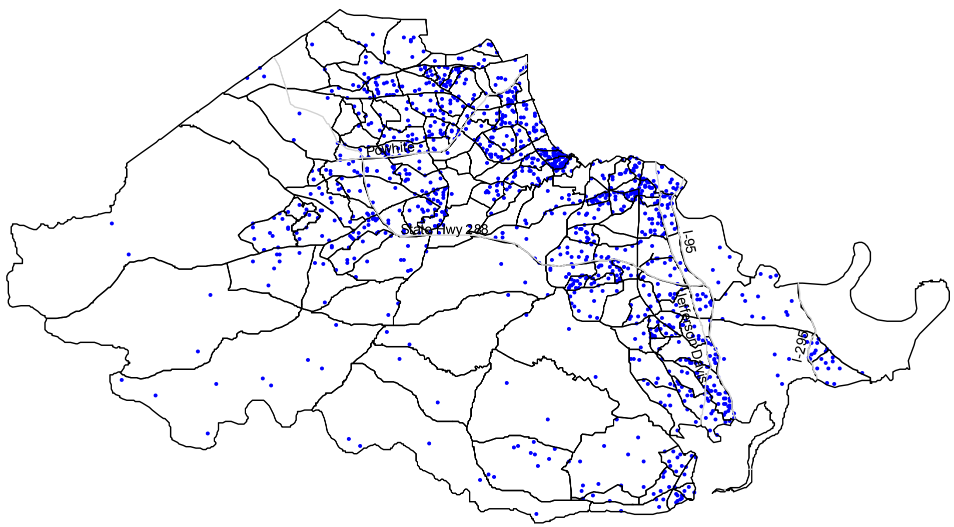
0 10 Miles

• Represents 5 households

Note:
Data compiled from 2000 Census SF1 by Virginia Tech Center for Housing Research

Map 6

Number of Female Headed Households with Children 18 Years and Younger by Block Group, 2000 Chesterfield County, Virginia



0 10 Miles

Represents 5 households

Note:
Data compiled from 2000 Census SF1 by Virginia Tech Center for Housing Research

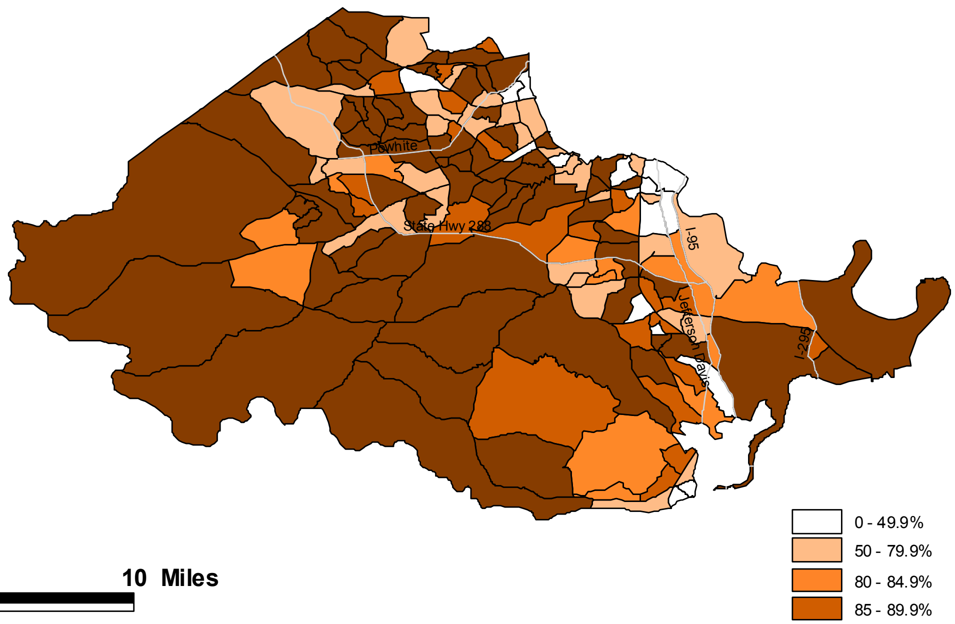
In nearly all areas of the county homeowners are in the majority (Map 7). A high homeownership rate can contribute to greater stability and on-going investment in neighborhoods. Even many of the older neighborhoods have ownership rates of 90% or higher. But some have slipped closer to 50% and a few have dropped below that level. Without proper attention to developing new rental properties, these areas could become the hubs for converting properties from owner to renter occupancy. Such conversions can diminish confidence in the economic vitality of the neighborhood and spawn disinvestment. As current owner-occupants find they cannot sell to other owner-occupants and property values decline, fewer and fewer homeowners are willing to continue to invest in maintaining their properties. Ironically, these very neighborhoods can offer entry-level homebuyers excellent opportunities, as long as investor confidence is maintained. Strategies to promote homeownership and to engage residents in determining the future of the neighborhood can help maintain that confidence.

Generally homeownership rates throughout the county are very high. Consequently, changes in ownership rates between censuses can be misleading. With already high rates, small increases or even small declines are insignificant. However, when matched with income or population declines and lower ownership rates, these declines can be troublesome. Again, this indicator points to the older neighborhoods adjacent to Richmond and the neighborhoods adjacent to Ettrick (Map 8).

A comparison between maps 7 and 8 suggests that a few areas within Chesterfield possess potential problem areas. The indicator used for the potential problem areas is the combination of low homeownership rates (map 7) and declining homeownership rates (map 8). Eastern portions of the Belmont neighborhood along with the Jefferson Davis corridor and the northern part of Bellwood display the characteristics of potential problem areas. It should be understood that these neighborhoods are special exceptions. The potential problem areas are very limited in size and are well contrasted by similar old inner suburb neighborhoods with very high homeownership rates.

Map 7

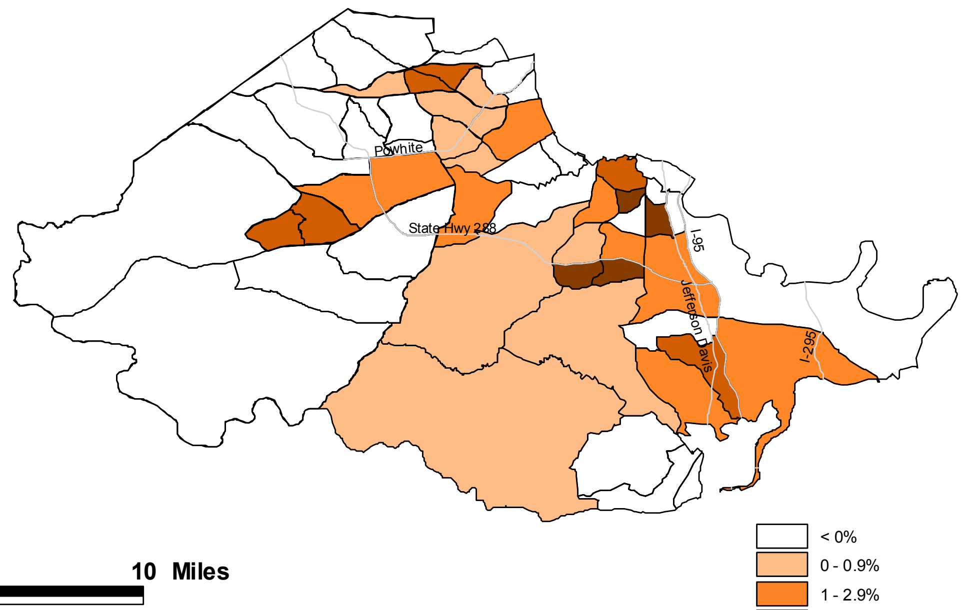
Homeownership Rate by Block Group, 2000
Chesterfield County, Virginia



Note:
Data compiled from 2000 Census SF1 by Virginia Tech Center for Housing Research

Map 8

Change in Homeownership Rate by Census Tract, 1990 - 2000 Chesterfield County, Virginia



	< 0%
	0 - 0.9%
	1 - 2.9%
	3 - 4.9%
	5+%
	Combined census tracts due to changes between 1990 and 2000

Notes:
Data compiled from 2000 Census SF1 by Virginia Tech Center for Housing Research
Some census tract boundary changes between 1990 and 2000 are not reflected. These changes appear to be small but are not measurable for this study.

The median value of owner-occupied units in 2000 was $120,500, only 4% higher than the MSA median. Housing in the county is more heavily distributed in the middle-range of values ($80,000 to $250,000) than at either extreme (Table 4).

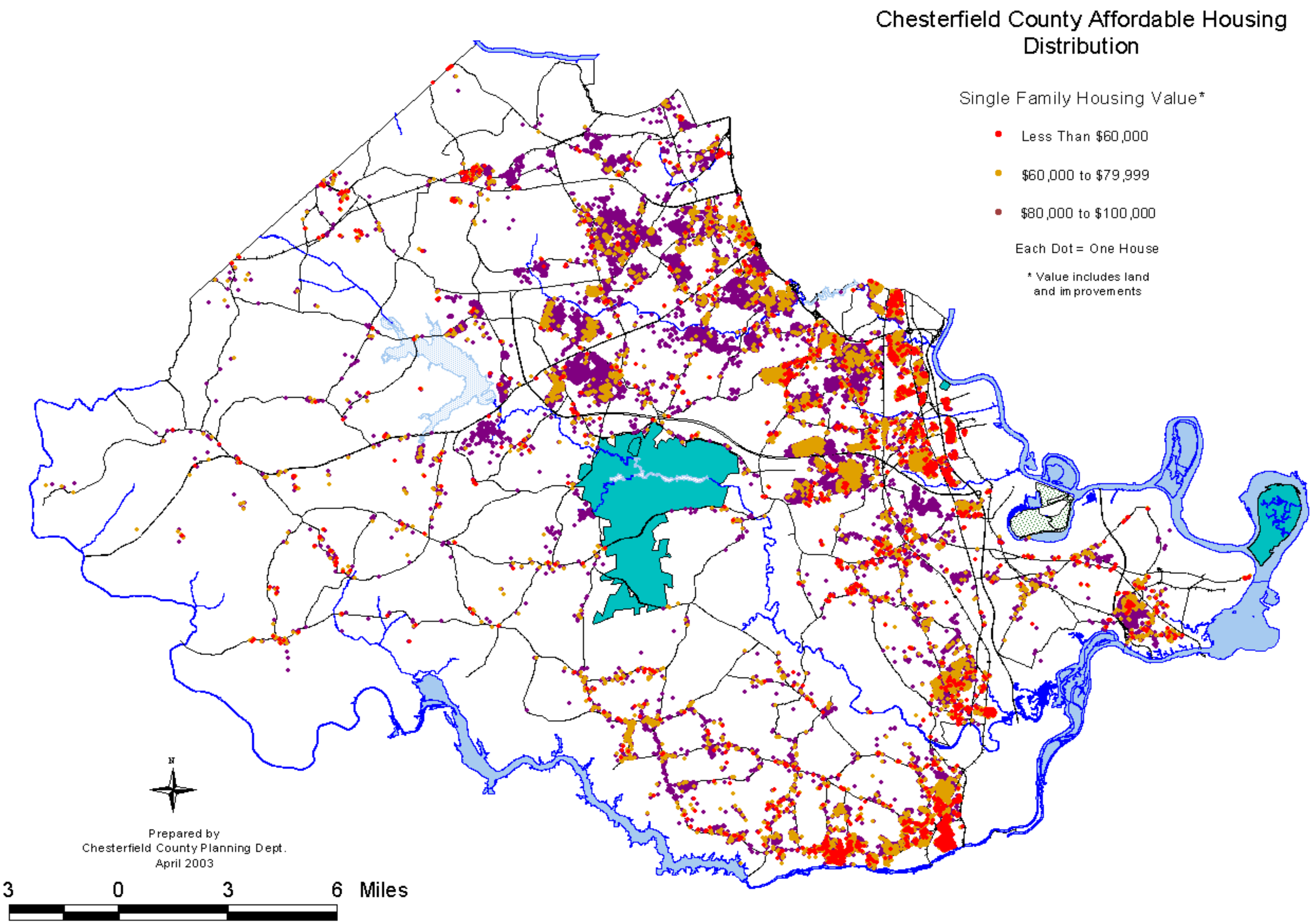
Table 4. Value of owner occupied units	Chesterfield County	Richmond-Petersburg MSA
Less than $50,000	1.30%	4.40%
$50,000 to 79,999	12.00%	17.60%
$80,000 to 99,999	21.10%	18.00%
$100,000 to 124,999	18.90%	16.20%
$125,000 to 149,999	15.50%	13.90%
$150,000 to 174,999	9.80%	9.00%
$175,000 to $199,999	6.30%	5.80%
$200,000 to $249,999	7.10%	6.50%
$250,000 to $299,999	3.60%	3.50%
$300,000 to $399,999	2.80%	2.70%
$400,000 or more	1.60%	2.30%
Median Value	$120,500	$115,400
*Source: Bureau of Census, Census 2000		

Recent sales data confirms that there are opportunities to buy housing in Chesterfield County that is affordable to families with modest incomes (Map 9). In addition to the affordability of existing houses, many new homes are also affordable to modest incomes particularly at current interest rates. Of homes built between 1997 and 2002, 41% were assessed at $150,000 and below, with 13% below $100,000 (Table 5). The affordability of the Chesterfield market presents an enormous appeal to potential homeowners in the area.

