

NEW KENT COUNTY COMPREHENSIVE PLAN

Existing Conditions (DRAFT)

June 6, 2002

Note: all maps referenced in this report are available separately.

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I. INTRODUCTION

A. Purpose

Virginia law requires New Kent County to prepare a comprehensive plan setting forth the County government's long-range policies for general development. The plan is to be based on careful and comprehensive studies of existing conditions, growth trends, and the probably future requirements of the community.

The comprehensive plan may include, but need not be limited to, the designation of areas for various types of public and private land use; a system of transportation facilities; a system of community service facilities such as schools, parks, public buildings, and utilities; and the designation of areas for redevelopment, conservation, or other special treatment. An effective comprehensive plan addresses matters that are of general concern to the community, whether involving public or private action. Since their local governments have responsibility for investing in local public facilities, approving or advising on investments by other levels of government, and regulating land use, citizens rightly expect these actions to be coordinated to achieve maximum public benefit.

The New Kent County Comprehensive Plan is a tool to achieve that end. Once recommended by the Planning Commission and adopted by the Board of Supervisors, the Comprehensive Plan becomes the County government's official statement of its public facility, community development, and land use policies. The Code of Virginia states that the Comprehensive Plan:

...shall control the general or approximate location, character, and extent of each feature shown on the plan. Thereafter, unless such feature is already shown on the adopted master plan or part thereof or is deemed so under subsection D, no street, connection to an existing street, park or other public area, public building or public structure, public utility facility or public service corporation facility other than railroad facility, whether publicly or privately owned, shall be constructed, established or authorized, unless and until the general location or approximate location, character, and extent thereof has been submitted to and approved by the commission as being substantially in accord with the adopted comprehensive plan or part thereof. In connection with any such determination the commission may, and at the direction of the government body shall, hold a public hearing, after notice as required by Sec. 15.2-2204.¹

Subsequent amendments to the Comprehensive Plan must be adopted according to the public notice and hearing procedure followed for adoption of the original plan. At least once every five years the Planning Commission is required to conduct a thorough review of the plan to determine whether amendments are warranted.²

¹ *Code of Virginia*, 1950, Title 15.2, Section 2232.

² *Code of Virginia*, 1950, Title 15.2, Section 2230.

B. Historical Setting

Colonial exploration of New Kent County began with Captain John Smith's visit to the Indian village of Cinquoteck (the site of present West Point) in 1607. For the next several years, fighting between the English and the Indian natives occurred throughout the Pamunkey river area. After the Indian War of 1644, the Indians were driven out of the village and English settlement of New Kent County began.

New Kent County, named for Kent County in England, was established from York and James City Counties in 1654. The newly formed county encompassed territory that is now the counties of King and Queen, King William, Caroline, Hanover, and portions of Spotsylvania and James City.

New Kent County was a prosperous community in colonial times. Ferries traveling the Pamunkey and York Rivers were important transportation links that helped encourage economic growth in the area. People began to concentrate in what is now known as Eltham, where a few plantations were established, and West Point developed as a port. The first town, called Brick House, was established in the vicinity of Eltham in 1680. The Brick House itself housed the County court and other governmental offices. Brick House and a tobacco warehouse developed into the County's commercial center. Unfortunately, the County records burned when Bacon's Rebellion ended at the Brick House in 1687. The county seat was moved to the present New Kent Courthouse in 1691. In 1748, the only other colonial town in the County, Cumberland, lost its bid to become capital of Virginia to Williamsburg, by only three votes. After the Revolutionary War, the settlers of Cumberland and Brick House spread into the rest of the County or left altogether.

A new commercial center developed at Providence Forge. Canals for access to the town by ship were built by slave labor along the Chickahominy River, and are still evident today. A large forge and mill were located on Old Forge Pond. The forge was destroyed and buried by locals during Cornwallis' invasion to prevent it from falling into enemy hands. The mill ground grain for both Revolutionary and Civil War troops until its use was discontinued around the beginning of the 20th century.

The 1800s were a dormant period for New Kent County. The plantation society did not develop significantly because of the relatively steep slopes of the land. Three Civil War engagements took place in the County in May 1862. After the Civil War, another out-migration of inhabitants occurred.

In the late 1800s, people started gradually moving into the County again. Polish immigrants settled in the area of Barhamsville. Shipping occurred along the Chickahominy River and sparked trade in Windsor Shades and Providence Forge. The placement of railroad tracks also helped establish Providence Forge as the commercial and industrial center of the County.

Transportation continued to assist New Kent County's development in the 1900s. Many people have moved into the County as a result of new highway construction, particularly after 1950.

U.S. Route 60 and Interstate 64 have led to growth by increasing accessibility to the Richmond and Hampton Roads urban centers.

C. Regional Setting

New Kent County is located in the Virginia Coastal Plain between Richmond and Hampton Roads, and serves as the gateway to the Virginia Peninsula. County boundaries lie within 15 miles of downtown Richmond and 45 miles of Newport News. The County is also the gateway to Virginia’s Middle Peninsula, with bridges crossing the Pamunkey and Mattaponi Rivers at West Point. The only other bridge crossing to the Middle Peninsula is located approximately 28 miles east on the York River, at Gloucester Point.

The County has a land area of about 212 square miles (135,680 acres) and is bounded by the Pamunkey and York Rivers to the north and the Chickahominy River to the south. Surrounding New Kent County are the counties of Hanover, King William, King and Queen, James City, Charles City, and Henrico. New Kent County is part of the Richmond Regional Planning District.

II. EXISTING CONDITIONS AND TRENDS

In developing a comprehensive plan, the Planning Commission must make “careful and comprehensive surveys and studies of the existing conditions and trends of growth, and of the probable future requirements of its territory and inhabitants.”³ The following chapter examines existing conditions and trends in the County in several key areas: population, economy, natural environment, transportation, housing, public facilities, human services, and land use. Each topic concludes with a statement of identified issues and opportunities for the County’s future development.

A. Population

The analysis of population characteristics provides essential information for planning. By examining historical trends and future projections, one can better comprehend how the community is growing and changing. This information can be used to help forecast the future needs of the community and plan for the development that results from population growth.

The primary source for demographic information is the U.S. decennial census and the Census Bureau’s interim reports. The Virginia Employment Commission has prepared population projections.

Population Change

As shown in Table 1, the population of New Kent County increased steadily from 1950 to 1970, then jumped 65.7% in the 1970s, following the completion of Interstate 64 eastward from Bottoms Bridge. The 1990s saw a 28.9% increase to 13,462 persons. The County has seen a 237% increase over the past 50 years. Since 1970 the County’s population growth rate has been

³ *Code of Virginia*, 1950, Title 15.2, Section 2223.

higher than those of both the Richmond Regional Planning District and Virginia as a whole. New Kent County's growth in the 1990s was mostly due to in-migration. According to calculations by the Richmond Regional Planning District Commission, the County's natural increase was only 663 persons during this period, leaving a net migration of 2,333 persons.

Table 1: Population Change

	New Kent Co.	Richmond RPD	Virginia
1950	3,995	328,050	3,318,680
1960	4,504	461,993	3,966,949
<i>% Change</i>	<i>12.8%</i>	<i>40.8%</i>	<i>19.5%</i>
1970	5,300	547,542	4,651,448
<i>% Change</i>	<i>17.7%</i>	<i>18.5%</i>	<i>17.3%</i>
1980	8,781	632,015	5,346,797
<i>% Change</i>	<i>65.7%</i>	<i>15.4%</i>	<i>14.9%</i>
1990	10,445	739,735	6,187,358
<i>% Change</i>	<i>19.0%</i>	<i>17.0%</i>	<i>15.7%</i>
2000	13,462	865,941	7,078,515
<i>% Change</i>	<i>28.9%</i>	<i>17.1%</i>	<i>14.4%</i>

Source: U.S. Census Bureau, 1950-2000.

Population Distribution

In 1990, 61% of the County's population resided west of Route 155, which runs north from Providence Forge, and 34% resided west of Route 612 near Quinton. In 2000, the relative population distribution was almost the same, at 60% and 33% respectively. The most populous census block group in 1990 was number 7001.3, which includes Bottoms Bridge and the area south of Interstate 64 and west of Woodhaven Shores. This block group had 1,596 persons, or 15% of the County's population. Data at the block group level is not yet available from the 2000 census.

Population Projections

The Virginia Employment Commission projects continued population increase in the County, to 16,497 by 2010 and 19,789 by 2020. While these projected increases are substantial, they represent a slowing of the population growth rate, a phenomenon expected to be mirrored by the Richmond region and Virginia, as shown in Table 2.

Table 2: Population Projections

	New Kent Co.	Richmond RPD	Virginia
2002	13,863	875,734	7,141,155
2004	14,522	897,655	7,290,266
2006	15,180	919,577	7,439,376
2008	15,839	941,498	7,588,487
2010	16,497	963,420	7,737,597
<i>% Change, 2000-2010</i>	<i>24.9%</i>	<i>12.8%</i>	<i>10.7%</i>
2020	19,789		8,483,149
<i>% Change, 2010-2020</i>	<i>20.0%</i>		<i>9.6%</i>

Source: Virginia Employment Commission and Weldon Cooper Center.

The most populous section of the County is under the jurisdiction of the Richmond Area Metropolitan Planning Organization, which has prepared long-range population projections. This data is reported for Transportation Analysis Zones (see Planned Transportation Improvements Map). The MPO used 1990 census data supplemented by building permit, certificate of occupancy, and unit demolition/conversion counts to prepare 1998 population estimates for the TAZs, and projected growth to 2023. The MPO estimated the area under its jurisdiction to have a population of 6,065 persons in 1998, and projected 16,040 persons by 2023. This represents an average annual growth of 399 persons per year just in the MPO planning area, compared to the 303 persons per year the County as a whole averaged during the 1990s. The projections should be recalculated once detailed information from the 2000 census becomes available, to provide a forecast based on more recent data.

Average Household Size

Average household size is an important planning consideration. Expected population not residing in group housing, divided by the average number of persons per household, yields an estimate of the future housing units that would have to be accommodated in the County. Average household size in the County, the Planning District, and Virginia has consistently decreased over the last 30 years, as shown in Table 3.

Table 3: Average Household Size

	New Kent Co.	Richmond RPD	Virginia
1970	3.51	3.11	3.20
1980	2.95	2.70	2.77
1990	2.77	2.51	2.56
2000	2.65	2.48	2.54
2010 Proj.	2.42	2.30	2.36
2020 Proj.	2.16	2.11	2.15

Source: U.S. Census Bureau, 1970-2000; K.W. Poore & Associates projections.

Population Characteristics

Table 4 shows the race and age characteristics of New Kent County's population and how they have changed over the last decade. The white population increased substantially, and rose from 77% of the total population to 80%. Meanwhile, the black population remained almost static. Other race groups increased by large percentages, although their numbers were small to begin with. As it has been throughout most of its history, the County population is essentially comprised of white and black persons, although it is gradually becoming more diverse. It is still apparent, however, that almost all of the in-migrants in the 1990s were white.

The County population's age distribution changed significantly in the 1990s. The 45 to 54 and 55 to 59 age cohorts increased by 81.3% and 71.9% respectively. At the same time, the 10 to 14 age cohort increased by 55.4%, and the 20 to 24 and 25 to 34 age cohorts had actual population loss. Taken together, these figures indicate that families with children are moving into the County, while young adults are moving out after graduating from high school. The age ranges associated with these parents indicate that most of them began to have children when they were in their thirties, probably after they became established in careers. This is generally a well-educated and affluent segment of the population, one that tends to be employed in urban centers such as Richmond.

Table 4: Race and Age

Race:	1990	2000	<i>% Change</i>
White	8,078	10,805	33.8%
Black	2,151	2,181	1.4%
American Indian or Alaska Native	136	173	27.2%
Asian or Pacific Islander	34	74	117.6%
Other	46	71	54.3%
Hispanic (any race)	78	176	125.6%
Under 5 years	737	759	3.0%
Age:			
5 to 9 years	750	97	23.6%
10 to 14 years	679	1,055	55.4%
15 to 19 years	734	910	24.0%
20 to 24 years	575	506	-12.0%
25 to 34 years	1,828	1,666	-8.9%
35 to 44 years	2,017	2,646	31.2%
45 to 54 years	1,281	2,323	81.3%
55 to 59 years	474	815	71.9%
60 to 64 years	452	587	30.0%
65 to 74 years	598	783	30.9%
75 to 84 years	264	387	46.6%
85 years and over	56	98	75.0%
Median age	34.7	38.4	--

Source: U.S. Census Bureau, 1990 and 2000.

Issues and Opportunities

- New Kent County will continue to experience population growth over the next 20 years, although the rate of growth is expected to decline.
- Given the changes in the population's age and race distribution, it is apparent that the County's growth is mainly due to in-migration from families that commute to the Richmond area for employment.
- There has been an influx of school-age children that implies school capital improvement needs in the future.
- New Kent County is transforming into a bedroom community. Historically, this pattern of development leads to a tax base that is not balanced between residential and commercial and industrial property, and the locality must either rebalance the tax base or raise taxes if it is to meet service demands.
- An influx of newcomers into a rural community can lead to conflict between traditional rural ways and suburban lifestyles.

B. Housing

The availability of adequate, affordable housing is important to a community's quality of life. This section estimates the housing units needed to accommodate the expected future population as a baseline scenario for land-use planning. Other important considerations are the quality of the existing housing stock and the affordability of housing.

Housing Supply

The 1970s were a boom decade for new housing in New Kent County, with the total number of units increasing 98.4% to 3,256. The number of units increased by a further 21.9% in the 1980s, and in 1990 stood at 3,968. Almost all units in the County at that time were single-family or mobile-home units; only 24 units in other types of structures were reported. Table 5 presents a profile of the housing supply as reported by the 2000 census.

