



York County Comprehensive Plan Text Amendments  
December 3, 1993 – September 9, 1993

Ordinance Number	Application Number	Text Amendment/Purpose	Date Approved
O92-46	CP-2-92	<p>Amend the Plan to reflect school capacity and membership changes.</p> <p><b>EFFECT:</b> Extensively revised the Schools chapter of the Community Facilities element in order to reflect the results of a comprehensive school capacity study undertaken for the School Board and to adjust the membership projections to account for faster than expected growth in school-age population in the County. The amendment also establishes membership ranges for schools to be used in planning for construction.</p>	12/3/92
O93-11	CP-1-92	<p>Adopt and incorporate the Yorktown Master Plan as an element of the York County Comprehensive Plan.</p> <p><b>EFFECT:</b> Yorktown was intended to be an element of the Comprehensive Plan from the outset, however, the consultant on the project was unable to complete the process in time for adoption with the rest of the Comprehensive Plan. This was accomplished through the amendment and makes the Plan whole.</p>	3/4/93
O93-27	CP-3-93	<p>Adopt a revised Bikeways chapter of the Transportation element of the York County Comprehensive Plan to incorporate the Williamsburg, James City and York Regional Bikeways Plan.</p> <p><b>EFFECT:</b> An extensive community effort resulted in the development of a regional bikeways plan for Williamsburg, James City and York. This amendment both approved that regional plan and adopted it into the Comprehensive Plan.</p>	6/17/93

# **YORK COUNTY COMPREHENSIVE PLAN**

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**TRANSPORTATION ELEMENT**

**UTILITIES ELEMENT**

**YORKTOWN MASTER PLAN  
(Separate Document)**

# **YORK COUNTY COMPREHENSIVE PLAN**

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# **CHARTING THE COURSE TO 2010: PRESERVING THE PAST, ENSURING THE FUTURE**

## **INTRODUCTION**

The quality of life in a community cannot be measured by statistics. It can only be expressed in terms of the collective experiences enjoyed by the residents of a community. It includes such things as a pleasant climate, recreational and entertainment opportunities, educational and cultural life, and an aesthetically pleasing environment. York County is perhaps best defined by its quality of life. A mild climate, low crime rate, hundreds of miles of coastline, and abundant flora and fauna contribute to the County's reputation as a wonderful place to live.

What attracts many families to the County is the school system. Highly motivated students and teachers, as well as informed and involved parents, characterize York County's public school system, which has a statewide reputation for excellence, boasting consistently high standardized test scores, a large proportion of high school graduates who continue their education, and a strong and healthy school spirit.

Higher educational opportunities also abound on the Peninsula. The prestigious College of William and Mary, Christopher Newport College, and Hampton University provide a range of four-year degree opportunities which, together with Thomas Nelson Community College, New Horizons Technical Center, the Newport News Shipbuilding Apprentice School, and the Technical Program at the NASA Langley Research Center, prepare students of all ages for the challenges of the twenty-first century workplace.

York County's cultural life is defined by its presence in the larger Hampton Roads region. The Virginia Opera, the Virginia Symphony, the College of William and Mary Theater, the Williamsburg Players, the Wells Theatre in Norfolk, and numerous other organizations for the performing arts flourish in Hampton Roads. The region also has museums for virtually every taste. York County's own Watermen's Museum which depicts the lives of the area's working watermen; the renowned Chrysler Museum in Norfolk; the Mariners' Museum and Virginia Living Museum in Newport News; the Virginia Air and Space Museum, and Fortress Monroe Casemate Museum in Hampton; the DeWitt Wallace Decorative Arts Gallery, the Muscarelle Museum of Art, and the Abby Aldrich Rockefeller Folk Art Center in Williamsburg all combine with Yorktown's Creative Arts Center "On the Hill" to enrich and expand the minds of our citizens.

The Yorktown-Williamsburg-Jamestown "Historic Triangle" is a living testament to America's beginnings. With numerous attractions, the Historic Triangle, with the facilities of the Colonial Williamsburg Foundation, the National Park Service, and the Jamestown-Yorktown Foundation, serves not only visitors but the residents of the County and surrounding jurisdictions as well. In York County alone, the National Park Service Visitors Center and the Yorktown Victory Center offer insights into the lives of the people of Yorktown before, during, and after the decisive battle that ended on October 19, 1781.

York County's citizens enjoy a wide range of recreational opportunities, from a ten-month golf and tennis season to a myriad of recreational sports programs to the world famous Busch Gardens and York County's own Water Country USA. The County's most precious recreational resource, however, is the Chesapeake Bay and its tributaries, for York County is perhaps best defined by its age-old relationship to the water. The Chesapeake Bay, the York and Poquoson Rivers, and numerous creeks and inlets provide opportunities for swimming, boating, fishing, water sports or just sitting or walking along the beach. It was the water that brought the first settlers to York County, and it is in no small part the magic of the water that makes York County such a special place to live today.

It is to preserve—and if possible enhance—this high quality of life that is the basic overriding purpose of the York County Comprehensive Plan. The Comprehensive Plan is the long-range plan for the physical development of the County. Like all localities in Virginia, York County is required by State law to adopt a Comprehensive Plan and to review it every five years, but the reasons for developing the plan go well beyond fulfilling this mandate. The Comprehensive Plan is necessary to ensure the efficient use of land in recognition of environmental constraints and the capacity of the public infrastructure. Its intent is to provide for an appropriate mix of residential, commercial, and industrial development; to guide such development to appropriate areas of the County based on the carrying capacity of the land, the existing development character, and the presence of infrastructure and public facilities; to preserve the County's natural resources and aesthetic quality; and to prevent the overburdening of the County's roads and utilities.

Although mandated by State law, the Comprehensive Plan does not have the status of law. Rather, it is a policy document intended to provide direction for present and future policy makers in making the laws and setting the policies to guide development in the County. The Comprehensive Plan is implemented by the County's various development ordinances—such as the Zoning and Subdivision Ordinances—as well as the Capital Improvements Program.

This is the first true Comprehensive Plan in the County's history. Land use plans for the County were developed in 1956 and 1964 by Virginia's Division of Industrial Development and Planning, and in 1967 by Harland Bartholomew and Associates. Although never formally adopted by the Board of Supervisors, these plans served as a basis for the development of land use controls until the adoption of a Land Use Plan in 1976. The process that led to the 1976 Plan actually began in 1973 when the County entered into a contract with Gruen Associates to prepare a comprehensive plan. After a period of study and public meetings, Gruen presented the County with two general alternative plans. Based on public response to the two alternatives, and on direction from the Board of Supervisors, Gruen subsequently prepared a final draft of the comprehensive plan for the County's consideration. This eventually led to the development and adoption of the Analysis-Goals (1975) and Land Use Plan (1976) elements of the Comprehensive Plan. Subsequently, the Schools Plan (1978), Major Thoroughfares Plan (1979), and Fire Protection Plan (1979) were developed and adopted as elements of the Comprehensive Plan. A new Land Use Plan was developed in 1982 and adopted in 1983. Unlike previous plans, the 1983 plan was developed not by an outside consultant but by the Planning Commission, Board of Supervisors, and County staff.

In the Summer of 1989, in preparation for the comprehensive plan update, questionnaires were mailed to all households in the County in an effort to have citizen input in determining the desirable goals and objectives of the plan. The questionnaires were the first in a series of efforts to encourage the County residents to share their opinions on the future of York County. To be successful, a locality's comprehensive plan must accurately reflect the values, goals, and desires of the community. Therefore, citizen involvement was a key ingredient in the comprehensive plan process. Four Comprehensive Plan Review committees were established and given responsibility for developing the various plan elements. A fifth committee was also created to coordinate all of the elements into a single unified plan. Citizen volunteers served on each of these committees, which also included members of the Planning Commission, Board of Supervisors, Industrial Development Authority, Parks and Recreation Advisory Board, and School Board. In addition, a staff liaison was assigned to each committee. Because of the County's special relationship to the water, and the twenty-year horizon of the plan, "Charting the Course to 2010" was adopted as the plan's theme.

To help provide the committees some guidance in their work, the Coordinating Committee, in conjunction with the other four committees, developed a set of thirteen general policy statements. These policy statements, which formed the basis for the overall goals of each element, are as follows:

- Encourage preservation of the County's aesthetic qualities through the retention of large contiguous open space areas.
- Establish residential land use densities that would allow the County population to expand to a maximum level of 80,000 people if all available residential land in the County were fully developed.

- Ensure proper growth management by requiring that decisions on the type of development allowed in the County be based on present and/or planned availability of adequate utilities, community facilities and services, transportation networks, the presence of environmental constraints, and existing development patterns.
- Encourage the "node development" concept for new commercial and industrial development.
- Promote opportunities for a variety of housing types including selected residential areas designed to provide "affordable" housing.
- Promote community facilities in locations that serve the needs of all County residents.
- Promote a transportation network that provides the safe, efficient, and convenient movement of vehicular and pedestrian traffic.
- Encourage the protection and preservation of the natural environment by maximizing the conservation of the County's natural resources and minimizing environmental degradation.
- Provide adequate utility service at appropriate locations to serve a variety of needs conveniently, efficiently, and economically.
- Encourage the diversification of the County's tax and employment base through the attraction and retention of clean, environmentally-sensitive industry and commerce.
- Encourage the promotion of tourism and water-related commercial activity through proper land-use designation and public infrastructure improvements.
- Ensure that industrial and commercial locational opportunities are provided in those areas that are most compatible with such use by providing for the extension of mainline public utilities to designated economic priority areas.
- Encourage the development of light industrial and corporate park environments.

The committees went to work in February 1990, holding meetings, field trips, and work-sessions which eventually numbered over 200. All of these meetings were open to the public, with meeting dates publicized on York County's cable channel 36, and several citizens regularly attended and participated. In May 1990, a series of two town meetings—one in the upper County and one in the lower County—was held. The purpose of these meetings was to invite the citizens to provide the committees with some direction on the issues that the plan should address. Many constructive comments were made, and after a year of work, a second series of town meetings took place in May 1991. This time there were three meetings—at Bruton High, Yorktown Elementary, and Tabb Intermediate—to ensure that every citizen would have a chance to attend. At these meetings, the committees presented their recommendations to the public and requested feedback. The citizens' comments were then incorporated into the final plan where appropriate.

The culmination of two years' work, the Comprehensive Plan represents the combined efforts of York County's citizens, elected and appointed officials, and staff to analyze present conditions in the County, determine what the County's future needs will be, and devise strategies for meeting these needs. It is the community's vision for its future, specific enough to provide clear guidance to present and future policy makers yet broad and flexible enough to be adapted to account for changing circumstances.

In 1991, as this plan was being prepared, Yorktown celebrated its tricentennial. Founded in 1634 as one of the eight original shires, York County was originally named Charles River Shire after King Charles I of England. In 1643, the name was changed to York for Yorkshire, England. Early records indicate that the

County was originally much larger than its current size, encompassing portions of what are now Gloucester, New Kent, King William, Hanover, and Louisa Counties. The port of Yorktown was established in 1691 as a result of the Ports Act passed by the Virginia General Assembly that same year, and, for many years, Yorktown was a thriving seaport. Most people know Yorktown as the site of the last major battle of the American revolution, but the town also played a significant role in the Peninsula Campaign of the Civil War. After the Civil War, the arrival of the railroad on the Peninsula supported the Newport News Shipbuilding and Drydock Company and provided new opportunities for jobs and transportation. The port facilities handling coal and other goods also were enhanced as a result of the new rail service. Increased shipbuilding and artillery manufacture during both World Wars contributed greatly to the Peninsula's growth in the twentieth century, and defense contracts and military installations continue to provide much of the region's economic base.

It is appropriate in Yorktown's 300th year, as the County honors this rich heritage, that the community at large look ahead as well as back, to preserve the past while ensuring the future, fulfilling its duty to both its ancestors and generations to come.

# DEMOGRAPHIC BASE

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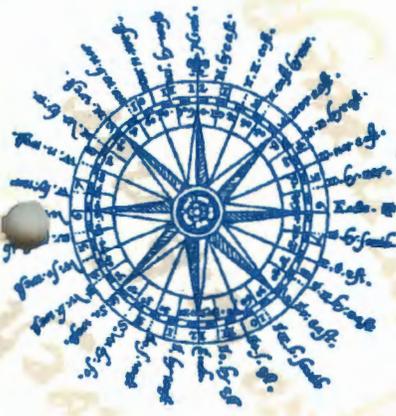
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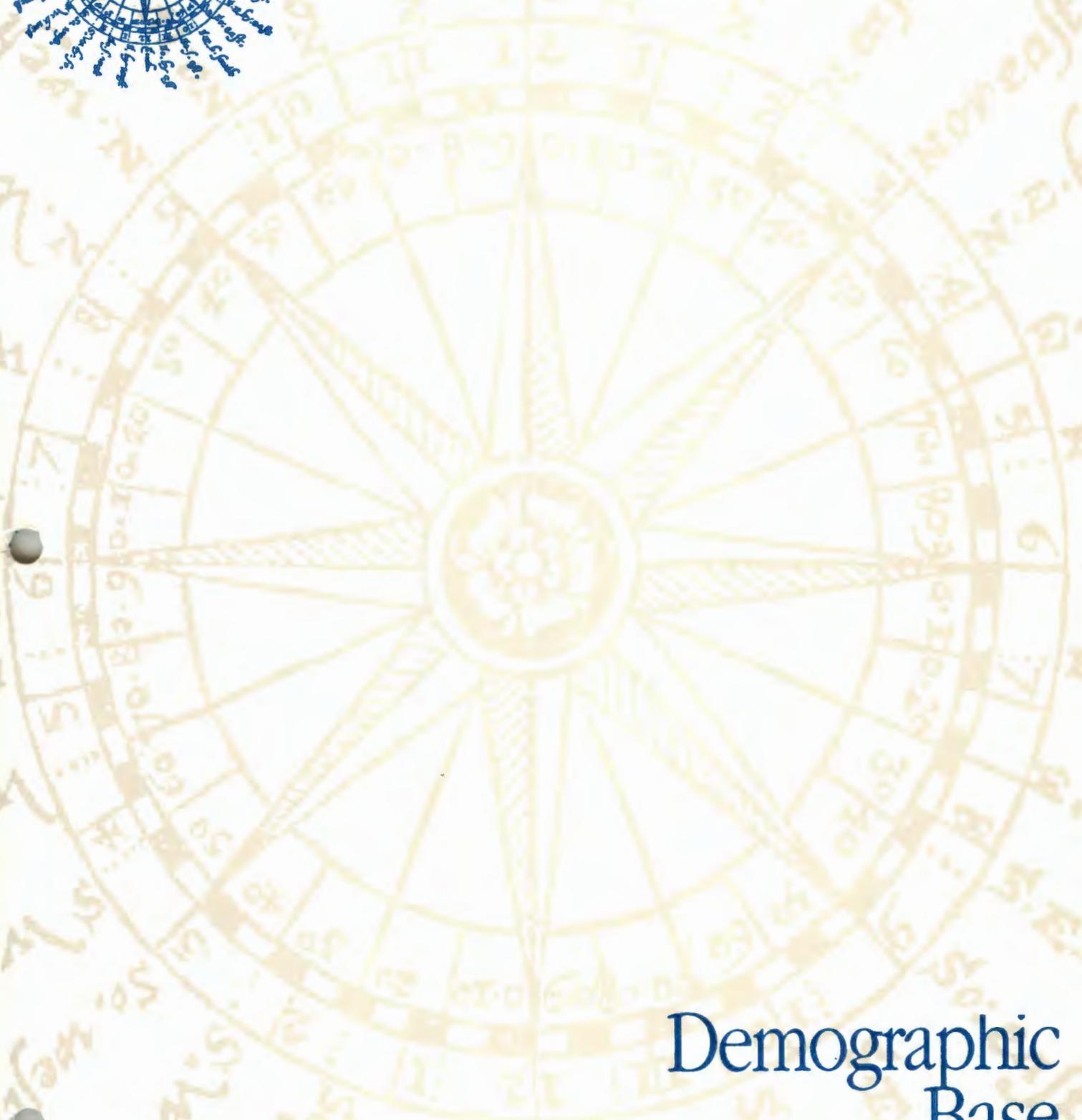
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# *Charting the Course to 2010*

Preserving the Past, Ensuring the Future



Demographic  
Base

# DEMOGRAPHIC BASE

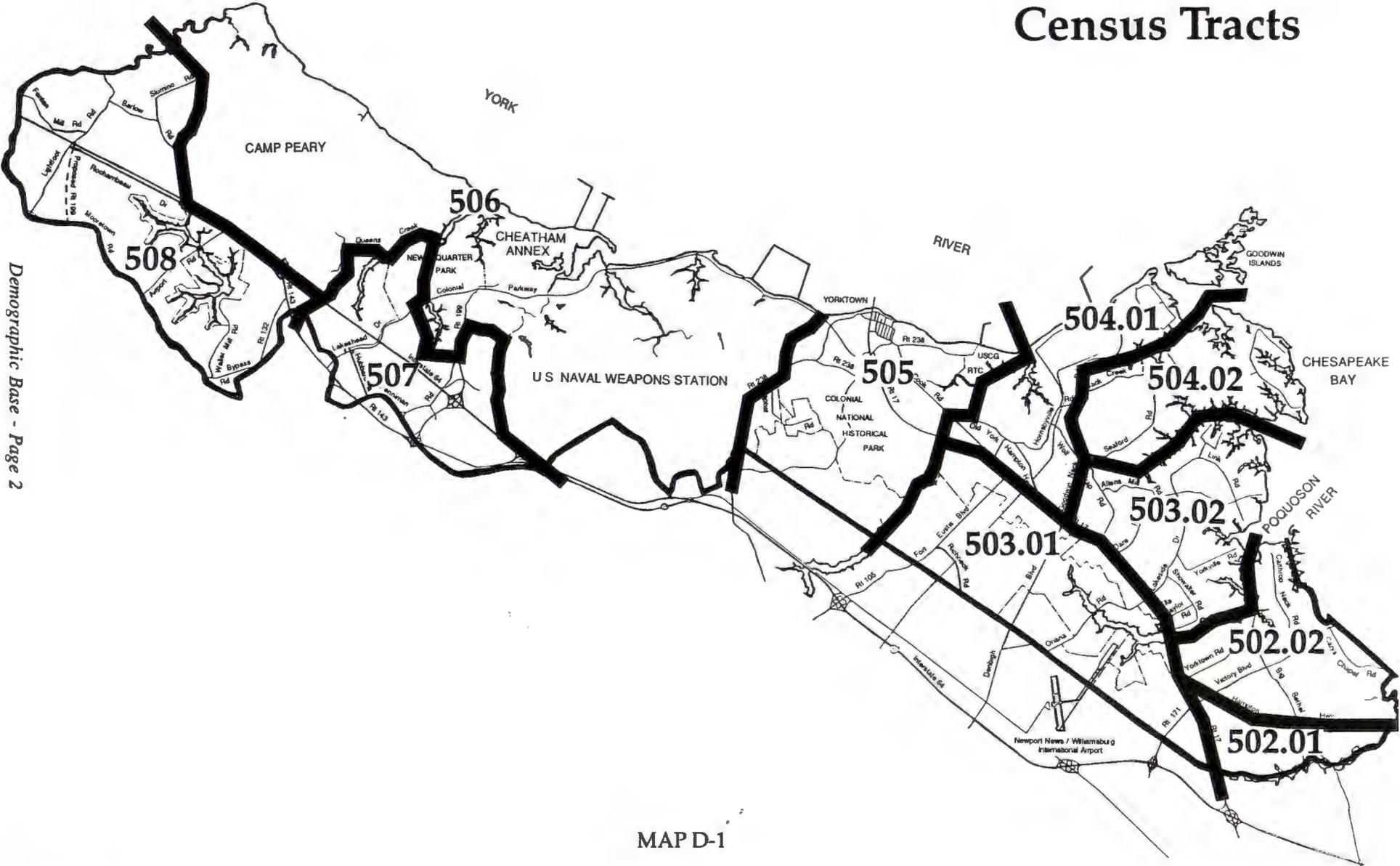
## INTRODUCTION

Covering 108.5 square miles (69,435 acres), York County is located in the Virginia Coastal Plain on the peninsula formed by the James and York Rivers and the Chesapeake Bay. The County is surrounded by James City County, the Cities of Williamsburg, Newport News, Hampton, and Poquoson, and the York River. This region is known as the Peninsula and is part of the Norfolk-Virginia Beach-Newport News Metropolitan Statistical Area (MSA). As defined by the United States Census Bureau, an MSA is a "large population nucleus, together with adjacent communities which have a high degree of economic and social integration with that nucleus." Simply put, an MSA basically consists of a central city (or cities) and all the surrounding localities from which its workers commute.

Federal landholdings constitute a large proportion (approximately 40%) of land in the County. These include the Colonial National Historical Park (Yorktown Battlefield and Colonial Parkway), the U. S. Naval Weapons Station, Camp Peary, Cheatham Annex, the Coast Guard Reserve Training Center, Langley Air Force Base's Bethel Manor housing complex, and the Big Bethel reservoir.

The Census Bureau divides York County into ten Census Tracts, which are shown on Map D-1. That part of the County which lies to the north of Route 238 (Census Tracts 506, 507, and 508) contains much of the County's rural character, military presence, and tourism. Census Tract 508 is largely comprised of the sparsely developed Skimino, Lightfoot, and Waller Mill areas, while Tract 507 consists mainly of more densely developed neighborhoods compatible with development in the adjacent City of Williamsburg. Both Tracts contain commercial uses, such as motels and restaurants, designed to serve the large tourist population attracted to the Williamsburg area. In contrast, there is no private development in Tract 506, which consists entirely of Federal property: Camp Peary, Cheatham Annex, and the Naval Weapons Station. In terms of employment, shopping, and certain public services, the northern end of the County tends to be more closely associated with Williamsburg and James City County than with the rest of York County simply because of its proximity to those two jurisdictions relative to the rest of the County. Within the County are several areas and communities that have no defined legal boundaries but whose general location is commonly known. Foremost among those areas is historic Yorktown, which is the County seat and is located in Census Tract 505. Also in Tract 505 is the Lackey community, which lies to the south of Route 238, across from the Naval Weapons Station. The largest area of the lower County is Grafton, which is generally bounded by Route 173, Chisman Creek, Oriana Road, and the Poquoson River; it includes all of Census Tract 503.02 and a portion of Tract 503.01. All land south of the Poquoson River and Harwoods Mill Reservoir is considered Tabb, which includes Tracts 502.01, 502.02, and the portion of Tract 503.01 south of Oriana Road. This area contains the 1300-unit Bethel Manor complex (in Tract 502.01) which houses over 5,000 residents. Other such communities include Seaford (Tract 504.02), Dandy (in Tract 504.01), and Dare (in Tract 503.02).

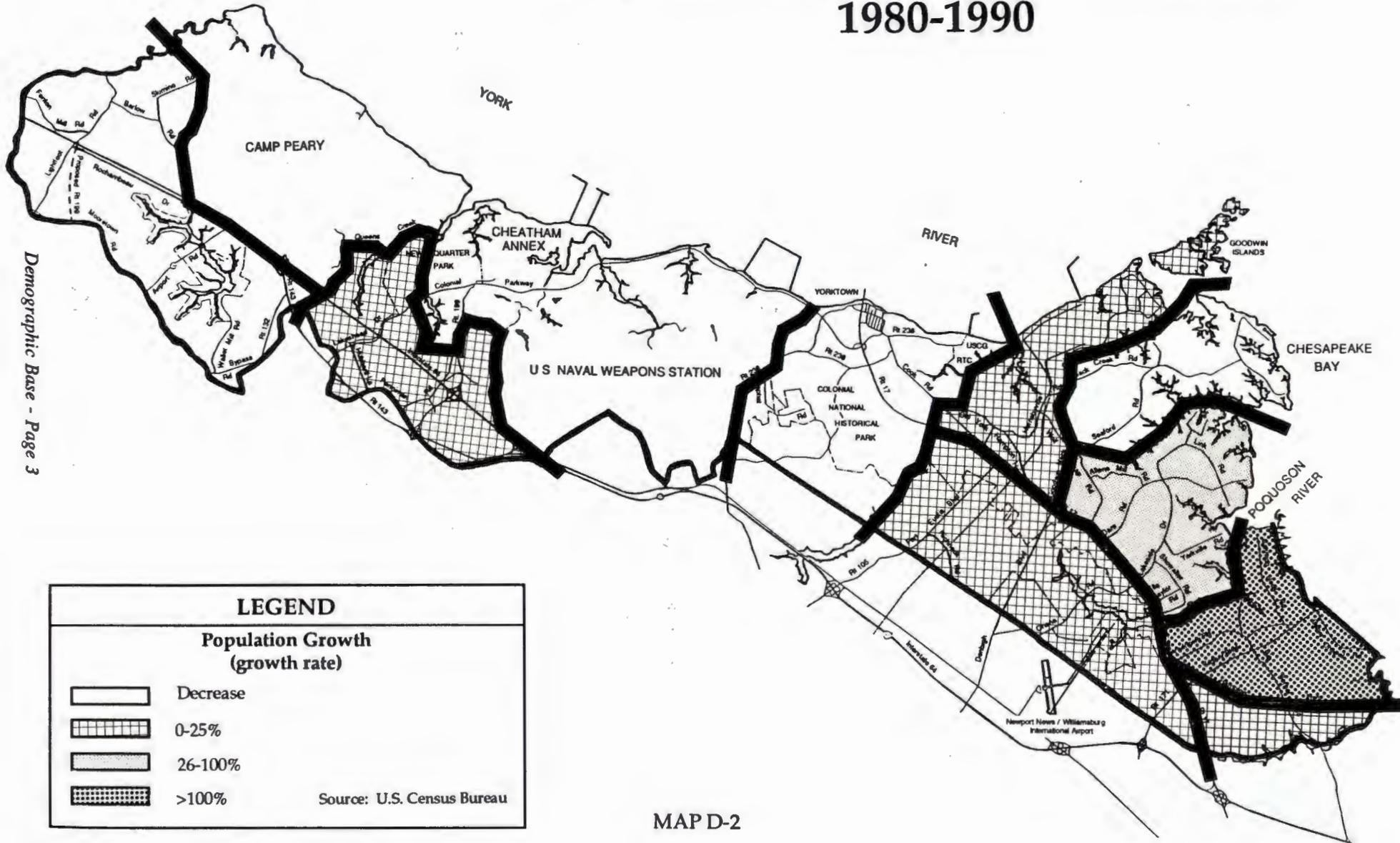
# Census Tracts



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MAP D-1

# Population Growth By Census Tract 1980-1990



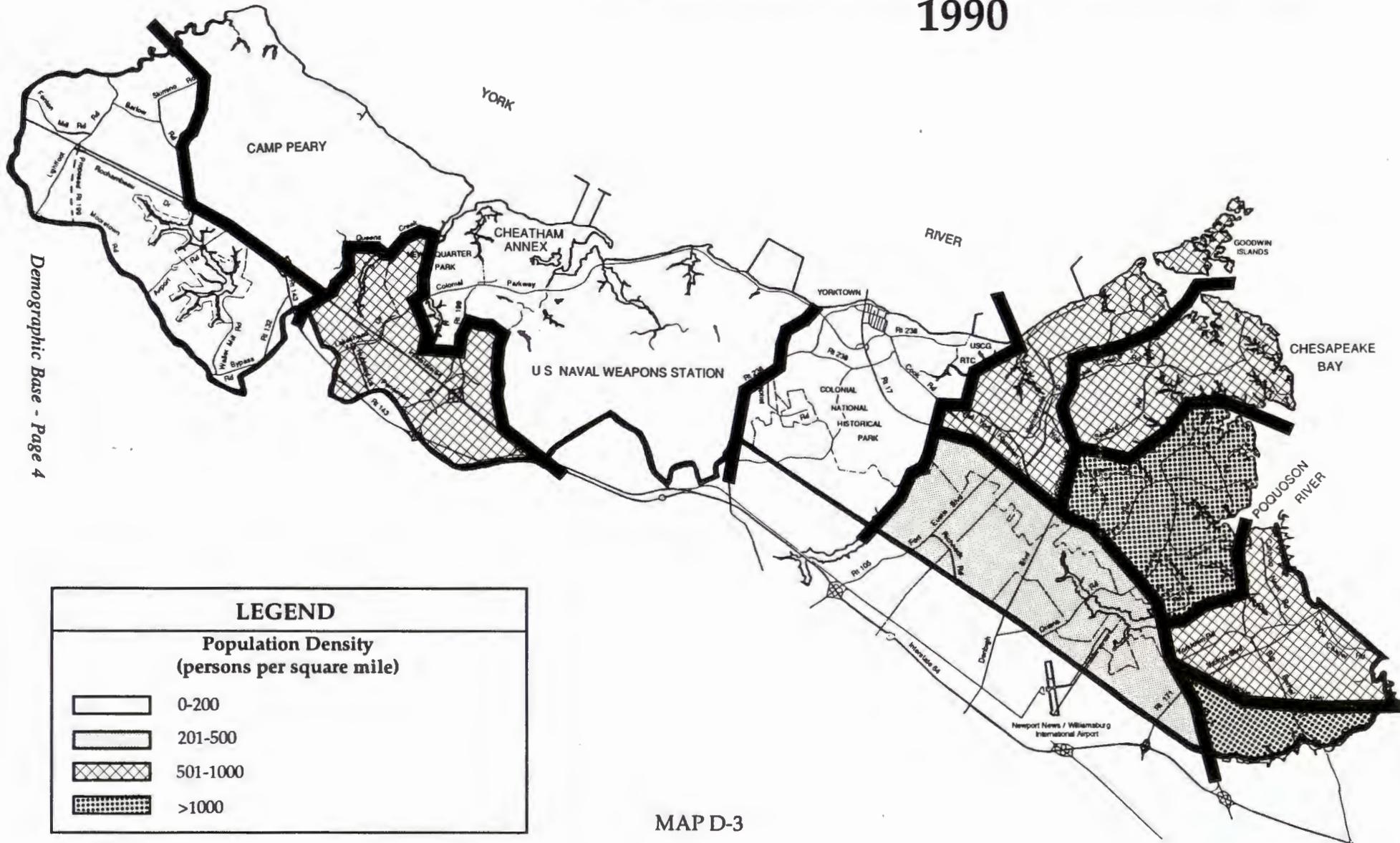
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LEGEND	
Population Growth (growth rate)	
	Decrease
	0-25%
	26-100%
	>100%

Source: U.S. Census Bureau

MAP D-2

# Population Density By Census Tract 1990



MAP D-3

## DEMOGRAPHIC TRENDS OF THE 1980s

### Population

The 1980s were a decade of considerable growth in York County, as they were for the entire Peninsula region. Rapid growth in the Tabb and Grafton areas was responsible for most of this population increase. York County's population is not only growing but also changing, for population growth has been accompanied by changes in the way people are dividing themselves into households. Specifically, households in the County are getting smaller as birth rates fall and more people choose to remain single. In addition, the population continues to grow older, on average, as the baby boom moves through the life cycle.