Table 5. Assessed Value of SF Houses Built 1997-2002								
	# of units							
	1997	1998	1999	2000	2001	2002	1997-2002	Percent
Less Than $100,000	176	153	385	350	266	55	1,385	13%
$100,000 to $150,000	521	539	464	445	461	508	2,938	28%
$150,000 to $200,000	397	457	419	421	415	602	2,711	26%
$200,000 to $300,000	284	313	342	380	400	758	2,477	24%
$300,000 to $500,000	81	96	103	127	138	331	876	8%
$500,000 or More	10	14	19	22	36	47	148	1%
*Source: Chesterfield Planning Department								

With a few exceptions, median values are either increasing in real terms or are close to keeping up with inflation (Map 10). Some areas have seen increases in median home values of 50% or more. Perhaps nothing is more important to the economic vitality of a neighborhood than the maintenance of property values. But important changes occur below the level of census tracts and more frequently than marked by census data. The County should continue monitoring early-warning indicators of changes in neighborhood quality by annually tracking sales prices, assessed values, and several other measures.

Map 9


Chesterfield County Affordable Housing Distribution
Single Family Housing Value*
Less Than $60,000
$60,000 to $79,999
$80,000 to $100,000
Each Dot = One House
* Value includes land and improvements
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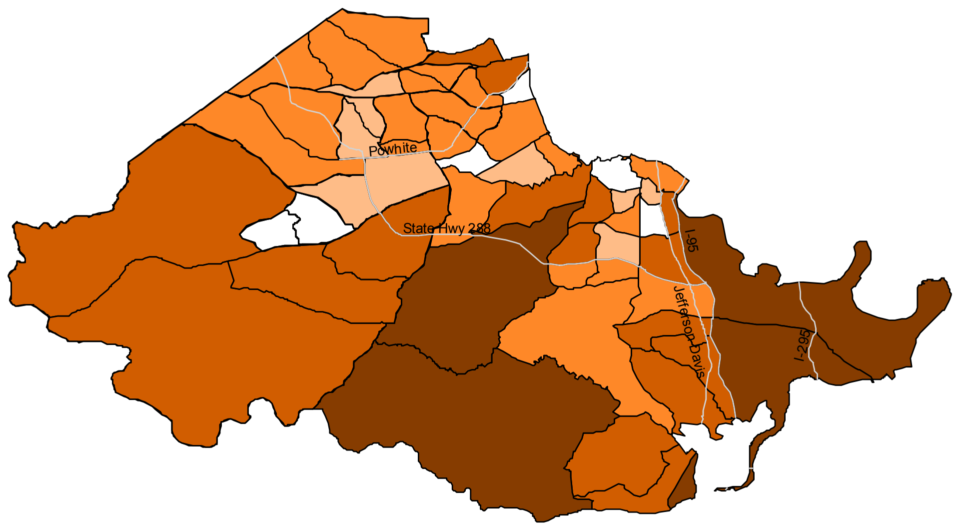
Prepared by
Chesterfield County Planning Dept.
April 2003
3 0 3 6 Miles

Map 10

Percent Change Median Value by Census Tract, 1990 - 2000
Chesterfield County, Virginia



0 10 Miles

- 0 - 19.9%
- 20 - 24.9%
- 25 - 34.9%
- 35 - 49.9%
- 50+%
- Combined census tracts due to changes between 1990 and 2000

Notes:
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In the three years between January 1, 1999 and December 30, 2001, individuals in Chesterfield County filled out 37,694 mortgage, refinance, and home improvement loan applications. Whites filed 30,611 (81.2%) of the area's loan applications. Black people filed only 7,083 loan applications (18.8% of the total) during the same time period. Of the total number of loan applications filed, 28,331 (75%) were applications for conventional loans, 7,094 (19%) were for FHA loans, and 2,269 (6%) were applications for VA loans. Between 1999 and 2001, lenders in Chesterfield County approved 29,771 loans, or 79.0% of all applications. Of the approved loans, 21,868 (or 77.2%) were conventional loans, 5,995 (or 84.5%) were FHA loans, and 1,908 (or 84.1%) were VA loans.

Unfortunately, loan approval rates for black applicants were significantly lower than for white applicants (Table 6). A total of 81.2% of white loan applications were approved, while only 69.5% of black loan applications were approved (Map 11). The County should assure adequate availability of housing credit for all qualified home buyers by monitoring Home Mortgage Disclosure Act data and the availability of Virginia Housing Development Authority loans along with periodically conferring with lending associations in the community.

Table 6.
Conventional Loan Approval by Income by Race, Chesterfield County 1999 - 2001*

Gross Annual Income	White Applications	White Approvals	White Approval Rate	Black Applications	Black Approvals	Black Approval Rate
Less than $20,000	608	315	51.80%	132	56	42.40%
$20,000 to $29,999	1791	1206	67.30%	407	217	53.30%
$30,000 to $49,999	5712	4356	76.30%	1412	841	59.60%
$50,000 to $74,999	6668	5434	81.50%	1214	774	63.80%
$75,000 or more	8258	7157	86.70%	992	721	72.70%

*Source: Home Mortgage Disclosure Act - 1999, 2000, and 2001 pooled data and Virginia Center for Housing

The rental housing stock also reflects the "family" orientation of the county's housing market, with 40.3% of occupied rental units having 3 or more bedrooms. In contrast, only 26.8% of MSA renter-occupied housing is this large. Median gross rent in the county in 2000 was $717 per month, which was 17% higher than the MSA median (Table 7). Given that the rental housing stock in Chesterfield is larger, this price variation is not too surprising.

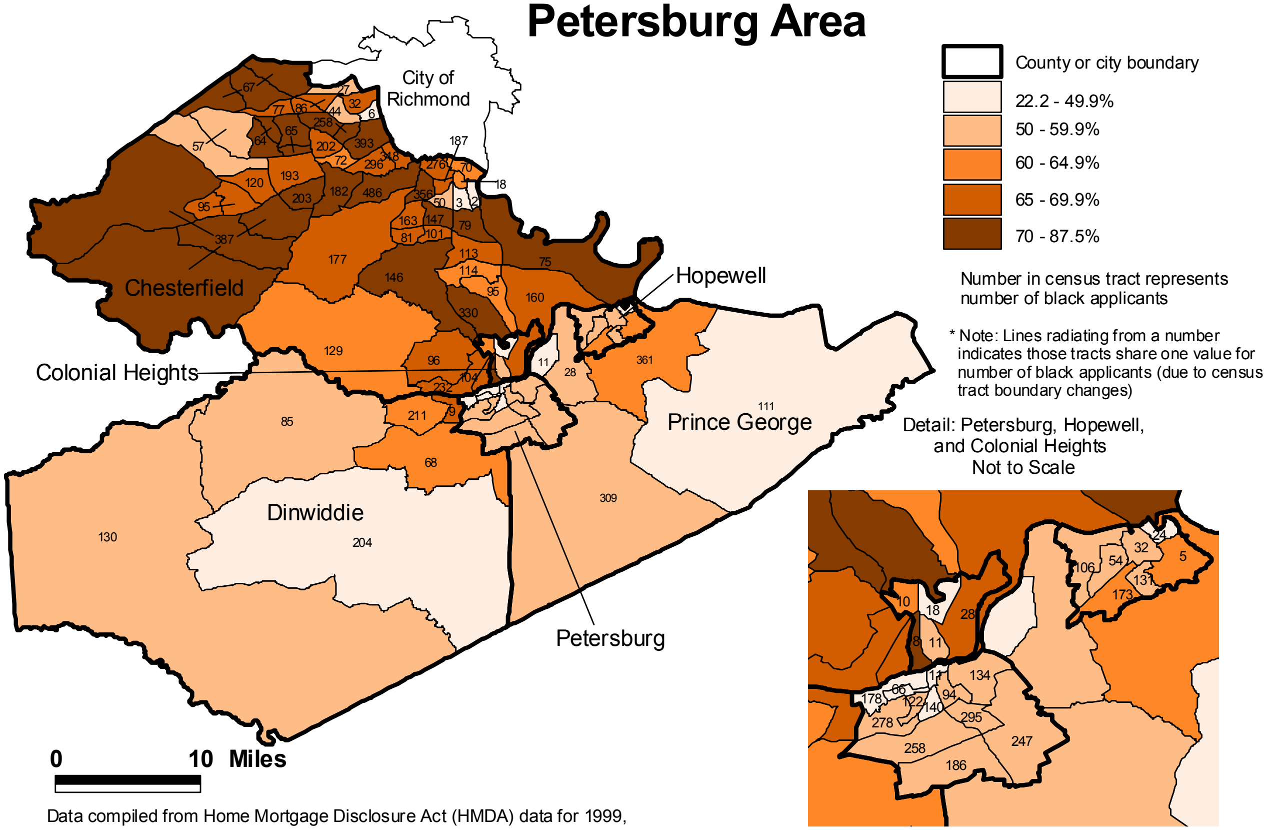
Table 7. Renter Occupied Units by Number of Bedrooms, 2000

	Chesterfield County	Richmond-Petersburg MSA
Renter occupied:	19.10%	32.30%
No bedroom	2.10%	3.10%
1 bedroom	17.50%	24.40%
2 bedrooms	40.10%	45.70%
3 bedrooms	32.50%	21.40%
4 bedrooms	7.00%	4.70%
5 or more bedrooms	0.90%	0.70%

*Source: Bureau of Census, Census 2000

Map 11

Home Loan Approval Rate for Black Applicants by Census Tract, 1999 - 2001
Petersburg Area



Data compiled from Home Mortgage Disclosure Act (HMDA) data for 1999, 2000, and 2001 by Virginia Tech Center for Housing Research

Increases in median gross rents also indicate that for the most part rents in the county are keeping up with inflation (Map 12). Areas with increases of 60% or more in median gross rents (mainly the northeast corner bordering Powhatan County) could reflect either escalation in existing rents that could contribute to affordability problems or development of new rental properties that naturally command higher rents. Equally of concern are areas where median gross rents have declined in real terms. These include several census tracts within the older suburbs and along the Jefferson Davis Highway, as well as two large census tracts in the southeast quadrant. Some of these areas have very few renters, but others—particularly along the Jefferson Davis Highway—have both high proportions of renters and real losses in rental incomes for landlords. While this produces bargains for tenants, it can also lead to reductions in the quality of properties as owners decrease their investments in the area.

The best measure of housing problems for renters is cost burden, or the ratio of rental housing costs to income. (The incidence of units lacking plumbing or other indicators of physical housing problems is so low as to not warrant reporting.) When households are required to devote a large portion of their incomes to housing, they typically have to sacrifice elsewhere. Often severe cost burdens are associated with emotional stress, family instability, and risk of eviction and homelessness.

Most renters in Chesterfield County pay less than 30% of their incomes for housing, but one-in-three exceed that level. The 2,403 renter households (14% of all renters) with extreme cost burdens of 50% and more should be the target for rental assistance and social services to help prevent the damage that can accompany this situation (Table 8).

Table 8. Renter Cost Burdens, 2000

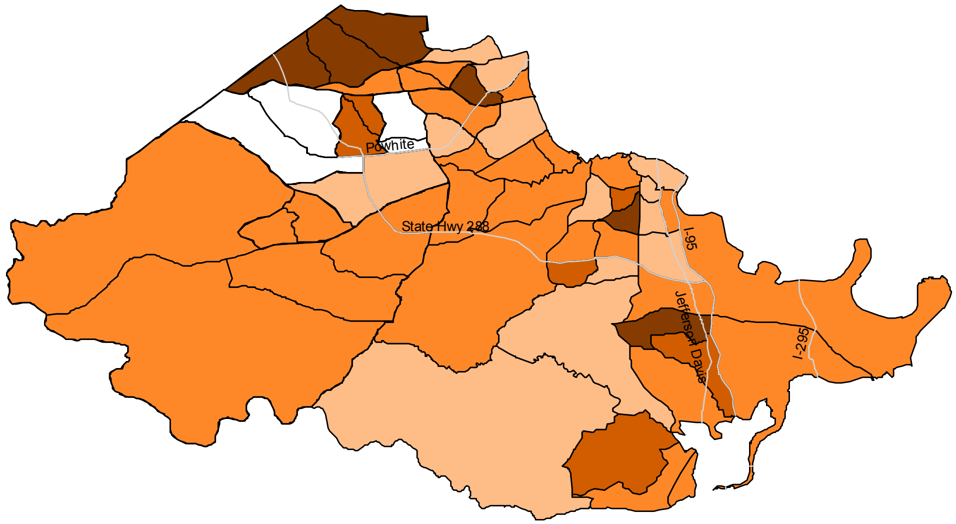
	Chesterfield County	**Richmond-Petersburg MSA**
Renter cost burden		
Less than 30%	62.90%	57.50%
30%+	32.30%	35.90%
50%+	13.60%	16.40%
Not computed	4.80%	6.60%

*Source: Bureau of Census, Census 2000

The prevalence of renters paying 30% or more of their income for their housing (Map 13) helps to pinpoint areas where rental affordability is a problem (either due to low incomes or to high rents). Since many neighborhoods have very few renters, a high incidence of cost burden among renters might not be a serious problem. Several areas within the older suburbs and Jefferson Davis Highway have both higher percentages of renters and higher levels of cost burdened renters. These areas should be flagged for further study.