Table 5: Housing Supply Profile, 2000

	Number	Percent
Total housing units	5,203	100.0%
Occupied housing units	4,925	94.7%
Vacant housing units	278	5.3%
Vacant; for seasonal, recreational, or occasional use	53	1.0%
Homeowner vacancy rate	1.5%	--
Rental vacancy rate	5.8%	--
Owner-occupied housing units	4,369	88.7%
Renter-occupied housing units	556	11.3%
Average household size, renter-occupied units	2.67	--
Average household size, owner-occupied units	2.52	--

Source: U.S. Census Bureau.

Recent building permit activity has continued to be strong in the County. All new units built in the 1990s were single-family units. Table 6 shows the number and value of new units built in the County. It is apparent from the average value of new units that new houses built in New Kent County tend to be affordable. In 1999 and 2000, the development of the upscale Brickshire subdivision had an impact on the average value figures.

Table 6: Building Permits for New Units, 1990-2000

Year	New SF Units	Total Value	Average Value
1990	122	\$10,097,000	\$82,762
1991	104	\$8,054,000	\$77,442
1992	110	\$8,748,000	\$79,527
1993	126	\$10,081,000	\$80,007
1994	122	\$9,891,000	\$81,073
1995	149	\$11,784,000	\$79,087
1996	140	\$11,849,000	\$84,635
1997	150	\$13,112,000	\$87,413
1998	147	N.A.	--
1999	133	\$12,338,000	\$92,767
2000	157	\$18,427,000	\$117,369
Total	1460	--	--

Source: Weldon Cooper Center.

While detailed housing characteristics data has not yet been released by the Census Bureau, 1990 census data and building permit data over the last decade can be used to develop an estimate, shown in Table 6.

Table 6: Housing Characteristics Estimate, 2000

	Number	Percent
Single-family units	4,574	87.9%
Units in multi-unit structures	24	0.5%
Mobile home units	605	11.6%
Total units	5,203	100.0%
Units by year built:		
1999 to March 2000	156	3.0%
1995 to 1998	586	11.3%
April 1990 to 1994	493	9.5%
1989 to March 1990	240	4.6%
1985 to 1988	699	13.4%
1980 to 1984	525	10.1%
1970 to 1979	1,090	20.9%
1960 to 1969	663	12.7%
1950 to 1959	351	6.7%
1949 or earlier	400	7.7%

Source: U.S. Census Bureau, Weldon Cooper Center, K.W. Poore & Associates.

Using the projections for population and average household size developed earlier, it is possible to estimate the number of additional housing units that will be needed to accommodate the expected population in 2010 and 2020. Table 7 illustrates these calculations. New Kent County is forecasted to need 1,803 more units by 2010, and an additional 2,448 by 2020. Of course, these estimates will only be realized if the population continues its rate of growth, average household size continues to decrease as projected, and the vacancy rate remains the same.

Table 7: Estimated Housing Units Needed, 2010 and 2020

	2000 Actual	2010 Est.	2020 Est.
Total population	13,462	16,497	19,789
Non-group population	13,066	16,101	19,393
Average household size	2.65	2.42	2.16
Occupied units	4,925	6,653	8,978
Vacant units @ 5.3%	278	353	476
Total units	5,203	7,006	9,454
Units added	--	1,803	2,448
<i>% Growth in units</i>	--	34.7%	34.9%

Source: U.S. Census Bureau; Virginia Employment Commission and K.W. Poore & Associates projections.

Housing Conditions

Housing conditions are difficult to assess, because what one household considers adequate may be considered unacceptable by another. An objective measurement that is often used is units lacking complete indoor plumbing, meaning indoor toilet facilities and hot and cold running water. The 1990 census found that 77 or 1.9% of the 3,968 housing units in the County lacked complete indoor plumbing. For comparison, 0.7% of the occupied units in the Richmond Regional Planning District were in this category. The Virginia Center for Housing Research at Virginia Tech estimates that by 1998, 742 of the 1,845 occupied units of this type in the Planning District had been addressed, either by attrition or through the Department of Housing and Community Development's Indoor Plumbing Rehabilitation program. Assuming that the same percentage reduction occurred in New Kent County, there would have been 46 such units remaining in 2000, or 0.9% of the total housing stock.

Only 27% of units in New Kent County were built over 30 years ago, so substandardness due to age and deterioration would not be expected to be a widespread problem. A field survey of the County conducted by K.W. Poore & Associates in the summer of 2001 observed only three notable concentrations of substandard housing, shown on the Housing Conditions Map. There were many scattered deteriorating units, however. This suggests that housing needs in the County are generally best addressed on a case-by-case basis, rather than by redevelopment efforts.

It is important to be aware that 21% of housing units in the County were built between 1970 and 1979. When a house becomes older than 30 years, it typically needs updating and renovation. If

there is insufficient reinvestment in these units by their owners, the County could be faced with a larger housing conditions problem in the future. This is an issue that merits attention.

Issues and Opportunities

- To accommodate population growth and decrease in average household size, the County is expected to need 1,803 new housing units by 2010 and an additional 2,448 by 2020. In the past five years the market has been providing an average of 145 new units per year. The rate will have to increase to an average of 180 new units per year to meet the expected demand between 2000 and 2010, and 245 new units per year to meet the expected demand between 2010 and 2020.
- Housing units added in the 1990s were 100% single-family units and mobile homes. Other types of housing could help accommodate expected population growth while using less land area per unit, assuming there is market demand for the type of alternative units offered. However, there are already many types of apartment, townhouse, and duplex units offered in Richmond and nearby areas.
- There are a few pockets of substandard housing in the County, but most deteriorated housing units are scattered.
- The houses built in the 1970s are nearing the age when they may require renovation. Thus, if owners lack the resources to reinvest, the County could face increasing problems with housing deterioration.

C. Economy

This section discusses income trends in New Kent County, as well as other indicators of the County's economic health. The state of the local economy is important for two main reasons. First, County residents need employment and wealth-building opportunities, and the County's policies can play a role in creating a friendly environment for appropriate economic development. Second, the County must meet the population's public service demands, and therefore must maintain a healthy base of taxable property.

Income

Income is useful as a rough measure of a community's well-being, as it shows how economic activity (although not necessarily within the locality) translates into benefits for households. The best measure of income for the typical family household is median household income. Table 8 shows the most recent median household income figures for New Kent County and its neighbors in the Richmond Regional Planning District.

Table 8: Median Household Income, 1996

New Kent County	\$50,996
Charles City County	\$38,955
Hanover County	\$52,261
Henrico County	\$37,428
Chesterfield County	\$53,479
City of Richmond	\$30,017
Virginia	\$41,470

Source: Weldon Cooper Center.

As can be seen, New Kent County has a higher median household income than Virginia as a whole, and is comparable to Chesterfield and Hanover Counties, two rapidly growing suburbs of Richmond. This is consistent with the national phenomenon of more-affluent families moving farther out from the urban center, where land is readily available for new home construction.

Another measure of a community's income status is its poverty statistics. Table 9 shows the most recent poverty statistics for the same localities. New Kent County's poverty statistics are most comparable to Hanover and Henrico Counties. One is a suburbanizing county with rural pockets, and the other is an urbanizing county with an increasingly diverse population.

Table 9: Poverty Statistics, 1995

	All Persons	% of All	Children	% of All
New Kent County	572	5.5%	169	6.5%
Charles City County	933	14.6%	467	30.2%
Hanover County	2,750	4.4%	855	5.4%
Henrico County	12,609	5.8%	4,267	8.4%
Chesterfield County	8,038	3.8%	3,042	4.9%
City of Richmond	44,871	23.0%	17,062	40.3%
Virginia	638,734	10.5%	239,625	15.8%

Source: Weldon Cooper Center.

Employment

New Kent County's economy has traditionally revolved around agriculture and forestry, but its convenient access to surrounding metropolitan areas has diversified its economy. Residential growth and the construction of the Colonial Downs racetrack have caused an increase in retail trade and service industry employment. Table 10 shows how the number of business establishments based in the County and their employment levels changed between 1990 and 1998.

Table 10: Employment by Industry Group, 1990 and 1998

	Establishments, 1990	Employees	Establishments, 1998	Employees	% Change in Employment
Agriculture, Forestry, Mining	6	0*	7	36	--
Construction	58	308	82	426	38.3%
Manufacturing	20	197	9	154	-21.8%
Transportation & Public Utilities	8	79	11	37	-53.2%
Wholesale Trade	13	72	8	32	-55.6%
Retail Trade	34	284	38	455	60.2%
Finance, Insurance, Real Estate	4	9	11	66	633.3%
Services	58	433	100	828	91.2%

*Withheld to avoid disclosure.

Source: County Business Patterns Database

As might be expected given the nature of the growth that has occurred, construction employment increased substantially. Retail employment boomed, as businesses grew to supply the increasing number of residents. Service employment almost doubled, to serve both new residents and patrons of Colonial Downs. The finance, insurance, and real estate industry saw the most dramatic percentage increase.

Table 11 provides a more recent picture of employment in the County. There has been some fluctuation in employment levels, but again the trade and service sectors show increased employment. These sectors account for 57% of employment by businesses based in the County.

Table 11: Employment by Sector, 3rd Quarter 2000

	Employees, 3 rd Quarter 2000	% of Total
Agriculture, Forestry, Mining	60	2%
Construction	396	16%
Manufacturing	188	7%
Transportation & Public Utilities	23	1%
Trade	548	22%
Finance, Insurance, Real Estate	45	2%
Services	892	35%
Government	385	15%
Total	2,537	100%

Source: Virginia Economic Development Partnership.

The occupations of New Kent County residents by employment sector are not yet available from the 2000 census, but in 1990, 54% of working people had occupations in the managerial / professional and technical / sales / administrative support fields. Only 4% were employed in

agriculture and forestry. Managerial, professional, and technical jobs are not abundant in New Kent County, so many people in these occupations commute to urban areas.

Average weekly wages in the County and neighboring localities are shown in Table 12. Wages for jobs located in New Kent County are the lowest in the region. It is therefore not surprising that workers commute to other localities rather than finding employment where they live.

Table 12: Average Weekly Wages, 4th Quarter 2000

	Average Weekly Wage
New Kent County	\$451
Charles City County	\$531
James City County	\$509
King William County	\$575
Hanover County	\$596
Henrico County	\$715
Chesterfield County	\$654
City of Richmond	\$775
Richmond MSA	\$693
Norfolk-Va. Beach- Newport News MSA	\$570
Virginia	\$710

Source: Virginia Employment Commission.

Retail Sales

Retail sales in New Kent County have shown strong growth in the last decade, increasing 154% between 1993 and 2001. Table 13 summarizes total taxable sales growth.

Table 13: Growth in Total Taxable Sales

	Taxable Sales	<i>% Change</i>
1993	\$21,761,000	--
1994	\$24,616,000	13.1%
1995	\$26,955,000	9.5%
1996	\$30,288,000	12.4%
1997	\$43,793,000	44.6%
1998	\$47,696,000	8.9%
1999	\$50,899,000	6.7%
2000	\$51,113,000	0.4%
2001	\$55,337,000	8.3%

Source: Virginia Department of Taxation.

Table 14 breaks down retail sales by sales group for 1990 and 1999. Due to non-disclosure rules, not all sales groups represented in the County are reported by the Department of Taxation. Food and machinery, equipment, and supplies sales show the greatest percentage growth over this period. The number of automotive sales establishments actually decreased, perhaps

reflecting the national trend away from small, independently owned auto supply stores. During this period, the total number of business establishments in the County only increased from 200 to 233.

Table 14: Retail Sales Growth for Reported Groups, 1990 and 1999

Group	Establishments, 1990	Taxable Sales	Establishments, 1999	Taxable Sales
Automotive	33	\$3,107,000	18	\$2,004,000
Food	33	\$10,250,000	49	\$36,579,000
Furniture, Home Furnishings, Equipment	5	\$336,000	8	\$380,000
General Merchandise	5	\$631,000	8	\$686,000
Machinery, Equipment, Supplies	8	\$267,000	15	\$854,000
Miscellaneous	71	\$2,218,000	96	\$5,875,000

Source: Virginia Department of Taxation.

Travel and Tourism

The Virginia Tourism Corporation issues reports on the economic impact of travel in Virginia localities. New Kent County saw a dramatic 223% increase in traveler spending between 1994 and 1998, and the addition of 154 travel-related jobs. Local yearly tax revenues from travel increased by \$251,000. This time period coincides with the development of Colonial Downs.

Table 15: Economic Impact of Travel

	1992	1994	1996	1998
Total Travel Expenditures	\$7,560,000	\$7,760,000	\$12,400,000	\$25,093,000
<i>% Change</i>	--	2.6%	59.8%	102.4%
Travel-Generated Payroll	\$1,130,000	\$1,250,000	\$2,070,000	\$4,848,000
Travel Employment	90	90	150	344
State Travel Taxes	\$390,000	\$390,000	\$570,000	\$1,104,000
Local Travel Taxes	\$170,000	\$180,000	\$230,000	\$431,000

Source: Virginia Tourism Corporation.

Agriculture and Forestry

The state of agriculture and forestry in New Kent County is important even though the sector is not a large employer. While it is not a large generator of income or taxes, the agriculture and forestry sector is vital to maintaining the County's rural way of life. The open space and scenic quality that are its byproduct are not assigned a value by the market, except perhaps when selling the land for home sites. But ironically, over time typical subdivision practices inevitably erode the rural character that attracted development in the first place. The only non-regulatory way to keep land in agricultural and forestal use is to make farming and forestry profitable enough to be

sustainable. This section examines the characteristics of County’s agricultural and forestal economy.