York County's 1990 population, as measured by the U. S. Census Bureau, was 42,422. This represents a 20% increase over the 1980 population of 35,463. By comparison, both the Peninsula region and the Commonwealth of Virginia experienced lower rates of population growth. While the regional population increased by 17% between 1980 and 1990, the State population rose by 13% (see Table 1). On the Peninsula, York County followed Hampton, Newport News, and James City County in absolute population growth, while both James City County and Poquoson had higher rates of growth.

**TABLE 1**

POPULATION CHANGE THROUGHOUT THE PENINSULA, 1980-1990				
LOCALITY	POPULATION		CHANGE, 1980 - 1990	
	1980	1990	Number	Percent
Hampton	122,617	133,793	11,176	9.1%
James City County	22,339	34,859	12,520	56.0%
Newport News	144,903	170,045	25,142	17.4%
Poquoson	8,726	11,005	2,279	26.1%
Williamsburg	10,294	11,530	1,236	12.0%
<b>YORK COUNTY</b>	<b>35,463</b>	<b>42,422</b>	<b>6,959</b>	<b>19.6%</b>
Peninsula	344,342	403,654	59,312	17.2%
State	5,346,818	6,015,100	668,282	12.5%

*Source: U. S. Census Bureau*

As Table 2 illustrates, the bulk of the County's net population growth during the 1980s took place in the Tabb and Grafton areas, which include Census Tracts 502.01, 502.02, 503.02 and a portion of Tract 503.01 (see Map D-2). Together these Census Tracts increased in population by 40% from 1980 through 1990, adding over seven thousand people to the County population. As a result, the population continues to be highly concentrated in the southern part of the County, which in 1990 had a population density of 668 persons per square mile (see Map D-3). The northern part of the County, in contrast, had 80 persons per square mile. This is not due solely to residential development patterns, however, for several factors over which York County has no control also are partly responsible. These include the dense military housing in Bethel Manor and the vast expanse of uninhabited Federal property in the northern end of the County (Census Tract 506). Overall, the 1990 population density in York County was 391 persons per square mile.

TABLE 2

YORK COUNTY POPULATION BY CENSUS TRACT, 1980-1990				
CENSUS TRACT	POPULATION		CHANGE, 1980 - 1990	
	1980	1990	Number	Percent
502.01	6,919	7,949	1,030	14.9%
502.02	2,877	5,781	2,904	100.9%
503.01	2,792	3,296	504	18.1%
503.02	5,794	8,708	2,914	50.3%
504.01	2,332	2,989	657	28.2%
504.02	3,184	2,976	(208)	-6.5%
505	2,963	2,130	(833)	-28.1%
506	1,383	1,234	(149)	10.8%
507	4,844	4,711	(133)	-2.7%
508	2,375	2,648	273	11.5%
TOTAL	35,463	42,422	6,959	19.6%

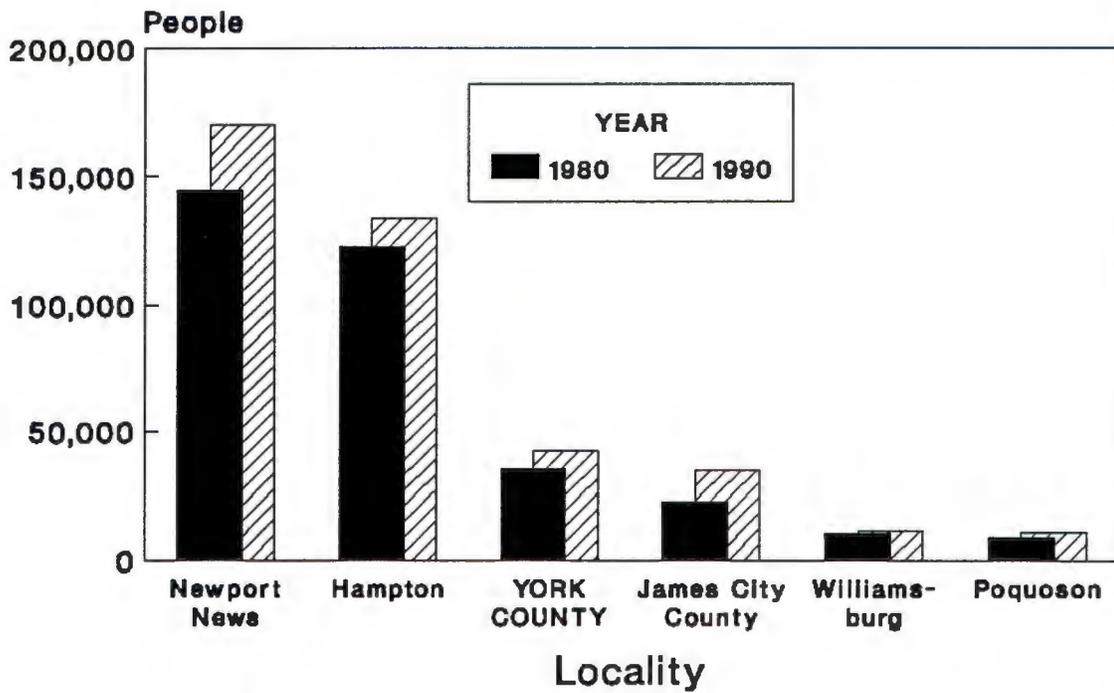
*Source: U. S. Census Bureau*

The County's on-base population (military personnel and their families) declined somewhat during the 1980s. Camp Peary, Cheatham Annex, and the Naval Weapons Station—which together constitute all of Census Tract 506—experienced a total decline of 149 people, or 11%. In addition, Langley Air Force Base's Bethel Manor housing complex decreased by 208 persons (4%), while the number of people housed at the Coast Guard Reserve Training Center remained fairly stable throughout the decade.

York County's population growth continues to be fueled primarily by the migration of people into the County rather than by natural increase (births minus deaths). Net migration—the difference between the number of people moving into the County and the number moving out—accounted for 77% of the County's 1980-90 population growth. Similarly, 75% of the County's population growth from 1970 to 1980 was due to net migration. In-migration thus continues to be a major factor in the growth of York County.

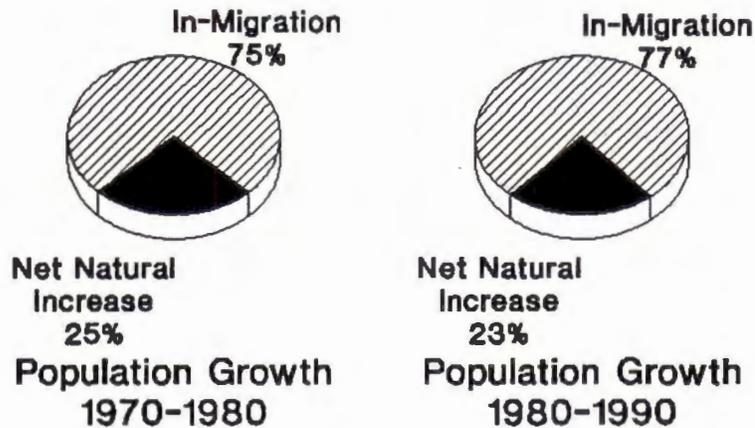
Population growth in York County was outpaced by the rate of household formation in the 1980s. In other words, the number of households grew faster than the number of people. While the overall population of the County rose by 20% between 1980 and 1990, the number of households increased by 33%. This reflects several national demographic trends. High divorce rates, as well as changing societal values and mores, have given rise to a steadily declining birth rate, a growing number of single-parent households, increasing numbers of "alternative" living arrangements, and a relative increase in the number of people living alone. As a result, in 1990, families represented 82% of all County households, whereas ten years earlier they represented 85%. Married-couple families as a percentage of all families in the County also fell, from 88% to 86%. The number of non-family households—which include people who live alone or with someone who is not a relative—increased from 15% to 22% of all households. People living alone continue to constitute the vast majority of these households; in 1990—as in 1980—they represented 83% of non-family households. The ongoing increase in smaller household types lowered the average (mean) household size in the County from 3.15 to 2.90 persons per household between 1980 and 1990.

**FIGURE 1**  
**POPULATION GROWTH THROUGHOUT**  
**THE PENINSULA, 1980-1990**



*Source: U.S. Census Bureau*

**FIGURE 2**  
**COMPONENTS OF POPULATION GROWTH**  
**IN YORK COUNTY: THE '70s vs. THE '80s**



*Source: Virginia Department of Health,  
 Division of Vital Records  
 Note: Net Natural Increase=Births-Deaths*

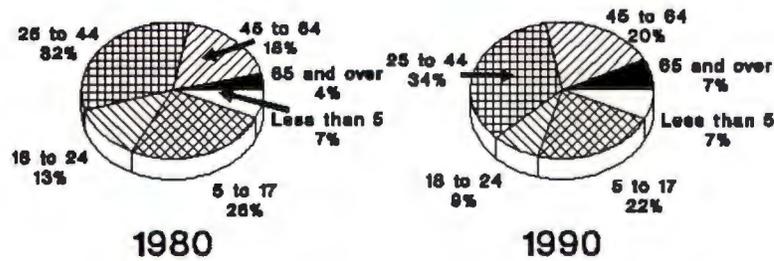
Another national trend that is being observed in York County is the general "aging" of the population, which is attributable largely to the aging of the postwar baby boom: the mass of Americans born between 1946 and 1960 when fertility rates were high. The subsequent "baby bust" period brought lower fertility rates, and these have been declining for over two decades while medical advances have increased life expectancy. The cumulative effect of these three trends has been to raise significantly the median age. The median age of York County residents, which in 1970 was 23.8 years, had climbed to 28.6 years by 1980. By 1990 the County median age had risen to 32.8 years. While the number of people under age 24 grew during the 1980s by only 56, from 15,941 to 16,047, the number of people aged 45 and over increased from 7,792 to 11,843—an increase of over 4,000 people, or 52%. Growth in the senior population was particularly strong. The number of people aged 65 and over more than doubled, from 1,460 to 3,168.

Figure 4 depicts the 1990 age distribution of both the York County and Peninsula populations. It shows that despite the relatively small increase in the 0-17 age group, in comparison with the region as a whole, York County has a higher proportion of children and teenagers but a smaller proportion of young adults (18-24 years old). This indicates that the County may be more "family-oriented" than other areas of the Peninsula. This is not surprising, since many families with children are attracted to York County by the quality of the schools. In addition, these age differences between the County and the region are probably largely attributable to differences in housing stock and military population among the Peninsula localities. Because of its high cost of housing and scarcity of apartment complexes in comparison with other areas such as Newport News and Hampton, York County does not offer many housing opportunities for young adults, particularly singles. Moreover, the military population in York County is small relative to Hampton and Newport News, and the military tends to include substantial numbers of men and women in their twenties. While it is true that many of the personnel assigned to Langley Air Force Base live in the Bethel Manor housing complex in York County, much of that housing is designed for personnel with families.

There also has been some change in the racial composition of the County population (see Figure 5). Non-whites represented 19.3% of the total population in 1980; by 1990 this proportion had dipped slightly to 18.7%. Meanwhile, the minority population diversified somewhat. Of these 7,935 non-

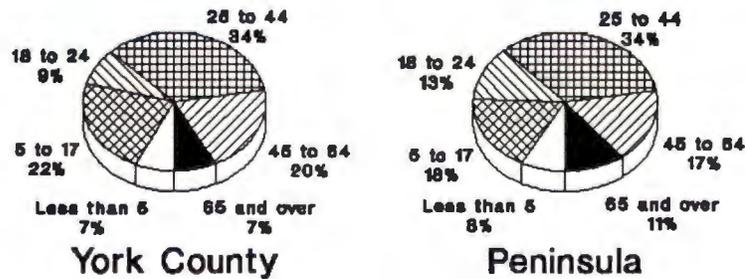
white residents, the overwhelming majority—83%—are black. This is a decline since 1980, when blacks represented 90% of the minority population. Most of the growth among non-whites during the 1980s was in the Asian and Pacific Islander population, which more than tripled in size from 310 in 1980 to 988 in 1990. In addition, the American Indian, Eskimo, and Aleut population more than doubled from 49 to 112. The number of blacks increased by almost 500, from 6,118 to 6,613—an increase of 8%.

**FIGURE 3**  
**YORK COUNTY POPULATION**  
**BY AGE GROUP, 1980 AND 1990**



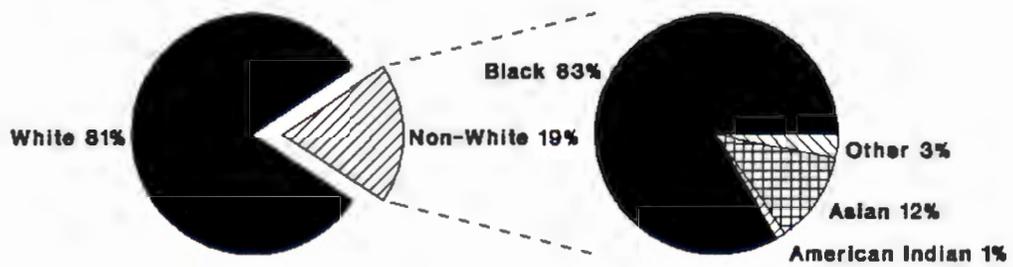
Source: U.S. Census Bureau

**FIGURE 4**  
**AGE DISTRIBUTION OF THE POPULATION**  
**YORK COUNTY AND PENINSULA, 1990**



Source: U.S. Census Bureau

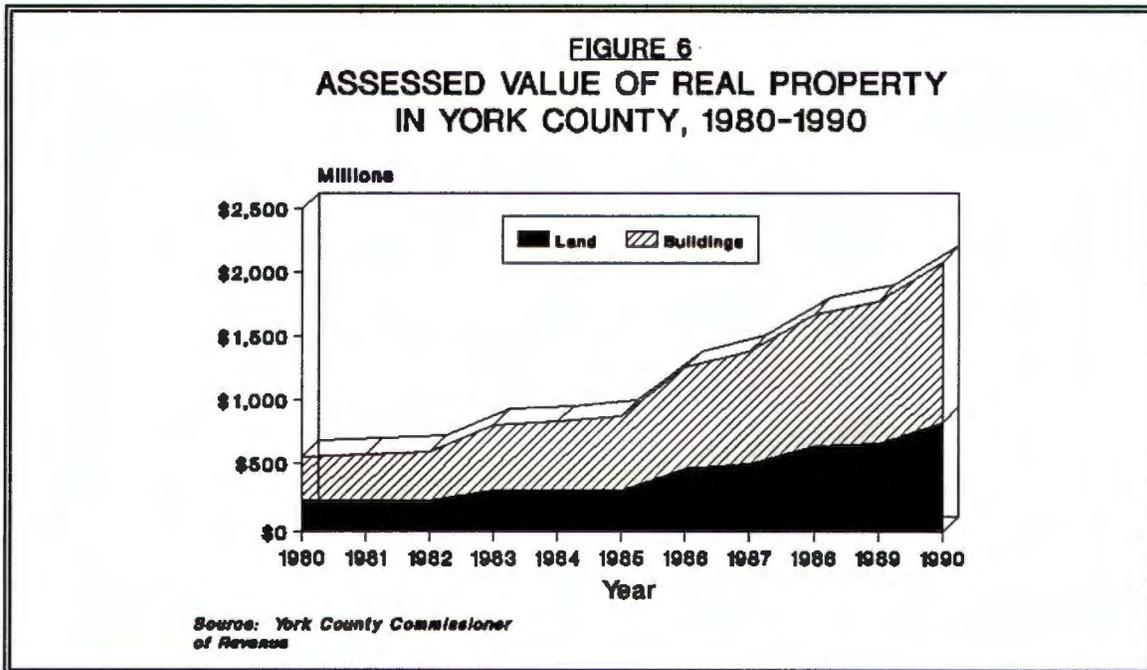
**FIGURE 5**  
**YORK COUNTY POPULATION**  
**BY RACE, 1990**



**Source: U.S. Census Bureau**

## Housing and Development

New development and rapidly escalating real property values characterized York County during the 1980s. Rising real estate values and new construction—both residential and commercial/industrial—added over 1.5 billion dollars to the real estate tax base between 1980 and 1990. This represents an increase of 274% in the assessed value of real property in the County, including both land and improvements (structures). As shown in Figure 6, the total assessed value of real property in the County was \$2.1 billion in 1990, compared to \$557 million in 1980. A shift from quadrennial to biennial reassessment, thereby bringing assessed property values closer to true market values, is also partly responsible for this increase.



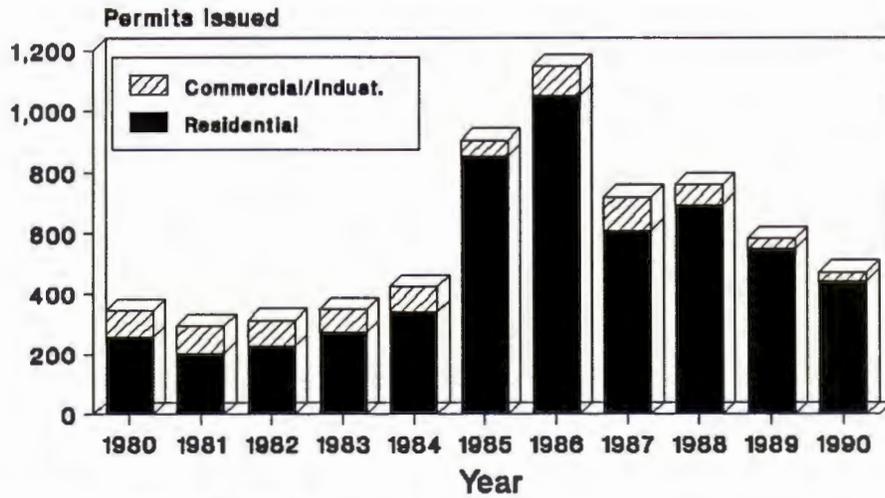
**TABLE 3**

**TOTAL ASSESSED VALUE OF REAL**  
**PROPERTY IN YORK COUNTY, 1980-1990**

<u>Year</u>	<u>Assessed Value</u>
1980	\$556,743,440
1981	\$577,804,863
1982	\$597,569,589
1983	\$806,518,850
1984	\$831,662,105
1985	\$876,048,000
1986	\$1,260,536,100
1987	\$1,384,381,300
1988	\$1,676,658,400
1989	\$1,777,855,840
1990	\$2,084,758,350

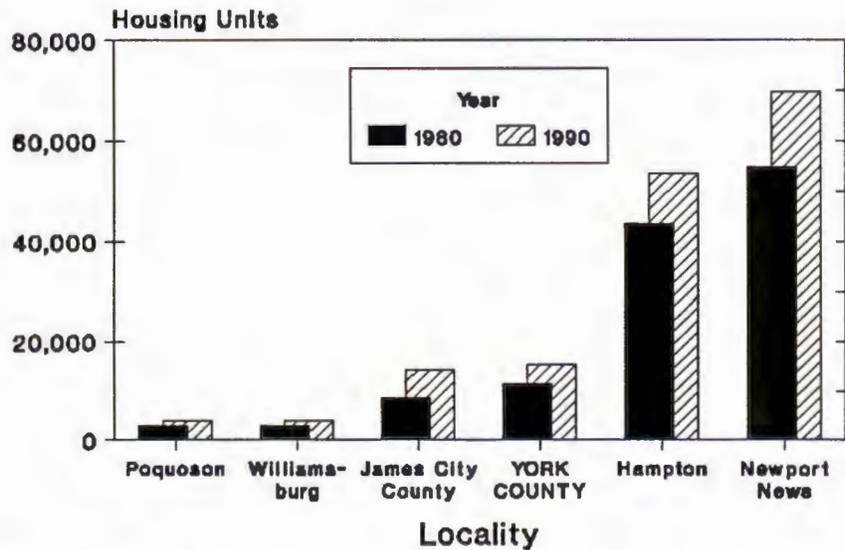
Source: York County Commissioner of Revenue

**FIGURE 7  
BUILDING PERMITS ISSUED  
IN YORK COUNTY, 1980-1990**



*Sources: University of Virginia Center for Public Service and York County Department of Community Development*

**FIGURE 8  
PENINSULA HOUSING UNITS  
1980-1990**



*Source: U.S. Census Bureau*

During the 1980-90 period, the County issued 6,318 building permits for new construction, almost 90% of which were for residential construction (see Table 4). Building permit activity started off the decade slowly but rebounded considerably after the 1981-82 recession, and it remained strong through 1988, tapering off somewhat thereafter.

**TABLE 4**

<b>BUILDING PERMITS ISSUED IN YORK COUNTY, 1980-1990</b>					
<u>YEAR</u>	<u>RESIDENTIAL</u>		<u>COMMERCIAL-INDUST.</u>		<u>TOTAL</u>
	<u>Number</u>	<u>Per Cent</u>	<u>Number</u>	<u>Per Cent</u>	
1980	255	73.9%	90	26.1%	345
1981	204	69.2%	91	30.8%	295
1982	228	72.8%	85	27.2%	313
1983	274	78.5%	75	21.5%	349
1984	340	80.4%	83	19.6%	423
1985	852	94.0%	54	6.0%	906
1986	1,050	91.5%	98	8.5%	1,148
1987	611	84.7%	110	15.3%	721
1988	696	91.6%	64	8.4%	760
1989	551	94.2%	34	5.8%	585
1990	443	93.7%	30	6.3%	473
<b>TOTAL</b>	<b>5,504</b>	<b>87.1%</b>	<b>814</b>	<b>12.9%</b>	<b>6,318</b>

*Sources: University of Virginia Center for Public Service,  
York County Department of Community Development*

York County's housing stock expanded continuously from 1980 through 1990, with the sharpest growth occurring after the national economic recession of the early 1980s. The rate of new housing construction in the County during this period was higher than for the Peninsula region as a whole. Moreover, this building activity brought significant change in the overall mix of housing types in the County.

In 1980 there were 11,401 housing units in York County. Since then, burgeoning construction activity in the County added almost 3,900 units to the housing stock. Residential construction activity was relatively slow during the 1980-82 period while the nation was in the midst of an economic recession, but it recovered somewhat in 1983 and accelerated through 1986 when the number of residential building permits peaked at 1,050. Housing construction declined considerably in 1987 but was still well above the 1984 level. In 1990, according to the U. S. Census Bureau, there were 15,284 housing units in York County.

Housing construction in York County during the 1980s outpaced regional construction. In 1980, 9% of the Peninsula's total housing stock was located in York County, but the County accounted for 11% of the housing built on the Peninsula between 1980 and 1990. Clearly, York County has been one of the Peninsula's faster growing localities with regard to housing. At 34%, York County's rate of housing growth was exceeded only by that of James City County (68%).

**TABLE 5**

<b>HOUSING GROWTH THROUGHOUT THE PENINSULA, 1980-1990</b>				
<b>LOCALITY</b>	<b>HOUSING UNITS</b>		<b>CHANGE, 1980 - 1990</b>	
	<b>1980</b>	<b>1990</b>	<b>Number</b>	<b>Percent</b>
Hampton	43,562	53,623	10,061	23.1%
James City County	8,524	14,330	5,806	68.1%
Newport News	54,986	69,728	14,742	26.8%
Poquoson	2,943	3,890	947	32.2%
Williamsburg	3,041	3,960	919	30.2%
<b>YORK COUNTY</b>	<b>11,401</b>	<b>15,284</b>	<b>3,883</b>	<b>34.1%</b>
Peninsula	124,457	160,815	36,358	29.2%

*Source: U. S. Census Bureau*

Despite the development of several large rental and condominium apartment complexes, single-family houses continue to be the predominant housing type in York County. In fact, the single-family share of the County's total housing stock increased from 74% to 81%. Where great change took place was in the type of single family homes built. In 1980, 96% of all single-family homes—70% of all homes—were detached homes. There were 376 single-family attached homes (townhouses and some duplexes), 291 of which (77%) were military housing units, most of them in Bethel Manor. In the private housing market, therefore, there were only 85 single-family attached units in 1980. Townhouse construction increased dramatically during the 1980s. Several large townhouse subdivisions were built, including Burnt Bridge Run, Wood Towne Quarters, York Crossing, and sections of Meadowlake Farms and Yorkshire Downs. As a result, single-family attached housing increased its share of the County's housing stock from 3% to 9% between 1980 and 1990, according to the U. S. Census Bureau.

The townhouse boom of the 1980s can be attributed to a number of factors. The rising cost of single-family detached homes in the County has made such housing prohibitively expensive for many households, forcing them to seek a less costly alternative. Furthermore, the changing demographics also favor alternative housing types. Specifically, as discussed earlier, the average household size in the County has been continually falling, and smaller households—such as singles, married and unmarried young couples, and older couples whose children have grown up and left home ("empty nesters")—have lesser space requirements and lower incomes than the typical established family with one or more children.

Not surprisingly, the majority of recent housing construction in York County has taken place in the more southerly areas of the County, which, in comparison with the rest of the County, has had fewer development constraints (e.g., low-density zoning, a lack of public utilities, and a severely limited road network). In 1980 the overwhelming majority of homes—77%—were located in the southern end of the County, and over subsequent years this tendency has grown stronger. In 1990, it accounted for 80% of the housing stock.

Although it remains a primarily residential community, York County attracted over \$100 million worth of commercial and industrial development between 1980 and 1990, during which time the County issued 814 non-residential building permits. By 1988, however, commercial and industrial construction had begun to slow down somewhat, and in 1990 it reached its lowest level for the entire decade.