Map 12

Percent Change Median Gross Rent by Census Tract, 1990 - 2000 Chesterfield County, Virginia



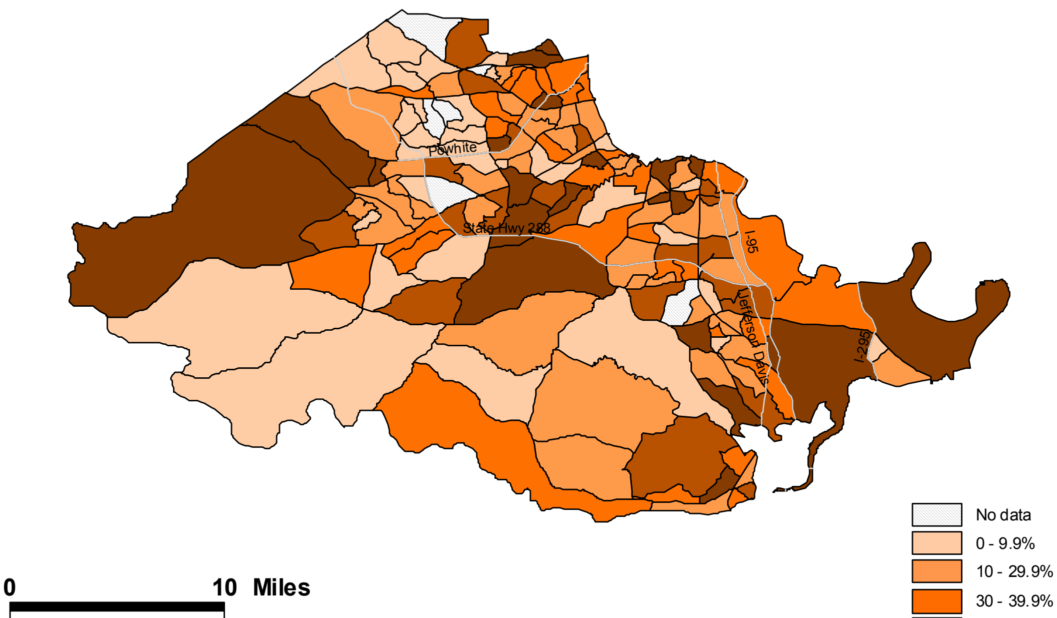
0 10 Miles

- 0 - 9.9%
- 10 - 19.9%
- 20 - 39.9%
- 40 - 59.9%
- 60+%
- Combined census tracts due to changes between 1990 and 2000

Notes:
Data compiled from 2000 Census SF1 by Virginia Tech Center for Housing Research
Some census tract boundary changes between 1990 and 2000 are not reflected. These changes appear to be small but are not measurable for this study.

Map 13

Percent Renters Paying 30% or More of Income for Housing Costs by Block Group, 2000 Chesterfield County, Virginia



Note:
Data compiled from 2000 Census SF1 by Virginia Tech Center for Housing Research

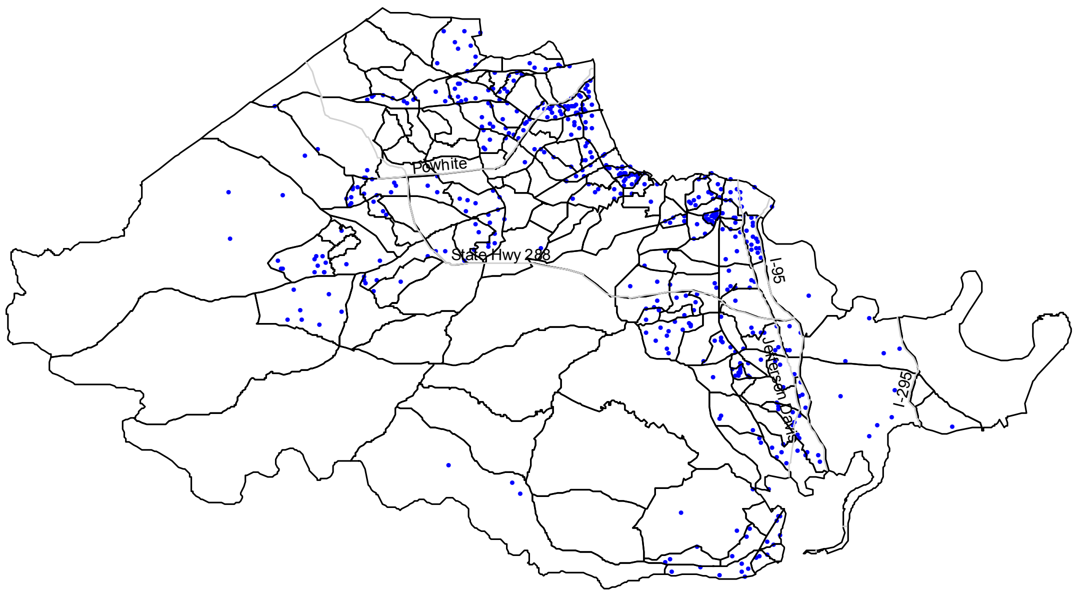
Map 14 identifies block groups with larger numbers of renters with extreme rent burdens. Several clusters exist, mostly within the older suburbs and the Jefferson Davis corridor, but with a few small clusters elsewhere. These renter households are likely to have a variety of social service needs. Extreme rent burdens place serious stress on households and place families at risk of instability, including homelessness.

Housing assistance can help address the cost-burden of low-income households. However, a high degree of clustering of assisted housing is undesirable and can contribute to neighborhood decline. There is a very limited supply of assisted housing in the county. As there are no public housing units, the primary sources of assisted housing are the renter voucher program and the Low Income Housing Tax Credit, which provides a limited capital subsidy to reduce the rents in recently developed rental properties. The location of tenants with housing vouchers is unknown, but probably mirrors the pattern for the poverty population. Because vouchers are “portable,” recipients can use them to find suitable housing from participating landlords. This program works best when coupled with outreach to landlords and counseling of tenants to avoid concentration. Extremely favorable impacts have been reported through well designed “mobility” programs that help assisted tenants find housing throughout the community.

Unlike the voucher program, the Low Income Housing Tax Credit (LIHTC) provides a capital subsidy to developers to enable them to produce more affordable units. The subsidy is restricted and the rent levels produced are primarily attractive to working, lower-income families. There are only a few LIHTC properties in Chesterfield and there is little sign of clustering. The County should encourage continued development of LIHTC properties and assist in their location throughout the county’s rental market areas.

Map 14

Renters Paying 50% or More of Income for Housing Costs by Block Group, 2000 Chesterfield County, Virginia



• Represents 5 households

0 10 Miles

Note:
Data compiled from 2000 Census SF1 by Virginia Tech Center for Housing Research

5. Elderly Households and Persons with Disabilities

Householders aged 75 and over often have increased needs for family and social services to assist them in maintaining independent living. Many of these householders were among the first homeowners in neighborhoods developed in the county during the two decades following World War II. These are some of the same neighborhoods we have identified earlier as showing signs of distress in the Powhite corridor, the Jefferson Davis corridor, and the confluence of the Appomattox and James Rivers. Although some clustering is apparent, the population over the age of 75 is also spread widely across the county, a pattern that is only likely to become more prevalent with aging in place of the near elderly (Map 15). This dispersed pattern will challenge relatives and service providers alike in assisting elderly residents with independent living.

Persons with disabilities often have special needs for housing, as well as needs for social services. The U.S. Supreme Court recently emphasized in its Olmstead decision the importance of providing independent living alternatives for people with disabilities. The key element in the decision is to encourage and permit people with disabilities to live in a community setting to avoid any undue institutionalization. One successful method that increases opportunities for community living is housing trusts. The trust is structured to allow the disabled person to live independently. When they pass away, the home returns to the trust thereby allowing another disabled person to live in the home. By creating a trust group in a community, the disabled housing opportunities increase greatly. Further, housing trusts support the Olmstead decision by implementing a plan by which people with disabilities can live within a community. Supportive housing and housing developed under HUD's 811 program can also increase independent living opportunities for persons with disabilities.

The 2000 Census provides several measures of disability for persons aged 5 and older, as well as for persons 65 and older. At the time of the 2000 Census, there were 237,604 people living in Chesterfield County. Of that number, 14.1% of the residents were disabled, equating to 33,517 people potentially needing public services (Table 9). To further comprehend potential public service needs, disability data should be cross examined with poverty data. The census data indicates that only 1.1% (2,520) of the population in Chesterfield County has a disability and lives below the poverty rate.

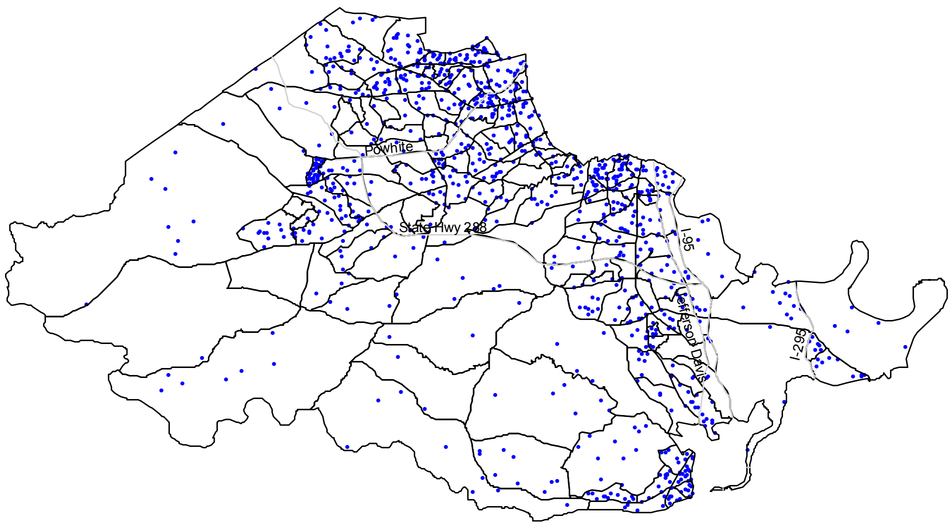
Table 9. Disability and Poverty Data, Chesterfield 2000

Age	Total Population	With a Disability	and Below Poverty	% With a Disability	% Disabled and Below Poverty
5-15	46,753	2,992	267	6.40%	0.50%
16-20	16,456	2,187	239	13.30%	1.50%
21-64	154,334	21,135	1,692	13.70%	1.10%
65+	20,061	7,203	322	36.00%	1.60%
Total	237,604	33,517	2,520	14.10%	1.10%

*Source: Bureau of Census, Census 2000

Map 15

Number of Householders 75 Years and Older by Block Group, 2000 Chesterfield County, Virginia



0 10 Miles

• Represents 5 householders

Note:
Data compiled from 2000 Census SF1 by Virginia Tech Center for Housing Research

An important element of operating public services is to anticipate demand. By examining the forecasted population data for Chesterfield in 2010, it can be assumed that 42,999 people in the county will be classified as having a disability. Further, 13,517 people within the disabled population will have a physical disability while 5,186 will have a sensory disability (Table 10). This is a population that the County must consider when reviewing and expanding their services.

Table 10. Projected Population with Disabilities, 2010

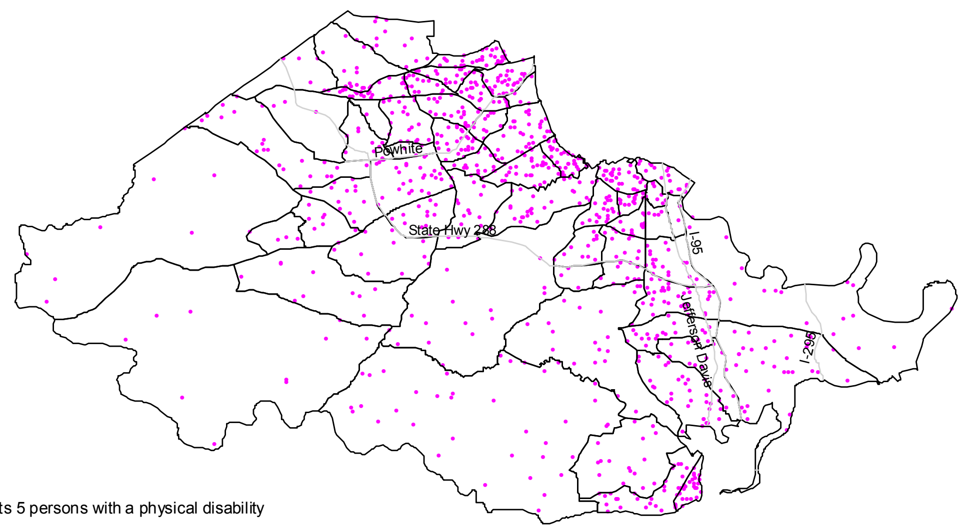
Age	Total Population	With a Disability	With a Physical Disability	With a Sensory Disability
5-15	47,798	3,059 (6.4%)	381 (12.5%)	281 (9.2%)
16-20	23,061	3,067 (13.3%)	363 (11.8%)	155 (5.1%)
21-64	201,749	27,639 (13.7%)	7,927 (28.7%)	2,655 (9.6%)
65+	25,649	9,234 (36%)	4,900 (53.1%)	2,095 (22.7%)
Total	298,257	42,999 (14.4%)	13,571 (31.6%)	5,186 (12.1%)

*Source: Bureau of Census, Census 2000 and VCHR projections

The residential pattern in the county for people older than 65 with a physical disability (Map 16) is very similar to that of the population aged 75 and older. As shown in Map 17, there is significant clustering of people with disabilities in the old suburban and Powhite corridor, the Jefferson Davis corridor, and near the confluence of the Appomattox and James Rivers. Maps 18 and 19 display the location of people five years and older with a physical disability or sensory disability respectively. The distribution of individuals with a physical disability is very similar to those with a sensory disability in that a considerable amount of clustering exists. Conversely, Map 20 illustrates the dispersion of the self-care disabled population. In addition, similar geographic patterns regardless of the type of disability can be found. The county will be challenged to create effective means of serving these populations. Although geographically large, there are clearly identified clusters that could be targeted. The remaining, highly dispersed populations will require imaginative solutions that engage families, churches and civic organizations in delivery of appropriate services.