Table 16 shows the number of farms, acreage, and value of agricultural production in New Kent County. In 1997, the County ranked 87th in the state in total value of agricultural production, in the bottom fifth. Crops accounted for 96% of agricultural production value; the value of livestock production was insignificant. However, the County ranked in the top third in the state for production of barley, wheat, and soybeans, as shown in Table 14. Essentially the County produces grains, which are not a crop that produces a high income per acre.

Table 16: Agricultural Production, 1997

Farms	64
Acres in Farms	16,392
Median Farm Size	101
Cash Receipts:	
Crops	\$2,789,000
Livestock	\$152,000
Total	\$2,941,000
Rank in State	87

Source: 1997 Agricultural Census

Table 17: Crop Production, 2000

	Acres	Yield/Acre	Production	Rank
Corn for grain, bushels	4,400	120	528,000	33
Soybeans, bushels	5,700	38	216,600	29
Wheat for grain, bushels	2,900	68	197,200	24
Barley for grain, bushels	700	90	63,000	23
Hay, tons	800	2.6	2,100	84

Note: Production figures for all other crop categories and livestock suppressed to avoid disclosure.
Source: Virginia Agricultural Statistics Service.

Except for during World War II, the number of farms in the County has consistently declined since 1935. There were increases in acres under cultivation during World War II and again in the early 1950s, but thereafter the number has declined over every five-year period. Median farm size was only 101 acres in 1997, and 65% of farms were under 175 acres. This is far below the size needed to make a living in grain production. In fact, there were only 27 farmers engaged in farming as a principal occupation in 1997, and their median age was 56. Farming is mainly an activity for producing supplemental income, not an area of economic opportunity.

Table 18: Change in Number of Farms, 1935-1997

Year	Number of Farms	Acres in Farms
1935	634	67,055
1940	362	47,282
1945	479	54,685
1950	368	51,122
1954	279	63,391
1959	196	43,149
1964	147	34,017
1969	102	30,410
1974	97	30,327
1978	93	25,457
1982	91	25,404
1987	72	*
1992	67	18,367
1997	64	16,392

*Withheld to avoid disclosing information for individual farms.

Source: Virginia Agricultural Statistics Service.

The distribution of farm size fluctuated between 1978 and 1997, and most recently 36% of the County's farms were in the 50-174 acre category. There was a trend toward more farms of 1,000 or more acres through 1992, but by 1997 there were only three farms left in this category. Overall, the distribution shows that farming has not been a large-scale enterprise in New Kent County for at least the past two decades. The data in Table 20 indicates that only 13 farms in 1997 had annual sales over \$50,000.

Table 19: Farm Size Distribution, 1974-1997

Year	1-9 ac	10-49 ac	50-174 ac	175-499 ac	500-999 ac	1,000+ ac
1974	0	19	38	18	17	3
1978	5	26	23	24	10	4
1982	4	22	30	21	9	5
1987	3	20	20	17	6	6
1992	3	18	24	12	3	7
1997	5	14	23	13	6	3
% of total	7.8%	21.9%	35.9%	20.3%	9.4%	4.7%

Source: Virginia Agricultural Statistics Service.

Table 20: Farms by Value of Sales, 1987-1997

Value of Sales	1987	1992	1997
Less than \$2,500	23	20	16
\$2,500 to \$4,999	9	10	9
\$5,000 to \$9,999	15	10	9
\$10,000 to \$24,999	8	9	7
\$25,000 to \$49,999	4	4	10
\$50,000 to \$99,999	6	6	6
\$100,000 or more	7	8	7
Total	72	67	64

Source: Virginia Agricultural Statistics Service.

According to U.S. Forest Service data from 1992, New Kent County forests covered 98,183 acres in the County representing 72% of the land mass. Nearly all these forests are capable of producing quality trees of commercial value with proper management. This forest is a diverse mixture of pine and hardwood in varying stages of growth of which 75% is owned and managed by private landowners.

Since New Kent County was settled, forestry has been important to its economy. In the early days of colonization, wood for shipbuilding was the primary use, but today, construction lumber and pulp for paper products are the most prominent commercial forest products. In the early part of the twentieth century, there were many portable sawmills operating throughout the county. There are large sawdust piles scattered in different parts of the county as evidence of this. Today there are no longer any sawmills operating in New Kent County; the nearest one is in Charles City County in Roxbury. The Smurfit-Stone Container Corporation's sawmill in West Point closed in late 2001 after 20 years of operation. There are other mills available in Ashland, Hopewell, and Franklin.

The Virginia Department of Forestry has operated the New Kent Forestry Center on Route 60, three miles east of Providence Forge, since 1952. The Center's purpose was initially to produce trees that could be used to reforest harvested tracts of land throughout the Commonwealth. Up until that time there was no resource for reforestation efforts. The Center grew in the 1960s and 1970s to become the largest single-species nursery in the world, producing 55 million loblolly pine seedlings each year. Now, pine production is split between three Virginia Department of Forestry nurseries in the state, but the Center still produces 16-20 million loblolly pine seedlings as well as 1.5 million white pine and various hardwood species each year. Forest management assistance is available to all residents of New Kent County through the Center.

Forest products remain a significant contributor to the economy. Tables 21 and 22 provide recent figures for the timber harvest in the County. Since logging of a tract takes place at intervals of 30 years or more, it is difficult to discern patterns in timber production.

Table 21: Timber Harvest Volume and Value

Year	Pine Volume, cf	Hardwood Volume, cf	Total Volume, cf	Pine Value	Hardwood Value	Total Value
1986	1,863,000	1,976,000	3,839,000	\$533,449	\$515,009	\$1,048,458
1990	2,527,000	3,913,000	6,440,000	\$575,748	\$1,020,229	\$1,595,977
1995	1,831,000	2,063,000	3,894,000	\$593,031	\$698,616	\$1,291,647
1996	3,055,000	2,376,000	5,431,000	\$1,203,532	\$1,170,256	\$2,373,788
1997	2,238,000	1,240,000	3,478,000	\$1,038,390	\$366,140	\$1,404,530
1998	3,019,000	1,272,000	4,291,000	\$1,783,505	\$394,144	\$2,177,649
1999	1,988,000	1,158,000	3,146,000	\$1,336,592	\$533,639	\$1,870,231

Source: Virginia Department of Forestry, New Kent Forestry Center.

Table 22: Timber Acreage Cut

Year	Clear Cut	Partial Cut	Select Cut	Thinning	Total Cut
1993	580	1,921	0	442	2,943
1994	467	226	0	35	728
1995	1,241	188	0	415	1,844
1996	203	391	86	285	965
1997	1,054	0	170	513	1,737
1998	753	0	1,781	385	2,919
1999	356	0	80	396	832
2000	712	0	476	187	1,375

Source: Virginia Department of Forestry, New Kent Forestry Center.

However, the New Kent Forestry Center does maintain records of reforestation activity. The trend since 1970 has been for fewer acres to be reforested after cutting. When land is not intentionally reforested, it can indicate that the landowner is not serious about continuing to keep land in timber production. Over the 30-year period between 1970 and 2000, the average yearly acreage reforested declined from about 475 acres to about 275 acres.

The value of forests in New Kent County is more than commercial. Forests provide a multitude of benefits to County residents that are not directly valued by the market. This renewable resource contributes significantly to the quality of the County's air and water, creates habitat for a variety of wildlife, and is of great importance to the County's aesthetic and recreational attractiveness. With proper management, the forest can be a renewable, sustainable resource for the County. However, the Department of Forestry reports that development pressure is permanently taking land out of timber production, and forest land ownership is becoming increasingly fragmented. The New Kent Forestry Center reports that once land is broken into parcels of 20 acres or less, there is a decline in participation in forestry.

The Department of Forestry has compiled data that illustrates the difficulties that sustainable forestry faces. In 1992, the Department began a long-term assessment of Virginia's forest resources. This assessment emphasizes the implications of population growth and land use changes for forest resources. A report on the initial phase, which focused on timber supply, was

completed in 1995. Geographic Information System (GIS) technology was used to overlay population density patterns with forest cover and land use data. Local Department foresters then chose threshold population densities that could be used to separate forest lands into two categories: "rural" forest land, which is likely to remain available for long-term timber production; and "urban" forest land, which is likely to be converted to other uses by the time the existing forest reaches economic maturity. Areas of rural forest unsuitable for harvest because of steep slopes, small acreage or distribution in narrow strips were removed from consideration to leave the "suitable rural forest land" that is expected to support future commercial timber production.

The Forest Land Assessment Map for the Richmond Regional Planning District shows the results of this analysis. There are still significant areas of rural forest land in New Kent County, but population density in the western and southern parts of the County is expected to take large areas of forest permanently out of timber production. A recent disturbing trend has been large timber corporations' sales of their land holdings in the County. Chesapeake Forest Products has been selling its forest tracts to the highest bidder, including 6,000 acres east of Route 30/33 and 1,000 acres near Colonial Downs. While the corporation itself is not interested in land development, the purchasers' intentions regarding forestry are unclear.

To maintain a healthy forest economy, the Department of Forestry recommends that localities employ land-use planning to accommodate population growth, environmental health, and economically viable forest. In addition, localities should eliminate overburdening regulations that discourage landowners and the wood products industry from investing in forestry for fear of not recovering their investment. Finally, localities should provide incentives such as land-use taxation to keep land in forest use.

Economic Development Efforts

New Kent County maintains an active economic development program. It has an industrial development authority and a part-time economic development director. The New Kent County Industrial Development Authority meets with the Economic Development Director on a regular basis. Its main activities have been in marketing. The IDA has prepared brochures and summary sheets highlighting the County's assets and summarizing information that would be of interest to prospective businesses and industries. This includes information sheets on key potential development sites in the County. The IDA is marketing eight such sites so far. All information is provided to the Virginia Economic Development Partnership, the state's economic development arm, for inclusion in its database. The County also participates in trade shows.

The Economic Development Director is responsible for day-to-day contacts with prospects. Most prospects tend to be in light manufacturing, warehousing, and distribution. These are often smaller businesses that are moving out of developed areas to the east on the Virginia Peninsula. Sand, gravel, and asphalt operations have also shown a particular interest in New Kent County, perhaps positioning themselves for the future widening of Interstate 64.

While retail commercial growth is important to the County's tax base, it is not a focus of the economic development program. Retail development follows residential population, and will not

locate in an area unless that market is already present. Large retail companies are very proficient and sophisticated at site selection, and do not need special assistance or incentives. Small businesses in the County have their own association, the New Kent County Chamber of Commerce. In the fall of 2001 there were 48 business members and 15 individual members. The Chamber acts as a networking and advocacy organization for its members, and holds monthly meetings.

The County has undertaken several notable economic development initiatives in the last two years. In 1999, the County received two Community Development Block Grants, totaling over \$1.3 million, that enabled it to extend the Regional Jail's water and sewer infrastructure to serve two new businesses on Route 33, a trucking company and an asphalt plant. The grant also financed the improvement of an industrial access road to serve the asphalt plant and future businesses.

In 2001, the IDA used its bond-issuing capability to assist the Christopher Newport University Educational Foundation in constructing new dormitories. The lease revenues from the dormitories will make payments on the bonds. As a fee for issuing the \$10 million in bonds, the IDA received \$100,000, which is being used to underwrite economic development initiatives. The funds have enabled the IDA to hire a consultant to study the feasibility of developing an industrial park on 154 acres of land proffered to the County by Chesapeake Corporation.

Also in 2001, New Kent County entered into a regional economic development partnership with the Town of West Point and Charles City County. The purpose of the partnership is to aggressively market the area. The initial operating budget is set at \$250,000 per year, with New Kent County contributing \$139,000. The votes of the organization's board of directors are weighted so that no one jurisdiction can control 50% or more of the voting power.

Issues and Opportunities

- The local economy is growing, but not as fast as the population. Essentially, the growth is in basic retail and services. Retail sales growth is strong, indicating an interest in serving the resident population and visitors attracted by Colonial Downs.
- So far, industrial growth has been low-tech and basic. Yet, median household income is on par with the Richmond suburbs. Clearly, income derived outside the County is driving the economy.
- The County does not have an economic development strategy beyond general marketing and assisting industrial prospects. No particular industries or types of jobs are being targeted. There is an opportunity to develop a clear economic development strategy integrated with other community goals.
- Small businesses will always be important to the economy. The County needs to maintain a friendly environment for small business development. Many small businesses can be operated from the home with little or no impact on neighbors.
- Colonial Downs offers the County many economic opportunities. It is in the County's interest to promote a variety of activities there so that visitation will grow and the facility will become profitable. Growth in visitors to Colonial Downs will increase retail sales growth

and County tax sales tax revenues. Other forms of taxes such as admissions, meals, and lodging taxes can also be collected from this market.

- The County is a relatively important grain producer, but it does not produce high-value agricultural goods. As a sector it is in decline relative to other economic activities. There are few people principally employed in farming. Yet it is important to New Kent County's sense of place. The County can contribute to the sustainability of agriculture by keeping the tax burden on farmers low, and by reducing the residential encroachment that drives up land values.
- Forestry is still important but is threatened by land subdivision and conversion of land for residential development. The County can assist forestry by minimizing the tax burden, discouraging the scattering of houses in forest lands, and keeping regulation of forestry practices to a reasonable level. Consulting the Department of Forestry in land-use planning can help conserve forest lands and protect the industry.

D. Natural Environment

This section provides an overview of New Kent County's natural environment. Environmental features place some inherent constraints on development, and are a factor in determining the land's suitability for particular uses. An understanding of the County's natural systems can also help determine which land use policies and practices will best protect and enhance the community's quality of life.