## Employment

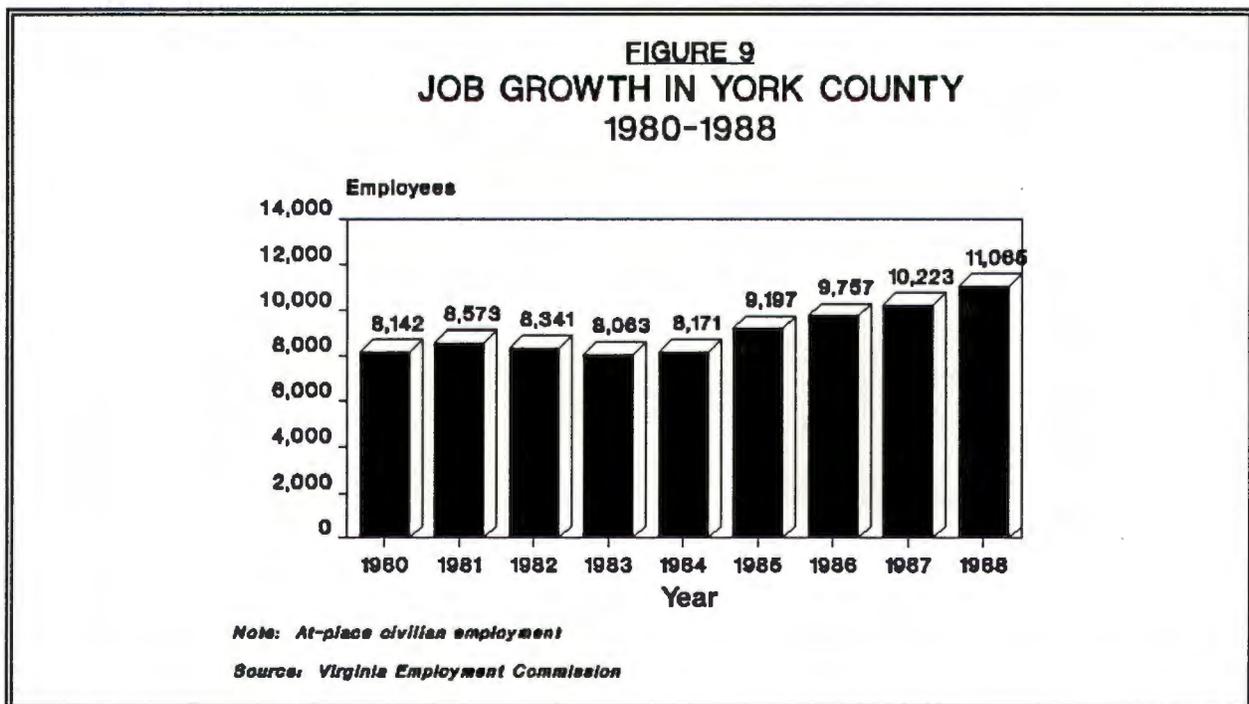
The 1980s brought significant change in both the number and types of jobs in York County. Not only was there substantial growth in civilian employment, but at the same time government employment fell dramatically, particularly at the federal level. In 1980, the public sector accounted for a little over half of the County's employment base; in 1988 it accounted for a little over a third.

Overall in York County, 3,400 new private sector jobs were created during the 1980s, while the public sector, excluding the military, lost almost 500 jobs. As illustrated in Figure 10, civilian employment in the County increased between 1980 and 1988 by 36%, which translates into 2,915 new jobs. The regional growth rate, by comparison, was approximately 33%. While 166 new manufacturing jobs were added, it is non-manufacturing industries that are responsible for the County's rapid job growth. Non-manufacturing employment increased by 2,660 jobs between 1980 and 1988 while the government (non-military) sector declined by 485 jobs. Military employment as a proportion of total employment in the County was basically unchanged, and the negligible role of agricultural employment increased slightly from 0.8% to 1.4% of total civilian employment.

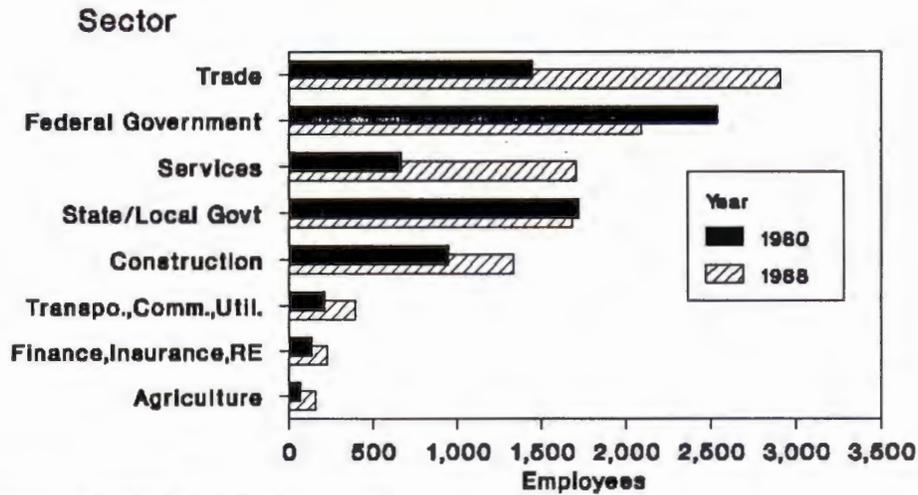
The County's major job growth sectors during the 1980s were wholesale/retail trade and the service sector, which added 1,459 and 1,040 jobs respectively. The construction, transportation/communication/utilities, and finance/insurance/real estate industries all expanded; together they accounted for 646 new jobs, or 22% of the total civilian employment growth.

Coinciding with this job growth has been a steady decline in the County's unemployment rate, which grew during the first part of the decade, peaking at 5.9% in 1981, then falling continuously as the nation and the region recovered from the 1981-82 recession. Throughout the 1980s, York County's unemployment rate consistently ran below both the regional and statewide rates (see Figure 11). In 1990 the County's average unemployment rate was 3.2%, while the rates for the State and the Peninsula were 4.2% and 4.9% respectively. The U. S. rate, meanwhile, was 5.5%.

Employment trends are discussed in greater detail in the Economic Development element.

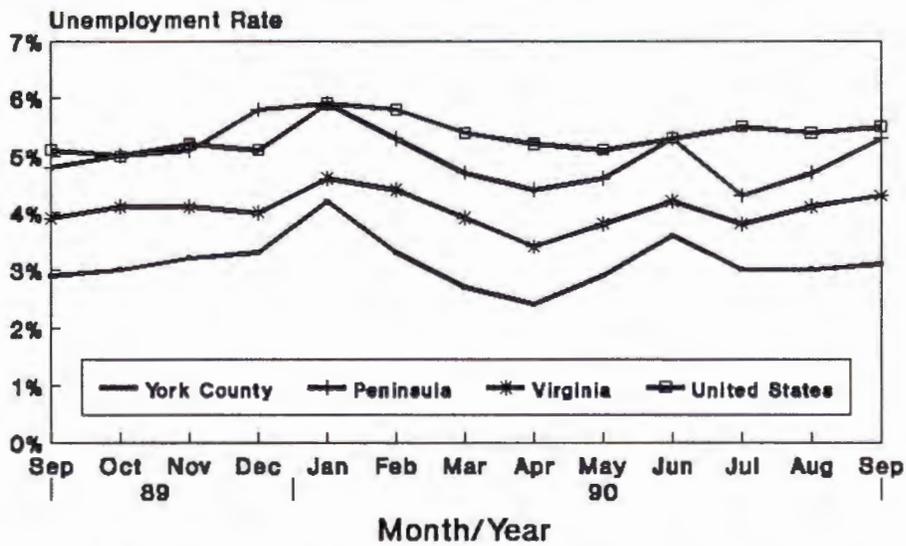


**FIGURE 10**  
**YORK COUNTY CIVILIAN EMPLOYMENT**  
**GROWTH BY SECTOR, 1980 AND 1988**



*Source: Virginia Employment Commission*  
*Note: Does not include self-employed, unpaid family and domestic workers.*

**FIGURE 11**  
**UNEMPLOYMENT IN YORK COUNTY,**  
**PENINSULA, VIRGINIA, AND U.S.A.**



*Source: Virginia Employment Commission*

## Retail Sales

Throughout the 1980s there was rapid and substantial growth in retail activity in York County. From 1980 through 1988, aggregate retail sales in the County tripled, rising from \$78 million to \$247 million—an increase of 215%. In 1989, however, there was a small decline, followed by a sharp decline in 1990 as the nation entered a recession. Nevertheless, there was an overall increase of 190% between 1980 and 1990, as shown in Table 6. Some of this increase was of course attributable to inflation. The Consumer Price Index rose by 57.7% during the 1980-90 period, so the real increase (i.e., adjusted for inflation) in York County's retail sales was 84%—still a substantial increase.

**TABLE 6**

RETAIL SALES THROUGHOUT THE PENINSULA, 1980 AND 1990						
LOCALITY	1980 RETAIL SALES		1990 RETAIL SALES		PER CENT CHANGE	
	Total (Millions)	Per Capita	Total (Millions)	Per Capita	Total	Per Capita
Hampton	\$ 501.9	\$ 4,093	\$ 937.7	\$ 7,009	86.8%	71.2%
James City County	118.9	5,322	328.3	9,418	176.1%	77.0%
Newport News	430.9	2,720	873.0	5,134	102.6%	88.8%
Poquoson	6.0	688	24.1	2,190	301.7%	218.3%
Williamsburg	153.0	14,863	300.7	26,080	98.5%	75.5%
<b>YORK COUNTY</b>	<b>78.4</b>	<b>2,211</b>	<b>227.6</b>	<b>5,365</b>	<b>190.3%</b>	<b>142.7%</b>
<b>PENINSULA</b>	<b>\$1,289.1</b>	<b>\$ 3,744</b>	<b>\$2,691.4</b>	<b>\$ 6,668</b>	<b>108.8%</b>	<b>78.1%</b>

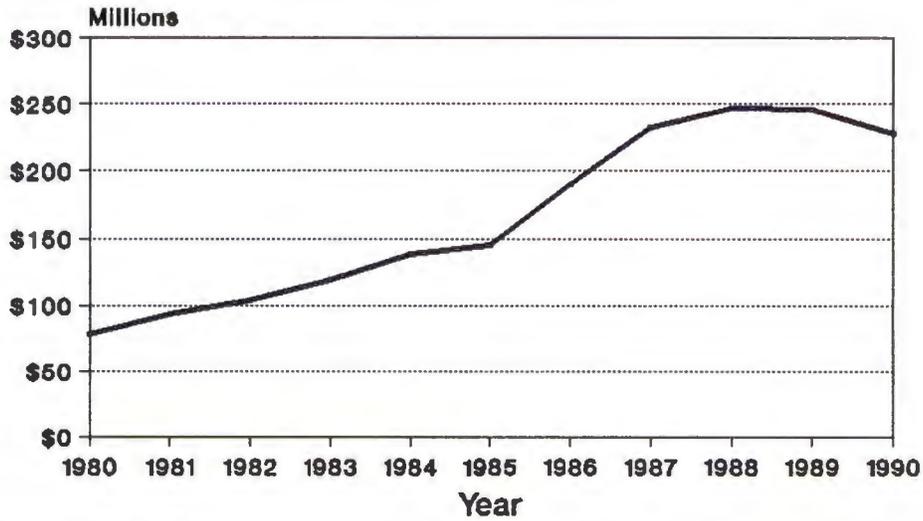
Source: Virginia Department of Taxation

This increased retail activity in the County took place within the context of regional growth for the Peninsula as a whole. However, the rate of retail sales growth in the County between 1980 and 1990 far exceeded the regional rate, which was 109%. In 1980 York County accounted for 6% of the Peninsula's total retail sales; by 1990 this proportion had risen to 8.5%. Clearly, the retail boom of the 1980s that occurred in the County cannot be wholly attributed to regional growth.

Commercial growth in York County is further indicated by the growth in retail sales per capita, which during the 1980s rose at almost twice the regional rate. Second only to Poquoson, the County's 143% increase in retail sales per capita between 1980 and 1990 enabled York County to surpass Newport News as fourth among the six Peninsula localities in this indicator, as Figure 13 illustrates. Williamsburg leads the region with \$26,080 in per capita sales, followed by James City County and Hampton.

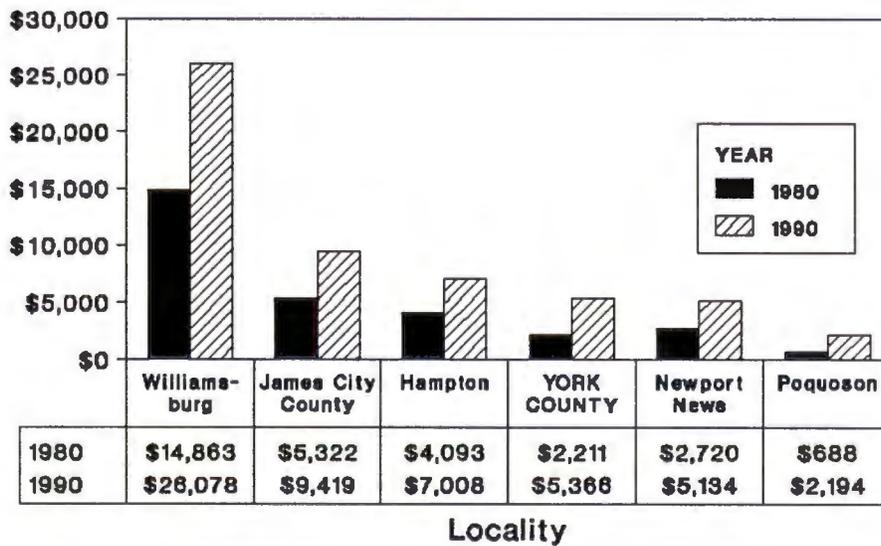
Retail sales trends are discussed in greater depth in the Economic Development element.

**FIGURE 12**  
**RETAIL SALES IN YORK COUNTY**  
**1980-1990**



Source: Virginia Department of Taxation

**FIGURE 13**  
**RETAIL SALES PER CAPITA THROUGHOUT**  
**THE PENINSULA, 1980 AND 1990**



Source: Virginia Department of Taxation

## Income

In general, incomes are higher in York County than in the rest of the region (with the exception of the City of Poquoson), and the disparity has widened during the 1980s. Table 7 shows that the 1990 median household income—as projected by the University of Virginia's Center for Public Service—was \$42,018 for the County and \$32,107 for the Peninsula—a differential of \$9,911. In contrast, the differential in 1979 (\$3,867) was about half as large. In real (inflation-adjusted) terms, however, the gap between York County and Peninsula incomes widened less substantially, from \$5,307 to \$7,600.

TABLE 7

MEDIAN HOUSEHOLD INCOME THROUGHOUT THE PENINSULA, 1979 AND 1990				
LOCALITY	1979	1990	CHANGE, 1979 - 1990	
			Dollars	Percent
Hampton	\$16,971	\$30,665	\$13,694	80.7%
James City County	18,708	39,729	21,021	112.4%
Newport News	15,974	28,160	12,186	76.3%
Poquoson	23,969	47,373	23,404	97.6%
Williamsburg	15,009	28,776	13,767	91.7%
<b>YORK COUNTY</b>	<b>20,918</b>	<b>42,018</b>	<b>21,100</b>	<b>100.9%</b>
Peninsula	\$17,051	\$32,107	\$15,056	88.3%

*Note: Income data for 1979 was reported in the 1980 Census.  
Sources: U. S. Census Bureau, University of Virginia Center for Public Service (1990 projections)*

The median family income is higher than the median household income, which is to be expected. Unlike households, families do not include persons living alone and unrelated persons living together, a configuration tending to be favored by young adults. Consequently, families tend to have higher incomes than non-family households because, in general, their wage earners are older and hence further along in their careers. In addition, many single-person households consist of retired persons who are living on fixed incomes. In York County, the estimated median family income in 1990 was \$46,729—roughly 11% higher than the median household income. The disparity was greater for the entire Peninsula region, where the 1990 median family income was \$37,418—18% higher than the median household income.

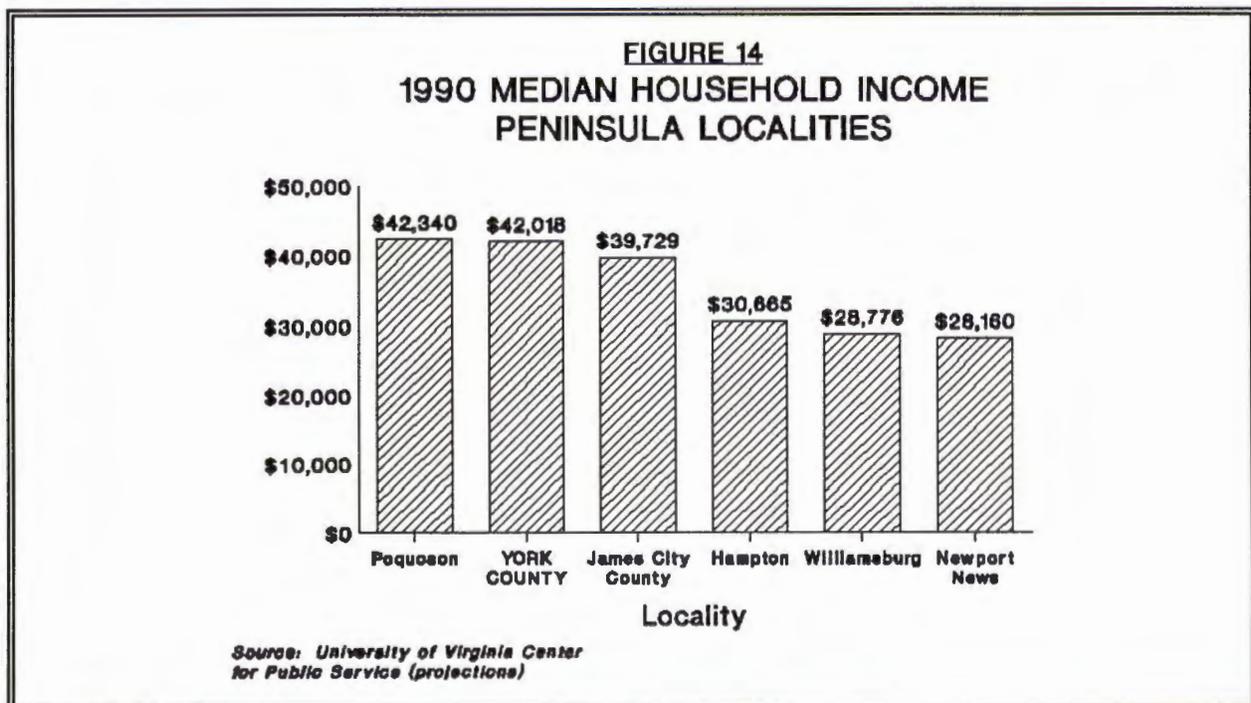
While in nominal terms the median household income in the County and the region rose significantly between 1979 and 1990 (by 101% and 88% respectively), this is more a result of inflation than of real income gains. The increases in income, as shown in Table 8, are much smaller when the effect of inflation is considered. In constant 1982-84 dollars, the County's median household income increased by 12%. Similarly, the entire region experienced a negligible 5% increase in median household income.

**TABLE 8**

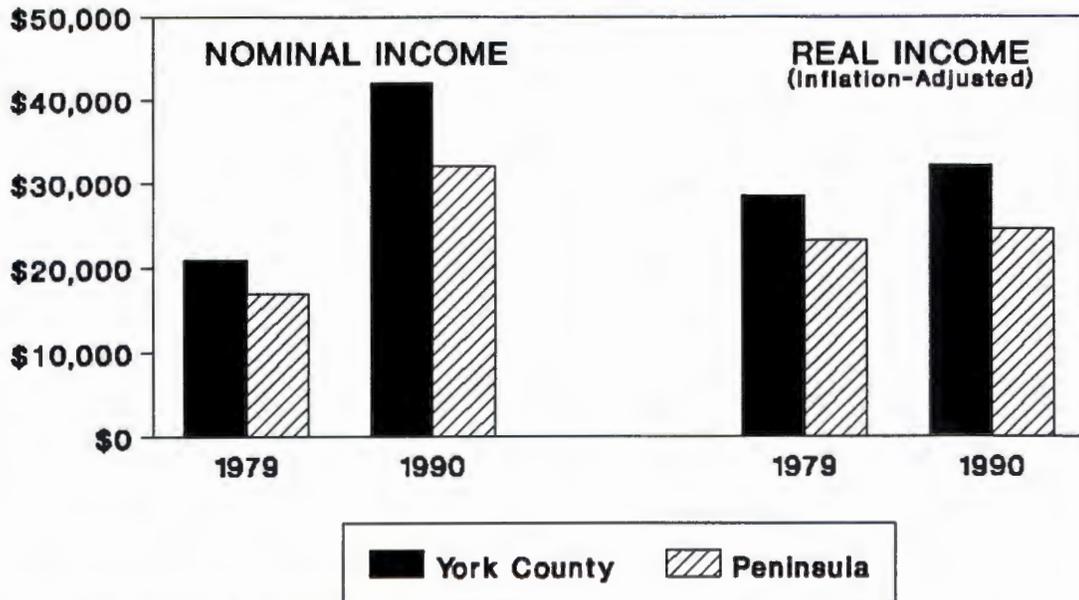
LOCALITY	1979	1990	CHANGE, 1979 - 1990	
			Dollars	Percent
Hampton	\$23,256	\$23,516	\$ 260	1.1%
James City County	25,637	30,467	4,830	18.8%
Newport News	21,890	21,595	(295)	-1.3%
Poquoson	32,846	36,329	3,483	10.6%
Williamsburg	20,568	22,067	1,449	7.3%
<b>YORK COUNTY</b>	<b>28,665</b>	<b>32,222</b>	<b>3,557</b>	<b>12.4%</b>
Peninsula	\$23,366	\$24,622	\$1,256	5.4%

*Note: In constant 1982-84 dollars.*  
*Sources: U. S. Census Bureau, University of Virginia Center for Public Service (1990 projections)*

Virginia state tax return data generally confirm these trends. Of particular importance are the tax returns of married couples, for historically these have given a good indication of changes in median family income. In 1988—the latest year for which data are available—York County led the Peninsula in Virginia adjusted gross income (AGI) as reported on married couple returns. At \$41,495, York County’s median AGI was \$6,600 above the Peninsula median AGI—a difference of 19%. This gap between the County and regional AGI has widened since 1979, when it was 13% (\$2,600), although York County was fourth among the six Peninsula localities in its rate of growth in married couple AGI. This occurred because regional growth in the median AGI was constrained by the cities of Hampton and Newport News which, compared to the other four localities, experienced lower rates of income growth and are much more populous. Nevertheless, although surpassed by James City County, Poquoson, and Williamsburg, York County’s rate of growth in median AGI for married couples, at 84% (\$19,000), was substantial during the 1979-88 period.



**FIGURE 15**  
**MEDIAN HOUSEHOLD INCOME**  
**YORK COUNTY AND PENINSULA**



*Note: Real income in 1982-84 dollars*  
*Source: University of Virginia Center for Public Service (projections)*

## **DEMOGRAPHIC PROJECTIONS: 1990 - 2010**

### **Introduction**

Far from an exact science, forecasting the future is essentially an exercise in educated guesswork. Future population, employment, households, and such are determined by a wide range of variables, many of which are intangible and thus highly unpredictable. Often there is little upon which to base future projections other than past trends, and the validity of this approach is limited since we know that patterns change. Consequently, accurate forecasts—particularly long-range forecasts—depend as much on good luck as on perceptive judgment. Still, projections are necessary, for if we are to plan for tomorrow we need to have some idea of what to expect.

### **Assumptions**

The foundation of these projections for York County—as with all projections—is the set of assumptions upon which they are based. First of all is the underlying assumption of, for lack of a better term, "national continuity." That is, it is assumed that during the 1990-2010 period the United States will not be involved in a prolonged war, suffer a major economic collapse, experience a severe nuclear accident, and so forth. Likewise, it is assumed that the Peninsula region will suffer no devastating natural or man-made disasters.

A number of more specific assumptions about the future of York County are based on expected future trends in military spending by the federal government. Largely dependent on the military, York County, like the rest of Hampton Roads, has benefitted tremendously from the military build-up that took place during the Reagan Administration. The unprecedented growth of the 1980s that occurred in the County was to a great extent a product of massive defense spending increases, which averaged over \$12 billion per year (in real terms) between 1981 and 1987. For example, total Defense Department wages and salaries paid to York County residents increased from \$57.5 million in 1983 to \$126.2 million in 1987—an increase of nearly 120% in just five years. Such a large influx of dollars into the community provides a stimulus to the local economy since much of the money earned in the County is spent in the County, as is indicated by the 95% jump in retail sales that occurred during this same period. This expansion of local markets sets in motion a cycle of economic growth whereby new commercial development is attracted which generates additional sales, creates jobs, and adds to the local tax base. This is what has taken place in York County during the 1980s, indicating that the link between the military and the County and regional economies is a strong one.

The future does not look as bright for the national defense budget, and the effects will be felt in York County. While the military build-up has come to an end, the massive Federal budget deficit remains. During the 1990s, Federal budgetary policies to reduce this deficit will most likely lead to leaner defense budgets. Moreover, recent political changes in Eastern Europe and the former Soviet Union indicate a lessening of cold war tensions and the possibility of a permanent reduction in the size and scale of the military in the long run.

According to the Hampton Roads Planning District Commission (HRPDC), "The Assistant Secretary of Defense for Force Management and Personnel, Christopher Jehn, indicated to local business leaders that between 19,000 and 25,000 of the 150,000 military personnel and Federal civilian workers in Hampton Roads could lose their positions by 1995," and it is not just government jobs that will be

affected by cuts in defense spending, as recent layoffs at Newport News Shipbuilding illustrate. Moreover, as the HRPDC recently reported,

*The threat to non-shipyard contractors and sub-contractors performing defense work also looms large during the next several years. Contracting work performed by local firms represents a significant share of the defense dollars spent in Hampton Roads. For example, during the last five years, the Defense Department has awarded over \$3 billion in contracts to businesses in Hampton Roads. Over 1,000 local firms were awarded contracts in 1990 alone, and many others share in sub-contracting arrangements. A model developed by George Washington University indicates that 49 jobs result from every \$1 million awarded to defense contractors in Hampton Roads, and thus approximately 150,000 civilians hold defense-related jobs in the area.*

Fortunately, in neither York County nor the Hampton Roads region is economic growth—which is a key determinant of population growth—entirely dependent on the military, and the strength of the regional economy in the future will likely depend to a great extent on the region's ability to diversify its economy. In addition, as reported by the HRPDC, there are several factors that may offset defense-related cutbacks, including the low cost of doing business in Hampton Roads, the Navy's dominant role in the area and its relatively small percentage reduction compared to the other services, and the upgrading of current naval systems, which implies that more ship repairs and enhancements will be implemented in local shipyards. It should also be noted that York County has certain locational advantages over other localities in the region—such as a greater supply of vacant land and a relatively low tax rate—which may allow it to attract a growing share of regional economic development.

Overall, it is assumed that, in the long run, regional economic growth will be sufficient to sustain population growth rates in the 1990-2010 period fairly comparable to the rates that were experienced in the 1980s. Although declines in job growth are anticipated during the '90s, employment is expected to rebound somewhat around the turn of the century as the regional economy diversifies and as York County's economic development efforts bear fruit.

Residential development activity is expected to continue to be strong through 2010 but is not expected to match the housing growth of the 1980s. This reflects such factors as the decreasing supply of residential land, new residential land use designations which will allow less housing density, new environmental constraints on development, and the County's priority for extending public utilities to developed rather than undeveloped residential areas.

Some assumptions must also be made regarding the three components of population change: births, deaths, and migration. It is assumed that fertility rates in York County will continue to approximate statewide fertility rates, which are expected to decrease in the long run. Some small short-term increases in the birth rate are expected, particularly in the 1990-95 period, but the overall trend will be downward. Meanwhile, life expectancy is assumed to continue increasing, based on the Social Security Administration's mortality rate projections. Net migration into the County, which is largely a function of economic growth, is assumed to remain at its current rate in the short term but will begin to decline in the late 1990s. While net migration is expected to continue through 2010, the high rates experienced during the 1980s are not expected to return in the 1990-2010 period.

Following a forty-year national trend, average household sizes in York County have been declining steadily over the years but have consistently remained above the national average. This is basically a result of changing lifestyles. Couples generally don't have as many children as they used to, while more people live alone or in single-parent families. York County, however, because of its substantial

military population, is shielded to a certain extent from national demographic trends, for the County's demographics are skewed somewhat by the large presence of military families. Although household sizes in Census Tract 506—which consists solely of the Naval Weapons Station, Camp Peary, and Cheatham Annex—followed the national trend of decline during the 1980s, the average household size in Bethel Manor (Langley Air Force Base housing) rose slightly. In fact, the ratio of Federal-impact aid students to military personnel in the County increased slightly during the 1980s—from 1.80 to 1.82—indicating that the decline in household sizes in the County has been mitigated to a certain extent by military growth. Therefore, since the military population is expected to continue to grow, as it did throughout the 1980s, at least through the early 1990's, household sizes are projected to continue their decline, but at a slower rate. In fact, it is assumed that household sizes will remain fairly steady through the year 2000, declining thereafter through 2010.

### Projections

After experiencing a 20% ten-year growth rate during the 1980s, York County's population is expected to grow more slowly during the 1990s. This deceleration is due in part to anticipated declines in both in-migration and military personnel. It is also a result of the aging of the baby boom, which will reduce the percentage of women who are of childbearing age in the 1990s. The County's off-base population, which grew by 29% between 1980 and 1990, is projected to increase by 22% during the 1990s. The on-base military population, which experienced a 4% decline during the 1980s, is expected to decline by 3% from 1990 to 2000. Overall, the population is expected to grow to 50,950 by the year 2000.