Map 16

Persons Ages 65 Years and Older with a Physical Disability, 2000
Chesterfield County, Virginia



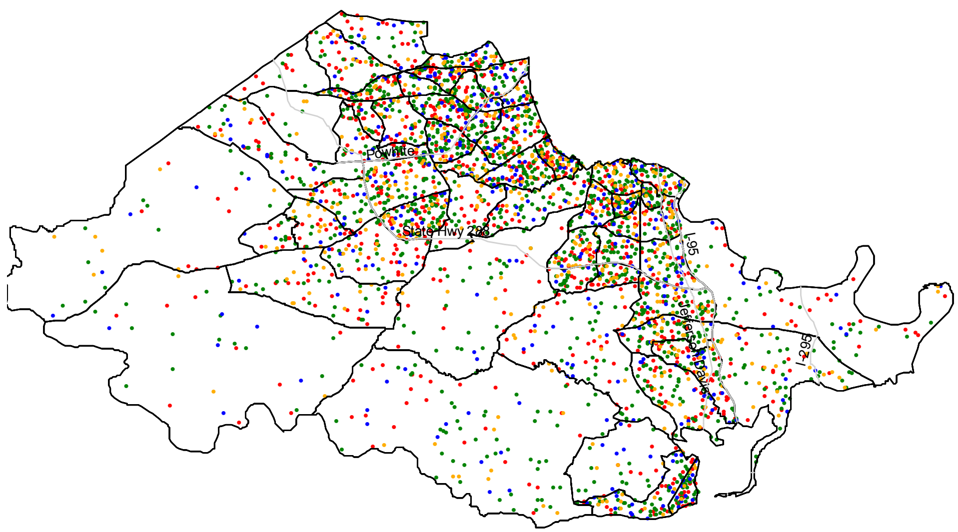
• Represents 5 persons with a physical disability

0 10 Miles

Note:
Data compiled from 2000 Census SF3 by Virginia Tech Center for Housing Research

Map 17

Persons Ages 5 Years and Older with Disabilities, 2000
Chesterfield County, Virginia



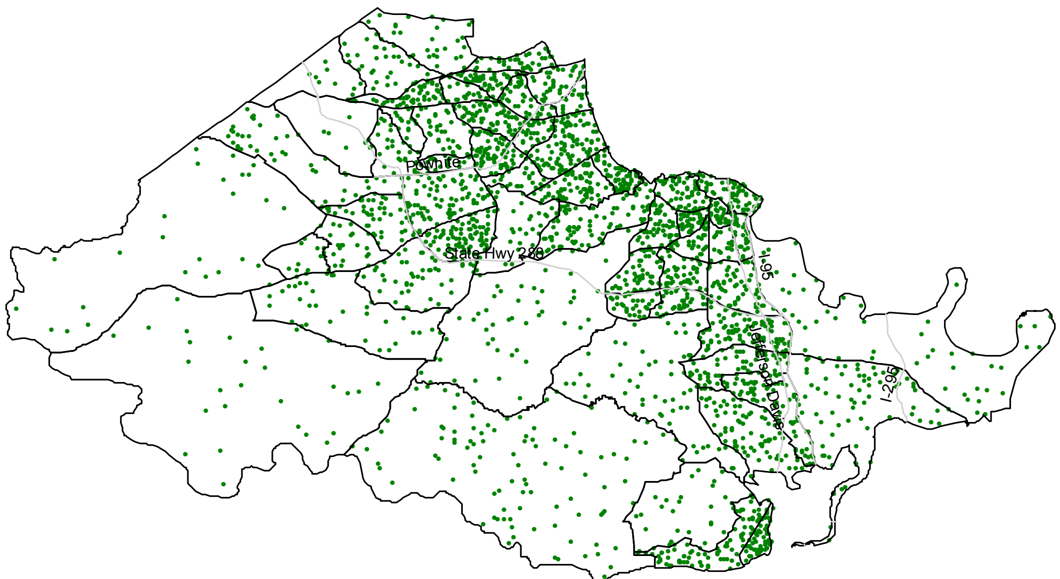
0 10 Miles

- Represents 10 persons with a self-care disability
- Represents 10 persons with a physical disability
- Represents 10 persons with a sensory disability
- Represents 10 persons with a mental disability

Note:
Data compiled from 2000 Census SF3 by Virginia Tech Center for Housing Research

Map 18

Persons Ages 5 Years and Older with a Physical Disability, 2000
Chesterfield County, Virginia



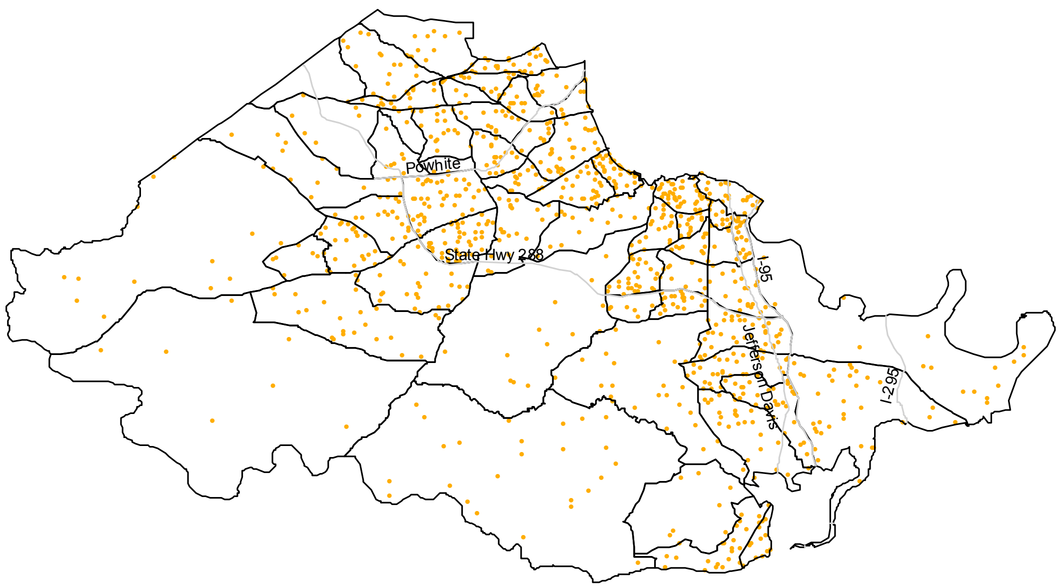
• Represents 5 persons with a physical disability

0 10 Miles

Note:
Data compiled from 2000 Census SF3 by Virginia Tech Center for Housing Research

Map 19

Persons Ages 5 Years and Older with a Sensory Disability, 2000
Chesterfield County, Virginia



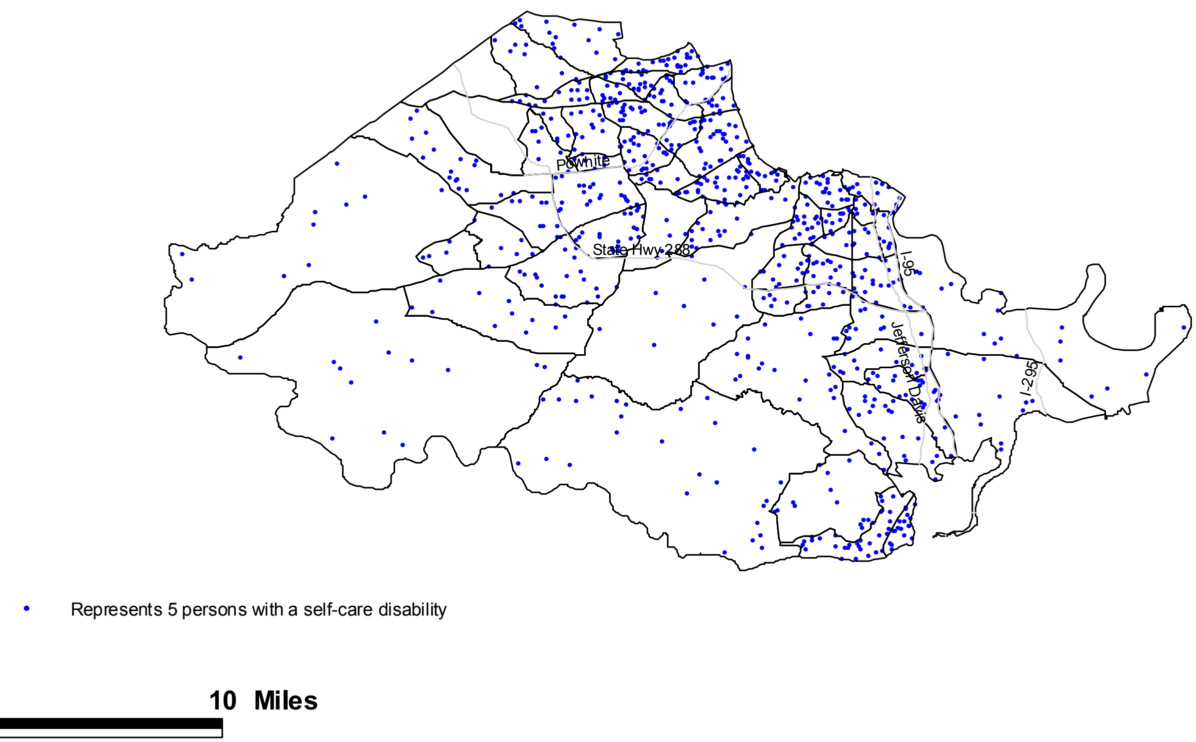
Represents 5 persons with a sensory disability

0 10 Miles

Note:
Data compiled from 2000 Census SF3 by Virginia Tech Center for Housing Research

Map 20

Persons Ages 5 Years and Older with a Self-care Disability, 2000
Chesterfield County, Virginia



Note:
Data compiled from 2000 Census SF3 by Virginia Tech Center for Housing Research

6. Projected Housing Demand

Chesterfield County is projected to continue to grow at a fast pace, but possibly less so than in the 1990s, as shown in Table 11a. A net increase of 19,100 households is projected for 2000-2010 compared with 20,700 households from 1990-2000. There will be an increase of 16,245 owner occupied units (17,100 units total) needed and an additional 2,862 renter occupied units (3,010 units total) will be needed needed.

Table 11a: Total Households by Tenure, Chesterfield 1990-2010

	1990	2000	2010	1990 to 2000 % Change	2000 to 2010 % Change
Total	73,014	93,772	112,879	28.40%	20.40%
Owner	58,388	75,874	92,119	29.90%	21.40%
Renter	14,626	17,898	20,760	22.40%	16.00%

*Source: Bureau of Census, Census 2000 and VCHR Projections

Nearly one-in-three homeowners and one-in-six renters in the metropolitan area will live in Chesterfield by 2010 (Table 11B). The owner share is anticipated to rise from 28.9% in 2000 to 30.4% in 2010. The renter share is also anticipated to rise, from 14.3% to 15.2%.

Table 11B: Chesterfield as a Percent of MSA 1990-2010

	1990	2000	2010	1990 to 2000 % Change	2000 to 2010 % Change
Total	22.00%	24.20%	25.70%	10.00%	6.20%
Owner	27.10%	28.90%	30.40%	6.60%	5.20%
Renter	12.60%	14.30%	15.20%	13.50%	6.30%

*Source: Bureau of Census, Census 2000 and VCHR Projections

The net change in the number of households can be attributed to a variety of factors. Most new household formations occur among persons under the age of 35 as young adults gain independence and form their own households. This age group is also the most mobile in responding to employment opportunities. Older adults between 35 and 65 contribute to a net change in households primarily as the result of separations, divorce and remarriage. As people age, the impact of infirmity and death increasingly contributes to changes in the number of households for these cohorts. In addition, net migration adds or subtracts households at each age level. In order to assess these changes, an analysis of specific cohorts is required as these cohorts progress from one age category to another. Over a ten-year span (i.e. between censuses), cohorts made up of ten-year age groups progress from one age group (e.g. 35-44 years old) to the next older age group (45-54) from one census to the next (Table 12). Examining changes in the size of the same cohort of people between different censuses illustrates the impact on the formation of new households, net migration, and the dissolution of households toward the end of the life span.