Topography

New Kent County is located in the Coastal Plain physiographic region, which runs north to south along Virginia's eastern seaboard. In general, the County has a gently rolling topography. However, extensive flat, low-lying areas are found along the Pamunkey River, with less extensive areas along the Chickahominy River. Overall, elevations average between 50 and 100 feet above sea level. The highest elevations are around 170 feet, and the lowest are at sea level, along the two major rivers.

Water Resources

Major watercourses, water bodies, and wetland areas are delineated on the Water Resources Map. The many rivers, streams, lakes, and wetlands within New Kent County influence the County's character and development. The County lies within three major river basins: the York in the northeast, the Pamunkey in the north, and the Chickahominy in the south. Approximately one third of the county lies in the Pamunkey basin, slightly under two thirds in the Chickahominy basin, and a relatively small portion in the York basin. The only other streams in the County are small tributaries of these three rivers. All stream types are shown on the map, including discontinuous, intermittent, and continuous streams. Marshes and lakes are also shown.

Surface Water. The County's rivers, streams, and waterbodies provide opportunities for a variety of surface water uses. The water is soft and therefore of excellent quality for municipal and industrial uses. The City of Newport News uses the Chickahominy River as a drinking

water supply source, with a pumping station in New Kent on a section of the river impounded by Walkers Dam. This pumping station is interconnected with another on the Diascund Creek Reservoir, which the City of Newport News owns and operates. The reservoir was completed in 1963 and can supply 30 million gallons of water a day. The reservoir is fed by Diascund Creek, Timber Swamp, Beaverdam Creek, and Wahrani Swamp.

Because the Chickahominy is a drinking water source, the watershed above Walkers Dam requires protection from activities that will adversely affect water quality. The Virginia Water Control Board has designated the Chickahominy as a “public water supply” up to a point five miles upstream from Walkers Dam. Its water therefore must meet stringent water quality standards. The VWCB requires all facilities discharging wastewater into the Chickahominy to meet special effluent standards.

A portion of the Chickahominy in the County is tidal. Walkers Dam, located 22 miles above the river’s mouth, is a barrier to the further movement of tidal currents. The VWCB has classified the tidal portion of the river as a transition zone, meaning that salinity varies seasonally and from year to year. The nontidal portion is classified as a freshwater system.

The Pamunkey River is an estuary in New Kent County, meaning that it is influenced by the ebb and flow of lunar tide cycles. The VWCB has classified the Pamunkey from Eltham to Lee Marsh as a transition zone. From White House to the County line, the Pamunkey is classified as tidal freshwater, where salinity is usually negligible. The York River is an estuary, classified in the County as a transition zone.

Wetlands. Wetlands are low-lying areas with saturated soils. Wetlands can be defined by various parameters, but must include the following characteristics: (1) hydric soils, (2) hydrophytic vegetation, and (3) hydrology typical of a wetland system. A typical wetlands hydrology is characterized by soil that is saturated by water at a frequency and duration that supports hydrophytic vegetation and produces hydric soils. The wetlands shown on the Water Resources Map are areas included in the National Wetlands Inventory. It is important to note that this information is general and investigation and analysis may be required to establish the existence of wetlands on any particular site.

Wetlands perform several important functions. They improve water quality by slowing the flow of water and allowing excess suspended solids, nutrients, and toxic substances to settle out. Some of these pollutants are used by wetland plants, while the rest are broken down by bacteria into less harmful substances. Wetlands act as natural buffers against floodwaters by slowing the velocity of the flow, absorbing excess volume, and releasing floodwaters at a slow rate. Wetland plants prevent erosion by binding together soil with their root systems. Further, wetlands contribute to the flow of rivers and streams by serving as points of discharge for groundwater. This helps to maintain streamflow during drought conditions. Some wetlands are also recharge areas for groundwater supplies. Finally, wetlands produce great amounts of food for small organisms, which form the base of the food chain. Wetlands provide food and habitat for many commercially and recreationally important birds, fish, and mammals.

New Kent County has extensive areas of tidal and non-tidal wetlands. Tidal wetlands are found along the Pamunkey and Chickahominy Rivers and their tributaries. Non-tidal wetlands are typically low-lying areas with a high water table that saturates the soil. These are found along the non-tidal areas of the Pamunkey and Chickahominy Rivers and their tributaries.

Groundwater. New Kent County is underlain by a geology of clay, sand, marl, shell, and gravel strata. A cross-section of its hydrogeology reveals an unconfined surface aquifer with a water table at or close to the soil surface. The surface aquifer is underlain by seven confined aquifers, that is, aquifers separated from each other by an impermeable layer such as clay. These aquifers are underlain by hard granitic rock known as “basement,” found at a depth of about 650 feet in the western part of the County and about 1,450 feet in the eastern part. Water for human consumption and other uses is withdrawn from these aquifers. Water can be found at depths of 100 to 200 feet in most of the County, but the potential yield is much less than from deeper wells. The most prolific water-bearing zone in the County is between 300 and 700 feet.⁴

The U.S. Geological Survey has studied the groundwater resources of the Virginia Peninsula. The USGS found that withdrawal of groundwater has caused a lowering of water levels throughout the aquifer system, creating cones of depression centered on an expanding outward from areas of concentrated groundwater use. A cone of depression is a lowering of the water table around a well, occurring when water is pumped out faster than it can be replaced. Large-capacity, deep wells can sometimes lower the water table below neighboring shallow wells, causing them to run dry. When groundwater is depleted faster than aquifers are recharged, saltwater can begin to intrude into the aquifers. A cone of depression affecting New Kent County originates from groundwater withdrawals by the Smurfit-Stone pulp mill in West Point.

The County is part of the Eastern Virginia Groundwater Management Area, regulated by the VWCB. Any non-agricultural groundwater user withdrawing more than 300,000 gallons per month is required to have a VWCB permit. If the VWCB determines that a proposed withdrawal will adversely affect the aquifer or existing groundwater users, the permit application will be denied. While this will prevent some development, the drilling of multiple small wells can have the same cumulative effect, particularly where wells are concentrated.

Soils

Agriculture, forestry, and development activities are influenced by the characteristics of the soil. The U.S. Soil Conservation Service has prepared a soil survey for New Kent County.

Suitability for Agriculture. The U.S. Department of Agriculture defines soils suitable for agricultural and prime farmland uses as “soils that are favorable for the economic production of sustained high yields of crops”. In addition, “prime farmland soils produce the highest yields with minimal inputs of energy and economic resources, and farming these soils results in the least damage to the environment”. Soils shown on the Soils Suitable for Agriculture Map meet the general criteria set forth by the U.S. Department of Agriculture. These criteria include a generally adequate and dependable supply of moisture, favorable temperature and microclimatic conditions, acceptable levels of acidity or alkalinity, few or no rocks, and permeable to air and

⁴ U.S. Department of Agriculture, Soil Conservation Service, *Soil Survey of New Kent County, Virginia*, July 1989.

water. Soils shown on the map are not excessively erodible, are not saturated with water for long periods, and are not flooded during the growing season. The slope range of soils suitable for agriculture is mainly from 0 to 6 percent.

New Kent County contains about 46,000 acres of land prime for agricultural uses. A majority of the land is located near or along rivers or waterbodies, but it is found throughout the county. Large areas of land best suited for agriculture are located along the Pamunkey River, in the Holly Forks area, near Eltham, and along the Chickahominy River.

Since corn, soybeans, and small grains make up most of the value of agricultural products in New Kent County, soils suitable for agriculture are an important consideration in land-use planning. Development should be encouraged in areas where less productive soils occur, leaving the more productive land areas for their best uses.

Suitability for Septic Systems. The Septic Suitability map shows the location of good, fair, and poor soils for on-site sanitary facilities, based on soil properties described in the New Kent County Soil Survey. The map is based on the degree and kind of soil limitations that affect septic drainfields, sewage lagoons, and sanitary landfills. Soils are listed as good for sanitary facilities if the soil properties have slight limitations or have minor limitations that can be easily overcome. Soils are listed as fair if the soil properties have moderate limitations and specific planning, design, or maintenance is needed to overcome such limitations. Poor soils are those that pose severe limitations for sanitary facilities, and special design, significant increases in construction costs, and possibly increased maintenance of systems will be required. As indicated by the map, over eighty percent of the County contains soils that are rated as poor. Less than twenty percent of the soils in the County have a fair or good rating. This indicates a need to guide development to those areas where soils can support septic systems, or where public sewage treatment is available.

Natural Hazards and Environmentally Sensitive Areas

Areas of natural hazards and environmental sensitivity are shown on the Natural Hazards / Environmentally Sensitive Areas Map. This map also shows areas with slopes over 25 percent, 100-year floodplains, and areas delineated as Resource Protection and Resource Management areas.

Areas with slopes over 25 percent are found throughout the County. These areas are highly erodible, tend to be rocky, and when disturbed allow for increased sedimentation and pollution of surface water. Most of these steeply sloped areas are found along the tributaries of the Pamunkey and York Rivers, as well as along the Chickahominy and its tributaries.

Flood plains are level land areas typically lying adjacent to or near a river or stream that become submerged by floodwaters during or after a storm. The 100-year flood plain delineated on the map shows land areas in the County that will flood in storm events of the magnitude expected to occur once a century, according to Federal Emergency Management Agency maps.

Areas delineated as Resource Protection Areas (RPAs) under the Chesapeake Bay Protection Act include those areas that are tidal wetlands, non-tidal wetlands linked to a tidal wetland by a continuous flowing stream with a 100-foot buffer, or within the 100-year-old floodplain. Resource Management Areas (RMAs) are areas that are non-tidal wetlands, have an erodibility index of 8 or more, have soil permeability at any horizon of the profile equal to or greater than 6 inches per hour, and are connected to an RPA.

Rare and Endangered Species

Rare and endangered species are plants and animals that are in danger of extinction due to low numbers or scarcity of habitat. Extinction occurs from both natural and manmade causes. Climate change, competition from other species for habitat, and predation are examples of natural causes. Through hunting and their ability to change the landscape, humans have greatly accelerated the rate of extinction.

The Division of Natural Heritage within the Virginia Department of Conservation and Recreation maintains a database of information on rare and endangered species. Table 23 lists the rare and endangered species that have been reported or are historically known to have existed in New Kent County.

Table 23: Rare and Endangered Species

Birds	Bald eagle
Insects	Rare skipper
Reptiles	Glossy crayfish snake
Plants	Long’s bitter cress Three-square bullrush Hard-stemmed bullrush Trailing loosestrife Sensitive joint-vetch Virginia least trillium Mat-forming water-hyssop Carolina yellow-eyed grass Prairie senna Yellow cowlily Fan orchid Adder’s tongue Galingale sedge Parker’s pipewort Beaked spikerush

Scenic Resources and Rural Character

Observing scenery is one of the most popular leisure activities, for residents and visitors alike. Residents are more likely to describe their community as having “rural character,” while visitors appreciate the “scenery.” Whichever term is used, New Kent County has an abundance of scenic

areas, the most spectacular of which occur along the major waterways. However, these views are generally inaccessible to the public except in the areas of highway crossings or where roads are in close proximity. This does not occur in many locations. Diascund Creek Reservoir, Route 33 at West Point, and White House are examples of places where views of waterbodies are accessible by public roadway, but the visual quality of such viewsheds is sometimes compromised by visually discordant development.

One of the major components of rural character is “the view from the road”. Views of forest and open farmland with traditional farm clusters (barns, farmhouses, etc.), historic sites, mature trees, and other rural features contribute most to this character. Modern strip development, utilities, massive paved areas, large competing signs and billboards, and small-lot strip residential development detract most from the rural character. This was confirmed in the New Kent County Visual Preference Survey conducted in the spring of 2001.

For the purposes of analysis, the view from the road can be divided into three categories: interstate highways, primary roads and secondary roads. Interstate 64 is the only interstate highway traversing the county and for the most part has a very high degree of visual integrity in terms of rural character. It is generally characterized as a separated, dual-lane highway through a variety of forest lands. It is generally free of modern development, commercial signs and billboards, night lighting, and other characteristically urban intrusions. A notable exception is Colonial Downs, where forest has been cleared and billboards erected to advertise the facility from the interstate. It is important to realize that the public’s perception of New Kent County as a rural community is in a large part dependent upon maintaining the present visual character of the I-64 corridor. Opening views to any new development, no matter how attractive it may be, will inevitably be disruptive.

Primary highways, including Routes 60, 33, 249, and 155, have varying degrees of visual and rural integrity. When built in the 1950s, Route 60 was one of the premier scenic highways in Virginia and was very much a “parkway”. Much of the original character remains in undeveloped stretches of this road. However, with a few exceptions, development along the corridor, and particularly that of the past ten years, is visually incongruous and detracts from its rural character. Entering the County from the west on Rt. 60, one is greeted by a rather barren landscape of strip commercial establishments near the Bottoms Bridge I-64 exit. Heading east, parkway-like conditions are occasionally interrupted by scattered commercial development. Providence Forge, which is along this route, is a cluster of structures without a definite boundary or “sense of place”. The other primary highways, although not nearly as parkway-like as Route 60, are similar in nature in that they are stretches of forest and farmland interrupted with visually incongruous features, including commercial, industrial and strip residential development.

The rural integrity of the secondary roads ranges from very high in areas of forest and fields to very low in areas of small-lot, highly visible strip residential development. Generally, the roads in the eastern part of the County are less developed and retain their rural character.