The turn of the century is expected to bring slower population growth in York County. By the year 2000, most of the baby boom will have advanced beyond the childbearing ages, only to be replaced by the baby bust. Just as the baby boom had its echo, the baby bust will have an echo of its own, and the birth rate will fall as the number of people in the childbearing ages falls. However, in spite of continually falling fertility rates, the baby boom will have given rise to an inordinately large group of 0-14 year olds by the time it leaves the childbearing ages simply because of its size. This should mean an increase in the birth rate in the County beginning in the 2005-2010 period as the bulk of the baby boom echo reaches its twenties. An 18% growth rate is projected for the first decade of the 21st century, with the total County population reaching 57,580 by the year 2010.

**TABLE 9**

<b>ACTUAL AND PROJECTED YORK COUNTY STATISTICS, 1990-2010</b>					
	<b>1990 (Actual)</b>	<b>1995</b>	<b>2000</b>	<b>2005</b>	<b>2010</b>
Population	42,422	46,190	50,950	54,550	57,580
Households	14,474	16,070	18,030	19,540	20,500
Housing Units	15,284	17,280	18,970	20,350	21,580
Employment	12,317	13,800	15,000	17,430	19,190
Median Age	32.8	36.1	38.3	40.3	41.8

*Source: U. S. Census (1990 Statistics) and York County Department of Community Development.*

The age structure of the population is expected to change dramatically between 1990 and 2010 as the baby boom continues to grow older, raising the median age of County residents to 41.8 years by 2010.

Household growth rates will basically mirror these population trends except that the number of households should grow faster than the number of people because of an expected continuation during the 1990-2010 of the decline in household sizes experienced during the 1980s. A 25% increase in County households is projected between 1990 and 2000, while a 14% growth rate is expected for the subsequent decade.

Housing construction is expected to slow down somewhat in the 1990s, adding approximately 3,700 units to the County's housing stock between 1990 and 2000. It is further projected that the housing stock will grow by 2,600 units between 2000 and 2010, reaching a level of 21,580 housing units—41% above the 1990 level.

Outpacing population growth, employment growth is projected to be strong, particularly after the year 2000. The number of jobs in the County is projected to increase slowly during the 1990s as the local economy feels the full impact of the slowdown in military spending, but it is expected to rebound somewhat in the 2000-2010 period. Overall employment in the County is expected to increase by 56% between 1990 and 2010.

The most significant growth areas in the County are expected to be Census Tract 503.01, where the construction of the 1,400-home Villages of Kiln Creek planned development will have a dramatic impact on the population, and the remainder of Tabb—Census Tracts 502.01 and 502.02—where the Coventry and Yorkshire Downs planned developments are projected to be built out by 2010.

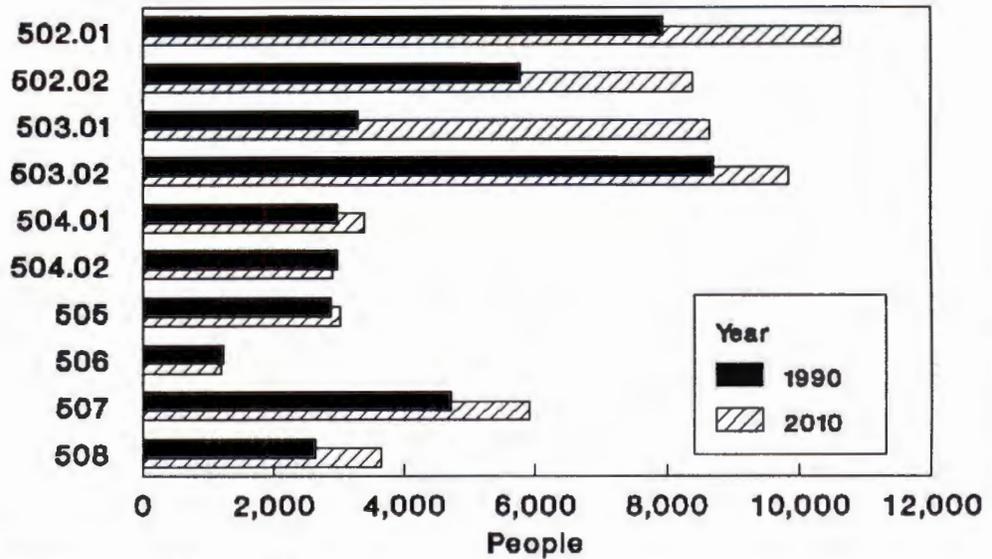
**TABLE 10**

ACTUAL AND PROJECTED YORK COUNTY POPULATION BY CENSUS TRACT, 1990-2010							
Census Tract	1990	1995	2000	2005	2010	Change, 1990-2010	
	(Actual)					Number	Percent
502.01	7,949	8,390	9,570	10,510	10,620	2,671	33.6%
502.02	5,781	6,550	8,900	7,600	8,400	2,619	45.3%
503.01	3,296	4,150	6,990	7,980	8,650	5,354	162.4%
503.02	8,708	9,060	9,200	9,530	9,850	1,142	13.1%
504.01	2,989	3,060	3,100	3,210	3,380	391	13.1%
504.02	2,976	3,150	3,080	3,000	2,900	-76	-2.6%
505	2,880	2,950	2,880	2,850	3,010	130	4.5%
506	1,234	1,200	1,200	1,200	1,200	-34	-2.8%
507	4,711	4,900	5,130	5,400	5,920	1,209	25.7%
508	2,648	2,780	2,900	3,270	3,650	1,002	37.8%
Upper County	8,593	8,880	9,230	9,870	10,770	2,177	25.3%
Lower County	34,579	37,310	41,720	44,680	46,810	12,231	35.4%
<b>YORK COUNTY</b>	<b>42,422</b>	<b>46,190</b>	<b>50,950</b>	<b>54,550</b>	<b>57,580</b>	<b>14,408</b>	<b>33.4%</b>

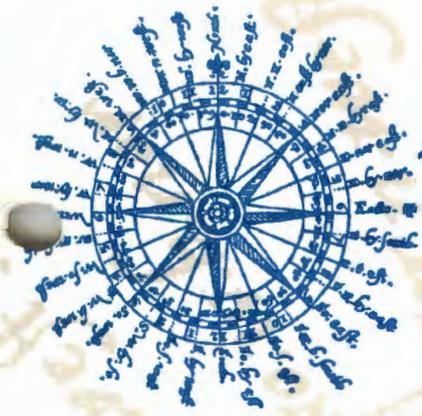
*Source: U. S. Census (1990 Statistics) and York County Department of Community Development*

**FIGURE 16**  
**PROJECTED POPULATION GROWTH, 1990-2010**  
**CENSUS TRACTS IN YORK COUNTY**

Census Tract

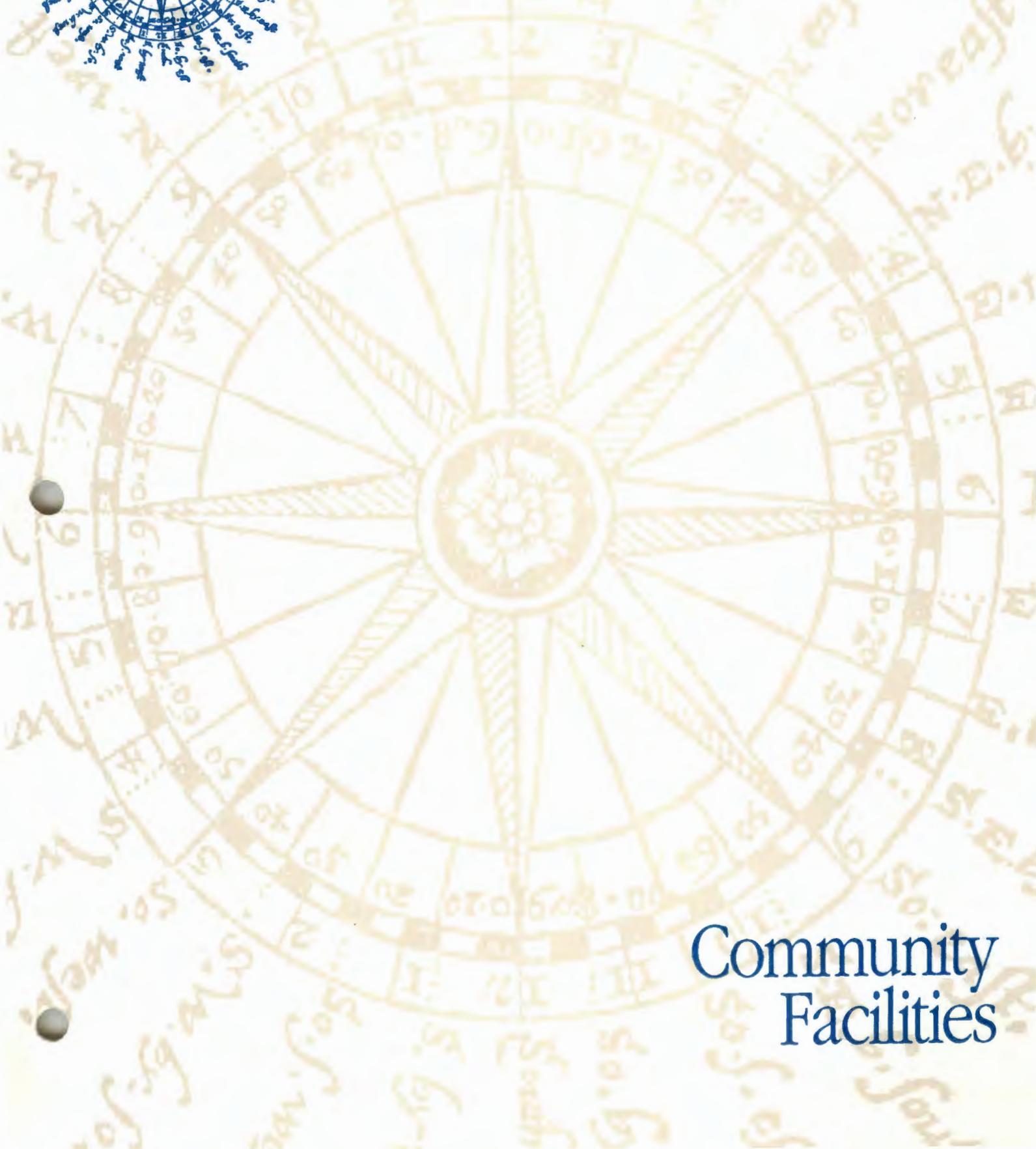


Sources: U.S. Census Bureau (1990) and  
York County Division of Comprehensive  
Planning (2010 projections)



# *Charting the Course to 2010*

Preserving the Past, Ensuring the Future



Community  
Facilities

# COMMUNITY FACILITIES ELEMENT

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# COMMUNITY FACILITIES

## INTRODUCTION

As the population grows, so does the need for community services and the facilities where these services are provided. Such facilities include schools, parks, fire stations, libraries, jails, landfills, and government offices. In planning for community facilities, it is important to consider not just the size of the County's future population, but also its composition and location. For example, projected growth in both the senior and school-age populations will have an impact on the kinds of facilities that will be needed, since the young and the old have different needs and demands. Moreover, the uneven geographic distribution of population growth is expected to continue, with particularly strong growth anticipated in the Tabb area. This increasing concentration of people in the southern part of the County must also be taken into consideration in facility planning, since facilities should be convenient to the citizens. Community facilities planning is especially challenging in York County because of its geography. York is a linear county, and in the middle is a vast expanse of federally-owned land—encompassed by the Naval Weapons Station and Cheatham Annex. Consequently, in the absence of a central location that is readily convenient to a majority of County residents, it is often necessary to have separate facilities for the northern and southern parts of the County in order to meet the citizens' demands for conveniently located facilities, although the size of the total County population may not be sufficient to warrant more than one facility.

Just as the County's unusual geography creates this challenge, however, it also helps enable the County to meet this challenge. Since many of the County's community facility needs are shared by neighboring jurisdictions, regionalism is often the most efficient way of meeting these needs. Because it adjoins all other localities on the Peninsula, York County is uniquely suited to engage in a variety of regional efforts. For example, through agreements with Williamsburg and James City County, County residents are able to use the Williamsburg Regional Library and the James City County landfill. Such regional cooperation allows communities to recognize facility service area boundaries, which are often more realistic than jurisdictional boundaries in providing community facilities. Regionalism often increases efficiency not only because it prevents needless duplication of effort but also because economies of scale can be realized.

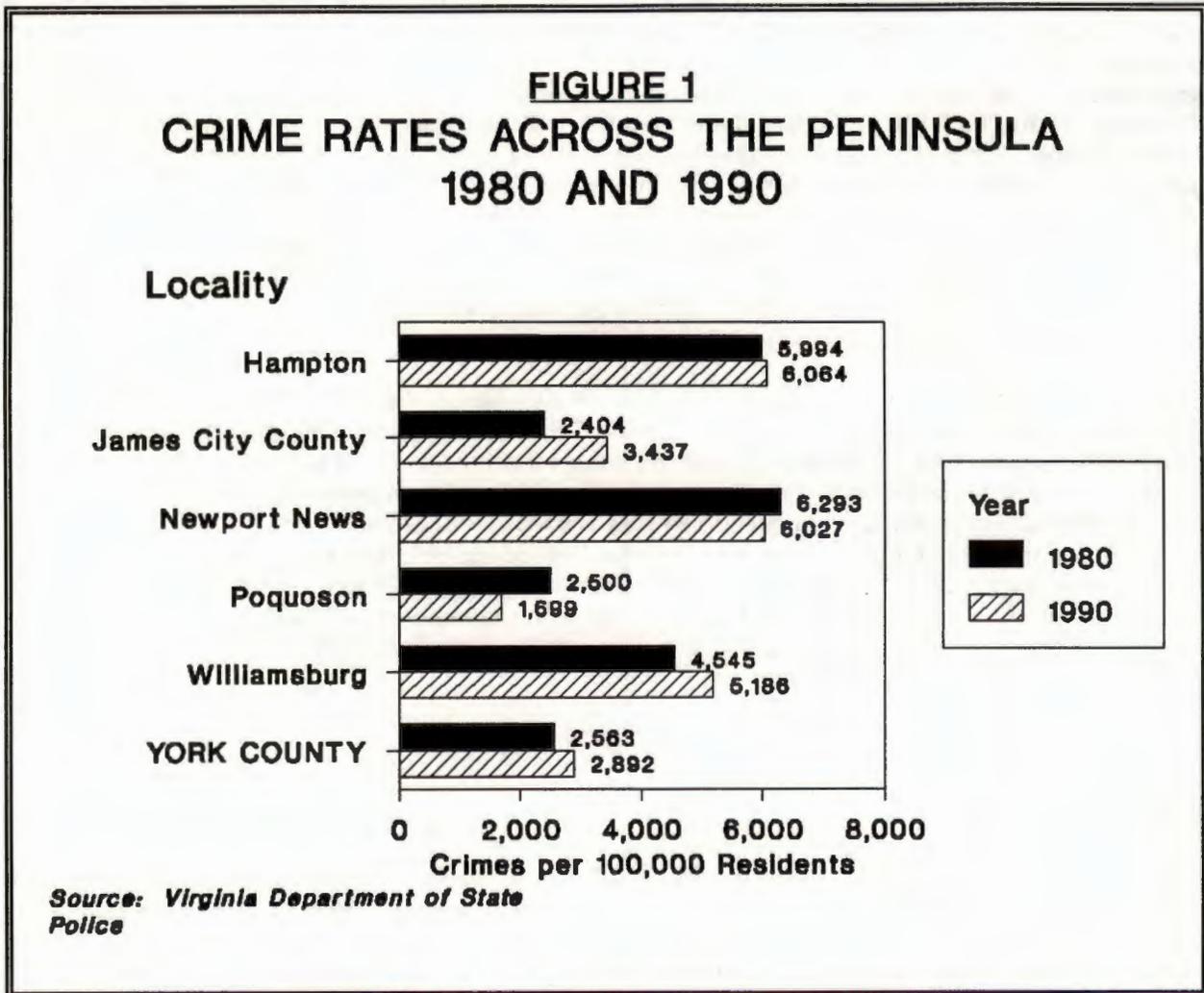
## EXISTING CONDITIONS

### Introduction

Since the adoption of the 1983 Land Use Plan, several new community facilities have been developed in York County, and many improvements have been made to existing facilities. One new school has been built—Coventry Elementary, which opened in September 1989—and two additional school sites have been acquired. In addition, Grafton-Bethel Elementary has undergone substantial renovations, and Magruder Elementary has been rebuilt. Following a 1986 bond referendum, the County has finished construction of three new fire stations located in Yorktown, Skimino, and Seaford. The York County Public Library has been built, opening its doors to the public in 1984. In 1990, a recycling drop-off center was established at the County landfill and construction of the County's central operations complex at the Goodwin Neck Road/Wolf Trap Road intersection was begun. Finally, Chisman Creek Park, with two lighted adult softball fields, opened in Spring 1991, and Wolf Trap Park opened in 1992. An additional nine athletic fields were constructed, and five more were renovated. Several of these facilities are shown as "future facilities" on the 1983 Land Use Plan Map while others were recommended in other plan elements, especially the 1978 Schools Plan and 1979 Fire Protection Plan. However, there has never been a systematic attempt to analyze all of the County's long-range facility needs or a plan to meet these needs.

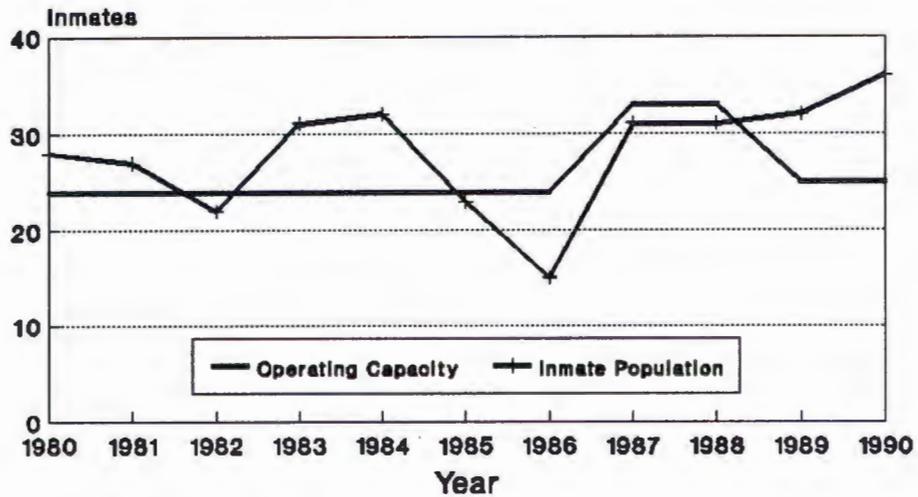
## Detention and Law Enforcement

York County has one of the lowest crime rates on the Peninsula, a rate which remained fairly stable during the 1980s. In 1990 there were 1,227 reported crimes in the County, yielding a crime rate of 2,892 crimes per 100,000 residents. In comparison, the Peninsula and Virginia crime rates were 5,402 and 4,441. On the Peninsula, as Figure 1 shows, only the City of Poquoson had a lower rate of crime.



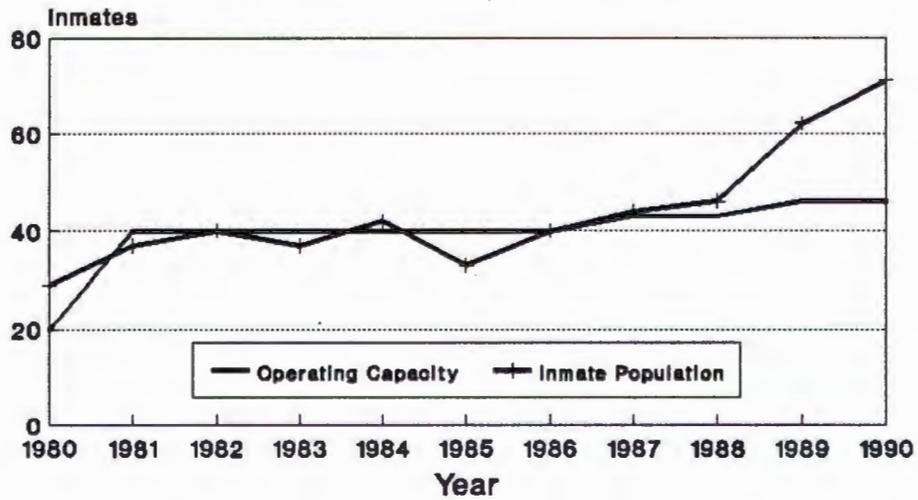
Law enforcement throughout the County is provided by the York County Sheriff's Department, which operates out of an 11,500 square-foot building located in Yorktown between the York County Courthouse and the Duke of York Motel. This building houses both the administrative offices of the Sheriff's Department and the County Jail. Since York County's court jurisdiction also includes Poquoson, the jail holds prisoners from both localities.

**FIGURE 2**  
**YORK COUNTY JAIL POPULATION**  
**1980-1990**



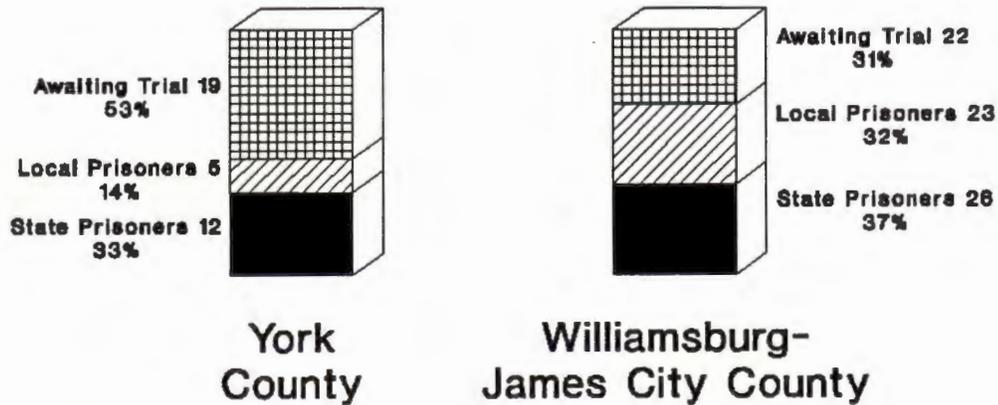
*Note: July figures*  
*Source: Virginia Department of Corrections*

**FIGURE 3**  
**WILLIAMSBURG-JAMES CITY COUNTY**  
**JAIL POPULATION, 1980-1990**



*Note: July figures*  
*Source: Virginia Department of Corrections*

**FIGURE 4  
COMPOSITION OF JAIL INMATE  
POPULATION, 1990**



*Note: July figures  
Source: Virginia Department of  
Corrections*

Originally designed to hold 27 inmates, the York County Jail operates above capacity on an almost continual basis. The jail had an average daily inmate population of 37 in 1988, 42 in 1989, and 48 in 1990 (as of July 3). Much of this jail overcrowding is attributable to overcrowding in the state prison system. Local jails in Virginia were initially intended to house only three kinds of inmates: unsentenced detainees being held pending bond hearing, trial, etc.; sentenced misdemeanants; and sentenced felons serving a term of one year or less. All convicted felons serving a sentence exceeding two years are supposed to be housed in state prisons, where they become the responsibility of the Virginia Department of Corrections (DOC). However, because of overcrowding in the state prisons and a mandate imposed on the states by the U.S. Justice Department to reduce such overcrowding, the DOC now accepts prisoners into the state prison system only when space is available. As a result, the burden falls on the local jails to house many prisoners that they are not designed to house. For example, Figure 4 shows that in mid-July 1990, according to the DOC, 12 of the 36 inmates in the York County Jail (33%) were convicted felons awaiting transfer to state prison. Similarly, at the same time 26 of the 71 inmates in the Williamsburg-James City County Jail (37%) actually belonged in state prison.

The York County Jail lacks facilities for both females and, more importantly, juveniles. Juvenile detention has become a very serious problem in the region and throughout the state. There are no juvenile detention facilities anywhere in the 9th Judicial District—which includes, in addition to York County, Charles City, Gloucester, James City, King and Queen, King William, Matthews, Middlesex, and New Kent counties and the cities of Poquoson and Williamsburg—and the need for them has increased greatly in recent years. Newport News has a juvenile detention center, but it is usually full. As a result of the scarcity of detention space, juvenile offenders are sent to distant communities which have facilities to house them, sometimes as far away as Christiansburg and Danville. Not only does

the County pay for the use of this space, but it also pays the costs of transport, which can include charges for meals and overnight motel accommodations. In addition, this transportation of juveniles impairs the County's law enforcement efforts since it reduces the availability of Sheriff's deputies to respond to crime calls. Between December 1989 and April 1990, for example, the Sheriff's Department spent 288 man-hours transporting 29 juveniles to and from these detention facilities. Sixty-seven round trips were made, and over 10,000 miles were traveled. Moreover, the detention of juveniles in reasonable proximity to their own communities provides for better family and service provider contact, which increases the likelihood of successful rehabilitation.

Another problem with the County Jail is its location in the heart of the historic Yorktown area in close proximity to the waterfront. This area has been designated the "focus area" of the Yorktown revitalization efforts, and a jail is not appropriate in the middle of a tourist area. Consequently, it is likely that any sizable revitalization project in Yorktown will necessitate the relocation of the jail. This does not mean that the entire Sheriff's Department must be moved, however, for its current proximity to both County courthouses is an asset. Elimination of the jail would enable the Sheriff's Department to expand its administrative/office space while retaining adequate holding facilities for temporarily housing prisoners on their court date.

Since jail overcrowding is a problem not just in York County but all across the Peninsula, much discussion has taken place regarding the possibility of constructing a regional jail. One advantage of regional rather than local correctional facilities is that the state may provide a higher level of subsidy for construction of a regional facility. In addition, it is likely that economies of scale exist in both the construction and operating costs of a regional jail.

In the Summer of 1989, York County and other Peninsula localities were approached by the Southeastern Virginia Planning District Commission (now Hampton Roads PDC, which includes both the SVPDC and the Peninsula PDC) and invited to participate in the construction of a regional jail for Hampton Roads. While Newport News and Hampton expressed interest in the proposal, neither York County nor James City County opted to participate. The regional jail concept was endorsed by both counties, but they rejected the proposal because the site of such a jail, as proposed by the SVPDC, would likely be in south Hampton Roads, thus involving costly and inconvenient transportation of prisoners. However, both York and James City counties expressed interest in a possible joint effort with Williamsburg in constructing a regional jail for the Peninsula. The latter two jurisdictions currently operate the overcrowded Williamsburg-James City County Jail on Court Street in Williamsburg.

Since then York County has entered into discussions with Williamsburg, James City County, and Poquoson regarding the possibility of building a regional jail to hold prisoners from all four localities, and the HRPDC has expressed some willingness to cooperate by performing a feasibility study for a Peninsula regional jail. A feasibility study is vital to assist the four localities in determining whether or not such a jail should be built.

Finally, in commenting upon issues to be addressed in the Comprehensive Plan, many citizens of York County have expressed the opinion that the County should consider establishing a police department to take over the law enforcement function from the Sheriff's Department, which would continue its duties as officers of the court such as serving papers and transporting prisoners between jail and court. Sheriff's deputies are paid by the State and positions are authorized on the basis of each locality's population. Theoretically, therefore, the County's law enforcement manpower level keeps up with population growth, but budgetary reality dictates that local law enforcement compete with numerous other priorities for limited public funds. Although the Board of Supervisors has created and funds additional positions beyond the State's allotment, there appears to be a general consensus that a manpower shortage exists.

Indeed, in 1990 York County was last among Peninsula localities in the number of law enforcement personnel per capita, as Table 1 shows. However, York County also had more law enforcement personnel per crime committed than James City County, Newport News, and Hampton.

**TABLE 1**

<b>LAW ENFORCEMENT PERSONNEL THROUGHOUT THE PENINSULA, 1990</b>			
<b>Locality</b>	<b>Total</b>	<b>Per 1,000 Residents</b>	<b>Per 1,000 Crimes</b>
Hampton	203	1.52	25.0
James City County	47	1.35	39.2
Newport News	267	1.57	26.1
Poquoson	15	1.36	80.2
Williamsburg	28	2.40	46.8
<b>YORK COUNTY</b>	<b>56</b>	<b>1.32</b>	<b>45.6</b>

Source: Virginia Department of State Police

This situation has raised the question of whether or not the County should establish a police department with law enforcement as its sole responsibility. An assessment of the advantages and disadvantages of this concept is outside the scope of this plan, but if the decision is made sometime in the future to create a police department, it will have an effect on the County's facility needs. Therefore, it is important for the County to assess its long-term law enforcement needs in order to plan and provide for adequate facilities.

## **Fire and Rescue**

The York County Fire and Rescue Service, a division of Public Safety, operates out of six fire stations and the Public Safety Building in Yorktown.

Station One in Grafton, located on Route 17 across from the Grafton Shopping Center, provides fire protection and emergency medical services to the Grafton and Dare areas of the southern part of the County. As a district station, Station One also provides back-up support to the satellite stations in Tabb, Yorktown, and Seaford. The Tabb Satellite Station, Station Two, is located on Big Bethel Road (Route 600) at the Victory Boulevard (Route 171) intersection and serves the entire Tabb area. In addition, the developers of the Villages of Kiln Creek planned development have dedicated to the County a one-acre fire station site west of Route 171 for future development.