Table 12: Households by Age and Tenure, Chesterfield 1990-2010			
	1990	2000	2010
Total			
15-24	2,755	2,934	3,683
25-34	18,210	15,608	17,204
35-44	22,704	25,349	25,233
45-54	13,897	24,319	30,746
55-64	8,036	13,031	19,952
65-74	5,601	7,615	10,120
75 +	2,302	4,916	5,942
Owner			
15-24	772	833	1,045
25-34	12,322	10,095	11,129
35-44	19,188	20,694	20,601
45-54	12,071	21,395	27,051
55-64	7,394	11,887	18,201
65-74	4,770	6,935	9,219
75 +	1,870	4,035	4,873
Renter			
15-24	1,983	2,101	2,638
25-34	5,888	5,513	6,075
35-44	3,516	4,655	4,632
45-54	1,826	2,924	3,695
55-64	642	1,144	1,751
65-74	831	680	901
75 +	432	881	1,069

*Source: 2000 Census and VCHR Projections

Since most new households are formed among persons below the age of 35, the number of households in this age category in any given census primarily represents new households that had to be absorbed in the housing market in the past ten to fifteen years. The 2000 census reported 18,542 households under the age of 35 in 2000 in Chesterfield County. We project this to increase to 20,887 households in 2010 (Table 13). The local housing market will have to accommodate about 18,000 younger households during the current decade due to natural increase and migration (about 3,700 of these will be under the age of 25 and 14,270 will be between 25 and 34 years old). The projected number of new households in this cohort represents an increase in housing demand of more than 2,345 dwelling units over the previous ten years.

Table 13: Cohort Analysis		
(Yr) - (Yr-10)	2000	2010
< 35	90,484 (-4,926)	96,493 (+6,009)
(35-44) - (25-34)	14,773 (19.1%)	15,984 (22.7%)
(45-54) - (35-44)	4,425 (5.6%)	8,014 (8.7%)
(55-64) - (45-54)	-2,253 (-4.2%)	-9,936 (-11.9%)
(65-74) - (55-64)	-3,995 (-9.5%)	-4,123 (-8.1%)
(75+) - (65+)	-29,952 (-47.8%)	-34,501 (-48.7%)
*Source: VCHR Projections Model		

The table below offers an example of how the cohort analysis calculation was made for Chesterfield County (Table 14).

Table 14: Cohort Analysis Calculation Example				
Age	1990	2000	2010	Net Change in Cohort
15-24	2,755	2,934	3,683	To find change in cohort 35-44 in
25-34	18,210	15,608	17,204	2000 to 2010, subtract **B - A**.
35-44	22,704	**25,349 (A)**	25,233	Ex: 30,746 - 25,349 equates to a
45-54	13,897	24,319	**30,746 (B)**	+5,397 change in cohort.
*Source: VCHR Projections Model				

Although Chesterfield County has a very high homeownership rate, young households overwhelmingly start their housing careers in the rental market. Given the increase in housing demand among young households, it is particularly important to estimate the number of rental housing units they might need during this decade. Since all of the net growth in housing demand during the 1990s was in the 35 year-old and older market and demand among younger householders declined during that decade, the development and land-use planning required in the current decade is somewhat different from the trend established during the 1990s.

In addition to the pressures on the housing market from younger households, the 35-44 year-old cohort in 2010 (which started the decade as 25-34 year-olds) is projected to increase by 9,625 households (compared with an increase of 7,139 during the 1990s) and the 45-54 year-old cohort is projected to increase by 5,397 during the current decade (more than triple the 1,615 household increase in the 1990s). Most of these gains are likely due to net migration into Chesterfield County among these age groups.
These increases in housing demand are offset by losses among older households. The biggest losses occur in the population moving from 65+ at the start of the decade to 75 and older at the end of the decade. This cohort declined by 3,400 households during the 1990s and is projected to decrease by 9,500 households during the 2000's. The percentage decline in the cohort projected during the 2000's is significantly higher than occurred in the 1990s (-52.6% versus -37.8%). In contrast, the percentage decline for this cohort in the MSA is nearly equal (about 48%) across the two decades. It is clearly implausible to attribute this accelerated decline to increased rates of infirmity and death when, if anything, these contributing factors should have less impact. An alternative explanation is significant migration of older households out of Chesterfield County due to inadequate supply of elderly independent living options. However, this too seems implausible since many elderly prefer to "age in place" rather than move. Given the very

high rate of homeownership among this cohort in Chesterfield County, out-migration is not a likely answer.

A more plausible explanation is that the year 2010 projection of householders aged 75+ is too low. If this cohort has the same rate of decline as during the 1990's, there will be 1,853 more householders aged 75+ in the county by 2010 than projected.

Not surprisingly, householders aged 45-54 years or 55-64 years at the beginning of a decade experience significantly less decline than older householders over a ten-year span. The projected decline during the current decade in 55-64 year-olds aging to 65-74 year-olds is 22.3%, substantially more than the 5.2% decline during the 1990s. In addition, the projected rate of decline among 45-54 year-olds aging to 55-64 year-olds during the current decade is three times the rate experienced during the 1990s. Increases in the rates of decline for these cohorts are also highly implausible and suggests that the underlying population projection for these cohorts might be too low as well. If the rates of decline in the 45-54 and 55-64 year-old cohorts are the same during this decade as during the last decade, there would be an additional 5,100 households in Chesterfield County. Consequently, the household projections included in this report should be considered highly conservative and will likely increase as the Virginia Employment Commission makes new population projections reflecting the 2000 Census. If so, the household projections provided here could be increased by nearly 7,000 more households, for a 2010 total of 120,000. This would be a rate of increase in households of 28%, substantially higher than the projected rate of 20% and on par with the rate of increase in the 1990s.

Although the increase in renter demand projected during the 2000's is similar in size to that during the 1990's, there is a significant shift toward young renter households for whom affordable rental housing might be a more serious concern. During the 1990's, there was a net decline in renter households under the age of 35 and significant increases in renters between the ages of 35 and 64 (+2,739). During the 2000's, renter demand by householders below the age of 35 is projected to increase by 1,100 units and demand among householders aged 35-64 will increase by 1,355. In addition, renter householders aged 65 and older will increase by 409. (If, as suggested, our projections are too low for householders aged 55 and over, there will be even more demand for rental units from these older age groups.)

Projections of housing demand by income group are presented in Table 15. Analysis of changes in income categories based on current dollars is inevitably biased by the impact of inflation on incomes. In effect, in comparing the same income categories from the 1990 and 2000 censuses it is impossible to determine if changes (increases or decreases) should be attributed to inflation or to real changes in incomes. To adjust for this bias, Table 16 uses "constant dollar" income categories based on 2000 dollar values. The equivalent year 1990 dollar values are provided in Table 16.

Table 15: Households by Income Category (2000$), Chesterfield 1990-2010			
	1990	2000	2010
Total			
$6,663	1,605	1,942	2,434
$19,988	5,219	6,702	8,365
$33,313	8,741	12,270	14,975
$46,638	11,017	13,900	16,706
$66,626	17,138	19,382	22,935
$99,939	19,337	22,815	27,054
$133,252	6,442	9,115	11,045
$133,252	4,006	7,647	9,366
Ow ner			
$6,663	767	1,077	1,400
$19,988	3,145	4,149	5,317
$33,313	5,086	7,661	9,578
$46,638	7,793	10,172	12,450
$66,626	13,905	15,986	19,090
$99,939	17,548	20,629	24,554
$133,252	6,168	8,728	10,582
$133,252	3,976	7,471	9,148
Renter			
$6,663	838	865	1,034
$19,988	2,074	2,553	3,048
$33,313	3,655	4,609	5,397
$46,638	3,224	3,728	4,256
$66,626	3,233	3,396	3,845
$99,939	1,789	2,186	2,500
$133,252	274	387	463
$133,252	30	176	218
*Source: VCHR Projections Model			

Table 16. 1990 to 2000 Dollar Income Equivalents	
1990	2000
<$5,000	$6,663
$5,000-$15,000	$19,998
$15,001-$25,000	$33,313
$25,001-$35,000	$46,638
$35,001-$50,000	$66,626
$50,001-$75,000	$99,939
$75,001-$100,000	$133,252
>$100,000	$133, 252
*Source: Center for Housing Research	

Households are projected to increase across the income range during the decade, but with a clear skew toward middle and higher income categories. Households with incomes above $35,000 (approximately $47,000 in 2000 dollars) account for 60% of the overall increase projected for Chesterfield County. Most of this increase is concentrated in the $35,000-49,999 and $50,000-75,000 categories (in 2000 dollars, $46,601-66,600 and $66,601-99,900). Nonetheless, there will also be significant increases in households with incomes below $35,000, for whom affordable housing is more of a concern. Even in the two lower income categories, with incomes below $15,000 (below $20,000 in year 2000 dollars), the number of households is projected to increase by over 2,100.

Table 17 provides 2000 and 2010 households in the income categories used in many housing programs, based on 30% of Area Median Family Income (AMFI), 50% of AMFI, and 80% of AMFI. Low-income households (below 80% AMFI) are projected to increase from 26,415 households in 2000 to 32,362 households in 2010. Of low-income households in the county, the majority is in the 50-80%AMFI category. Two-thirds of low-income households are owners and one-third are renters. Detailed tabulations for HUD income categories by age and household type have been provided to the County.

Table 17. Projected Households by HUD Income Category and Tenure, 2000 and 2010

2000				
	<30%AMFI	30-50%AMFI	50-80%AMFI	80%+ AMFI
Owners	3,294	4,388	9,533	58,660
Renters	2,247	2,478	4,476	8,697
Total	5,540	6,866	14,009	67,357
2010				
	<30%AMFI	30-50%AMFI	50-80%AMFI	80%+ AMFI
Owners	4,232	5,511	11,821	70,555
Renters	2,674	2,907	5,217	9,962
Total	6,906	8,418	17,038	80,517

Source: Center for Housing Research

Higher income households are typically (buy not universally) homeowners. Lower income households are more likely to be in the renter market, but even a majority of households with incomes below $15,000 are homeowners. At first glance, increases in ownership among households with very limited incomes are surprising. But some of this increase reflects older households who shift from higher to lower income categories as they retire, many of whom continue to be homeowners. In order to better understand the impact of these income projections on housing demand, we have segmented the projected changes in incomes for renters and owners into four age groups: under 35, 35-54, 55-74, and 75+. The following tables also provide the County's share of the total MSA market for each of these groups. Examining these shares helps identify where the County plays larger and smaller roles in the regional housing market. As a point of reference, Chesterfield County is projected to account for 37% of the MSA's total increase in households; 40% of the MSA increase in owners; and, 25% of the MSA increase in renters.

Chesterfield County is projected to increase its shares of all income categories for young renters between 2000 and 2010 (Table 18). However, the county accounts for higher shares of the growth in middle-income young renters (16-18%) than among lower incomes (12%) and higher incomes (5%). (The latter category is very small and difficult to project.) It is projected to capture even higher shares of the increase in middle-income renters aged 35-54 (20-29, but its share of lower-income renters barely increases for this age group (13%). The size of the upper-income renter market among 35-54 year olds is too small to project with any accuracy (Table 19).

Table 18: Change in Young Renters (<35) and Incomes				
	< $25,000	$25,000-50,000	$50,000-100,000	> $100,000
County				
1990-2000 Change	1.50%	-11.10%	12.20%	-4.20%
2000-2010 Change	15.60%	13.60%	12.40%	17.40%
MSA				
1990-2000 Change	0.50%	-7.80%	4.00%	57.60%
2000-2010 Change	7.00%	6.80%	7.00%	8.40%
County % of MSA				
1990	11.40%	17.40%	15.70%	7.80%
2000	11.50%	16.80%	17.00%	4.70%
2010	12.40%	17.90%	17.80%	5.10%
*Source: Bureau of the Census, Census 2000				

Table 19: Change in 35-54 Renters and Incomes				
	< $25,000	$25,000-50,000	$50,000-100,000	> $100,000
County				
1990-2000 Change	49.90%	36.00%	28.60%	2200.00%
2000-2010 Change	11.00%	9.50%	11.20%	9.80%
MSA				
1990-2000 Change	37.00%	34.80%	21.40%	-57.90%
2000-2010 Change	3.10%	-3.30%	0.70%	-56.30%
County % of MSA				
1990	11.00%	17.50%	24.50%	2.60%
2000	12.00%	17.60%	26.00%	143.80%
2010	13.00%	20.00%	28.70%	360.70%
*Source: Bureau of the Census, Census 2000				

The County is projected to have very modest shares of the renter market for lower-income 55-74 year olds (9%) and 75+ year olds (10%), but somewhat higher shares for lower-middle income renters in these age groups (15-20%). It is projected to attract substantially higher shares of the growth in upper-middle and upper income renters aged 55-74 and for upper-middle income renters 75 and older. These are some of the few categories where the county's shares of increased renter demand exceed its shares of increased owner demand. But again these are smaller markets that are difficult to project and could easily be influenced by changes in the supply of housing throughout the metropolitan area (Table 20).