Issues and Opportunities

- New Kent County is completely reliant on groundwater for domestic and business use. Proliferation of wells can eventually lower the water table, creating the need to drill deeper individual wells, convert to a community well system, or seek other water sources.
- Over 80% of the land in the County is unsuitable for septic systems. The County needs to concentrate development in the areas that are suitable, when consistent with other community goals. Allowing septic systems to proliferate in unsuitable or marginal soil areas is in no one's best interest. Inevitably, areas with multiple failing septic systems become a public health problem demanding public remedial action, such as installing expensive package treatment systems. Failing septic systems can also contaminate shallow wells, causing conflicts between neighbors.
- The best soils for agriculture are found in the north and south along the rivers and the east near Eltham and Holly Forks. Residential development needs to be limited in such areas if their agricultural potential is to be fully realized.
- Scenic and rural character is a public good that is easily lost. When development occurs in small increments, it is easy to believe it has no impact on rural character. But over the course of decades of growth, the cumulative impact will become apparent. The County needs to address this issue in its planning, or development will inevitably diminish New Kent's scenic character. It can be very expensive and impractical to address visual problems caused by development after the fact. The time to act is before the problems occur.

E. Community Facilities

Community facilities consist of all public buildings, land, and utilities serving New Kent County residents and businesses. One of the chief functions of local government is to provide an adequate level of public services within its financial capability. This section summarizes the existing range of community facilities, and makes some broad references to future needs. It also discusses the range of facilities that are not owned or operated by the County, but are available for community use.

Water Systems

The New Kent County Public Works Department operates 12 small water systems to serve various residential, business, and institutional uses. In 2001 there were 950 water customers. Most of the systems were constructed by private developers and others, and then taken over by the County. The locations of these systems are indicated on the Public Facilities Map. There is a mandatory connection policy requiring all structures on land abutting a water main to connect.

The Public Works Department maintains all its facilities in-house. Its activities are focused on maintenance rather than expansion of the multiple small water systems, although it will expand the systems if a developer or business pays. The Department did expand the Parham Landing water system beginning in 1999, to serve industrial customers in the Route 33 corridor. This was done primarily with Community Development Block Grant funding.

All of the water systems are fed by wells, which underscores the need for groundwater protection. The water is of good quality and no treatment is required. Drilling more wells and looping the existing systems would provide backup supplies in case of individual system failure. There are monitoring wells around the wellheads to check the aquifer levels. Maintaining water quality is also a top priority. The Public Works Department is upgrading all its storage tanks to meet Environmental Protection Agency standards, and has been successful in eliminating bacteria in its tanks and other components. There have been no concentrated customer complaints about water quality or quantity.

In addition to the public water systems, there are five private central water systems in the County. These are found in five subdivisions: Woodhaven Shores, Brookwood Manor, Wedgewood, Five Lakes Brianwood, and Windsor Park.

The Public Works Department indicates that there is a need for a formal process or ordinance to protect the existing public water supply wellheads from contamination and competing drawdowns. There is also a need for a master utilities plan considering both utilities and future land use, so that the County can make investments accordingly. As an example of the need for coordinated planning, the County owns a well at the corner of Route 106 and Interstate 64 near Talleville that has been capped since 1989 because of unacceptably high sodium levels. However, there are large acreages with commercial, industrial, and mixed-use zoning in this area. None of this development has materialized, in part because of the lack of a public water source.

Depending upon the future level of development, the County may in the long term need a surface water source. The Newport News Waterworks has extensively studied its options for obtaining more water supplies for the lower Virginia Peninsula, including a potential reservoir on Black Creek north of Quinton.⁵ Another option considered was a reservoir on Ware Creek, on the border with James City County. Newport News eventually pursued a reservoir in King William County drawing from the Mattaponi River instead, but the U.S. Army Corps of Engineers has denied the project a permit. If the Black Creek Reservoir or the Ware Creek Reservoir again become realistic alternatives, New Kent County could consider sharing their use as surface water sources with Newport News.

Sanitary Sewer

The Department of Public Works operates two sanitary sewer systems in the County. It took over operation of the 580,000 gpd Parham Landing sewage treatment plant in 1999. The plant was originally built to serve the Regional Jail on Route 30. The jail was its only user until the system was expanded to serve industries along the Route 33 corridor beginning in 1999. The plant treats to the tertiary level and discharges into the Pamunkey River at Lee Marsh. The plant is expandable to 1.5 mgd and could eventually serve the Eltham, Plum Point, and Brickhouse areas as well.⁶ The collection system currently consists of three pump stations, one at the jail on Route 30 and two along Route 33; force mains; and three sections of gravity sewer line.

⁵ Malcolm Pirnie, Inc., *Lower Virginia Peninsula Regional Raw Water Supply Study 1990-2040*, May 1993.

⁶ R. Stuart Royer & Associates, Inc., *Eltham Utilities Preliminary Engineering Report*, August 1999.

The other sewer system is located at Colonial Downs. The Chickahominy sewage treatment plant has a current capacity of about 500,000 gpd, and serves Colonial Downs, the Brickshire subdivision, a commercial area on the west side of Route 155, and the rest area along Interstate 64. The plant discharges into a tributary of the Chickahominy River. The collection system consists of pump stations at Brickshire and the commercial area, force mains, and gravity sewer lines within both areas.

The sewage collected at the Chickahominy plant must be treated to a high level because it eventually discharges into the Chickahominy River, which is a water source for Newport News. The Kentlands planned unit development, of which Brickshire is a part, will eventually use almost all of the plant's treatment capacity.

The Public Works Department maintains both sewer systems. The Hampton Roads Sanitation District has indicated a willingness to take over maintenance, but New Kent County can operate the systems more cheaply because it has no debt on its utility systems. Provided that the County can retain qualified employees to operate and maintain the plants, there is no reason to change.

The County has considered extending sewer service to the Bottoms Bridge area from Henrico County. New Kent County has an agreement with Henrico County to treat up to 500,000 gpd of sewage from Bottoms Bridge. Thus far, New Kent has found the cost to be prohibitive, and has hoped that a private developer will come forward to make the investment. The development of a sewer system in Bottoms Bridge would have the potential for expansion to serve other residential and commercial development in the eastern part of the County, without the expense of maintaining another sewage treatment plant.

Natural Gas

While there are no distribution systems or natural gas users in New Kent County, a 16" trunk line owned by Virginia Natural Gas traverses the southwestern corner of the County and the southern part east of Providence Forge. Thus far the company has shown no interest in serving customers in New Kent County, because of the low population density and lack of large industrial users. The only residential development likely to become of interest to the company is Brickshire. However, industrial development prospects may be interested in tapping into the natural gas line if they are large users. With the deregulation of electric utilities in Virginia, other counties have attracted power generation plants to rural locations where natural gas lines and high-voltage power lines are close together. As the Public Facilities Map shows, this situation exists in New Kent County.

Electricity

Dominion Virginia Power supplies electricity to New Kent County. There are major transmission lines in the southeastern and eastern portions of the County. One of these lines serves the growing industrial corridor along Route 33, and three-phase power is available there.

Telecommunications

Verizon Company provides telephone service in the County. There are two switching stations, one at Providence Forge and one at the intersection of Routes 249 and 612. Wireless phone service is becoming increasingly popular among County residents, as among all Americans. It is important to provide for the facilities that support this service, both for residents and for the thousands of people who daily pass through the Interstate 64 corridor. The County has and will continue to be faced with finding appropriate sites for wireless communication towers and other such facilities.

Solid Waste Disposal and Recycling

There are four “convenience centers” in County where solid waste and recyclable items are collected. These facilities are located along Route 612 near the New Kent County Airport, on Route 618 in the center of the County, on Route 634 across from the Regional Jail, and at the intersection of Routes 60 and 647. Each site accepts newspaper, mixed paper, glass, aluminum, and bimetal cans for recycling. Also, each site will accept used motor oil and oil filters.

Animal Shelter

The New Kent County Animal Shelter is located next to the convenience center on Route 618, between Talleyville and Providence Forge. Homeless dogs and cats can be adopted there.

Postal Service

The U.S. Postal Service operates five post offices in the County. These are located at Kentwood Square in Bottoms Bridge, Providence Forge, New Kent Courthouse, Lanexa, and Barhamsville. Residents of Eltham are served by the West Point post office.

Library

The Heritage Library in Providence Forge serves New Kent and Charles City County residents. It offers about 50,000 volumes as well as books-on-tape, videos, large-print books, computers for public use, and reading programs.

Emergency Services

Emergency services in New Kent County consist of fire, rescue, and police services. Disaster planning is the responsibility of the Office of Emergency Services, which is under the Director of Public Safety. The Building Inspector’s Office and the Fire Marshal’s Office are also under his direction.

Volunteers directly provide fire and rescue services, with the County providing some financial support. There are three volunteer fire companies. The companies are Providence Forge Volunteer Fire and Rescue (Company 1), Quinton Volunteer Fire and Emergency Medical

Services (Company 2), and Weir Creek Emergency Services (Fire Company 3). The County is in the process of building another fire station at Colonial Downs.

Providence Forge Volunteer Rescue Squad serves New Kent and Charles City Counties. It has about 70 members and about 30 are certified as emergency medical technicians. The squad maintains four ambulances, a four-wheel-drive crash truck, and a four-wheel-drive emergency vehicle. It also has a rescue boat for use on rivers and lakes. The squad logged more than 1,300 calls in 2001, or about four per day. For disaster aid and other services to victims, New Kent County is covered by the Greater Richmond Chapter of the American Red Cross.

The Sheriff's Department consists of 20 members and is located in New Kent Courthouse. There are also 15 State Police officers assigned to the County.

County Offices and Courts

Most County offices are at New Kent Courthouse. The main administration building houses the County Administrator, County Attorney, Building Inspector, Public Works, Public Safety, Planning and Community Development, School Board, Treasurer, Commission of Revenue, Health Department, Parks and Recreation Department, and Virginia Cooperative Extension Service. The Sheriff's Department, Circuit Court, and General District Court Clerk's offices are located in the 18,500 square-foot New Courthouse. The Juvenile and Domestic Relations Court Service Unit is located in the Old Courthouse, while the Victim-Witness Assistance Program and the Commonwealth's Attorney's offices are across the street from the Old Courthouse. The Department of Social Services is located in offices in Providence Forge.

Schools

New Kent County operates four public schools, including primary, elementary, middle, and high schools. The school division has nearly 400 employees. There are currently 175 licensed teachers, six guidance counselors, four median specialists, four principals, four assistant principals, and a central office staff comprised of the superintendent and three directors. In addition, there are administrative support, transportation, and custodial staffs.

The primary school includes kindergarten through 2nd grade. The elementary school program, covering 3rd through 5th grade, emphasizes reading, writing, and math at grade levels, along with instruction in science, social studies, art, music, physical education, and health. The middle school program incorporates grade-level teaching, interdisciplinary instruction, and an exploratory program. It covers 6th through 8th grade. In addition to the standard curriculum, New Kent High School offers honors and advanced placement course work. A vocational education program presents many opportunities for students. Elective programs offer course work in music, visual arts, drama, and foreign languages. The high school operates on a block scheduling program. Gifted and enrichment services are offered throughout the K-12 program. A comprehensive special education program is available to provide specialized services to students with identified disabilities.

The school division also supports adult education and parks and recreation activities. It has an agreement on with the Parks and Recreation Department for joint use of school facilities. The school administration feels strongly that involvement in serving the larger community, not just children, builds support for public investment in the school system.

One of the school system’s persistent problems is attracting and retaining teachers. It is difficult for New Kent County to compete for good teachers with its more affluent neighbors, because other school systems offer higher salaries. The commute is also a discouragement to new teachers, who tend to live closer to urban areas where rental housing is abundant. For these reasons, teacher turnover is high. The school administration feels that aside from making salaries more competitive, the County should explore innovative ways to get teachers to put down roots in the community, such as helping them to buy a house in the County.

Table 24 provides information on the County’s four schools. In 2001, two of the four schools were over capacity.

Table 24: School Facilities

School	Year Built, Renovated	Square Footage	Site Acreage	Capacity w/o Trailers	Current Enrollment
New Kent Primary	1973, 1993	60,790	15.8	556	524
George C. Watkins Elementary	1950, 1960, 1966, 1974	50,000	37.5	460	562
New Kent Middle	1930, 1954, 1974	72,794	16.5	522	575
New Kent High	1989	110,000	50	768	728

Source: New Kent County Superintendent of Schools.

The school division completed its most recent school census in 1999. It reported 2,858 persons aged 5 to 19 years. Total 1999-2000 school enrollment was 2,370 pupils. Using this information and the age/grade distribution, the Superintendent of Schools has prepared enrollment projections for the 2004-05 school year. There are two scenarios, one assuming no growth in County population (simply estimated young children entering the system and existing pupils moving up through the grades) and a 2% annual growth rate. The projections indicate that under either scenario, all of the schools will be over capacity by the 2004-05 school year.

Table 25: School Enrollment Projections for 2004-05

Grade	2001-02 Actual	2004-05 (0% Growth)	2004-05 (2% Growth)
Pre-K	38	38 (est.)	40
K	177	200 (est.)	212
1	144	190 (est.)	201
2	165	180 (est.)	191
Total Primary	524	608	644
3	183	177	188
4	192	144	153
5	187	165	175

Total Elementary	562	486	516
6	203	183	194
7	183	192	204
8	189	187	198
Total Middle	575	562	596
9	202	203	215
10	200	183	194
11	179	189	200
12	147	202	214
Total High	728	777	823
Total System	2,389	2,433	2,579

Source: New Kent County Superintendent of Schools.

The County needs to find a solution to the overcrowding problem that is developing. In the past, the school system has used trailers as a stopgap measure. However, this is not a long-term solution given the steady growth the County has experienced. The School Board has proposed to address the problem by building a new high school for 1,200 students, converting the existing high school to a middle school, and changing the elementary and primary schools to a K-5 instructional format with an addition at the primary school. The old middle school would then become available for County office use. The plan would cost about \$28 million in 2000 dollars. If this scenario can be accomplished, the school system will have adequate facilities for the near term. In the long term, if population growth continues as expected, the next step would probably be to build a new elementary school.