The Yorktown Satellite Station, Station Four, is located on Goosley Road in Yorktown behind Yorktown Intermediate School and serves Yorktown, Lackey, Edgehill, Marlbank, Marlbank Cove, and the Colonial Parkway from Yorktown to Felgates Creek. Station Six, located on Back Creek Road in Seaford, serves the Seaford, Dandy, Hornsbyville, and Waterview areas of the County.

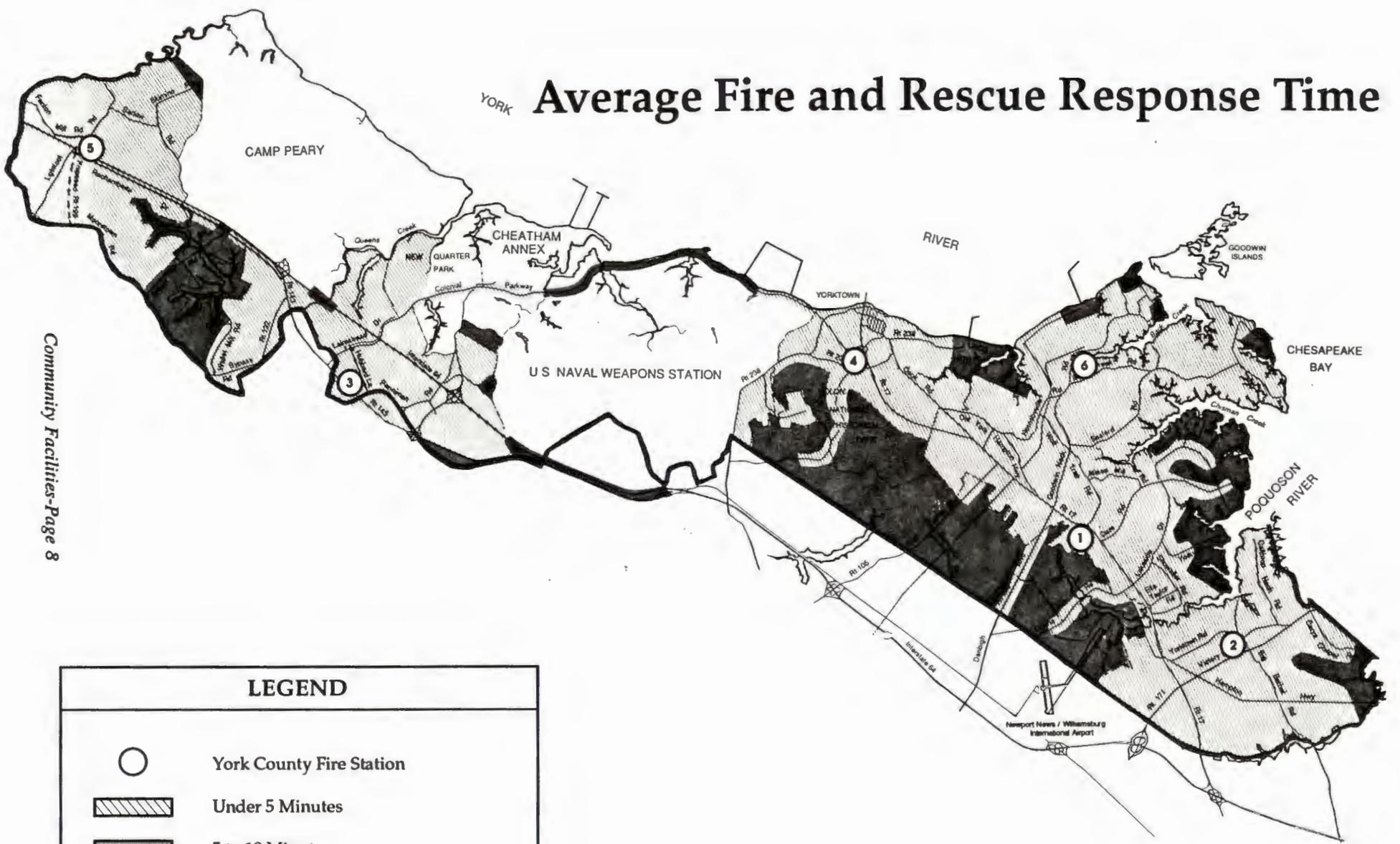
Much of the northern portion of the County is served by Station Three, which is located on Hubbard Lane beside the Magruder Elementary School. Finally, Station Five in Skimino is located on Route 646 at the interchange of I-64 and serves the area of upper Bruton north of the Waller Mill Reservoir, including Bruton High School. This station receives back-up support from Station Three (Bruton). Before this station was built, primary service in the Lightfoot and Skimino areas was provided by James City County's Toano Station. This regional cooperation was made possible by automatic aid agreements entered into in 1979 by York County, James City County, and the City of Williamsburg. The first of their kind in Virginia, these agreements enable each of the three localities' fire station service areas to cross jurisdictional boundaries so that areas which are isolated by geographical boundaries or which have a population density too low to justify their own fire station will still be protected. In addition, York County has mutual aid agreements with all neighboring localities to provide for the sharing of resources in the event of a major fire or other disaster.

It is estimated that when all stations are operational, at least 90 percent of all County residences and businesses will be within an average five minute response range (see Map C-1).

The Public Safety Building is located at the intersection of Main and Ballard streets in Yorktown and houses the administrative operations of the Department of Public Safety, which includes the Fire and Rescue Service. This building is also the headquarters for Public Safety Telecommunications (Central Dispatch), which is responsible for handling Enhanced 911 calls and all communication dispatching functions for the entire County. In 1989, Public Safety Telecommunications handled over 75,000 calls (206 per day, on average), 20,000 of which were emergency 911 calls (55 per day); in addition there were 5,000 non-911 emergency calls.

The County's Emergency Operations Center is located in the basement of the York County Courthouse in Yorktown, across the street from the Public Safety Building. This Center is maintained by the Department of Public Safety's Office of Emergency Services. The Emergency Services staff consists of the County Administrator, the Director of Public Safety and his secretary, and a Deputy Coordinator, all of whom serve in this capacity on a part-time basis. The Division of Emergency Services is responsible for maintaining, coordinating, updating, and exercising prepared emergency operations plans for the County. Emergency Plans are routinely updated and tested to evaluate the disaster response capabilities of County agencies and departments charged with certain responsibilities of operation for the public's safety in the event of an emergency. These plans include hurricane response, radiological emergency response, shelter management, and emergency personnel rosters.

# Average Fire and Rescue Response Time



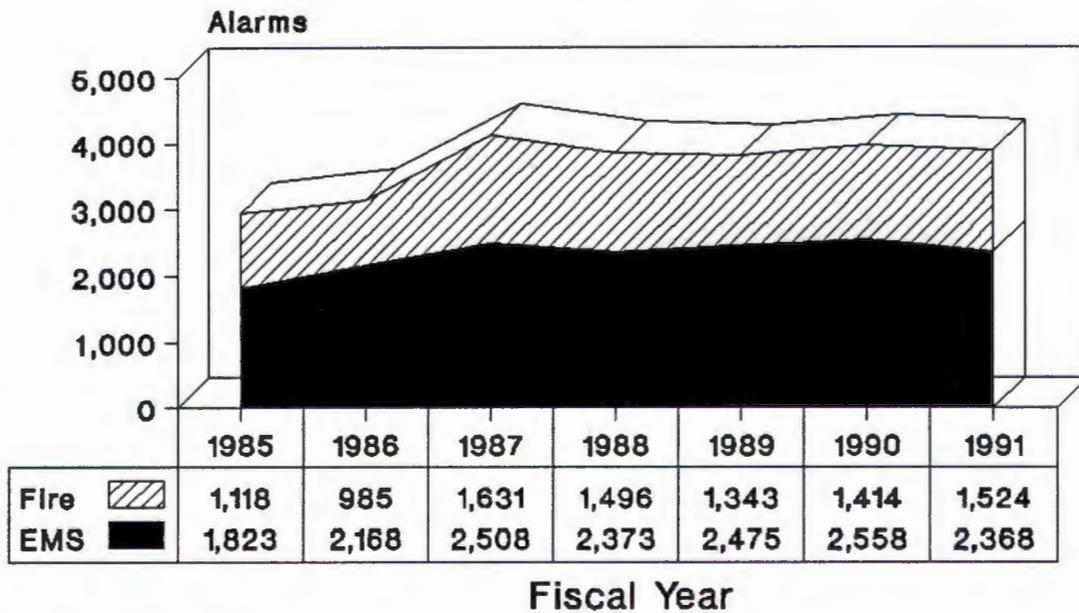
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LEGEND	
	York County Fire Station
	Under 5 Minutes
	5 to 10 Minutes

MAP CF-1

In Fiscal Year 1991, the York County Fire and Rescue Service responded to 3,892 alarms. Over 60% of these (2,368) were Emergency Medical Service (EMS) alarms, while the remainder (1,524 alarms, or 39%) were fire alarms. This represents a 32% increase in alarms in seven years (see Figure 5), much greater than the increase in population that occurred over this time period.

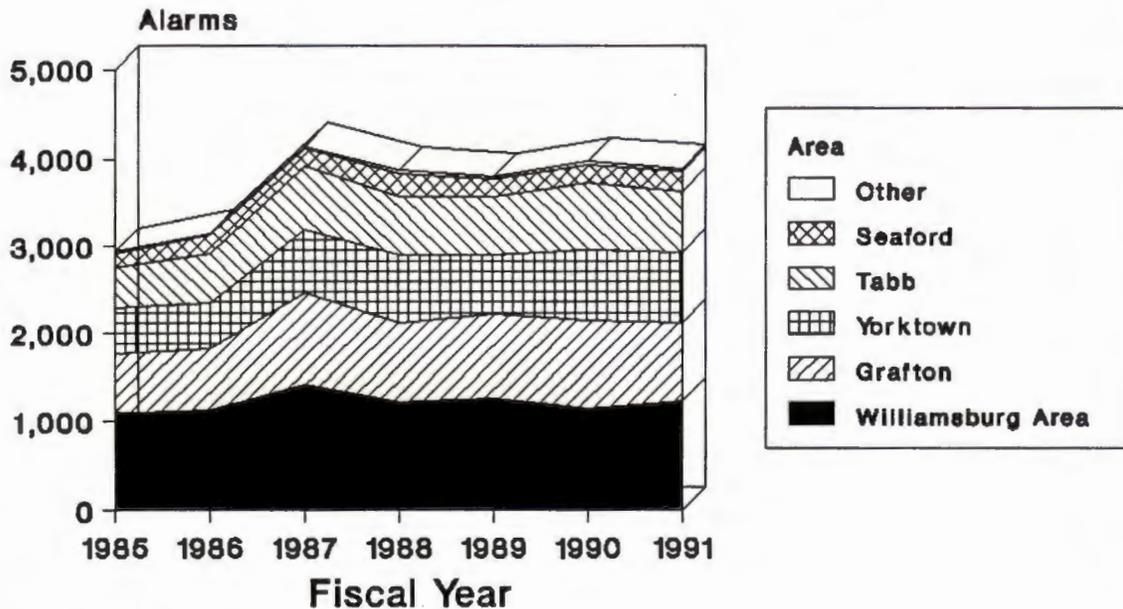
**FIGURE 5  
FIRE AND EMS ALARMS  
IN YORK COUNTY, 1985-1991**



*Note: Fiscal Year data  
Source: York County Department of  
Public Safety*

Figure 6 illustrates the number of fire and EMS alarms received over the years. The number of alarms has risen the most in the southern portion of the County, where most of the development has taken place in the 1980s. Most of these alarms are received from Grafton and Dare, which had 892 fire and EMS alarms in Fiscal Year 1991. The Yorktown-Edgehill-Lackey-Marlbank area had 779 emergencies, and Tabb had 701. Alarms responded to in Seaford and Dandy numbered 228.

**FIGURE 6**  
**FIRE AND EMS ALARM LOCATIONS**  
**IN YORK COUNTY, 1985-1991**



*Note: Fiscal Year data*  
*Source: York County Department of Public Safety*

Response time—the length of time from the moment that a fire alarm is received until firefighters are on the scene and ready to operate—is a key element in evaluating a locality’s fire response capability. A maximum response time of five minutes is ideal, for research has indicated that fire tends to spread at a fairly constant rate during the first five minutes after ignition and at a faster rate thereafter.

Many of the problems which previously hindered the prompt provision of fire protection and emergency medical service in York County have been solved or alleviated by the addition of the three new satellite stations. The Yorktown and Seaford satellite stations will greatly reduce the load on the Grafton Station, whose primary response area previously included not only Grafton and Dare but also Yorktown, Lackey, Edgehill, Marlbank, Seaford, and Dandy. In Fiscal Year 1990, for example, Grafton’s primary response area accounted for half of all fire and EMS alarms in the County (2,024). About half of these emergencies—a quarter of all alarms received in the County—were beyond the Grafton Station’s five-minute response range. Not only will response times to these areas be reduced significantly, but also the reduction in the size of the Grafton service area will free up units at the Grafton Station and thus enhance its ability to provide back-up support for the satellite stations when necessary.

Similarly, the upper Bruton area, which previously relied on primary response from James City County’s Toano Station, receives much quicker response from the Skimino Station. This expansion of fire and rescue service in the northern part of the County is particularly important not only because the Bruton

area consistently has a high number of fire and EMS alarms, but also because this area includes a lot of existing and planned hotel/motel development which, in the event of a fire, would present special difficulties and require more manpower and equipment than would a typical house fire.

Although the three new stations will dramatically improve the County's ability to respond to fire and EMS alarms, there will continue to be problems and needs that must be addressed. That stations are built in appropriate locations to serve the entire County does not guarantee prompt response to all fire and EMS alarms. Emergencies do not necessarily occur one at a time, and manpower and equipment are of course limited. Consequently, the assignment of equipment to the stations is a critical issue since satellite stations will at times need back-up support from the more heavily equipped district stations.

As district stations, Station One in Grafton and Station Three in Bruton are assigned additional equipment in order to provide back-up support to the satellite stations. Both of the district stations have personnel assigned to a second engine company (second due) that responds to all working fire alarms along with the primary engine company (first due) for the specific area. The district stations also house a rescue truck (one at Fire Station Three and one at Fire Station One) for necessary vehicle extrication and other rescue needs. Each unit responds in its own district, as well as to satellite fire station coverage areas. Other support equipment is also assigned to these stations depending on the response requirements including tanker capability, aerial capability, and back-up medic units. Also, presently assigned to Station One in Grafton are the Shift Commander and EMS Supervisor.

The satellite stations, Station Two in Tabb, Station Four in Yorktown, Station Five in Skimino, and Station Six in Seaford, each house fewer units and, as indicated earlier, receive their back-up support from the appropriate district station. The Tabb, Yorktown, and Skimino Fire Stations each have one staffed engine company and ALS medic unit. The Seaford Fire Station has one staffed advanced life support/medic engine which has the same medical capabilities as the division's ALS medic units and is supported for patient transport by a medic unit from one of the surrounding districts (normally Grafton). Each of the satellite stations also may be utilized to house various reserve apparatus and special supports units such as brush trucks, the technical services units, dive team, etc.

There are numerous types of accidents and special rescue situations that the County is not adequately equipped to handle. These situations include work in confined spaces such as utility trenches, manholes, and tanks; work in high areas such as industrial plants, bridges, and utility towers; commercial/industrial vehicle accidents; dive incidents; and building collapses. The nearest rescue team adequately equipped to respond to such emergency situations is located in south Hampton Roads. York County's Fire and Rescue Service protects 14 miles of Interstate 64, where the most serious traffic accidents tend to occur. Furthermore, the planned expansion of Newport News-Williamsburg International Airport will increase the risk of air crashes in York County since the end of one runway and the proposed runway extensions and third runway, as well as the predominant takeoff and landing patterns, are in the County.

Related to this is the need to enhance the County's light-crash rescue capability. At present, since the County has rescue equipment placed on vehicles which must serve multiple functions, there is insufficient storage space for all of the tools and equipment necessary for the disentanglement and removal of persons from the wreckage of vehicular accidents. Moreover, because the vehicles were not designed for rescue, the tools must often be carried in parts, requiring assembly before use and thus causing delay in deployment of the tools. Such delay wastes valuable time in the extrication of patients with severe injuries. Crash rescue is particularly important in a locality such as York County which in 1989 had the highest crash severity score on the Peninsula. Crash severity scores are calculated by the Department of Motor Vehicles on the basis of the number of accidents in a locality per licensed driver as well as the number of traffic fatalities, injuries, and alcohol-related crashes per licensed driver.

Numerous businesses in York County manufacture, use, or store hazardous materials. In addition, the transportation of hazardous materials through the County has increased dramatically in recent years. To meet this growing concern regarding hazardous material emergencies, the County developed a Standard Operating Procedure for Hazardous Materials, joined the Local Emergency Planning Commission, and developed a regional response plan for hazardous materials. Furthermore, to comply with the requirements of the Federal Superfund Amendments and Reauthorization Act (SARA) and Title III (Community Right-to-Know), York County created the position of Captain of Technical Services to gather and maintain information from the business community. Every applicant for a business license in the County, whether new or renewal, is required to complete and submit a form listing the types and amounts of all hazardous materials that it manufactures, uses, or stores. This information is kept in a computerized data base in the Department of Public Safety, providing Fire and Rescue personnel with easy access to detailed information as to the kinds of chemicals, storage location, and the types of containers in which the chemicals are stored. To provide assistance at hazardous materials incidents, a van was purchased for technical services. The van has a multi-channel radio, a cellular phone, reference books, and a portable computer to provide emergency information to the firefighters at the scene of an incident. The van also carries a limited amount of absorbent material to make the scene safe until additional resources can arrive.

Training for emergency personnel who may be required to respond to hazardous materials incidents was also mandated by SARA. The State Departments of Fire Programs and Emergency Services have divided hazardous materials training into four different levels. Level 1 is recognition and identification of hazardous materials. Level 2 is limited defensive practices to make the scene safe until additional resources can arrive. Level 3 is for teams that have encapsulated entry suits. Level 4 is for management personnel who will be making the decisions at the scene of an emergency.

The York County Fire and Rescue Service has personnel trained for and capable of responding to a Level 2 incident. The State of Virginia has adopted a regional Level 3 Haz Mat team because of the exorbitant cost of the specialized equipment and manpower. Should an incident occur which goes beyond York County's limitations, the County would call the State Department of Emergency Services, which would then activate the regional team for the Peninsula area, which is part of the Newport News Fire Department. On 3-4 separate occasions since 1987 the Level 3 team in Newport News has been called into the County to handle hazardous materials incidents.

There is also a Level 2E (enhanced) response capability that includes a wider range of hazardous materials incidents than Level 2. Level 2E involves specialized training as well as limited special equipment and entry gear. Although not inexpensive, Level 2E response capability is much less costly to achieve than Level 3 capability. As the manufacture, use, and storage of hazardous materials in the County—as well as the transportation of such materials through the County—rise, so too do both the risk of a dangerous leak or spill and the need for the County to enhance its response capability.

Training for fire and EMS personnel is an ongoing process. Not only do firefighters and emergency medical technicians need to be certified and continually re-certified, but there are also numerous levels of training. Moreover, the continual development of new equipment and procedures requires emergency personnel to be re-trained to keep up with the latest technological advances.

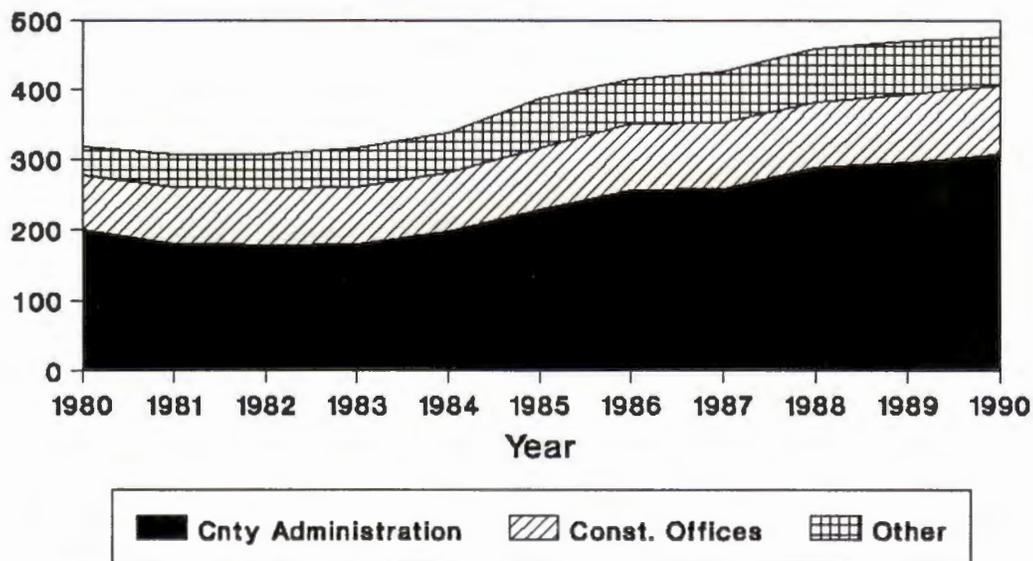
The Department of Public Safety provides a great deal of its own professional training. All officers are trained and State-certified through the Department of Fire Programs as firefighters and fire instructors in the County while higher levels of training are provided elsewhere. In addition, all new County firefighters attend the Tidewater Regional Fire Academy. This is a regional cooperative recruit school whose location varies depending on the student load of each jurisdiction; it is typically conducted at either the Hampton Fire Training Center or the Virginia Beach Fire Training Center. The Fire and Rescue Service also utilizes the Amoco Oil Refinery and the Coast Guard station, when available, for specialized training.

In 1984 an outside consultant conducted a study of the York County Fire and Rescue Service and identified the need for a fire and rescue training facility in the County. According to the study, "A centralized location for the performance and skills-oriented training is a must if firefighters are expected to maximize professional performance. ISO (Insurance Services Office) requires and the NFPA (National Fire Protection Association) highly recommends that fire departments operate or have convenient access to fire training facilities equipped for instruction for various fire fighting operations, water supply, running pads, drill towers, tanks for testing pump operators and pumpers, area for specialized training and formal classrooms." Sending fire personnel and equipment to other jurisdictions for training purposes weakens the response capability of the Fire and Rescue Service. Furthermore, the Fire and Rescue Service has experienced difficulty in scheduling the use of other facilities, such as the Coast Guard Station. A County fire training facility would be one means of providing for effective and efficient training of fire and EMS personnel without reducing the County's emergency response capability.

## Government Offices

The center of the County's government operations and court system is Yorktown, which is home to five of the County's six departments, the Circuit, General District, and Juvenile and Domestic Relations courts, as well as the offices of the County's constitutional officers and the Registrar. The Courts and Office Center, located at 120 Alexander Hamilton Boulevard, houses the Department of Financial and Management Services and the offices of the Treasurer, Commissioner of Revenue, and the Registrar. On the second floor of this building is the Courts and Board Room, which serves as the courtroom for both the General District and Juvenile and Domestic Relations courts as well as the official meeting room of the Board of Supervisors, School Board, and Planning Commission. Nearby is the Administrative Office Building, located at 224 Ballard Street. Formerly an elementary school, this building has undergone major rehabilitation and now houses the offices of the County Administrator and County Attorney, the Departments of Community Development and General Services, the Division of Recreational Services, the Public Information Office, and the Industrial Development Authority. Adjacent to this building is the Environmental Services Building at 218 Ballard Street, which houses the Department of Environmental Services. The Public Safety Building is the headquarters of the Department of Public Safety and is located at 126 Ballard Street. Across the street is the York County Courthouse, where Circuit Court cases are tried. This building also houses the offices of the Commonwealth's Attorney and the Clerk of the Circuit Court, the VPI Extension Office, and the Emergency Operations Center. Adjacent to the Courthouse is the York County Jail, which is also the headquarters of the Sheriff's Department.

**FIGURE 7  
YORK COUNTY EMPLOYEES  
1980-1990**



*Note: "Other" includes Social Services & community services agencies employees.  
Source: York County Personnel Division*

Outside of Yorktown, in the Williamsburg area, is the County's Griffin-Yeates Center, located at 1490 Government Road. This building houses portions of the Department of Community Services.

In addition, a new County central operations facility is currently under construction on 52 acres of land at the intersection of Goodwin Neck Road and Wolf Trap Road, adjacent to the landfill. This facility will house various County maintenance operations—such as buildings and grounds, utilities, vehicles, etc.—and receiving and storage facilities for the central purchasing operations.

The purpose of government, at all levels, is to serve the people. In a steadily and rapidly growing community, therefore, it is almost inevitable that the size of the government—particularly at the local level, where most government services are directly provided—will grow to meet the needs of its citizens. This relationship can be seen in York County, where the number of employees (excluding the School Division), as shown in Figure 7, increased from 319 to 477 between 1980 and 1990. Much of this increase is attributable to the recent opening of three new fire stations in the County; a quarter of the new employees between 1980 and 1990 were in the Department of Public Safety. Furthermore, there was also a small increase in the number of County employees per thousand residents, from 9 in 1980 to 11 in 1990. This reflects, in addition to the increased commitment to public safety, York County's development from a largely rural county into a suburban one and the correspondingly more complex issues typically faced by urban and suburban localities. If this ratio were to remain stable in the future as the population grows—or even to decline somewhat as a result of increased efficiency through technological advances—it is projected that the County would need an additional 100 to 150 employees by 2010 in order to continue to provide high-quality service to its citizens. These employees will require work space, but many County offices are already strained to capacity. Substantial renovations made to the Administrative Office Center (the old Yorktown Elementary School) have greatly increased the amount of space available, and any further renovation of this facility would be infeasible. Furthermore, much of the County's office space is used for storage of records and files, many of which must by law be retained. For example, the Circuit Court Clerk's office is responsible for maintaining records—such as copies of land records, marriage licenses, wills, etc.—for use by the public in various types of research. These records, some of which are over 300 years old, take up a great deal of space.

The court system in York County consists of three levels. The Circuit Court hears civil cases involving more than \$7,000 worth of property and criminal cases involving felonies. In addition, equity suits—divorce proceedings, property disputes, etc.—as well as wills, trust, and estate matters fall into the jurisdiction of the Circuit Court. The General District Court hears civil suits involving \$7,000 worth of property or less and criminal cases in which a person is charged with a misdemeanor; misdemeanors carry a maximum penalty of a year in jail and \$1,000 fine. This court also holds preliminary hearings in felony cases and decides traffic offense cases, many of which are uncontested and thus do not go to trial. Finally, the Juvenile and Domestic Relations Court handles cases involving delinquents, juveniles accused of traffic violations, spouse abuse, and cases involving children.

During the 1980s, the York-Poquoson General District Court caseload skyrocketed, more than doubling between 1982 and 1990 from 7,830 cases to 17,740. This 127% increase was the largest percentage increase in the entire 9th Judicial District, which includes Williamsburg-James City County, Charles City, Gloucester, Mathews, Middlesex, King And Queen, King William, and New Kent Counties as well as York County-Poquoson. As a whole, this district's caseload grew by 91%. As a result, the York-Poquoson share of the 9th District caseload increased from 21% to 25% over the nine-year period. Although Williamsburg-James City County has consistently had the largest share of cases, its share increased only slightly, from 29.2% in 1982 to 30% in 1990.

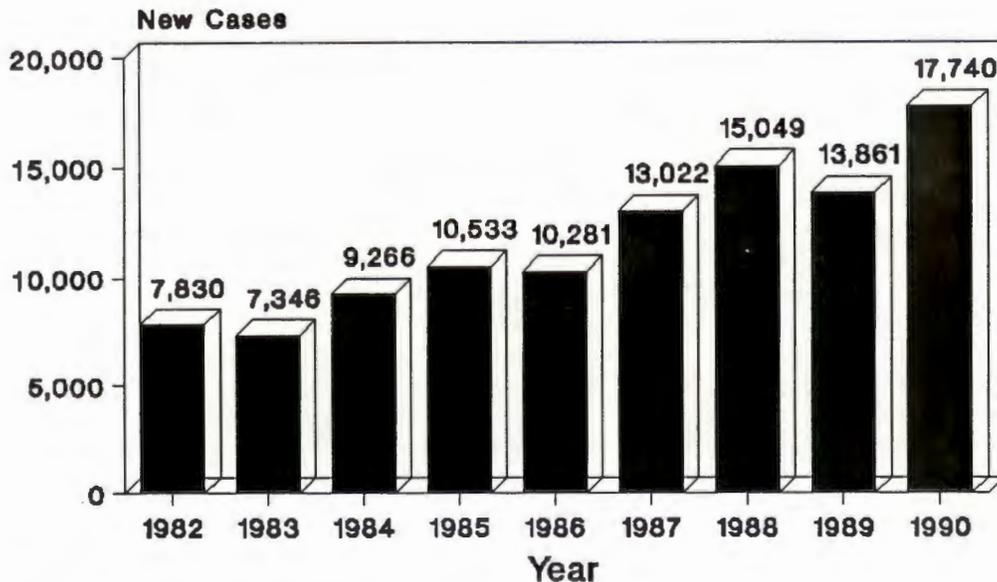
The bulk of this caseload increase took place during the latter half of the decade. Between 1986 and 1990, the number of cases increased by 73%—over twice the 31% rate of growth which took place between 1982 and 1986. This trend shows no signs of abating; in the first four months of 1991, the York-Poquoson General District Court experienced an increase of 20% over the 1990 caseload level for the same period. This was the largest increase in the 9th District, which had an overall caseload increase of 11%. In fact, the spiralling caseload in the 9th District necessitated the creation of a third judgeship for the district in 1990.