Table 20: Change in 55-74 Renters and Incomes				
	< $25,000	$25,000-50,000	$50,000-100,000	> $100,000
County				
1990-2000 Change	19.00%	20.50%	30.00%	816.70%
2000-2010 Change	43.20%	47.90%	50.80%	50.90%
MSA				
1990-2000 Change	-2.60%	-13.20%	-63.70%	369.70%
2000-2010 Change	31.10%	38.60%	81.20%	36.10%
County % of MSA				
1990	7.10%	9.80%	39.60%	18.20%
2000	8.60%	13.60%	141.90%	35.50%
2010	9.40%	14.50%	118.10%	39.30%
*Source: Bureau of the Census, Census 2000				

The County accounts for significantly higher shares of owner housing markets than renter markets across all age and income categories. It is particularly important as a market for middle-income homeowners. Even among young owners, the county is projected to account for 34-35% of the middle-income market and 29% of the lower-income owner market for young households. Its share of the higher income owner market for young households is considerably lower (20%). The county's market presence is particularly strong among middle-age, middle-income homeowners, where it is projected to capture 35-38% of the increase in demand. It also captures a sizeable share of the higher-income, middle-age owner market (31%). It has smaller, but still sizeable, shares of the increase among 55-74 year old owners across the income range, but with larger shares for middle incomes than either high or low incomes. The county's modest shares (18-20% for lower and middle incomes) of the increases in elderly owners likely will increase when population projections are revised (Table 21).

Table 21: Change in 35-54 Owners and Incomes				
	< $25,000	$25,000-50,000	$50,000-100,000	> $100,000
County				
1990-2000 Change	66.90%	27.10%	24.70%	86.70%
2000-2010 Change	14.60%	12.10%	12.60%	16.60%
MSA				
1990-2000 Change	48.10%	10.90%	26.00%	139.50%
2000-2010 Change	8.00%	8.60%	7.40%	10.60%
County % of MSA				
1990	20.50%	29.30%	37.00%	37.40%
2000	23.20%	33.60%	36.70%	29.10%
2010	24.60%	34.70%	38.40%	30.70%
*Source: Bureau of the Census, Census 2000				

Analyzing the County's shares of metropolitan markets segmented by household type and income sheds further light on the local housing market (Tables 23-27, appendix). The highest shares are for families owning homes, whether husband-wife owners or other family (mainly single-parent) owners. The county is particularly successful as an owner-occupied, family housing market, with metropolitan shares ranging from 21% to 38%. Among husband-wife homeowners, the county accounts for 28% to 38% of the metropolitan housing market, with the higher shares for middle-income, husband-wife families. The county's share of the lower-income segment of the husband-wife owner market is one of its highest shares among all lower-income categories. It also rivals the county's share among high-income, husband-wife homeowners.

The county's market shares among other family households further reveals its importance as a family oriented housing market. The county's shares in the other-family, a middle-income segment range from 20% for lower-middle income renters to 32% for upper-middle income owners. As already noted its share among lower-income, other family owners is one of its highest across the lower-income segments and even exceeds the share for upper-income owners for this type of household. Shares for lower-income and upper-income, other family renters are substantially lower than for other segments of this household type. Renter housing targeted to lower-income and lower-middle income families would be consistent with the family profile of the Chesterfield market and would ease affordability barriers that currently reduce the county's share of this market.

The county's shares of the non-family housing market differ dramatically between renters and owners. Non-family renters are the least likely to live in Chesterfield County, reflective of its family orientation. In contrast, non-family owners are twice as likely as their renter counterparts to live in Chesterfield. This probably reflects several factors. First, non-family renters, particularly younger renters, probably desire to live in locations more oriented to their life styles. Second, other areas have greater supplies of new, high amenity apartments and townhouses targeted to this market segment. Additionally, the City of Richmond offers several highly attractive neighborhoods for non-family renters that provide good opportunities for entertainment and dining.

The larger shares among non-family homeowners in Chesterfield likely reflect two factors. The first is aging-in-place among older homeowners as their household composition changes, first with the departure of their children and later with the departure of a spouse. After the children leave home, *single parent families* become "non-family households". Similarly, the large number of husband-wife homeowners in the county naturally creates a large number of non-family households after both the departure of the children and the death of a spouse. The County's appeal to family homeowners creates challenges for post-divorce families to continue to obtain affordable housing. In addition, the county's large supply of owner-occupied housing might attract childless singles and unrelated couples to the area in search of owner-occupied housing.

7. Housing Production

Tracking the increase in the supply of housing relative to the projected increase in demand helps identify probable shortages of housing, which can trigger unnecessary escalations in housing prices and aggravate problems with housing affordability. New housing produced in the county can be measured through building permits and compared with the increase in demand. In addition to meeting the demand for housing related to growth, new development also responds to households upgrading their consumption and the need to replace (or renovate) older, obsolete units and units lost through demolition or conversion to other uses. This aspect of demand is called “replacement demand”.

This additional element of housing demand known as replacement demand is very difficult to project. Since most of the housing in Chesterfield County is relatively new, replacement demand within the county should be fairly small. However, many of the units built immediately after World War II are reaching the point where significant improvements are required in order to remain competitive in the owner-occupied market. Conversion of these units to rental housing or to other uses should be monitored carefully to help pinpoint shifts within neighborhood-level housing markets.

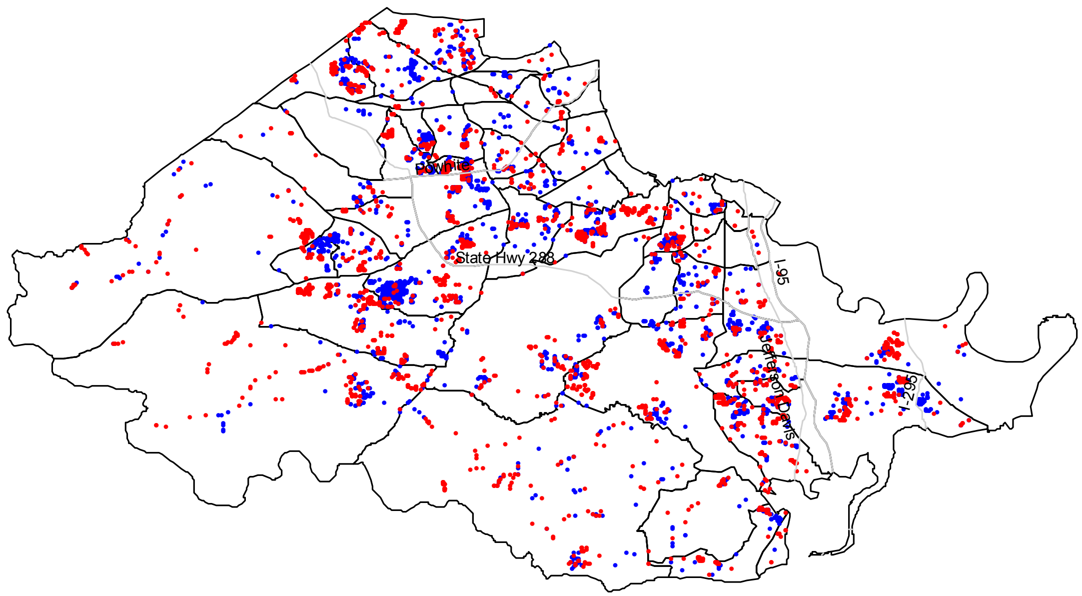
Although we have not estimated replacement demand, a comparison of building permits to increases in demand (the change in the number of households plus a vacancy adjustment) from 1980-1989 and 1990-1999 can reveal any potential problems in the available supply of housing. The ratio of permits issued to the increase in households in Chesterfield County during the 1980’s was 115.4%. In other words, for every new household added to the county during this period, 1.15 housing units were developed. This ratio suggests a low-level of replacement demand, which could increase as portions of the county’s housing stock ages. During the 1990’s this ratio fell to 103.7%, suggesting a significant decrease in the amount of development permitted in the county relative to increases in demand.

The ratio of building permits to increased demand in the MSA provides further evidence that the level of development occurring in Chesterfield is barely adequate to meet projected demand. The ratio of permits to increase in demand in the MSA was 117.0%, which is very close to the county’s ratio during the 1980’s, but is significantly higher than the county’s ratio during the past decade.

Housing construction has occurred throughout the county with significant clustering (as expected). Higher densities of new units have been more likely along the Jefferson Davis corridor, near I-295, within Highway 298 and off US 360 (Map 21). With a few exceptions, scattered development is the pattern elsewhere, although clustering is much more likely than sprawl. The pattern of development from 1998-2000 was very similar to the pattern from 1992-1994, although more of the units scattered in the southwestern and southern portions of the county were developed during the more recent period.

Map 21

Location of New Single Family Residential Units by Census Tract, 1992 - 1994 and 1998 - 2000 Chesterfield County, Virginia



0 10 Miles

- Represents one single family unit beween 1992-1994
- Represents one single family unit between 1998-2000

Notes:
Data from Chesterfield County Building Inspection Department
For 1992-1994, 297 out of 4845 units not located
For 1998-2000, 997 out of 5389 units not located

The ratio of single-family permits to the increase in demand for owner-occupied housing, as well as the ratio of multi-family permits to the increase in demand for renter-occupied housing, helps reveal whether supply is adequate to demand in both the owner and renter housing markets. It should be noted that some new single-family units are rented and that some multi-family units, particularly townhouses, are occupied by owners. Keeping this in mind, these ratios for Chesterfield indicate some potential problems.

The ratio of single-family permits to the increase in owner demand during the 1980's was 131.5%, while the ratio of multi-family permits to the increase in renter demand was only 44.8%. Unless a significant portion of single-family housing (either new or existing) shifted from owner-occupancy to renter-occupancy, it appears that the multi-family market was significantly under-built during the 1980s. The multi-family ratio increased to 76.1% during the 1990s, but the single-family ratio fell to 108.2%, and the overall ratio fell from 115.4% to 103.7%. Although multi-family production has increased relative to demand, it is still significantly short of the estimated increase in demand.

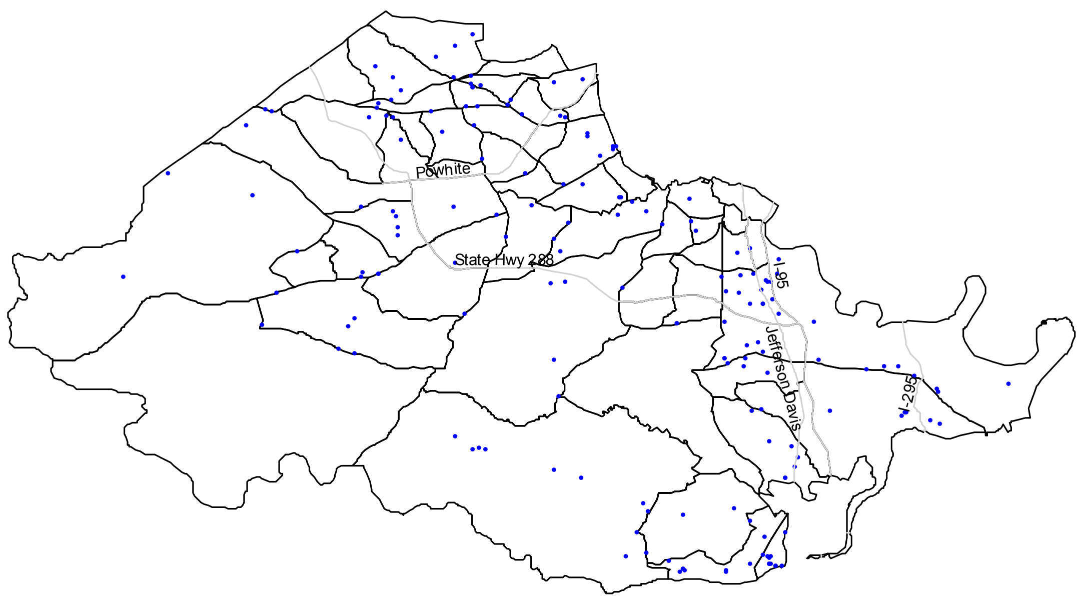
Since more renter households were added than new production increased supply, conversions from owner-occupancy to renter-occupancy in the older portions of the county's housing stock might have occurred. However, there is no evidence of this in the census data. Among units built before 1960, there were 2,087 renter occupied units in 1990 and 2,078 in 2000. The proportion of the housing stock in renter occupancy increases with the age of the unit, starting at about 15% for more recently built units, rising to about 25% for 30 to 50 year-old units, and then only increasing slightly for older units. A comparison of data from the 1990 census shows the same pattern but does not indicate any increase in rental usage of older housing between the two censuses.

The data suggests little replacement of older housing stock. Demolitions are relatively rare in Chesterfield and are scattered throughout the county, with some minor clustering in the Jefferson Davis corridor and along major arterials (Map 22). Tracking the number of housing units reported by year structure built between two censuses can help identify losses to the housing stock. Given the level of housing production, opportunities for replacing older housing are limited. Comparing the 1990 and 2000 censuses indicates that virtually none of the older stock has been lost in the county. For units built before 1960, the 2000 Census reported only 178 fewer units than the 1990 Census. The development of the county was not until later and only 9% of the current housing stock was built before 1960. Most of the county's housing stock was less than 30 years old in 2000, with one-fourth built in the last decade and over one-half built in the previous two decades (Table 22).