Parks and Recreation

The County has recently made great strides in expanding its parks and recreation offerings. In 2000, the County established a Parks and Recreation Department with a full-time director. This resulted from a 1996-97 effort to develop a Parks and Recreation Master Plan for the County. The Board of Supervisors appointed a Parks and Recreation Commission of citizens and staff members to develop the plan. At that time, the great majority of formal recreational activities available were for youth, either through the school system or volunteer organizations such as the Boy Scouts.

Virginia Commonwealth University conducted a survey of citizens as part of the study.⁷ It found that a large majority of citizens was in favor of the County offering activities through a staffed parks and recreation department. Significantly, it also found that citizens' top five recreational pursuits were walking for pleasure, driving for pleasure, bicycling for pleasure, lake fishing, and visiting historic sites.

The Parks and Recreation Department now offers a full program of activities for youth, adults, and seniors. There were 1,400 users in the Department's first year of offerings. In addition, the County has acquired its first park, the Warreneye Nature Trail on Route 33. Chesapeake Corporation proffered the 138-acre park to the County as part of a 2001 rezoning. The nature

⁷ New Kent Co. Recreation Commission with assistance from the New Kent Co. Planning Department, *A Parks and Recreation Master Plan for New Kent County*, 1997.

trail had been open to public use for many years, but the County’s acquisition ensures the trail’s future status. Even more recently, the County has been given title to a 10-acre park site to be known as Quinton Park. This was proffered to the County by a subdivision developer. Also, Newport News has periodically offered to give the County a parcel of land adjacent to the Diascund Creek Reservoir for recreational use. Opportunities will undoubtedly arise for more acquisition of parkland with little or no capital outlay, and the County should be prepared to take advantage of these opportunities.

As part of its planning effort, the Parks and Recreation Commission identified all passive and active recreational sites in the County, whether public or privately owned. These sites are numbered on the Existing Park and Recreation Sites Map and are listed below.

Table 26: Existing Park and Recreation Facilities

	Name	Type	Ownership	Equipment
1	William’s Landing	Boat landing	Private	Boat ramp, pier
2	Quinton Center	Community center.	Private	Meeting space
3	Brookwoods	Golf course	Private	18-hole golf course, tennis courts
4	Woodhaven Shores	Community rec. facilities	Private	Club house, beach, piers, ball field
5	New Kent Middle School	School	Public	Softball field, football field, gymnasium
6	New Kent Elem. School	School	Public	Gymnasium, playground, ball fields
7	Royal New Kent	Golf course	Private	18-hole golf course
8	Corinth Baptist Church	Church	Private	Basketball court
9, 10	New Kent High School	School	Public	Football field, gymnasium
11	New Kent Primary School	School	Public	Play lot, tennis courts, baseball field, outdoor play fields, stage
12	Courthouse Ball Field	Ball field	Public	Baseball field
13	Cumberland Marsh Preserve	Nature trail, marsh overlook	Private	Trail, boardwalk
14	Club 911	Community center	Public	Basketball court, game table
15	Warreneye Nature Trail	Nature trail	Public	2.5-mile trail
16	Emmaus Baptist Church	Church	Private	Ball field
17	Providence Forge Rec. Asso.	Meeting hall	Private	Meeting space
18	New Kent Forestry Center	Nature trail	Public	1-mile trail

19	Dillon's Landing	Boat ramp	Private	Meeting space
20	Ed Allen's Campground	Campground	Private	Campsites, pool, fishing, horseback riding, boat ramp
21	Rockahock Campground	Campground	Private	Campsites, pool, fishing, boat ramp, marina
22	Colonial Harbor Marina	Marina	Private	Boat ramp, boat slips
23	Chickahominy Shores Civic Asso.	Community recreation facilities	Private	Meeting hall, boat ramp
24	Riverside Camp II	Campground	Private	Campsites, boat ramp, pier
25	Colonies Civic Asso.	Community recreation facilities	Private	Boat ramp
26	Makemie Woods	Church retreat	Private	Cabins, pool, ball field

Source: New Kent County Parks and Recreation Master Plan, K.W. Poore & Associates land use survey.

As demonstrated in the parks and recreation survey results, citizens enjoy visiting historic sites. This is true throughout Virginia, according to the Virginia Department of Conservation and Recreation's surveys. The Historic and Archaeological Sites Map shows the location of the primary historic sites in New Kent County. The conservation of these sites is important to the community as well as all Virginians. A brief description of each site follows.

1. *Hampstead*. Built in 1825 by planter Conrad Webb, this late Georgian house is considered the finest example of the Federal period of architecture in the United States with Adam influence. A garden with serpentine walls leads to old unrestored gardens. Hampstead is one of the few remaining plantation houses in the County, as most were burnt during the Civil War.
2. *Foster's Castle*. A Stuart manor house with cross-shaped architecture, built circa 1671.
3. *St. Peter's Church and Marl Hill*. St. Peter's Episcopal Church was built in 1701-03, and is the third-oldest parish church in Virginia. The Jacobean architecture of the original portion and its 1740 stump tower are rare. The Virginia General Assembly has designated St. Peter's as "The First Church of the First Lady," as Martha Custis worshipped here before her marriage to George Washington. Marl Hill is a plantation house adjoining the church. A portion antedates the Revolution, and the building was restored to authentic condition in 1939.
4. *Criss Cross*. One of the oldest houses in Virginia, built about 1690. Shaped like a cross, it contains carved beams and a pair of Tudor doors said to be the last in America still in their original position.
5. *White House*. Three different houses have been erected on this site, made famous as having been owned by Martha Dandridge Custis Washington, all of which suffered from fires. The second White House served as an army camp and General McClellan's base of operations in May of 1862. It was burned by Union troops that year. The presidential White House in

Washington, D.C. may have been named for the White House of New Kent, of which the Washingtons had many fond memories.

6. *New Kent Courthouse and Ordinary.* Around 1690 William Bassett, who donated the land for the new county courthouse site, built an ordinary, or tavern. The Ordinary served as a communication headquarters for General McClellan when his army was camped at Cumberland and later at White House. In 1695 the county court moved to Bassett's site, which was originally known as "Bassetville." The original courthouse burned in 1775. The present "Old Courthouse" was built in 1909. New Kent Courthouse is a prime example of a colonial village and may be eligible for listing as a National Register Historic District.
7. *Cedar Grove.* The birthplace and burial site of Letitia Christian, wife of John Tyler, 10th president of the United States. Mrs. Tyler died while her husband was in office. Other members are also buried in the brick-walled cemetery behind the two-story house.
8. *Mt. Olivet Church.* An example of Greek Revival architecture. Presbyterians came to the County in the mid-18th century and erected the church in 1857.
9. *Bottoms Bridge.* Named for the Bottoms family who built the first bridge there in the early 1700s. Lafayette camped near there on May 4, 1781, and Cornwallis camped there in pursuit of Lafayette on May 28. Later, in 1862, General McClellan's army used Bottoms Bridge to cross the Chickahominy in its advance on Richmond.
10. *Poplar Grove.* Erected by the Chamberlayne family in the mid-1720s on the Pamunkey River. It was the place where Col. George Washington first met Martha Dandridge Custis, in 1758, while dining with Richard Chamberlayne.
11. *Cumberland.* A one-hundred-acre tract on the south side of the Pamunkey was donated by Richard Littlepage in 1748, for establishment of the town of Cumberland. It was originally the location of Littlepage plantation prior to 1700, and was also the site of a tobacco inspection warehouse erected in 1734. In 1748, Cumberland came within three votes of replacing Jamestown as Virginia's capital. Cumberland also served as a prime location for unloading soldiers and supplies during the Revolution. General McClellan and 130,000 Federal troops were encamped here in 1862.
12. *Chestnut Grove.* Col. John Dandridge purchased Chestnut Grove Plantation, on the Pamunkey, around 1730. It was here that Martha Dandridge and her seven siblings were born. In 1750, Martha married Daniel Parke Custis at Chestnut Grove. The home burned in 1926. The unmarked graves of William Dandridge and several other Dandridge children remain in a graveyard a short distance from where the plantation house stood.
13. *Eltham.* The plantation and mansion of the Bassett family in Eltham were among the finest in Virginia during colonial times. Burwell Bassett, a long-time resident there, was an intimate friend of his brother-in-law, George Washington. In his journals, Washington records many visits to Eltham, where he dined, fished, hunted, and attended church with the Bassetts. The mansion was completely consumed by fire in 1875.

14. *Brickhouse*. In 1680, by act of the General Assembly, Brickhouse was established as the first colonial port town incorporated on the York River. Serving as the county seat from 1654 to 1691, it contained the county records. The Bassett family, owners of the lands, ordinary, and warehouses located at Brickhouse, profited greatly from the services they provided to those coming to the courts at Brickhouse.
15. *Warreneye Church Site*. Warreneye, the Upper Church of Blisland Parish (1653), was built in 1703 and was frequented by the Bassetts and George and Martha Washington. It was also used as an encampment for the Richmond Militia in the War of 1812. Tombstones dating to 1736 and 1745 can still be found at the site, located on the Warreneye nature trail.
16. *Moysonec*. An archaeological site listed on the National Register of Historic Places. The site was a significant Chickahominy Indian settlement that was shown on a map prepared by Captain John Smith in 1612. The settlement is believed to predate this map by many years.
17. *Providence Forge*. In 1770 Scottish minister Charles Jeffrey Smith and William Holt purchased 500 acres and built a forge, sawmill, and blacksmith shop. Lafayette and his militia camped here in 1781. The Chesapeake & Ohio railroad came through later and the Providence Forge station was built around 1880. It was a stop for passengers until about 1930 and for freight until at least the late 1960s. Built in the Victorian style, the building still stands.

Issues and Opportunities

- The County efficiently runs its own water and sewer systems, but these only serve limited areas. Opportunities for expansion are pursued when they present themselves. The County needs a master utilities plan integrated with land use planning to ensure that future investments best promote the community interest.
- The County needs a formal policy or ordinance addressing protection of public water supply wellheads.
- Henrico County has sewage treatment capacity reserved for New Kent County's use. The first priority to use this capacity is Bottoms Bridge, and potentially the collection system could be extended north and east. Extension of sewer to Bottoms Bridge could spark economic development there. The County needs to carefully integrate utility planning for Bottoms Bridge with land-use planning.
- Ultimately, the County may need to develop a surface water supply source. Development of reservoirs on Black Creek or Ware Creek by the City of Newport News would offer the County the opportunity to secure a surface water supply at little or no cost to itself.
- Certain industries may be attracted by the coincidence of natural gas and high-voltage electrical lines in the County. This presents an opportunity to market the County to targeted industries.
- The public school system faces overcrowding. A large capital investment by the County will be required soon if the County wants to keep providing the current level of facilities to students.

- Over the long term, the County should look for opportunities to minimize transportation costs and serve multiple users by locating new schools in population centers.
- Teacher retention is a problem. The County needs to find innovative ways to attract and retain teachers. Raising salaries is only part of the solution.
- The County will have many opportunities to acquire park sites as development occurs. A master facilities plan is needed so that the County can target acquisitions where they will be most needed, and budget for park development accordingly. The proffer system works well as a means for acquiring park sites at no cost.
- Historic sites are important to local “sense of place” and should be promoted for appreciation by residents and visitors alike. There may be future opportunities to secure better public access to these buildings and sites. An example is the 1880 Providence Forge Railroad Station, which is in disrepair and is no longer wanted by the railroad.

F. Human Services

Human services in New Kent County are provided by a myriad of County and state agencies, non-profit community action organizations, and faith-based agencies. The New Kent County Department of Social Services is the primary point of access for service recipients. Available services address housing, vocational, and welfare needs, as well as the needs of special populations such as seniors. It is not unusual in Virginia for such services to be provided by a loose network of organizations with a variety of philosophies, objectives, strategies, and funding sources. There are at least 28 active service providers serving the County population.

The three major direct providers of services are the Department of Social Services, Quin Rivers Community Action Agency, Senior Connections (the Area Agency on Aging) and the Office on Youth. The Department of Social offers the following state- and/or federally funded temporary assistance programs: Women, Infants and Children Supplemental Food Program; Medicaid Health Check-Up Program; Employment Services Program; Food Stamps; Temporary Assistance for Needy Families; and Energy Assistance.

In the fall of 2000, the County created the Human Services Task Force in an effort to bring together the various organizations to comprehensively assess human services needs and delivery systems throughout the County. Its strategy was to establish a partnership agreement among human service providers to explore areas of cooperation, identify gaps in existing services, identify additional resources, and provide a comprehensive approach to service delivery that reduces unnecessary delays for service recipients.⁸ The Task Force recommended the establishment of a permanent Interagency Council with a coordinator who would act as a liaison between the Council and the County Administrator. A Memorandum of Understanding would detail how the various service agencies would cooperate with each other. Ultimately, the Task Force recommended that the County establish a Human Services Department to be located under one roof.

Issues and Opportunities

- As in most localities, there is a need for a single, centralized point of contact for those seeking human services. New Kent Middle School will be vacated when a new high school is constructed, and could house a variety of human service agencies.
- A formalized needs assessment process is needed to guide the priorities and strategies of the various agencies. The needs assessment should be updated on a regular basis.
- Particular gaps in current services are: a shortage of affordable rental housing, in-home medical care and personal services for housebound seniors, transportation for persons lacking dependable vehicles, and child abuse prevention services.

⁸ New Kent County Human Services Task Force, *Action Plan: Strategy for the Delivery of Comprehensive Human Services*, August 2001.