This growth has placed a heavy burden on the General District courtroom, which is also used by Juvenile and Domestic Relations Court. The Juvenile and Domestic Relations Court, whose caseload also continues to rise over the years, hears over 2,000 new cases each year. Juvenile and Domestic Relations Court meets twice a week, while General District Court meets three times a week.

The York County Circuit Court also has experienced steadily growing caseloads throughout the 1980s, from 875 cases in 1981 to 1,586 in 1990. This represents an increase of 81%. Most of this increase took place after 1987, with the caseload increasing by 56% in just three years. During the 1981-87 period there was a 16% increase. These statistics are somewhat misleading, however, because although the Circuit Courtroom is heavily scheduled, most of the cases are settled out of court.

Caseload trends, growing records storage needs, and anticipated increases in County personnel to serve a growing citizenry, all indicate a likely shortage of County court/office space within the next twenty years. Present office space shortages will be greatly alleviated by the completion of the central operations facility, which will provide office space for the Departments of General Services and Environmental Services, in addition to a new Human Services building that will house the Departments of Health and Social Services. It will do nothing, however, to ease the burden on the court system or to address future office space needs for some other County functions. When the County acquired the land for the Courts and Office Center, sufficient land was acquired for two buildings (excluding parking space); in fact, the site plan for the center shows the "footprint" for a future second building. Consequently, land is presently available for additional County office space development at such time in the future as it may become necessary. With this land and the 52-acre Operations Center, the County appears to be in a good position to meet its court and office space needs through 2010.

**FIGURE 8**  
**GENERAL DISTRICT COURT CASELOAD**  
**YORK-POQUOSON, 1982 TO 1990**



*Source: York-Poquoson General District Court Clerk*

## Library Service

The people of York County are served primarily by two public libraries—the York County Public Library located at 8500 George Washington Memorial Highway (Route 17) and the Williamsburg Regional Library located on Scotland Street in Williamsburg. In addition, there are several other libraries which together serve a relatively small proportion of the County population. These include the Langley Air Force Base's Bethel branch located in Bethel Manor, the Northampton branch of the Hampton Public Library, and the Poquoson Library.

The York County Public Library is a 12,000 square foot facility housing approximately 53,000 books, 170 periodicals (including newspapers), 1,200 audio cassettes (books and music), and 1,000 video cassettes. Although the library serves the entire County, its effective service area can be more accurately defined as the areas of the County south of the Naval Weapons Station since County residents in the Williamsburg area have easier access and proximity to the Williamsburg Regional Library. In 1990 the York County Library had 27,000 registrations and circulated 212,000 books and other materials.

	York County Public Library	Williamsburg Regional Library
Square Footage	12,000	27,000
Square Footage Per Capita	.35	.49
Service Area Population	34,000	55,000
Books	53,000	102,000
Periodicals	170	250
Periodicals Per 1,000 Residents	5.0	4.5
Circulation	212,000	543,000
Circulation Per Capita	6.2	9.9
Registrations	27,000	34,000
Audio Cassettes	1,200	5,420
Video Cassettes	1,000	1,510

**Note:** Figures are for 1990  
**Source:** Head Librarians

In the fall of 1987, the York County Library conducted a user survey to determine the geographical make-up of its patrons. The survey was conducted between October 20 and November 25, during which time the library had a total of 11,065 patrons, three quarters of whom (8,269) were residents of York County. Of the County residents who used the library, the overwhelming majority (98%) lived in the more southerly areas of the County, with Grafton area residents making up the largest share of patrons (39%). The areas in close proximity to the library, including Marlbank, Harris Grove, Edgehill, Yorktown, and Lackey, accounted for 34% of all citizens who used the library. Residents of Seaford and Tabb represented 13% and 12%, respectively, of library patrons in the County.

York County does not directly provide library service to residents of the Williamsburg area of the County; they are served instead by the Williamsburg Regional Library. In 1977, James City County joined the City of Williamsburg in establishing the Williamsburg Regional Library. Although York County chose not to join the regional system, it does provide annual funding to the library as compensation for providing free service to County residents. The regional library's service area encompasses approximately 55,000 people, most of whom (almost 60%) live in James City County. In 1990 the Williamsburg Regional Library had a collection of 113,000 books (including paperbacks), 5,420 audio cassettes and 1,500 video cassettes, with a total circulation of 543,000. The library had 34,000 registered patrons in 1990—about 56% per cent of its service area population.

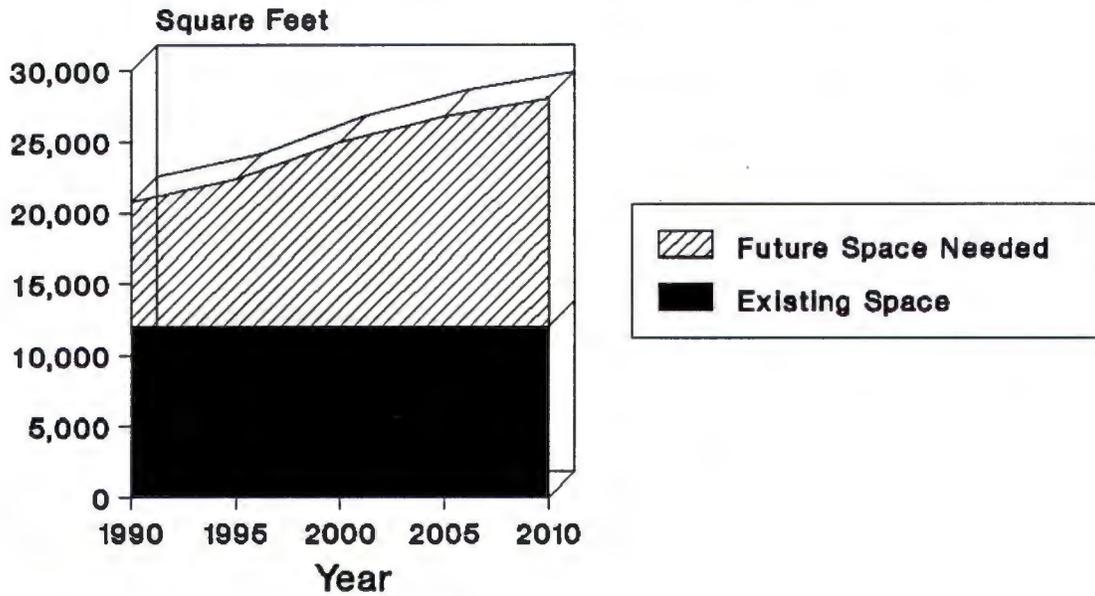
Over half (58%) of the Williamsburg library's registrants are James City County residents, who account for 61% of its circulation. Williamsburg residents represent 12% of the library's registrants and 16% of its circulation. Approximately 12% of the registrants live in York County, which accounts for 13% of its circulation. Residents of other localities and students at the College of William and Mary make up the remaining 18% of the library's registrations and 10% of its circulation.

In 1987 the Virginia State Library Board (VSLB) adopted a set of guidelines designed to improve the quality of library service available to the people of Virginia. These guidelines, incorporated in a document titled Planning for Library Excellence, set forth a series of goals (recommended rather than mandated) for public libraries to aspire to in order to achieve excellence. These goals cover such measures of quality as building size, circulation, and the size of the library's collection of books and periodicals. They are presented mostly on a per capita basis to allow libraries to tailor them to the size of the community they serve. In addition, since different types of libraries serve different purposes, three levels of quality are presented for most of these guidelines, with Level III being the highest or "most excellent."

	<u>Level I</u>	<u>Level II</u>	<u>Level III</u>
Square Footage Per Capita	0.6	0.6	0.6
Volumes Per Capita	2.0	3.0	4.0
Periodicals Per 1,000 Residents	4.1	6.6	8.6

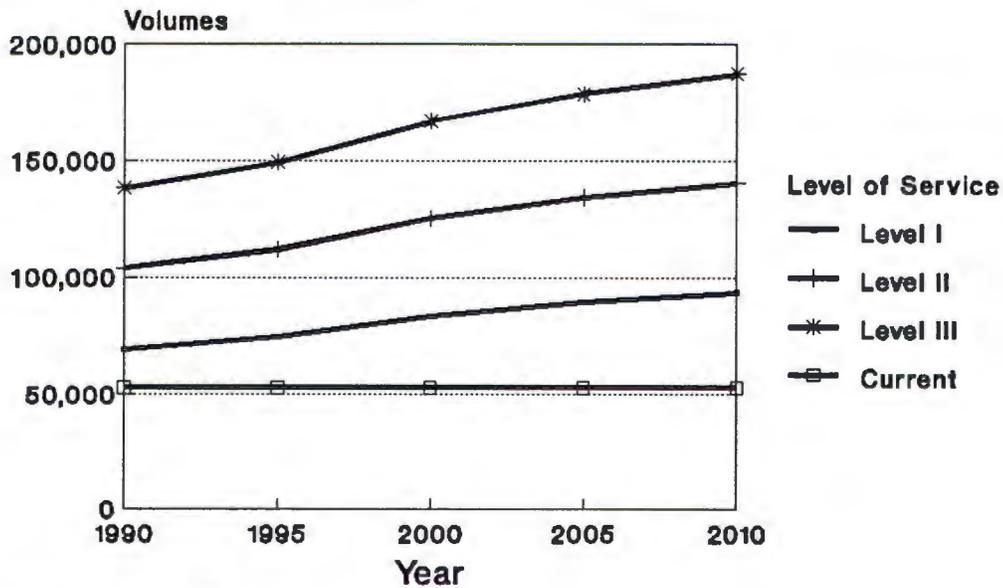
By the standards of the VSLB, the York County Public Library is too small for the population it serves. Based on the population south of the Naval Weapons Station, the County has .34 square feet of library space per capita, falling short of the VSLB's guideline of .6 square feet (level of service notwithstanding). Based on current population projections for the County, about 8,300 square feet of space would have to be added to meet the present need, and an additional 16,000 square feet would be needed by the year 2010 to meet the projected need. Although there is room for expansion at the present site, it cannot likely accommodate an additional 19,000 square feet of floor space. Furthermore, the unusual topography to the rear of the property makes expansion very impractical. In comparison with the York County Library, the Williamsburg Regional Library comes closer to meeting the VSLB standard, with .5 square feet per capita.

**FIGURE 9**  
**EXISTING LIBRARY FACILITY SPACE AND**  
**PROJECTED FUTURE NEEDS, 1990-2010**



*Based on projected population growth in the lower County and Virginia State Library Board guidelines (.8 s.f./person)*

**FIGURE 10**  
**PROJECTED LIBRARY VOLUME NEEDS**  
**1990-2010**



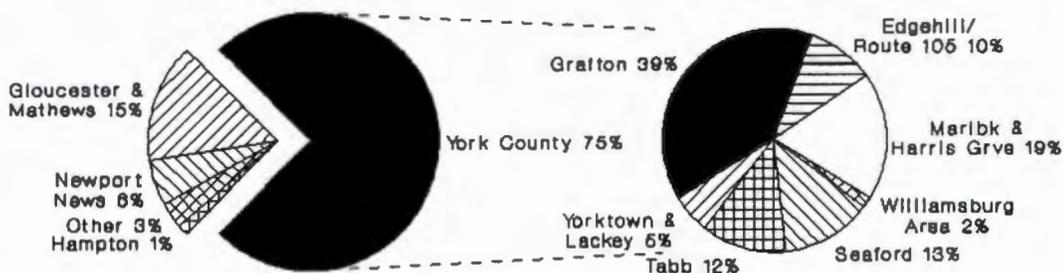
*Based on VSLB standards of excellence.*

In two major areas—circulation and periodicals—the York County Library exceeds the VSLB’s standards for a Level I library (i.e., the minimum level of excellence), but in no area does it meet Level II or III. As for the size of its book collection, with 1.5 volumes per capita the library fails to meet the Level I guideline of 2 volumes per capita. However, this is due in part to a recent temporary shift in budgetary priorities on the part of the library in favor of automation rather than book acquisition. Nevertheless, shelf space must be available before books can be acquired, and there appears to be little room for additional shelf space in the County’s existing library building. More space would allow the library’s collection to grow to a sufficient size. Because of the shortage of space, some have suggested the possible use of a York County school library by the general public as a branch. However, a review of the available information dealing with school-housed public libraries strongly suggests that the concept has not been successfully implemented in urbanizing localities such as York County. The concept is far from new; it has been attempted in over 100 localities across the nation, and only in a very few instances has it been found to be successful. Those areas where some degree of success has been experienced are sparsely populated rural localities which have very limited tax bases and a need for only the most basic library service. In most localities that have attempted school-housed public libraries, however, the projects subsequently relocated to either a new facility or a nearby shopping center, with the result being a substantial increase in circulation.

Another drawback of the present facility which limits its ability to serve the County is its location, or more specifically, its distance from the Tabb area. According to the VSLB’s Level I standards, libraries that are located in rural settings or serve a population density of 1,000 persons per square mile or less should be located within a 30-minute drive from the homes of all residents. In urban settings, or where the population density exceeds 1,000 persons per square mile, the library should be located within a 15-minute drive from all homes. The 1990 population density in the library service area was approximately 700 persons per square mile, and by 2010 it is projected to exceed 1,000 persons per square mile. Although most of the service area is within 15 minutes of the library, some portions of Tabb are not. With projected increases in traffic volumes on Route 17 (and, therefore, travel times) and continued growth in Tabb—including the construction of three major planned developments (Villages of Kiln Creek, Coventry, and Yorkshire Downs)—more and more homes will fall outside the 15-minute range. Indeed, nearly three quarters of the population growth in the southern County between 1990 and 2010 is projected to be in Tabb.

That the location of the York County Library is inconvenient for Tabb residents is borne out by the results of the 1987 library user survey which showed that although it is the most populous area of the County, with approximately one third of the total population, Tabb accounted for only 9.2% of the library’s users. Only the Yorktown-Lackey area accounted for a smaller share of the library users (4.1%), but its population is only one fourth the size of Tabb’s. Of course there are three other libraries that are available to Tabb residents: the Langley Air Force Base’s Bethel branch in the Bethel Manor housing complex, the Northampton branch of the Hampton Public Library, and the Poquoson Library. All three libraries are in closer proximity to most Tabb residents than the York County Library, but all three are also smaller and have smaller collections. Neither of the two public libraries is heavily used by Tabb residents, and the Bethel branch is open only to military personnel (active duty and retired), employees and their families, and thus is not generally accessible to Tabb residents. Based on this information, there appears to be a growing need in Tabb for convenient, high-quality library service.

**FIGURE 11  
YORK COUNTY LIBRARY USERS  
BY RESIDENCE, 1987**



*Source: Survey of patrons conducted in 1987 by York County Library from October 20 through November 25*

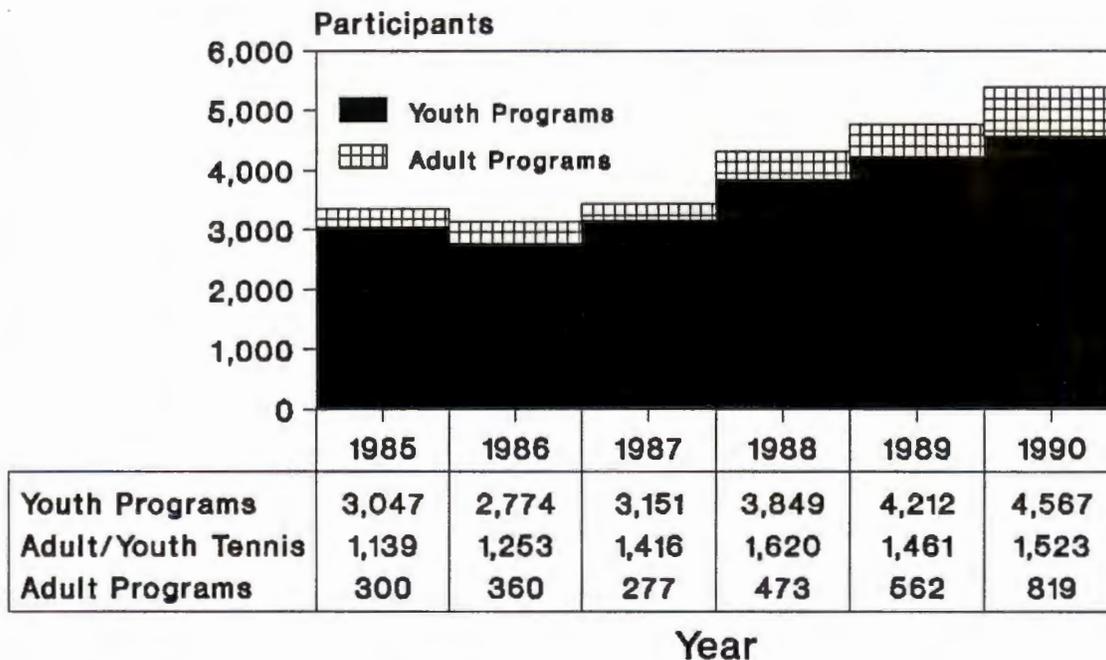
In the Williamsburg area, York County residents receive excellent service from the Williamsburg Regional Library, but since York County is not a part of the regional system, there is no guarantee that this service will always be available. Sometime in the future the County may be faced with the need to become a full partner in the regional library system, or at least to increase the amount of funding it provides. In the 1989-90 Fiscal Year, York County contributed approximately \$59,000 to the Williamsburg Regional Library, while Williamsburg and James City County each contributed \$380,000. The County contribution constituted 5% of the Williamsburg Regional Library's budget although about 12% of its registrants live in York County.

## Parks and Recreation

York County offers a variety of facilities and programs for both active and passive recreation that are available to all County residents. Available to young people are a wide range of programs including tennis, soccer, basketball, baseball, softball, gymnastics, summer playgrounds, and sports camps. Adult programs include tennis, softball, basketball, aerobics, AARP driving classes, and a few day trips.

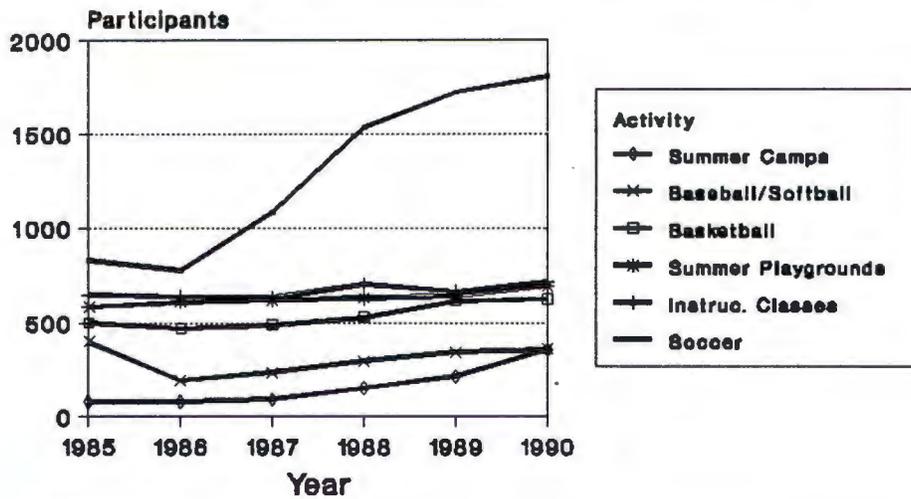
To a great extent the provision of recreation facilities in York County is guided by the "school/park" concept: a cooperative agreement between the School Division and the Board of Supervisors which provides for the shared use of school grounds for recreation programs. As a result, most County recreation programs are held at County schools. Other County recreation facilities include Back Creek Park, Charles E. Brown Park in Lackey, Chisman Creek Park, Wolf Trap Park (scheduled to open in 1992) and the Rodgers A. Smith and Old Wormley Creek public boat landings. In addition, New Quarter Park is available for group use on a reservation basis, and Yorktown Beach is open during the summer. The Colonial National Historical Park (Yorktown Battlefield) provides a huge park setting for additional passive recreation opportunities. Finally, many subdivisions and apartment complexes in the County have private recreation facilities—such as swimming pools, tennis courts, weight rooms, common open space—available for their residents' use.

**FIGURE 12**  
**PARTICIPATION IN YORK COUNTY**  
**RECREATION PROGRAMS, 1985-1990**



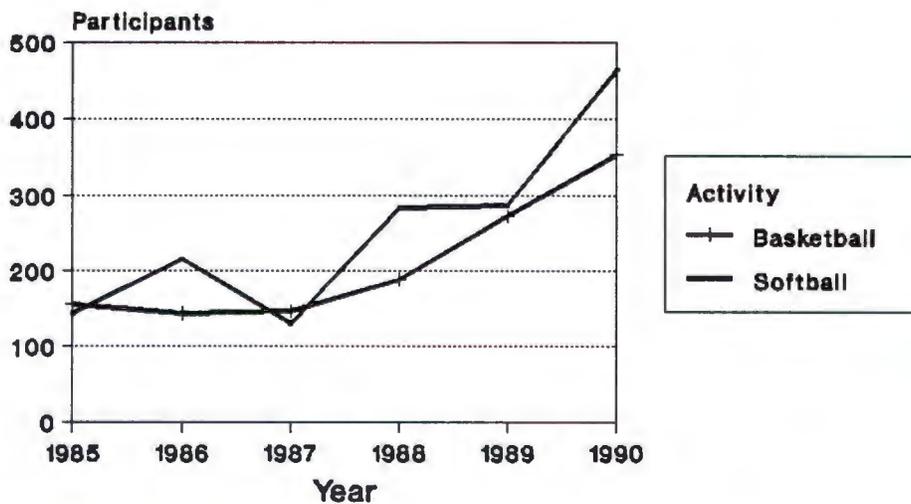
*Source: York County Division of Recreational Services.*

**FIGURE 13**  
**PARTICIPATION IN YOUTH RECREATION**  
**PROGRAMS IN YORK COUNTY, 1985-1990**



*Note: Excludes adult/youth tennis.*  
*Source: York County Division of Recreational Services*

**FIGURE 14**  
**PARTICIPATION IN ADULT RECREATION**  
**PROGRAMS IN YORK COUNTY, 1985-1990**



*Note: Excludes adult/youth tennis.*  
*Source: York County Division of Recreational Services*

There are also several private associations that provide recreational programs that are available to County residents. Although not affiliated with York County recreation programs, many of these groups utilize County facilities, and they meet a significant portion of the demand in the County for youth recreation. These include York County Little League Baseball, York County Youth Football Leagues in York-Seaford and Grafton-Tabb, the Yorktown United Soccer League, the Coast Guard, Fort Eustis, and Peninsula Area swim teams, and the Williamsburg Aquatic Club.

Overall participation in York County recreation programs has risen almost continuously from 1985 through 1990, as reflected in the 54% increase in the number of participants in organized County recreation activities during that six-year period. It should be noted, however, that some of this increase is attributable to York County's taking over the Williamsburg Soccer Club program in 1987-88, which added roughly 700 participants annually. Nevertheless, excluding this new program, there was still a 25% increase in participation between 1985 and 1990. There were 6,235 registrations for York County recreation programs in 1990.

The most popular recreation programs in the County are the youth activities, as **Figure 12** illustrates. This is not surprising, since young people have more leisure time than most adults and tend to be more physically active. Moreover, many recreational opportunities for adults are provided by private health and fitness clubs, which are growing in number and popularity. Consequently, York County's youth programs offer a wider range of activities than do the adult programs and have corresponding higher levels of participation. In 1990, 4,567 people took part in youth programs while 819 took part in adult programs. Whereas youth participation has risen fairly steadily since 1985, adult participation has fluctuated greatly, but the overall trend has been upward.

Among the youth programs, as **Figure 13** illustrates, soccer clearly has been the most popular, accounting for 40% of all youth program participation in 1990. Soccer also has been one of the fastest-growing activities. Even without the addition of the Williamsburg area soccer program in 1987, there was a 27% increase in soccer participation between 1985 and 1990. Moreover, the privately operated Yorktown United Soccer Club, which currently has 150 youth soccer participants, helps to meet the demand for youth soccer. There are currently twelve soccer/football fields operated by York County, with six more under construction at Wolf Trap Park (3), Coventry, Tabb, and Magruder elementaries.

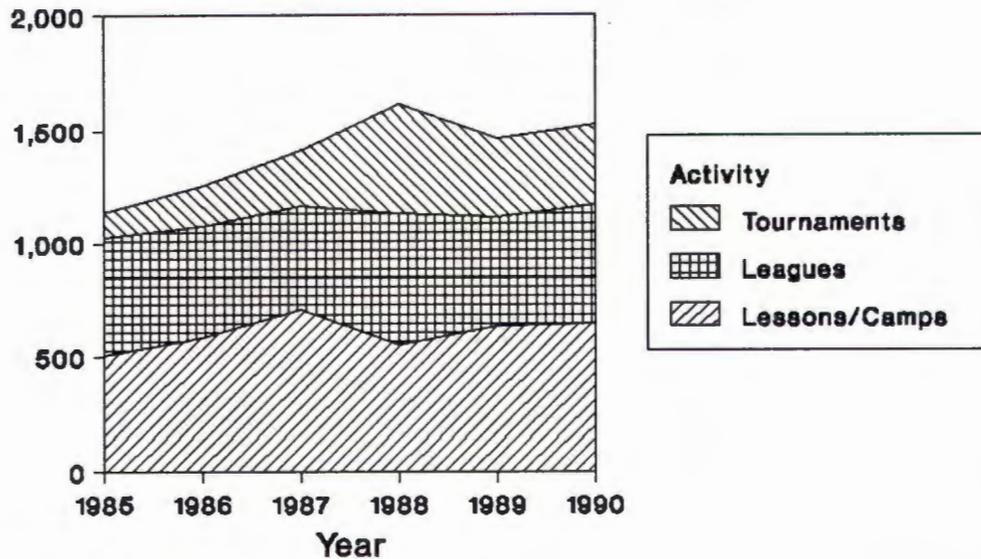
In addition, the lighted combination field at Tabb Intermediate is used for not only soccer and football but also for softball. Basketball, while it has fewer participants than the soccer programs, has been one of the fastest growing youth programs from 1985 through 1990, experiencing a 25% increase in participation.

Most of the remaining youth programs experienced slight increases in participation while baseball and softball declined somewhat, but only because the program serving the Williamsburg area of the County was discontinued after 1985 when it became apparent that the program was a needless duplication of the Williamsburg-James City County Baseball/Softball Program. Participation in the program for the rest of the County, meanwhile, rose continually from 1985 through 1990. A significant proportion of the demand for youth baseball in the southern portion of the County is met privately by the York County Little League, which utilizes fields at Grafton-Bethel and Seaford elementary schools and at its own Zook Field on Cook Road. In 1990, York County Little League had 330 participants, while the York County youth baseball/softball program had 360 participants. In addition to the combination field mentioned above, York County has twelve youth softball/baseball fields, with three new fields currently under construction at Coventry, Tabb, and Magruder elementaries.

With regard to adult recreation programs, overall participation in York County's programs has grown from 300 to 819 (a 173% increase) between 1985 and 1990. Softball historically has been more popular than basketball (see **Figure 14**). However, while basketball participation has risen fairly continuously from 1985 to 1990, the softball program has fluctuated wildly, rising by 50% from 1985

to 1986, falling by 40% the next year, and growing by 118% the year after that. Chisman Creek Park, which opened in 1991 and has two lighted regulation softball fields, will be the center of the County's adult softball program.

**FIGURE 15**  
**PARTICIPATION IN YORK COUNTY**  
**TENNIS PROGRAMS, 1985-1990**



Source: York County Division of Recreational Services

Finally, York County offers youth/adult tennis programs which include leagues, lessons/camps, and tournaments. The lessons and camps have had the highest levels of participation between 1985 and 1990, followed closely by league participation. However, whereas league participation has remained essentially stable during the four-year period, the lessons and camps have experienced a general increase. The number of people playing in the County tennis tournaments, meanwhile, has tripled since 1985. Use of Back Creek Park's tennis courts has fluctuated, probably because to play tennis on these outdoor courts requires good weather. It is only here that data relating to the level of tennis court use in the County is collected. Overall participation in tennis increased by less than 1% between 1985 and 1990, with significant growth occurring in program activities (34%) but a net decline in non-program activities (-4.3%). With its six lighted courts, Back Creek Park is the County's hub for tennis activities. There are twenty additional courts in the County, six of them in the Bruton area and four in Tabb.