Table 22. Housing Supply by Year Built			
Year Built	2000	1990	difference
Built 1990 to March 2000	24,649	715	23,934
Built 1980 to 1989	30,798	32,693	-1,895
Built 1970 to 1979	23,307	23,931	-624
Built 1960 to 1969	10,175	11,034	-859
Built 1959 or earlier	8,778	8,956	-178
Total	97,707	77,329	20,378
*Source: Chesterfield Planning Department			

Map 22

Location of Demolished Properties by Census Tract, 1992 - 2002
Chesterfield County, Virginia



0 10 Miles

Represents one demolished property

Census tract boundaries

Notes:
Data from Chesterfield County Building Inspection Department
6 out of 179 properties not located

Appendix

The Appendix includes supplemental tables and maps developed in the preparation of this report. They can be useful in further analysis by the county but are not discussed in the text of the report.

Table 23: % Change in H-W Owners and Incomes				
	< $25,000	$25,000-50,000	$50,000-100,000	> $100,000
County				
1990-2000 Change	42.50%	4.40%	14.80%	87.00%
2000-2010 Change	26.60%	21.40%	19.30%	22.60%
MSA				
1990-2000 Change	20.30%	-3.80%	15.90%	111.20%
2000-2010 Change	18.90%	16.40%	14.00%	17.10%
County % of MSA				
1990	22.50%	29.70%	36.10%	31.30%
2000	26.60%	32.20%	35.80%	27.70%
2010	28.40%	33.60%	37.50%	29.00%

*Source: Bureau of the Census, Census 2000

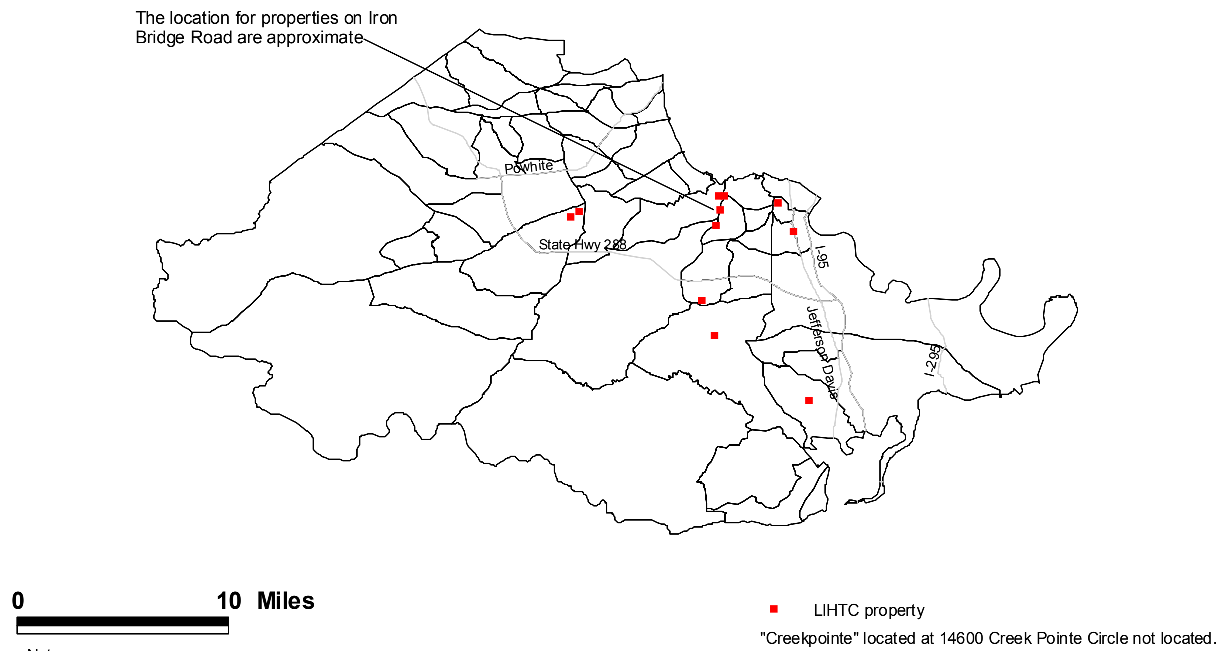
Table 24: % Change in OF Renters and Incomes				
	< $25,000	$25,000-50,000	$50,000-100,000	> $100,000
County				
1990-2000 Change	16.40%	28.40%	47.90%	1100.00%
2000-2010 Change	13.60%	10.90%	14.30%	-8.30%
MSA				
1990-2000 Change	4.90%	9.50%	18.20%	123.90%
2000-2010 Change	5.50%	3.70%	3.60%	24.30%
County % of MSA				
1990	9.80%	15.90%	26.60%	2.20%
2000	10.90%	18.70%	33.30%	11.70%
2010	11.70%	20.00%	36.70%	8.60%

*Source: Bureau of the Census, Census 2000

Table 25: % Change in OF Owners and Incomes				
	< $25,000	$25,000-50,000	$50,000-100,000	> $100,000
County				
1990-2000 Change	43.00%	63.60%	114.30%	175.80%
2000-2010 Change	21.00%	16.80%	22.10%	20.70%
MSA				
1990-2000 Change	25.40%	45.00%	102.70%	296.10%
2000-2010 Change	13.90%	12.20%	15.30%	16.40%
County % of MSA				
1990	18.60%	22.70%	28.90%	29.30%
2000	21.10%	25.60%	30.50%	20.40%
2010	22.40%	26.60%	32.30%	21.10%

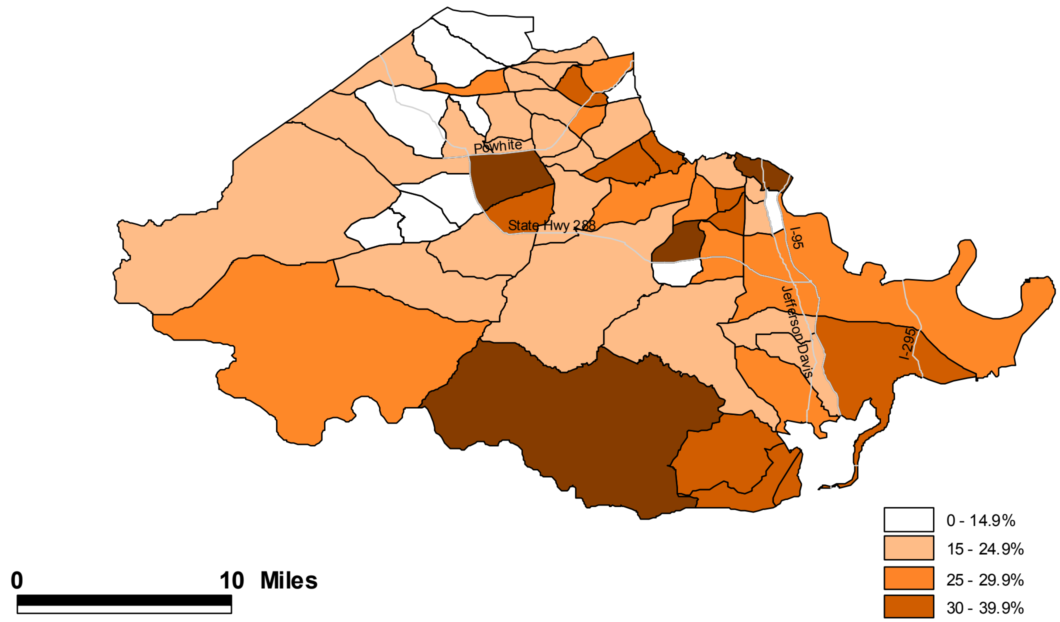
*Source: Bureau of the Census, Census 2000

Location of Low Income Housing Tax Credit (LIHTC) Properties by Census Tract Chesterfield County, Virginia



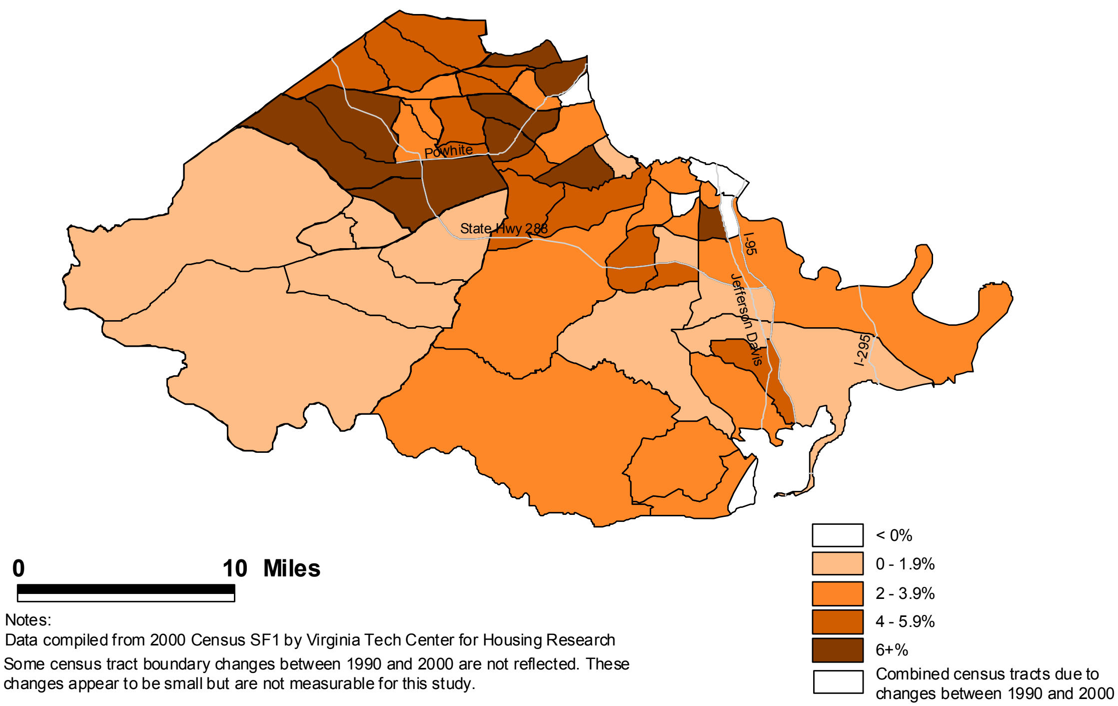
Note:
Data from Virginia Housing Development Authority

Percent of Persons Age 65 and Older with a Physical Disability, 2000
Chesterfield County, Virginia



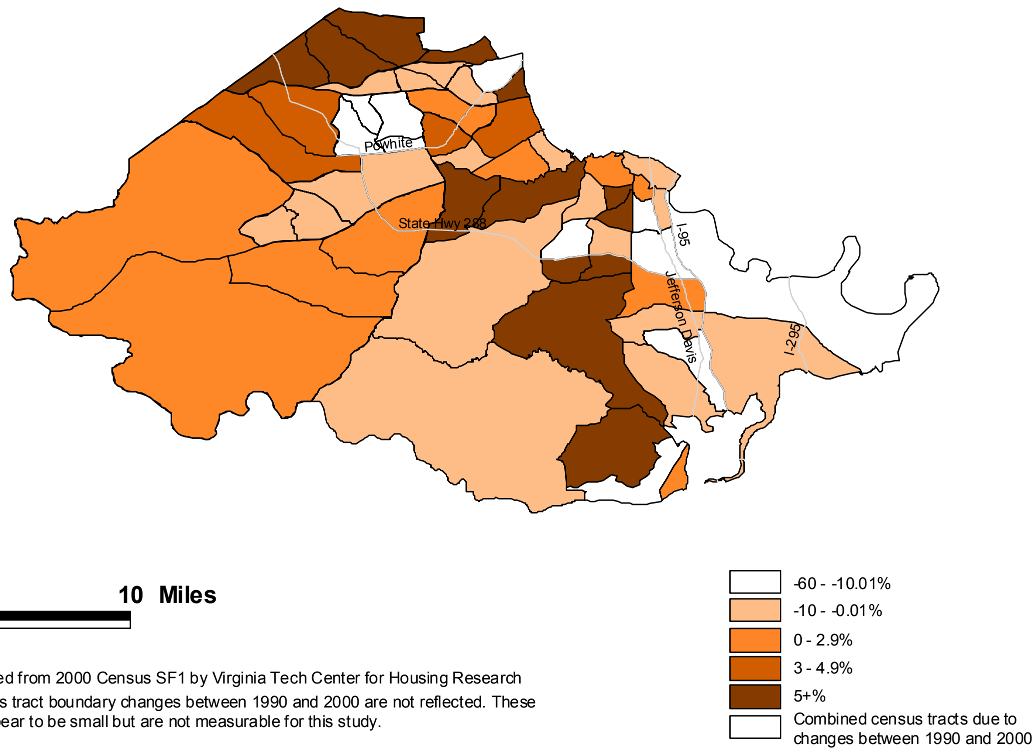
Note:
Data compiled from 2000 Census SF3 by Virginia Tech Center for Housing Research

Change in Percent Non-Family Households by Census Tract, 1990 - 2000 Chesterfield County, Virginia



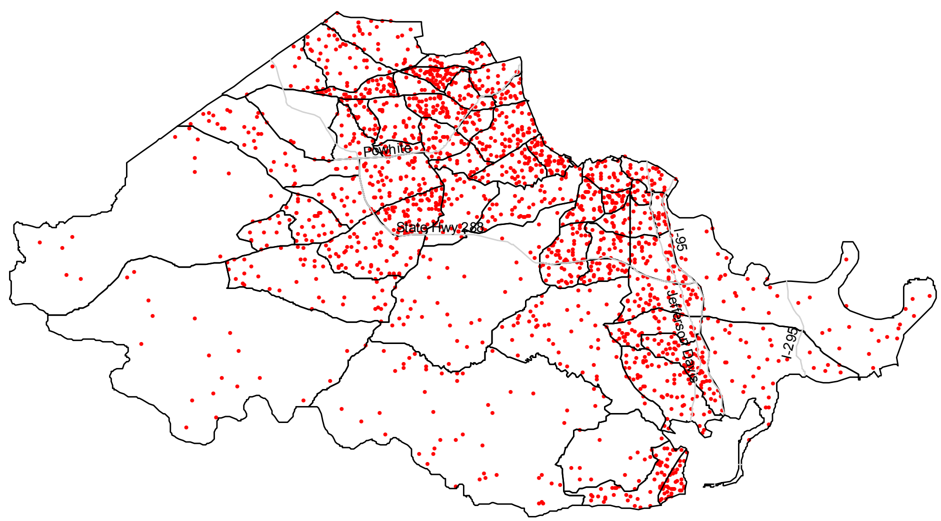
Notes:
Data compiled from 2000 Census SF1 by Virginia Tech Center for Housing Research
Some census tract boundary changes between 1990 and 2000 are not reflected. These changes appear to be small but are not measurable for this study.