G. Transportation

New Kent County's transportation system has evolved from a water-dependent system in colonial times, to one dependent on railroads for commerce, to the present highway system. The earliest settlements were located along the Pamunkey and York rivers, where the waterways served as trade routes. Over time a network of farm-to-market roads developed, and the railroad arrived in the late 1800s. The railroad was the best means for delivering products to market. In the 20th century, the construction of Route 60 and Interstate 64 have allowed for the convenient transport of goods, but also have also attracted new residents who can easily drive to the Richmond and Newport News areas for employment. The highway system is by far the most important element of the County's transportation system.

Highways

New Kent County's highways are maintained by the Virginia Department of Transportation (VDOT), which divides roads into five categories based on their function. The Transportation System map shows the functional classification of the County's roads.

Major Arterials provide an integrated network of roads that connect principal metropolitan areas and serve virtually all urban areas with a population greater than 2,500. They serve long-distance travel demands such as statewide and interstate travel. The only major arterial in the County is Interstate 64.

Minor Arterials link cities and large towns and provide an integrated network for intrastate and intercounty service. They supplement the major arterial system so that all geographic areas are within a reasonable distance of an arterial highway. They are intended as routes that have minimum interference to through movement. Routes 106 and 33 are classified as minor arterials. Route 106 carries traffic between Hopewell and I-64, although it also serves local traffic. Route 33 is a four-lane highway, and is the major corridor between I-64, West Point, and the Middle Peninsula.

Major Collectors provide service to any county seat, large town or other traffic generator not served by the arterial system. They provide links to the higher-classified routes and serve as important intracounty travel corridors. Routes 60, 249, 106 north of I-64, 606, 618, 155, 30, and 273 are the County's major collectors. Route 606 is the only major collector in the northwestern part of the County. Routes 155 and 618 carry traffic between New Kent and Charles City Counties, and allow residents to reach the commercial center of Providence Forge. Routes 30 and 273 connect the communities of Toano, Barhamsville, Eltham, and West Point. The most important major collectors are Routes 249 and 60, which serve the east-west travel needs of the entire northern and southern halves of the County.

Minor Collectors collect traffic from local roads and bring all developed areas to within a reasonable distance of a collector road. They provide service to small communities and link important local traffic generators with rural areas. There are presently no roads in New Kent County classified as minor collectors.

Local Roads and Streets provide access to adjacent land and serve travel of short distances as compared to the higher-order systems. As shown on the Traffic Volumes Map, New Kent County has dozens of state-maintained roads in this classification, all of which currently carry 1,000 vehicles per day or less.

Another means of classifying roads is interstate, primary, and secondary. New Kent County has 20.07 miles of interstate, 67.96 miles of primary (numbered below 600), and 196.88 miles of secondary roads (numbered 600 and above). New Kent's total of 284.91 miles is relatively low. For example, very rural King William and King and Queen Counties both have more highway miles. Hanover County has more than three times as many highway miles.

The responsibility for transportation planning in New Kent County is divided between the Richmond Area Metropolitan Planning Organization (MPO) and VDOT. The southwestern third of the County is within the MPO's jurisdiction. The MPO serves as the forum for cooperative transportation decisionmaking in the Richmond region. The MPO is charged under Section 134 of the Federal-Aid Highway Act of 1973, as amended, with conducting a "continuing, cooperative, and comprehensive" ("3-C") transportation planning process that results in plans and programs consistent with the comprehensively planned developed of the Richmond area. The Richmond Regional PDC serves as the MPO's lead staff, providing administrative and technical support for the MPO process. VDOT also provides technical services in support of the process.⁹ The MPO maintains a long-range 20-year transportation plan that is updated yearly. New Kent County representatives have two votes on the board of 28 voting and five non-voting members.

At a minimum, an MPO study area must include both the existing urbanized area and contiguous areas expected to become urbanized within the next 20 years. The inclusion of southwestern New Kent County in the Richmond MPO Study Area underscores the reality that this part of the County is in the orbit of the Richmond urban area. That is, even though New Kent County an independent jurisdiction, transportation patterns indicate that many people in its MPO area rely on daily access to the employment, goods, and services available in Richmond.

The remainder of the County is considered rural under federal criteria, and transportation planning is VDOT's responsibility. However, local land-use planning authority remains with the County, and can profoundly affect the long-range need for road improvements. The mechanism for implementing highway improvements is VDOT's Six-Year Plan for New Kent County, compiled by VDOT and approved by the Board of Supervisors each year.

Planned Improvements. The MPO's 2023 Long-Range Plan calls for a number of improvements for the area within its jurisdiction, and the Six-Year Plan allocates actual design and construction funds. Improvements in both the 2023 Long-Range Plan and the 2002 Six-Year Plan are numbered on the Planned Road Improvements Map, and described below.

⁹ Richmond Area MPO, *2018 Long Range Transportation Plan*, 1998.

MPO Long-Range Projects:

1. Widening of I-64 to eight lanes between Henrico County line and Route 249 (1.77 miles).
2. Widening of I-64 to six lanes between Route 249 and Route 155 (9.25 miles).
4. Reconstruction of Route 60/33 intersection at Bottoms Bridge to eliminate grade separation between lanes.
5. Modification of intersection of Routes 613 and 611 near Bottoms Bridge.
6. Reconstruction of Route 612 between Routes 640 and 249 (3.25 miles).
7. Reconstruction of Route 106 to improved two-lane road between Charles City County lines and Route 249 (5.70 miles).
8. Reconstruction of Route 611 to improved two-lane road between Routes 613 and 249 (0.13 miles).
9. Reconstruction of Route 613 to improved two-lane road between Hanover County line and Route 611/249 intersection (3.50 miles).
10. Reconstruction of Route 665 to improved two-lane road between Routes 611 and 640 (3.00 miles).
11. Widening of Route 33 to six lanes between Route 60 and I-64 (0.40 miles).
12. Widening of I-64 to six lanes between Route 155 and Diascund Creek (1.95 miles).

2002 Six-Year Plan Projects:

13. Grading, drainage and paving improvements to Route 676 (unpaved road, 1.12 miles).
14. Reconstruction and surfacing of Route 606 to 1.3 miles north of Route 619 (1.50 miles).
15. Reconstruction of Route 686 from Route 612 to 0.4 miles northeast (0.4 miles).
16. Grading, drainage, and paving improvements to Route 632 (unpaved road, 2.35 miles).
17. Grading drainage, and paving improvements to Route 628, from end of paving to 1.1 miles north (unpaved road).
18. Reconstruction of Route 647 (unpaved road, 2.43 miles).
19. Relocate intersection of Routes 630 and 249.
20. Surface-treat Route 658 (0.5 mile).
21. Replace Eltham-West Point span of Lord Delaware Bridge over Pamunkey River.

In addition, the MPO-recommended improvements to Route 665 (project no. 10) are included in the 2002 Six-Year Plan.

The County and VDOT are making progress in programming and implementing the paving of the remaining dirt and gravel public roads in the County. Each year VDOT allocates a fund for the upgrading of existing dirt and gravel roads, and localities must compete for a share of the fund. VDOT requires that the road be traveled by a minimum of 50 vehicle trips per day before the County is eligible to receive funding. The Board of Supervisors then selects which roads will be upgraded and improved.

There are also a number of private gravel roads serving large-lot subdivisions, constructed by developers or landowners. These roads will remain in their present condition unless the lot owners petition the County to have them improved to VDOT standards under the Rural Additions program. Generally, there is no need to add such roads to the public system unless

there is a clear public safety concern or the roads are used by through traffic in addition to local traffic.

Rural Traffic Sheds. Rural counties such as New Kent that are located on the fringes of metropolitan areas face incipient problems with road capacity. Even though the rural road network may be adequate for today's purposes, in the face of rapid development, level of service can quickly erode. This situation does not yet exist in New Kent County, fortunately. A tool that can be used to prevent it from emerging is traffic shed analysis.¹⁰

A traffic shed is analogous to a watershed. When rural residents use roads to drive to major arterials and commute to their jobs in a nearby city, traffic flows "downstream" to the nearest intersection with the arterial. In the case of New Kent County, that major arterial is Interstate 64. The Rural Traffic Sheds Map shows how the rural part of the County is divided into five areas, each funneling traffic to a different I-64 interchange. For example, traffic from area 1 would naturally be destined for the Quinton interchange. Area 5 would use either the Providence Forge or Toano interchange, depending upon whether the destination is the Richmond or Newport News area.

Like watersheds, traffic sheds can be divided further into sub-sheds. That is, traffic from homes built in a certain land area will naturally use the nearest public road, and thereby flow to the nearest interchange. When present traffic volume on a road segment is known, and its capacity is known in terms of the maximum number of trips it can sustain and still maintain its level of service, it is possible to evaluate whether a proposed development will cause level of service to deteriorate. This knowledge can be used to more objectively evaluate the proposal, and to determine what road improvements would need to be made a consequence. Thus, applying the traffic shed concept in rural areas of the County could be a useful analytical tool for planning and growth management.

Water Transport

The navigable rivers bordering New Kent County are today used only for recreation. The barge port at the Smurfit-Stone pulp mill in West Point is the only nearby landing used for industrial purposes. There are two marinas in the County along the Chickahominy River, as well as several boat ramps.

Railways

There are two railways in the County. The CSX railway traverses the southern edge of the County and passes through Providence Forge. The Southern railway runs through the northwestern part of the County. It crosses the Pamunkey River at White House and continues to the Smurfit-Stone paper mill in West Point, where it terminates. Neither railway any longer has a commercial role in the County, although if an industry could promise substantial freight volume, the railroad companies would be interested in serving it.

¹⁰ Lane Kendig with Stephen Tocknell, *Traffic Sheds, Rural Highway Capacity, and Growth Management*, American Planning Association, Planning Advisory Service Report No. 485, 1999.

Air Transport

Commercial air service is available at Richmond International Airport, located approximately eight miles west of the New Kent County line. Several airlines provide passenger service. Nationwide and limited international connections are available on daily scheduled flights. Commuter service, air freight service, and maintenance facilities for many types of aircraft are also available.

The New Kent County Airport is located in the western part of the County, next to the Woodhaven Shores subdivision off Route 612. It is a general aviation airport with a 75 foot wide, 3,600 foot paved runway. There are storage hangars, a maintenance hangar, a fuel farm, and a terminal building. There is a full-time airport manager, who is within the County's Department of Public Safety. The County acquired the airport in 1993, and subsidizes its operation. The Federal Aviation Administration and the Virginia Department of Aviation have periodically awarded grants to the airport for land acquisition and site improvements.

Under the Virginia Air Transportation System Plan, which categorizes the state's 66 public-use airports based on function, the New Kent County facility is a General Aviation--Community airport. These airports provide general aviation facilities and services to business and recreational users, and typically serve a limited market area. In 1998, a study found that usage was not projected to increase over the next 20 years, and therefore there would be no change in the airport's classification. Most of the major elements of the airport's current facilities were judged to be adequate for the planning period. However, the recommended scope of repairs, replacement, and improvements over the planning period amounted to \$6.9 million.¹¹

One major handicap the airport faces is its relative inaccessibility from I-64. By car, it is 4 ½ miles from the Bottoms Bridge interchange and six miles from the Roxbury interchange, even though it is physically very close to I-64. To make the distance somewhat shorter, the airport plan recommends a new access road be built directly east from Route 612 to substitute for the present circuitous route adjacent to Woodhaven shores. This would only be a marginal improvement, however. Ultimately, the solution for better access would be a new public road connection to Route 106.

The New Kent County Airport is overshadowed by the proximity of Richmond International Airport and Middle Peninsula Regional Airport near West Point. The Virginia Air Transportation System Plan classifies Middle Peninsula Regional as a General Aviation—Regional airport. This category of airport provides a full range of aviation facilities and services to business and recreational users in a broad market area, with service areas that are often multi-jurisdictional due to geographic isolation or the relative scarcity of other airport services and facilities.¹² The General Aviation—Regional classification is the next higher in importance above General Aviation—Community.

¹¹ Delta Airport Consultants, Inc., *New Kent County Airport Layout Plan Update*, December 1998. Such a plan is a prerequisite for obtaining infrastructure funding from federal and state sources.

¹² Virginia Department of Aviation, *Virginia Air Transportation System Plan Update*, 2000.

Issues and Opportunities

- New Kent County has excellent arterial highway access with its 20 miles of Interstate 64 and four interchanges, and Route 33 is an important gateway to the Middle Peninsula and its recreational areas.
- Routes 249, 30, and 60 function well as collector roads for areas north and south of I-64. However, residential strip development is appearing on 249 and 60. Over time this will compromise safety and level of service on these roads. VDOT entrance permit requirements are minimal. A County access management program is necessary to protect the public investment in all the County's minor arterial and major collector roads.
- The County has a relatively low total mileage of public roads, less than many localities that are more rural. This is surprising given the amount of growth it has experienced. Field observations revealed that much of the residential growth has been in private-road developments and stripped along minor existing rural roads carrying under 1,000 vehicles per day. If development continues, more residential collector roads will be needed to avoid overtaxing the existing rural road network.
- The County, the MPO, and VDOT have concentrated Six-Year Plan funding on paving unpaved roads and reconstructing existing roads that are deficient for current levels of usage. Consideration should be given to funding new roads to serve areas of high growth, and to reserving rights-of-way in advance of need.
- Much of the travel in New Kent County is commuting to employment. Developing employment centers in areas with the highest residential density, and in particular developing mixed-use areas, will help reduce car trips.
- Rural traffic shed analysis offers the opportunity to link development approval with available road capacity, and thereby reduce the need for road improvements.
- Rail service is available to economic development prospects if they can generate enough freight volume to warrant a siding, but this is only likely to be important to heavy manufacturing and resource extraction industries.
- The New Kent County Airport was founded basically as a recreational facility with a limited service area, and will probably remain so. However, it does offer economic development opportunities, in the sense that its availability may appeal to corporate executives and wealthy hobbyists who view it as an amenity. Improvements to facilities and an access road to Route 106 might increase usage of the airport and enhance its reputation.