Growing participation in both public and private recreation programs has placed a heavy burden on athletic fields in the County, which are also used for school sports. Not only does this create difficulty in scheduling field use, but it also contributes to overuse of fields and thus poor field conditions. The lighted combination field at Tabb Intermediate, which is used for soccer, football, and softball, is evidence of this problem. The overall shortage of athletic fields is borne out by the fact that the County's Division of Recreational Services, as well as certain private recreation associations, is now having to turn away children who want to register because there are not enough fields to accommodate all those who want to play.

**TABLE 2**

**YORK COUNTY RECREATIONAL FACILITIES**

Type of Field/Facility	Williamsburg Area	York/Grafton Area	Tabb Area	Total
Instruction Soccer	1	1	1	3
Soccer/Football	3(1)	6(3)	3(2)	12(6)
Youth Baseball/Softball	3(1)	7	2(2)	12(3)
Combination Field*	0	0	1	1
Regulation Softball	0	0(2)	0	0(2)
Regulation Baseball	2	3(1)	2	7(1)
Track	1	1	1	3
Tennis Courts	6	16	4	26
Outdoor Basketball Courts	6	16	9	31
Boat Ramps	0	5	2	7
Picnic Area	1	1	0	2

\* Lighted soccer/football/softball field at Tabb Intermediate School.  
 Note: Numbers in parentheses indicate fields under construction in 1991.  
 Source: York County Division of Recreational Services.

For informational purposes, Table 2 shows the geographic distribution of recreational facilities in the County. It is not meant to imply that residents in one area cannot use the facilities in another area or that each area should have the same number or variety of facilities. Table 3 shows that the Williamsburg area of the County has 4.9 fields for every 1,000 children, and the York/Grafton area (between Tabb and the Naval Weapons Station) has 4.7 fields per 1,000 children, while the Tabb area has 2.5 fields per 100 children. Overall, there are 3.8 athletic fields in the County for every thousand children.

**TABLE 3**

**Athletic Fields Per 1,000 Children Throughout York County**

Area	Children Under Age 18	Athletic Fields	Athletic Fields Per 1000 Children
Williamsburg Area	2,228	11	4.9
York/Grafton Area	4,887	23	4.7
Tabb Area	5,267	13	2.5
Total	12,382	47	3.8

Note: Includes fields currently under construction and does not include Zook Little League Baseball Field in York/Grafton.

The best way to project future participation in recreation programs is to analyze long-range trends. Unfortunately, participation data for years prior to 1985 does not exist. However, the five-year trend indicates a steady climb in recreation program participants, and if this trend were to continue, it is estimated, based on projected population, that by the year 2010 there will be between 15,000 and 20,000 participants in County recreation programs alone. Such an increase in participation is of course contingent on the expansion of recreation programs and facilities.

In determining what this growth will portend for future recreation programs and facilities, it is important to consider the age structure as well as the size of the population. Demographic trends indicate steady "maturation" of the population as the baby boom continues to move through the life cycle. In 1990 the entire baby boom was between the ages of 30 and 44. During the '90s, as these people leave the childbearing years, the crude birth rate (births per total population) will fall, even if fertility rates remain stable or increase slightly. Eventually the birth rate should rise when the baby boom echo—the offspring of the baby boom—reaches childbearing age, but this will not begin to happen until around the turn of the century.

Because of these trends, the under-twenty age group is expected to increase in size between 1990 and 2010, but not dramatically. Meanwhile, the middle-aged and senior populations are expected to grow steadily. Thus it appears that the major growth component in the County's population over the next twenty years will be the adult and senior populations, while the number of youths will continue to grow, but not as significantly. Planning for future County recreational facilities and programs will have to take into account these demographic trends in order to meet the needs of York County's changing population. Population growth determines the type as well as the number of new facilities that will be needed. Older citizens, for example, are growing in number and have substantial amounts of leisure time, yet there are no facilities or programs in York County—with the exception of day trips and AARP driving classes—to serve these people. The City of Hampton, in contrast, operates a "Senior Center" with activities such as exercise classes, ceramics, quilting, bingo, and table games. There is also significant potential for new recreation programs to serve the adult population, which is also a rapidly growing segment of the demand for recreation programs. Adult volleyball programs are one possibility. Expansion of existing adult programs, such as tennis and softball, is also possible.

Not all County recreation programs take place on school grounds, nor would it be feasible to do so. For example, County schools—with the possible exceptions of Queens Lake Intermediate and Bruton High—could not accommodate day programs for senior citizens. In recent years many citizens have advocated the development of a community center. In 1989 a Community Center Task Force conducted a telephone survey of community needs and identified support among County residents for a community center with recreation facilities and meeting rooms. In addition, other recent surveys have verified the need for more meeting space (with kitchen facilities) and multi-purpose rooms that could accommodate a variety of different uses, as well as senior citizen programs.

New Quarter Park was acquired from the federal government by the County in 1976. The deed of transfer requires that the property be used perpetually for recreational purposes. This 545-acre park, located adjacent to Queens Lake and the Colonial Parkway, is oriented primarily toward passive recreational pursuits such as picnicking and hiking, although it also includes a softball field, paved volleyball court, a small fishing pier, and horseshoe courts. The park is now open for group activities only, and its facilities are available to the community on a reservation basis. Access to the park is via Lakeshead Drive, which also provides primary access to a major portion of the Queens Lake subdivision. While access from the Colonial Parkway would be ideal, the National Park Service has indicated that such access cannot be permitted.

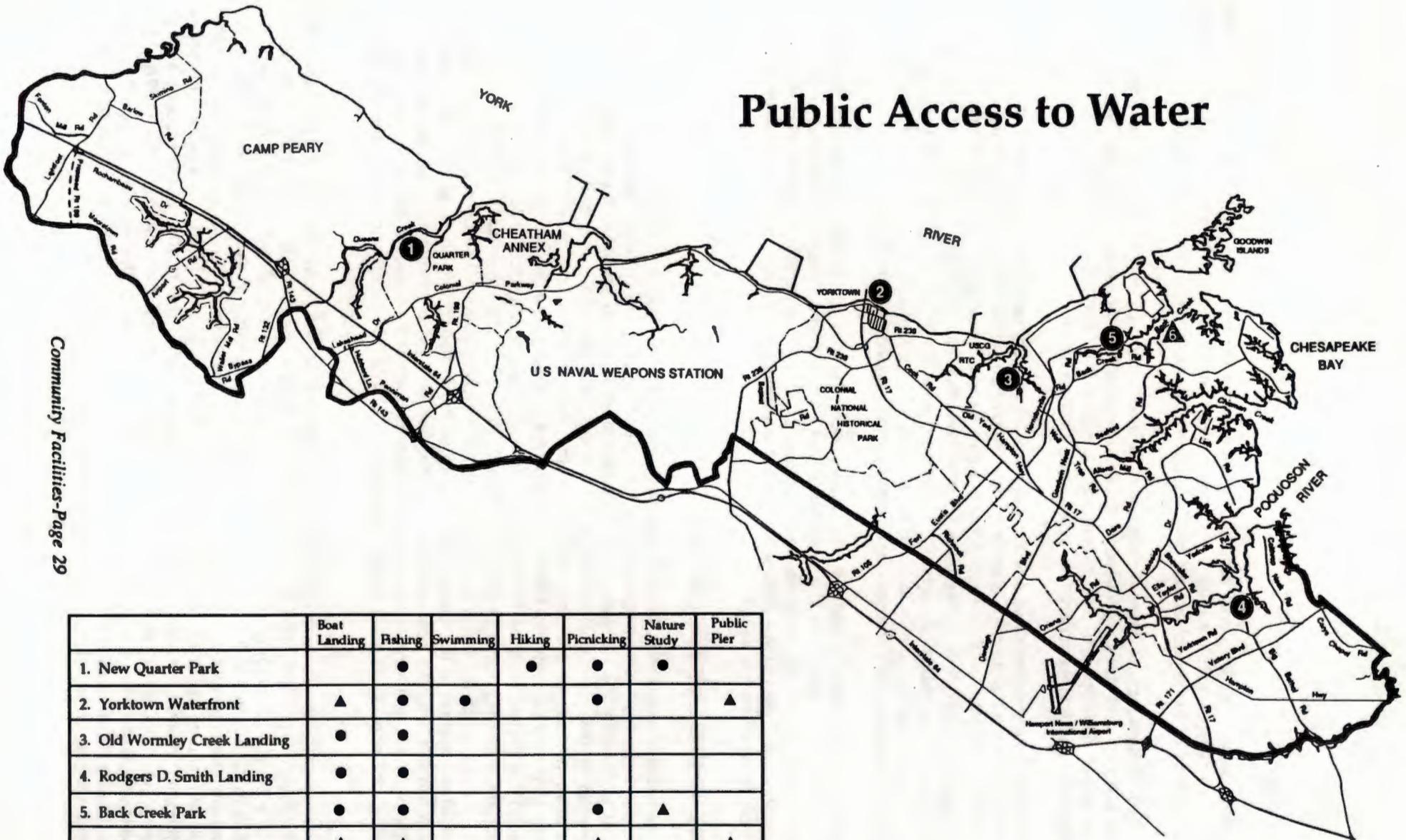
Since the County first acquired New Quarter Park, much discussion has taken place regarding its possible use as a public golf course site. A market study conducted by a private consultant found that there exists a significant unmet demand in the region for public golf course participation. There are at least 19 existing or planned golf courses on the Peninsula, but most of them are private or resort-oriented and thus relatively expensive. Present use of the region's three municipal golf facilities is high enough to indicate that existing and projected public golf demand is sufficient to support the development of a golf course at New Quarter Park. Development of a golf course would, however, displace some of the current activity and natural areas; this should be fully evaluated in any decision.

Finally, York County has seven public boat ramps, all of them, as shown in **Map C-2**, located in the southern portion of the County. Proximity to the York River and the Chesapeake Bay makes boating

an extremely popular activity in York County. Proximity, however, does not necessarily equate to access. Much of the County's shoreline is federal property (Camp Peary, Naval Weapons Station, Cheatham Annex, National Park Service, U.S. Coast Guard Reserve Training Center); as a result, there is a shortage of boat landings in the County, as evidenced by current overcrowding at the Rodgers A. Smith and Back Creek Park facilities.

Although they are increasingly difficult to find, the County is continuing to pursue possible public access sites. One potential location for a site is along Back Creek in Seaford, which is conveniently located to a majority of the County's residents. Site and shoreline conditions make this location ideal for a boat ramp and/or docking facilities since the near-shore depth is four feet and the channel depth is nine feet. The possibility of acquiring a site in this and other locations needs to be explored further.

# Public Access to Water



Community Facilities-Page 29

	Boat Landing	Fishing	Swimming	Hiking	Picnicking	Nature Study	Public Pier
1. New Quarter Park		●		●	●	●	
2. Yorktown Waterfront	▲	●	●		●		▲
3. Old Wormley Creek Landing	●	●					
4. Rodgers D. Smith Landing	●	●					
5. Back Creek Park	●	●			●	▲	
6. Back Creek Potential Site	▲	▲			▲		▲
●=existing    ▲=potential							

MAP CF-2

## **SCHOOLS**

### **Introduction**

In a 1989 survey, York County residents were asked what they liked best about living in York County. "I like the school system" was the number one response. This is not surprising since the excellence of the school system has long been a source of pride for County residents.

The York County school system consists of sixteen schools: ten elementary schools, three middle schools, and three high schools. In addition, the County recently acquired two sites for future school development: a 21-acre school site within the Villages of Kiln Creek planned development and approximately fifty acres along Grafton Drive.

York County currently operates one magnet program, the School of the Arts, which is located at Bruton High School and offers classes in both literary and theater arts. The County also offers the EXTEND Program at York High School, which serves academically gifted students in grades K through 12, providing differentiated instruction that individualizes the learning experience beyond that in the regular classroom. In addition, a variety of advanced placement courses are offered in all the high schools. Adult learning opportunities in both basic and continuing education, including GED preparatory classes, are also provided by York County schools.

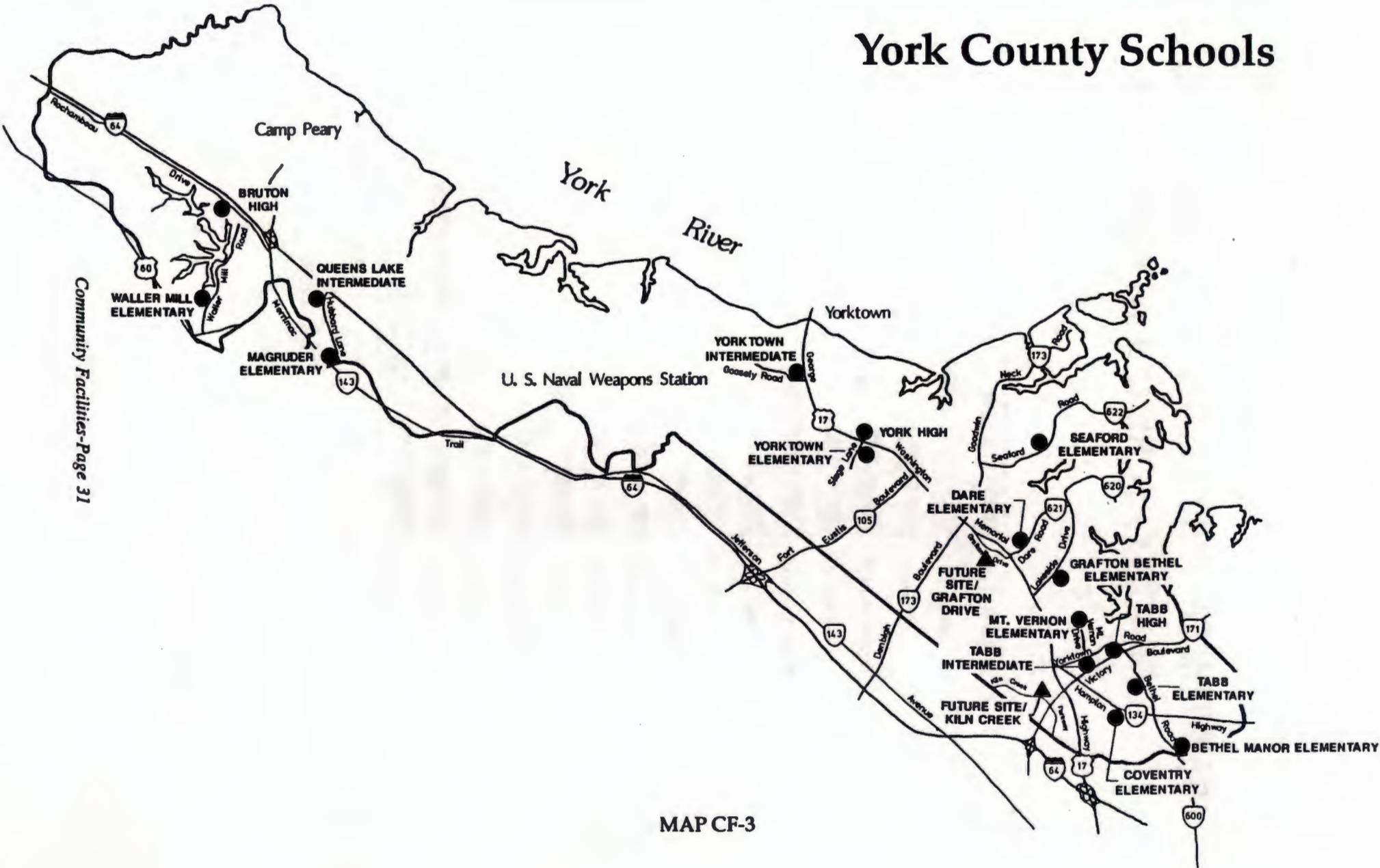
In 1992, "intermediate" schools in the County were changed to "middle" schools as mandated by the State of Virginia. At the same time, the School Board initiated a transition from two-grade (grades 7 and 8) to three-grade (grades 6, 7, and 8) middle schools. This was first implemented at Queens Lake Middle School and is planned for implementation ultimately at Tabb and York Middle Schools as well.

### **Demographic and School Membership Trends**

The substantial population growth that took place in the County during the 1980s brought correspondingly high rates of growth in school membership in the 1990s. The term *membership* is used to describe the number of students registered to attend school at a given point in time. It consists of the number of entries and re-entries, less the total number of withdrawals. The cumulative number of students enrolled in the system during the school year exceeds the membership figure. Between 1980 and 1990, the County's total population increased by 20%, yet school membership grew by only 6% (530 students). From 1990 through 1992, however, school membership jumped dramatically from 9,360 to 10,378—an increase of 11% in just two years. Almost all of the net growth in school membership between 1980 and 1992 took place in the southern portion of the County (referred to as the Grafton/Tabb area), as did the population growth. In this area the population climbed by over 30% while school membership experienced a 25% increase. In the County's northern area (referred to as the Williamsburg area), in contrast, the population grew slightly between 1980 and 1992, yet school membership fell by 10%.

School membership was fairly steady prior to World War II (see Figure 17), but the postwar baby boom brought a dramatic increase in the number of school-age children, thus putting tremendous pressure on school systems all over the country in the 1950s and '60s. York County was no exception. Between 1950 and 1960, when the total population of the County climbed by 47%, school membership jumped by 86%. As a result, the ratio of school students to the total population, shown in Figure 18, rose from 15% in 1950 to 19% in 1960. This growth in school membership, dramatic though it was, pales in comparison to the 1960s, which brought a 60% increase in population and a 135% increase in school membership; by 1970, the student/population ratio had climbed to 30%. The response to this enormous growth in the student population was a major expansion in school facilities: ten of the County's sixteen existing schools were built between 1954 and 1969.

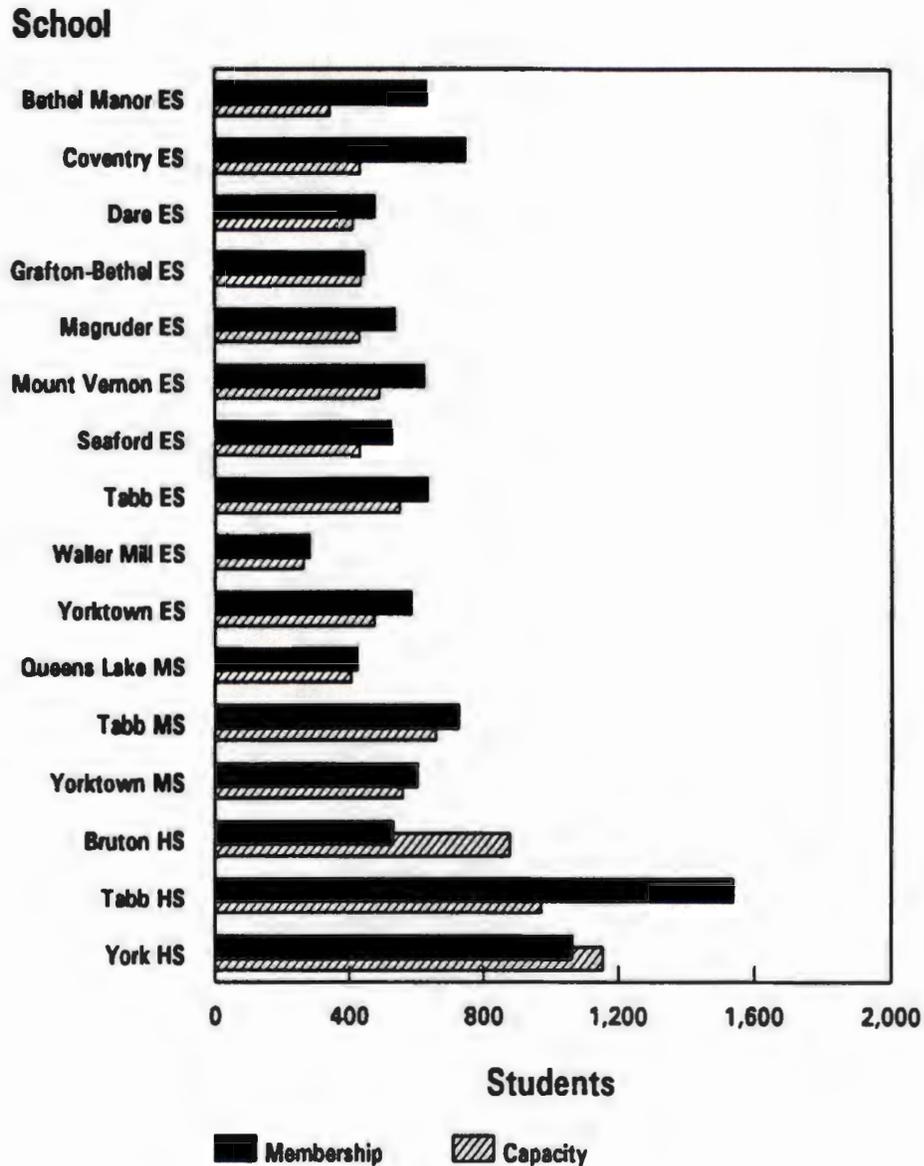
# York County Schools



Community Facilities-Page 31

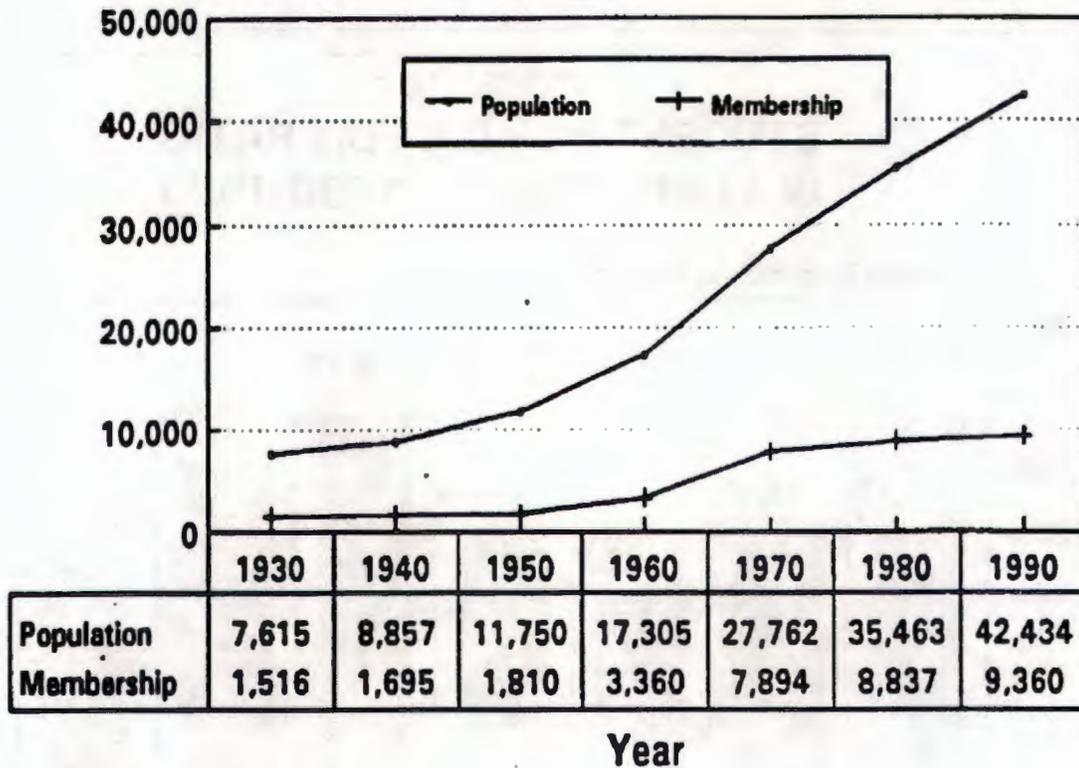
MAP CF-3

## FIGURE 16 SEPTEMBER 1992 MEMBERSHIP AND PROGRAM CAPACITY, YORK COUNTY SCHOOLS



*Note: Queens Lake MS membership includes grades 6, 7, and 8; Tabb MS & Yorktown MS include only grades 7 and 8.*

**FIGURE 17  
POPULATION AND SCHOOL MEMBERSHIP  
IN YORK COUNTY, 1930-1990**



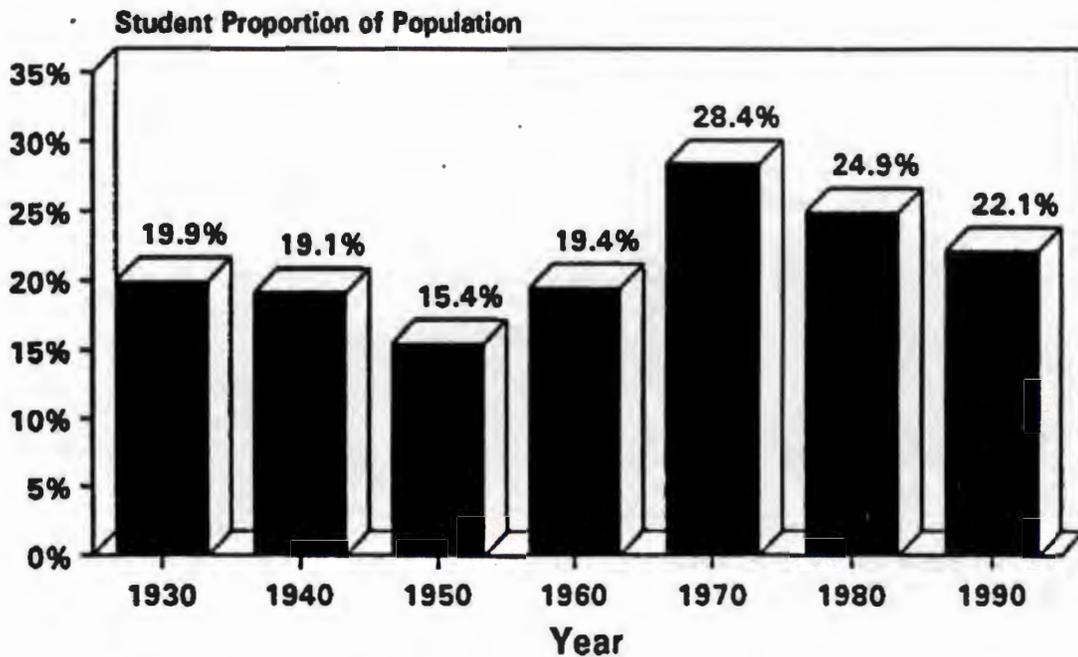
**Sources: 1978 York County Schools Plan  
and monthly school attendance reports**

Just as population growth slowed down during the 1970s and '80s, these two decades brought relative stability to school membership, with growth rates of 12% and 6% respectively. The student/population ratio fell to 25% in 1980 and then to 22% in 1990. In fact, school membership actually declined between 1980 and 1986 despite continued housing construction (see Figure 19) and then increased fairly steadily through the end of the decade. The growth that took place during the 1980s was fueled primarily by burgeoning elementary school membership as the so-called "baby boom echo" (the offspring of the baby boom generation) began to reach school age; elementary school membership began to climb in 1985-four years after births in the County started to increase-while intermediate (or middle) and high school membership remained fairly steady.

As the 1990s began, population growth in York County was relatively slow, based on the number of new homes built as measured by the number of certificates of occupancy issued by the County for new residences. During the second half of 1991, however, the County began to experience a housing boom that continued well into 1992, showing no signs of abating.

Between July 1, 1991, and June 30, 1992, a total of 786 new housing units were built in the County-85% more than were built in the previous twelve-month period. Most of this development activity took place in the southern part of the County, where 87% of these new homes were built, with the Coventry and Kiln Creek planned developments leading the way. Manpower increases at Langley Air Force Base caused by the consolidation of the Strategic and Tactical Air Commands into the Air Combat Command, coupled with the lowest interest rates in more than a decade, are presumed to be largely responsible for the increase in new home demand.