Change in Percent Renter Households Paying 30% or More of Income for Housing Costs by Census Tract, 1990 - 2000 Chesterfield County, Virginia



Notes:
Data compiled from 2000 Census SF1 by Virginia Tech Center for Housing Research
Some census tract boundary changes between 1990 and 2000 are not reflected. These changes appear to be small but are not measurable for this study.

Persons Ages 5 Years and Older with a Mental Disability, 2000
Chesterfield County, Virginia

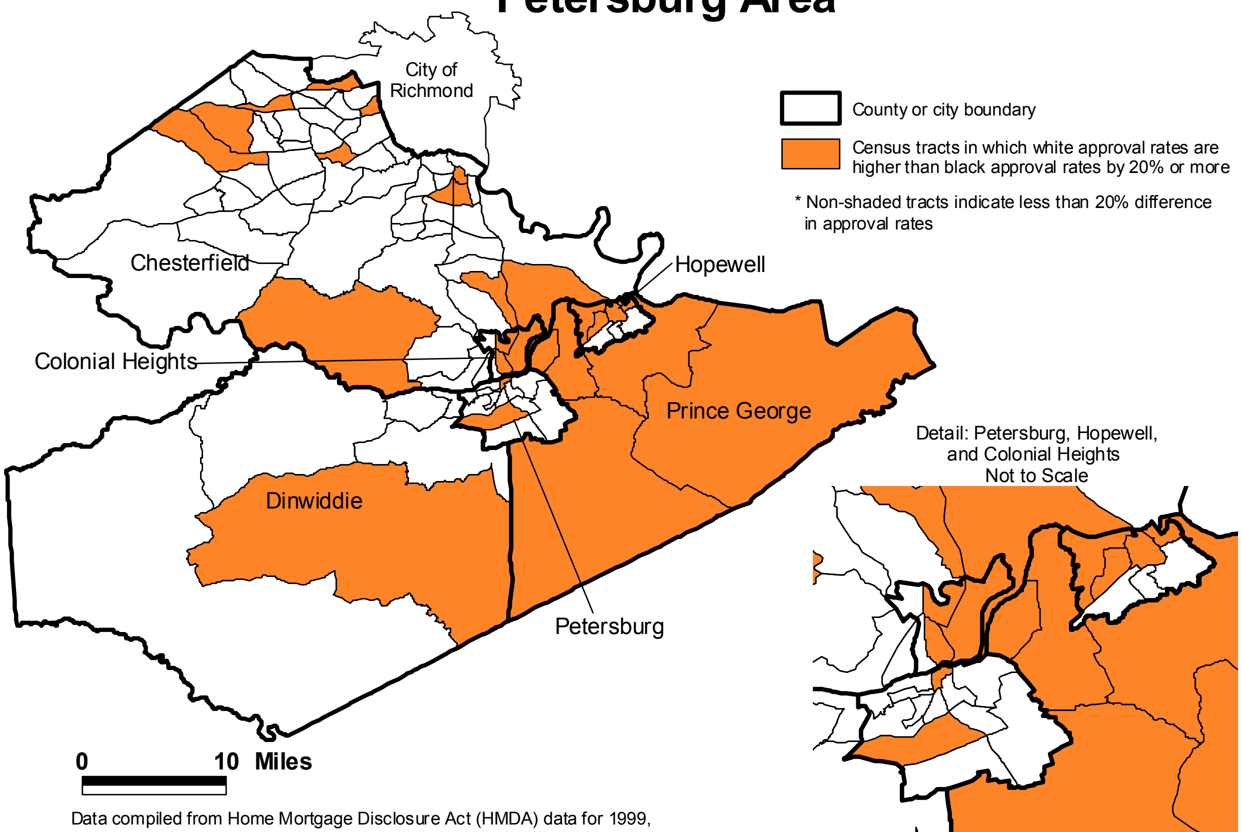


• Represents 5 persons with a mental disability

0 10 Miles

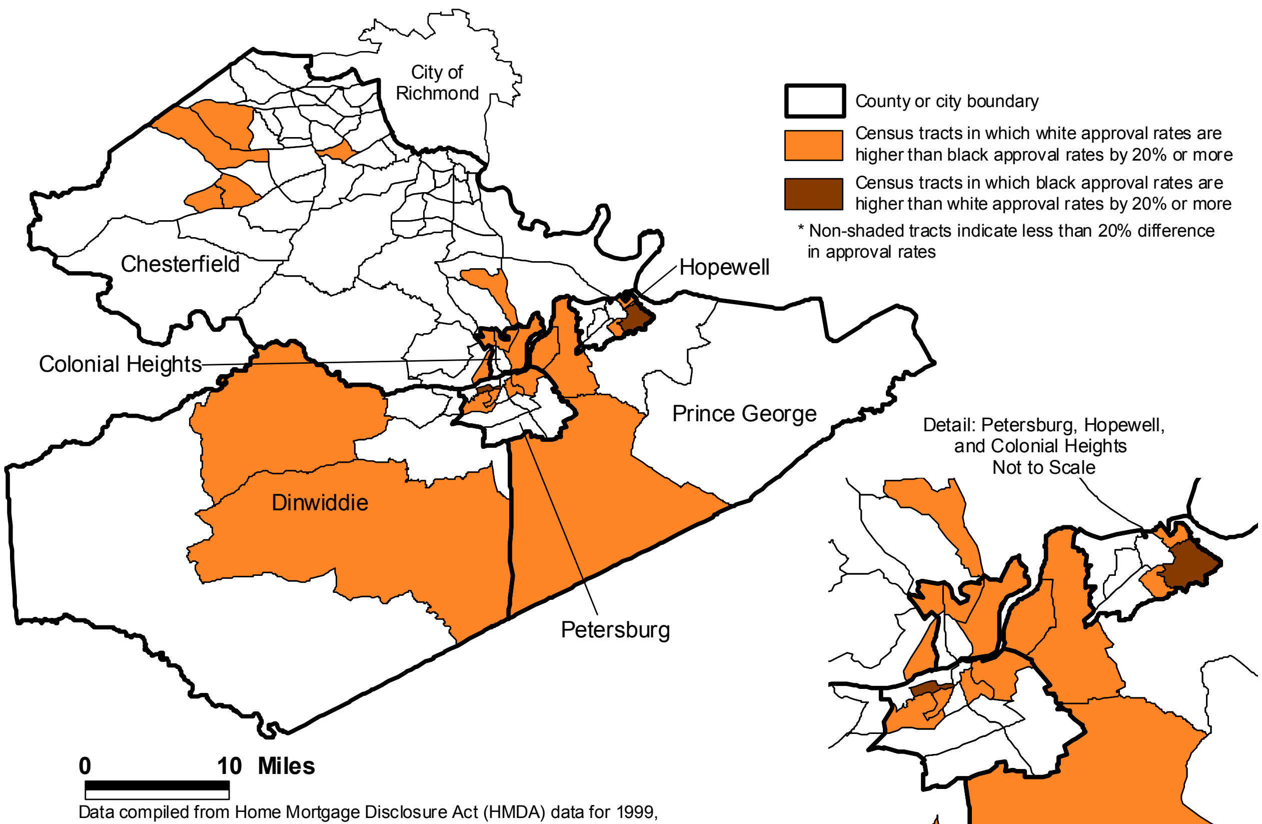
Note:
Data compiled from 2000 Census SF3 by Virginia Tech Center for Housing Research

Conventional Loan Approval Rates by Census Tract, 1999 - 2001 Petersburg Area



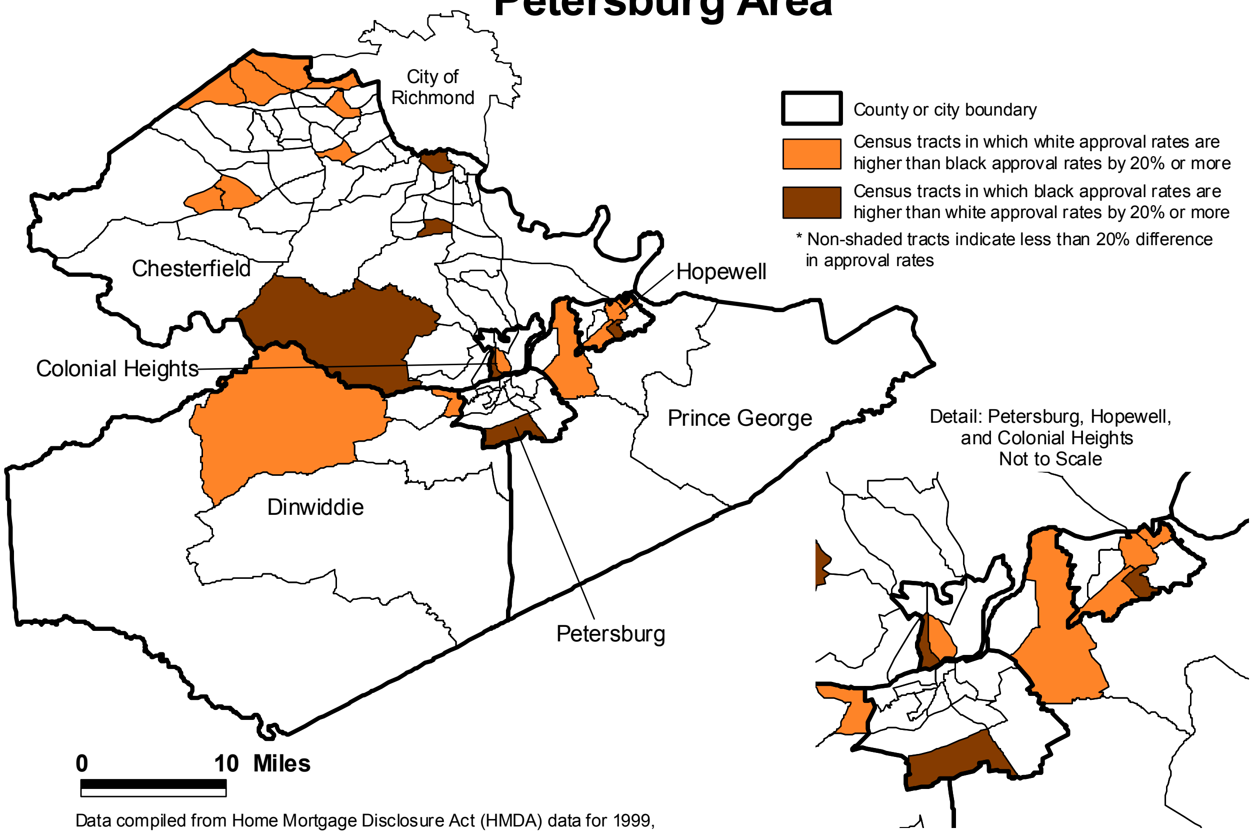
Data compiled from Home Mortgage Disclosure Act (HMDA) data for 1999, 2000, and 2001 by Virginia Tech Center for Housing Research

FHA Loan Approval Rates by Census Tract, 1999 - 2001
Petersburg Area



Data compiled from Home Mortgage Disclosure Act (HMDA) data for 1999, 2000, and 2001 by Virginia Tech Center for Housing Research

VA-Guaranteed Loan Approval Rates by Census Tract, 1999 - 2001 Petersburg Area



Data compiled from Home Mortgage Disclosure Act (HMDA) data for 1999, 2000, and 2001 by Virginia Tech Center for Housing Research