H. Land Use

The starting point for any comprehensive planning effort is existing land use. The pattern of existing uses influences the location of future development, and established land use patterns are difficult and costly to change. The existing network of roads, utilities, and structures represents a substantial investment that should generally be respected and maintained. However, land use patterns that are inefficient, contrary to community goals, or destructive to the rural character valued by New Kent County citizens can also develop over time. While it is not always feasible to change what has already developed, it is important to be aware of trends and the interaction of forces that create them. Then, County leaders can change course if they so desire.

Patterns and Forms

K.W. Poore & Associates, Inc. conducted a countywide field survey of land use in the summer of 2001, and recorded the use of every parcel. The results of the survey are shown on the Generalized Existing Land Use Map. Several patterns are evident. There are commercial centers at Bottoms Bridge, Providence Forge, and Eltham, all of which are complemented by nearby residences. There are smaller clusters at Lanexa, Barhamsville, and Quinton. New Kent Courthouse has few commercial uses but is a center for government and institutional uses, with houses mixed in or nearby. Another mixed-use center, on a larger scale, is emerging at the Kentland development surrounding Colonial Downs. Most of the planned development here has yet to materialize.

Residential development is clustered in a number of subdivisions of various types, but is also widely scattered along rural roads. Clearly, though, the bulk of residential development is located in the western third of the County. Areas around Lanexa and the Diascund Creek Reservoir have the greatest concentration in the eastern part of the County. The white areas of the map are undeveloped or are in agricultural or forestal use.

When asked, most residents say they enjoy the “rural character” of the County, and want it to largely remain. Yet, the concept is difficult to define in a useful way. Low density is often suggested as the key defining feature of rural character. While this is true, it is not the only feature that creates rural character. A more comprehensive analysis would consider the various forms that development can take, and determine whether they are traditionally found in a rural environment or not. If the planning effort is to effectively address the issue of preserving rural character, it is essential to understand which forms of development fit in and which do not.

Traditional rural forms were a response to local conditions, and arose during a time when travel was difficult and time-consuming. Non-traditional forms arose during the automobile era and are also heavily influenced by regulation. The difference between the two was explored at a public workshop in the fall of 2001, and the reasons behind their existence was discussed. The following forms were identified in New Kent County.

Traditional Rural Forms:

Woodland. Characterized by natural tree growth with a mix of native species, little active management, roadless or with unimproved private roads only, prime land for hunting.

Advantages: Environmentally beneficial land use, no local service requirements.

Disadvantages: None.

Tree Farms. Characterized by fast-growing tree species and a limited number of species, trees tend to be the same age since the tract was logged all at once, often has unimproved private roads. Advantages: Income-producing land use, no local services requirements. Disadvantages: Not as environmentally diverse, clearcuts are an eyesore.

Open Farmland. Characterized by crops, pastureland, barns and other storage structures, dirt or gravel roads for equipment access. Advantages: Income-producing land use, few local services

required, visually appealing. Disadvantages: Farming is not necessarily profitable for the landowner.

Roadside Meadows. Characterized by old fields fallen into disuse. Advantages: Visually appealing, no local service requirements. Disadvantages: Not income-producing.

Farm Clusters. Characterized by house(s) and farm-related outbuildings such as barns, sheds, and coops; set far back from road, in middle of fields; shade trees; long swaths of road frontage. Advantages: Functional, spacious, visually appealing. Disadvantages: Land must be actively managed (farmed or grazed); a large acreage is required to produce the visual effect, and even more to make a profitable operation.

Plantations. Similar to farm clusters, except the house is historic in nature and more visually imposing.

Hamlets. Characterized by a tight cluster of houses, often with a general store, small market, restaurant, or convenience store/gas station, sometimes a church or meeting hall. Advantages: Function as natural social centers for their residents. Disadvantages: The infrastructure to support them (e.g. utilities, parking lots) may be inadequate by today's standards, and/or regulations do not allow them to be expanded or replicated elsewhere.

Villages. Characterized by a mix of uses, including residential, commercial, and institutional; compact, pedestrian scale; function as social centers. Advantages: Gives a sense of community, efficient use of land, economical to serve with utilities, provides affordable housing options, promotes lower traffic speeds, walking to destinations is possible. Disadvantages: Difficult to realize under today's standards without water and sewer systems, their small size can only support a limited number of shopping and employment opportunities, parking may be seen as a problem.

Non-Traditional Forms:

Small Roadfront Lots. Characterized by proximity to road, full visibility, individual driveway entrances onto road, often subdivided haphazardly in small increments. Advantages: Easy and cheap to do, convenient, minimal wildlife disturbance, no infrastructure expense for subdivider. Disadvantages: Disrupts views of traditional rural features, it is dangerous to have so many driveway entrances on high-speed roads, noise from roadway, can have a crowded feel, driving is required for shopping and employment, requires frequent school-bus stops.

Large Roadfront Lots. Characterized by houses set further back from road, perhaps hidden by trees; individual driveway entrances; often subdivided haphazardly in small increments. Advantages: Less visual impact, more spacious, less noise, most wildlife can coexist with it, no infrastructure expense for subdivider, private. Disadvantages: Less affordable, takes land out of income-producing use, inefficient to serve with utilities, more disturbing to wildlife that needs unbroken habitat, driving required for shopping and employment

Large-Lot Subdivisions. Characterized by an internal road system, usually has private roads, has been developed all at once or in sections so there is an overall plan. Advantages: Low infrastructure expense for developer, relatively affordable, no driveway entrances on highway, quiet, private, most wildlife can coexist with it because of low density. Con: Less affordable, takes land out of income-producing use, inefficient to serve with utilities, disturbing to wildlife that needs unbroken habitat, if land is open it gives impression of sprawl, residents may later demand that roads be rebuilt at public expense, driving is required for shopping and employment.

Medium-Density Subdivisions. Characterized by internal road system, usually has state-maintained public roads, is developed all at once or in sections so there is an overall plan. Advantages: Gives a sense of community, more affordable than comparable lots in suburban areas, more efficient to serve with utilities, no driveway entrances on highway, broad market appeal. Disadvantages: Higher infrastructure cost for developer, disturbs wildlife, transforms the rural landscape into a suburban one, generates noticeably higher traffic, extensive tree clearing required if in a wooded area, driving required for shopping and employment, high public service needs (mainly schools). Note: Visual impact can be lessened if subdivision is screened from the highway by trees and landforms.

Mobile Home Parks. Characterized by rented lots, mobile homes may or may not be individually owned, compact size. Advantages: Affordable, efficient to serve with utilities, can give a sense of community if properly managed, land subdivision is not required. Disadvantages: Can deteriorate rapidly if not properly managed, usually not visually appealing, typically high public service costs.

Strip Commercial Sites. Characterized by individual commercial establishments along highways, incrementally developed; individual parking lots, individual road entrances. Advantages: Easy to develop, highly visible and easy to locate, size of site often allows for business expansion. Disadvantages: Development of individual sites over time typically leads to chaotic land use patterns and appearance, multitude of parking lot entrances is dangerous and impedes highway efficiency.

Shopping Centers. Characterized by a collection of stores and sometimes offices within same structure, developed as an integrated unit; common parking lot and planned internal traffic circulation; limited entrances to public road; larger developments may have outparcels that are sold and separately developed, but are still part of the overall development plan. Advantages: Concentrates commerce at one destination, so that one can visit multiple establishments on the same trip; better traffic management; shared parking; visually unified. Disadvantages: Can be expensive and complex to develop but there are plenty of specialized developers who know how to do it, outparcels may not be developed in a way that complements the main center, may spawn commercial strip development on nearby parcels.

Industrial Sites. Characterized by individual industrial establishments along highways, incrementally developed, individual parking lots, individual road entrances. Advantages: Relatively easy to develop, highly visible and easy to locate, size of site often allows for business expansion. Disadvantages: Development of individual sites over time typically leads to chaotic

land use patterns and appearance, entrances for slow-moving trucks on highway are dangerous and impede highway efficiency, visual impact is severe if not screened.

These traditional and non-traditional land use forms were then generalized and their locations indicated on a map to show their spatial distribution. To help identify development trends, the various types of development were reclassified as follows.

Scenic Highway Corridors. Frequently-traveled highways that exhibit a landscape of traditional rural forms.

Villages. Same definition as above.

Hamlets. Same definition as above.

Crossroads: Hamlets that lack a residential component, but have businesses that nearby residents frequently patronize.

Resort Subdivisions. Medium-density subdivisions centered around a recreational feature, such as a golf course or water access.

Suburban Subdivisions. Medium-density subdivisions offering affordable housing.

Rural Subdivisions. Large-lot subdivisions with private roads.

Strip Residential. Large and small roadfront lots.

Strip Commercial. Strip commercial sites, and associated shopping centers, along highways.

The Land Use Forms Map shows how these various forms are distributed. To summarize, the traditional rural landscape consists of scenic highway corridors; villages at Providence Forge, Lanexa, Barhamsville, Eltham, and New Kent Courthouse; and scattered hamlets and crossroads. Notable examples of hamlets and crossroads are identified on the map.

Non-traditional forms consist of the various subdivision types plus strip residential and strip commercial areas. Subdivisions tend to be concentrated in areas close to arterial highways, but it is apparent that strip residential growth can appear anywhere, from the fringe of villages to along the most rural roads.

Subdivision Patterns

The pattern of property lines in the County is also important. Large tracts with single owners all else being equal, present a wider range of future development opportunities than areas with fragmented ownership. The map shows that much of the County is still in large tracts, and these exist even in the western portion of the County between the major subdivisions. The Parcels Map also shows the subdivision patterns associated with the various land use forms. For example, it is evident how the traditional rural forms of villages, hamlets, and crossroads occur

on very small parcels of land in the midst of large undeveloped spaces. This indicates that small lot sizes are important to rural character.

Issues and Opportunities

- If New Kent County wishes to preserve the rural character that citizens value, it must address the form of development, not just density. High-density areas surrounded by open space are a hallmark of the traditional rural landscape.
- It is possible to have some scattered houses in rural areas and maintain rural character, as long as such houses mimic the traditional farm clusters and plantations.
- The stripping of houses along roads seems to be the “pioneer” form of development in rural areas of the County. However, this practice detracts from rural character and road function, is not conducive to maintaining property value, and can preclude access to developable areas behind the road frontage.
- Strip commercial development is not widespread in the County. There is an opportunity to direct pressure for this type of growth into clusters and villages that are more compatible with rural character.
- If strip development of either kind must occur, its negative impacts can be lessened by deeper setbacks, buffering, and access management.
- There are many large parcels separating subdivisions in the more-developed western end of the County. These parcels present the opportunity for infill development that is compatible with rural character, while relieving growth pressure on the more rural areas of the County.
- Public water and sewer service does not yet exist in any of the village areas. Utilities would greatly enhance the development potential of the villages, and help relieve growth pressure on surrounding rural areas. The need for wells and septic systems currently forces new development adjacent to the villages to locate on lots that are larger than those already in the villages.

I. Growth Trends Summary

The Growth Trends Summary Map offers a graphic representation of the growth patterns that have been discussed in the previous sections. First, the key features that encourage or discourage growth are shown. These include significant areas of floodplains and wetlands, which cannot be developed; unpaved public roads, which tend to discourage development, paved public roads, which provide the basic infrastructure for growth to occur; and areas with public water and sewer service.

The large arrows represent the direction of population migration from the Richmond and Newport News urban areas. As might be expected, residential growth centers are found in parts of the County that are most accessible to Interstate 64 if one is commuting to an urban center. Smaller arrows indicate how residential growth is expanding outward from existing centers along rural roads. Generally, this takes the form of strip development. The exception is the Colonial Downs/Kentland area, where development plans call for further expansion. Over time, it should be expected that there will be pressure for residential growth in adjacent areas outside the planned unit development. Small arrows along Routes 60 and 249 indicate where scattered residential development is beginning to appear.

The red areas indicate commercial growth centers. The center at Bottoms Bridge is thriving as a result of the large residential market nearby. Providence Forge acts as a commercial center for Charles City County, and is also accessible to the Lanexa growth center and the rural areas in the center of New Kent County. Commercial growth at Colonial Downs/Kentland is just beginning to occur, and so far is highway-oriented. The County has actively encouraged industrial growth in the Route 33 corridor, and some industrial uses have already located there. It is to be expected that commercial businesses would also find the corridor's water and sewer service attractive, and would eventually expand further southwest along the corridor from Eltham.

Finally, potential commercial growth centers are identified. These are areas that have the infrastructure and/or the market to support commercial growth, but have not yet been significantly developed. Three of the County's four I-64 interchanges are identified as potential commercial growth areas. Lanexa and Barhamsville are included because, although they are existing villages, there has been relatively little recent commercial growth.

FUTURE SECTIONS OF THE COMPREHENSIVE PLAN:

Maps and Graphics

IV. GOALS AND OBJECTIVES

A. Vision

B. Goals

1. Objectives

2. Development models

Development Schematics

V. FUTURE LAND USE AND THOROUGHFARE PLAN

A. Future Land Use Plan

(To be determined by goals and objectives)

*Future Land Use and
Thoroughfare Plan*

B. Thoroughfare Plan (supports future land use plan)

C. Implementation Strategy

1. Zoning and subdivision ordinances

2. Capital improvements

3. Other policies and actions