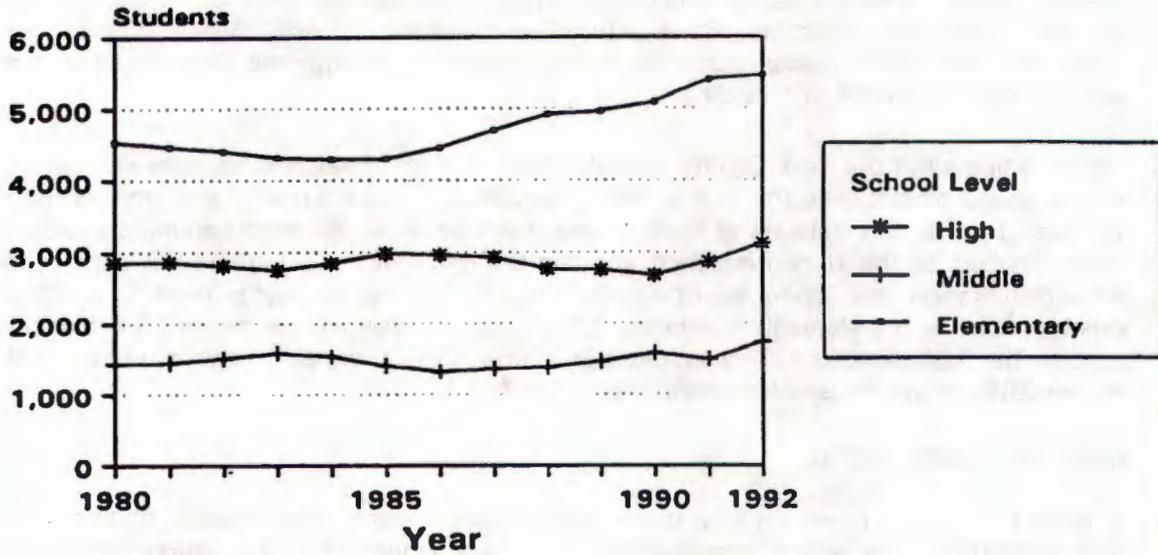
**FIGURE 18**  
**STUDENT/POPULATION RATIO**  
**IN YORK COUNTY, 1930-1990**



Sources: 1978 York County Schools Plan  
and monthly school attendance reports

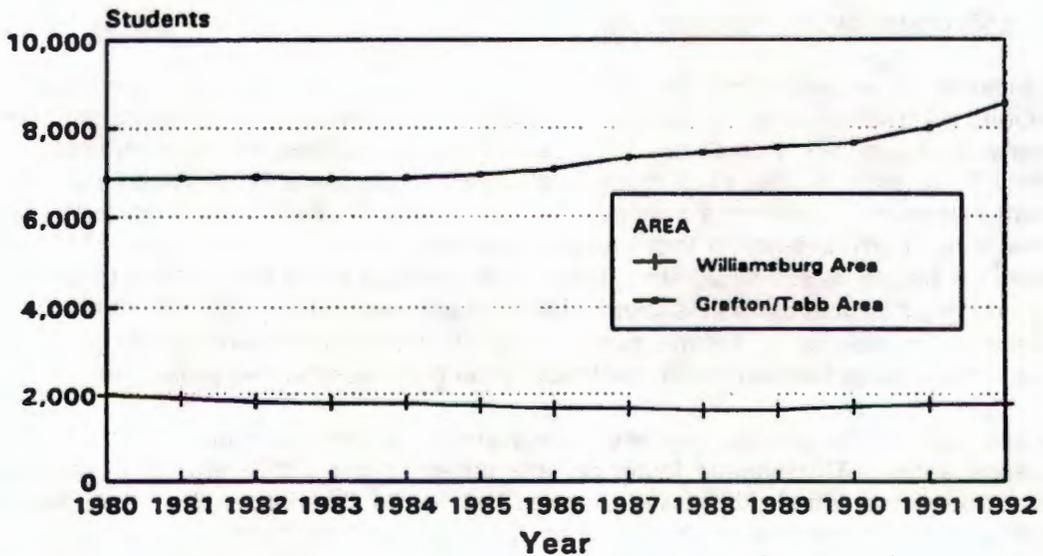
Whatever caused it, this population growth brought a sudden sharp increase in school membership in 1991 and an even sharper increase in 1992, placing a great strain on many schools to accommodate such large influxes of new students. School overcrowding led to several initiatives in the early '90s, including the formation of a long-range school planning committee whose purpose was to review school attendance zone boundaries. This committee was formed by the School Board at the suggestion of the *ad hoc* Superintendent's Committee on Resources Imbalance in Secondary Schools, which was created to study the problems of secondary school overcrowding and underutilization. The Resources Imbalance Committee also recommended a series of actions and policies to alleviate these problems.

**FIGURE 19**  
**YORK COUNTY SCHOOL**  
**MEMBERSHIP, 1980-1992**



*Note: September figures.*  
*Source: York County School Board*

**FIGURE 20**  
**YORK COUNTY SCHOOL MEMBERSHIP**  
**BY AREA, 1980-1992**



*Source: York County School Division*

### Design vs. Program Capacity

Another significant step taken by the School Board to address overcrowding problems was to contract an outside consultant-Dr. Glen Earthman, who is a recognized expert on school capacity calculation-to develop a study of the program capacity of each of the York County schools. Previous membership-to-capacity ratio calculations had been based on the original architectural design capacity of each school, which does not take into account the many constraints placed on physical space by programs, State education mandates, School Board policies, et cetera. Therefore, the use of design capacity figures tended to exaggerate school capacity and thus underestimate the level of crowding.

After visiting all of the York County schools, Dr. Earthman developed capacity estimates for each school based on not only the size of each instructional space but also the program for which it was being used. Several sets of figures were prepared under differing parameters with regard to such variables as the student/teacher ratio and the range of classes offered at each school level. After deliberation, the School Board adopted the capacity figures that provide for student/teacher ratios of 22:1 in the elementary schools, 23:1 in the middle schools, and a 25:1 student/teacher ratio in the high schools. This resulted in a total school system *program* capacity of 8,847-almost 25% below the *architectural design* capacity of 11,530.

### Measuring Overcrowding

In order to measure overcrowding, it is necessary to compare these capacity figures with present and projected future school membership levels (see Figure 16). Of course, projecting future population growth is not an exact science, and projecting future school membership is especially difficult, for there are a variety of demographic variables that play a role, many of which are intangible and thus highly unpredictable. Often there is little upon which to base future projections other than past trends, and the validity of this approach is limited since we know that patterns change. School membership projection is particularly problematic in localities like York County which have sizable military populations. Military transfers are unforeseeable events that can produce great fluctuations in school membership. Consequently, accurate forecasts-particularly long-range forecasts-depend as much on good luck as on perceptive judgment.

### Projection Methodology and Assumptions

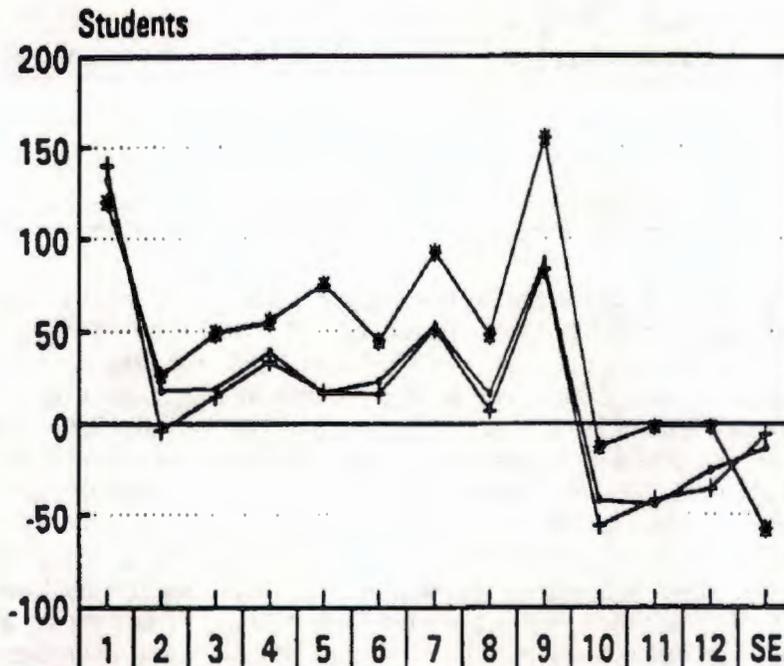
The foundation of all projections is the methodology by which they were developed and the assumptions upon which they are based. The methodology for deriving these school membership projections is essentially a two-step process. Step 1 involves the development of a base enrollment figure projected for each grade level using the standard *Grade Progression Method* of enrollment projection. Under this method, the number of students in each grade is assumed to equal the number of students in the previous grade during the previous year. The number of kindergartners has to be estimated since there is no previous grade from which to advance. The obvious weakness of this method is that it does not account for net migration, for students who fail or drop out of school, or for the many first-graders who do not attend public kindergarten. The Grade Progression Method merely establishes the base membership projection.

The second step of this process involves the adjustment of the base figures for each grade level by a change factor. This change factor reflects projected population growth in the County, as well as various assumptions discussed in detail below. In addition, the change factor reflects historical patterns of increase or decline at each grade level that have occurred in York County within the past ten years. Certain patterns in the grade structure occur regularly, such as large increases in the seventh and ninth grades and steady, sometimes sizable declines in grades ten,

eleven, and twelve. These historical patterns, which are illustrated in Figures 21 and 22, give a good indication of how the projected growth in school membership will be distributed among grade levels. Special education student membership must be projected separately since these students are not included within the individual grade levels on the School Board's monthly membership report. For these projections, the number of special education students, which, on average, declined between 1980 and 1992, was held constant throughout the 1992-2010 period.

A number of assumptions about the future of York County were factored into the school membership projection equation. These relate to expected future trends in military spending by the Federal government, economic growth in the region and the County, and the direction that household sizes will follow.

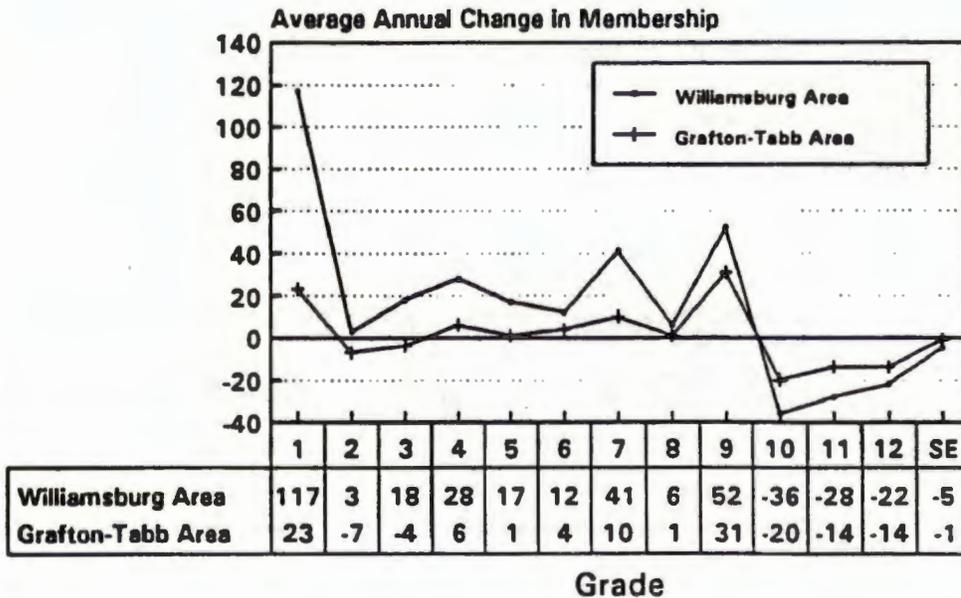
**FIGURE 21**  
**AVERAGE ANNUAL CHANGE IN YORK COUNTY**  
**SCHOOL MEMBERSHIP BY GRADE LEVEL**



	1	2	3	4	5	6	7	8	9	10	11	12	SE
1988-92 Average	132	18	19	39	17	23	53	16	88	-42	-45	-26	-14
1983-92 Average	140	-4	15	34	17	16	51	7	83	-56	-42	-36	-6
1991-92	120	26	49	55	75	45	92	48	155	-13	-2	-2	-58

Grade

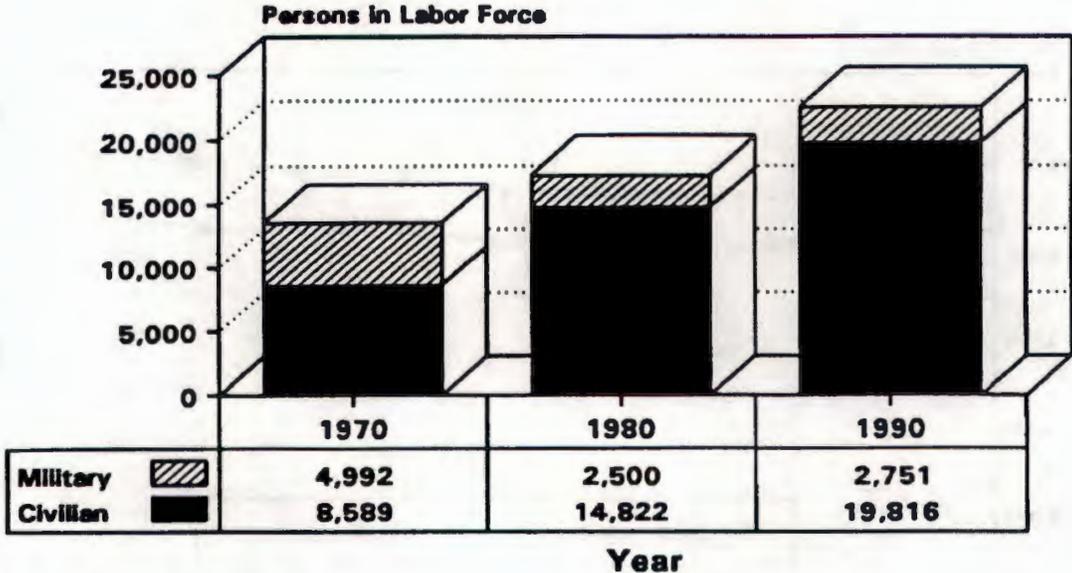
**FIGURE 22**  
**AVERAGE ANNUAL CHANGE IN YORK COUNTY**  
**SCHOOL MEMBERSHIP BY GRADE LEVEL, 1983-92**



The size of the military population in the County is one of the most important factors to consider in projecting school membership; unfortunately, it is also one of the most difficult variables to predict. Figure 23 shows that between 1980 and 1990, the total number of military personnel in the labor force in York County (excluding trainees at the U. S. Coast Guard Reserve Training Center) increased from 2,500 in to 2,751, and this resulted in a large increase in the number of Federal-impact aid students in the school system, which rose from 4,509 in 1981 to 5,067 in 1991 (see Figure 25). There are reasons to doubt that such growth will continue, however. The massive Federal budget deficit and recent changes in the former Soviet Union and Eastern Europe that have lessened cold war tensions indicate the likelihood of overall military cutbacks in the 1990s, but this does not necessarily translate into cutbacks in York County or Hampton Roads. Some areas of the nation will no doubt lose military personnel as a result of the military restructuring, but other areas may gain, just as the Air Force consolidation in the early 1990s increased manpower levels at Langley Air Force Base in Hampton Roads at the expense of Omaha, Nebraska, site of Offutt Air Force Base. Given the overall climate surrounding military spending, it would not be realistic to assume continued growth, nor would it be prudent to assume dramatic decline. Therefore, it is assumed that there will be short-term military growth in the County but that such growth will end during the latter half of the 1990s.

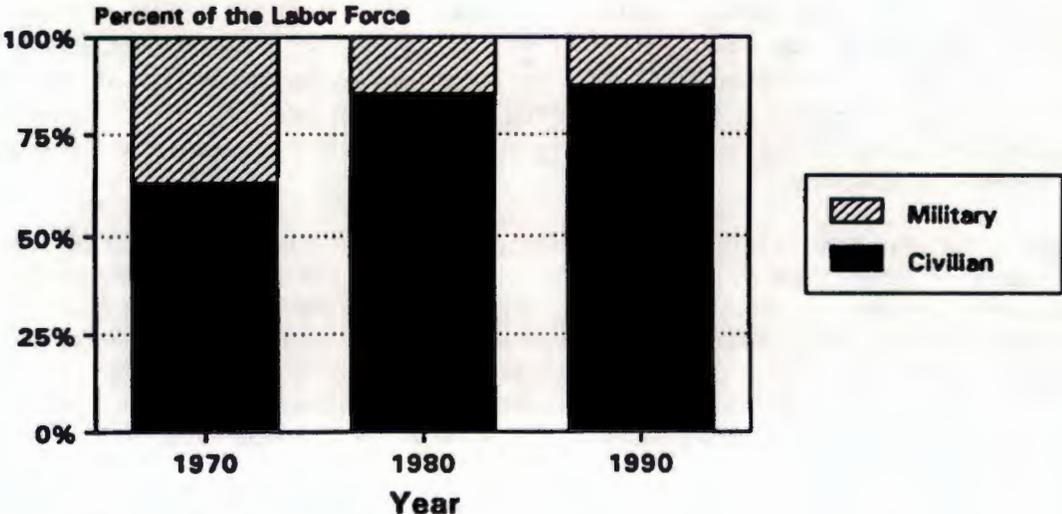
Military growth contributes to population growth both directly and indirectly. Of course, increases in manpower levels at area bases bring new families; this is the direct impact. In addition, military growth contributes to general economic growth in the region, and job growth is a key determinant of population growth. York County, like the rest of Hampton Roads, benefitted

**FIGURE 23  
MILITARY AND CIVILIAN LABOR FORCE  
IN YORK COUNTY, 1970-1990**



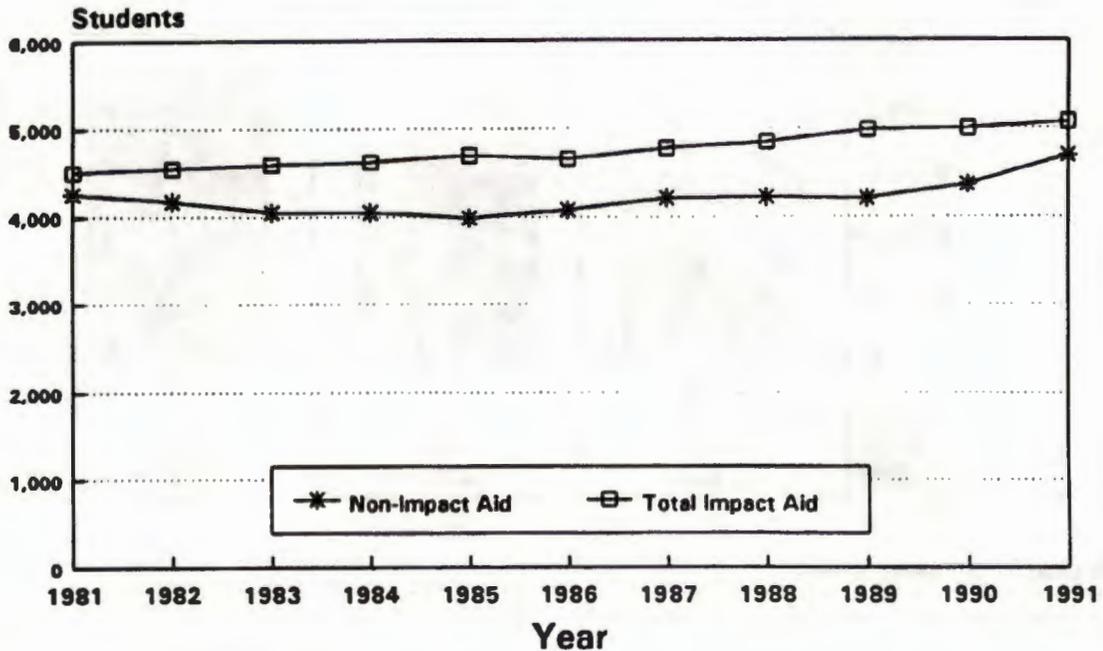
Source: U. S. Census Bureau

**FIGURE 24  
PERCENTAGE DISTRIBUTION OF THE LABOR  
FORCE IN YORK COUNTY, 1970-1990**



Note: Does not include Coast Guard trainees.  
Source: U. S. Census Bureau

**FIGURE 25**  
**FEDERAL IMPACT AID STUDENTS**  
**YORK COUNTY SCHOOLS, 1981-1991**

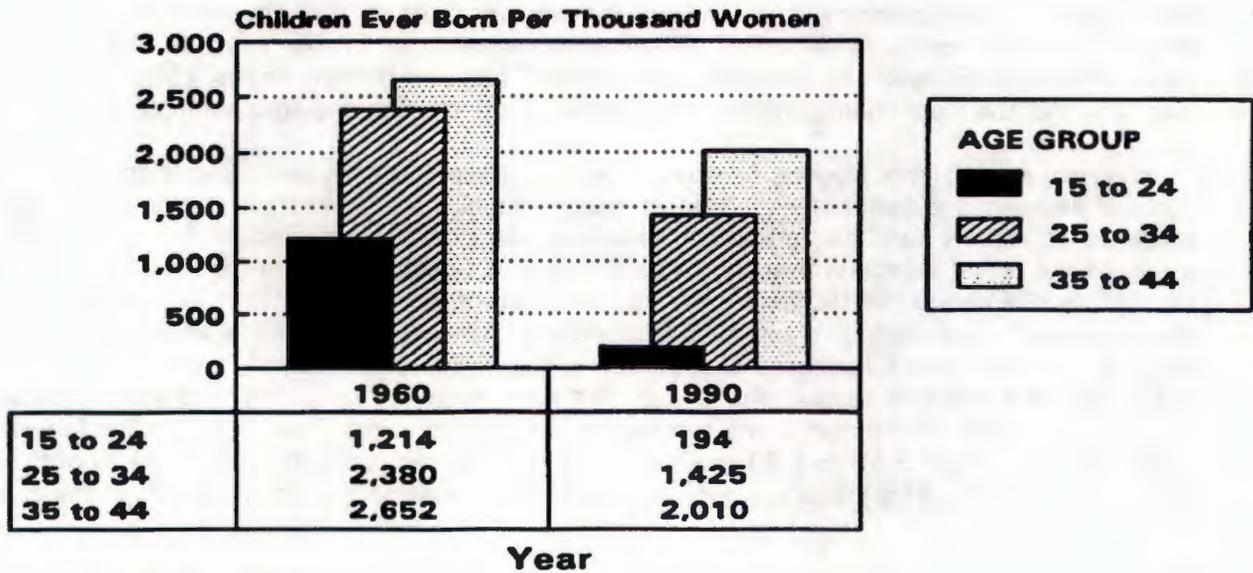


Source: York County School Division

tremendously from the military build-up that took place during the 1980s. However, for the reasons stated above, the 1990s will most likely bring leaner defense budgets, which will have a dampening effect on economic growth, as demonstrated by the series of layoffs made at Newport News Shipbuilding in the early '90s, with the promise of more to come. To a great extent, the strength of the regional economy in the future will likely depend on the region's ability to diversify its economy.

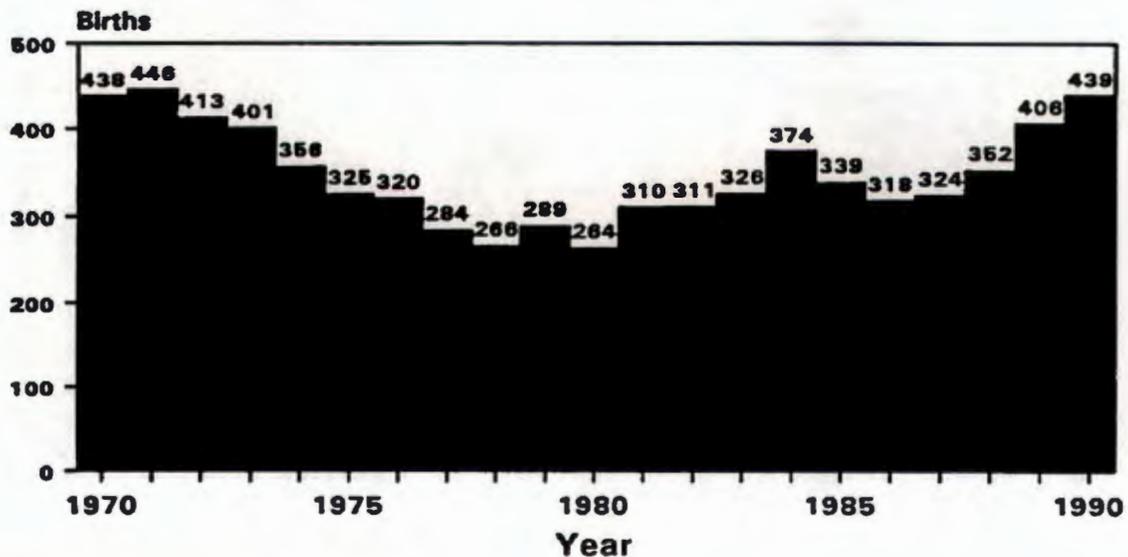
Factors that may help to offset defense-related cutbacks include the low cost of doing business in Hampton Roads, the Navy's dominant role in the area and its relatively small percentage reduction compared to the other services, and the upgrading of current naval systems, which implies that more ship repairs and enhancements will be implemented in local shipyards. It should also be noted that York County has certain locational advantages over some other localities in the region—such as a greater supply of vacant land and a relatively low tax rate—which may allow it to attract a growing share of regional economic development.

**FIGURE 26**  
**YORK COUNTY FERTILITY RATES**  
**1960 AND 1990**



Source: U. S. Census Bureau

**FIGURE 27**  
**RESIDENT BIRTHS IN YORK COUNTY**  
**1970-1990**

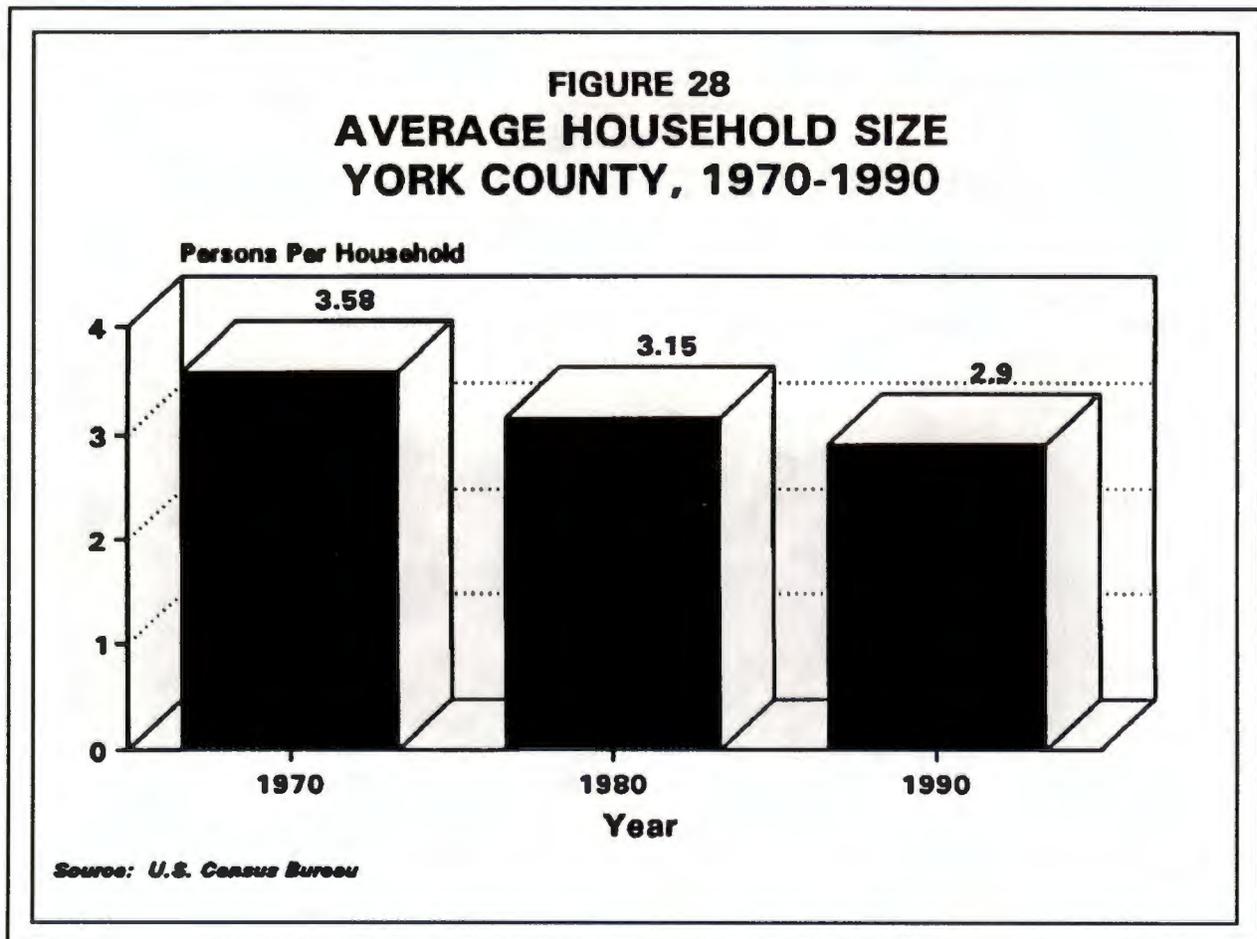


Source: Virginia Department of Health,  
Center for Vital Records

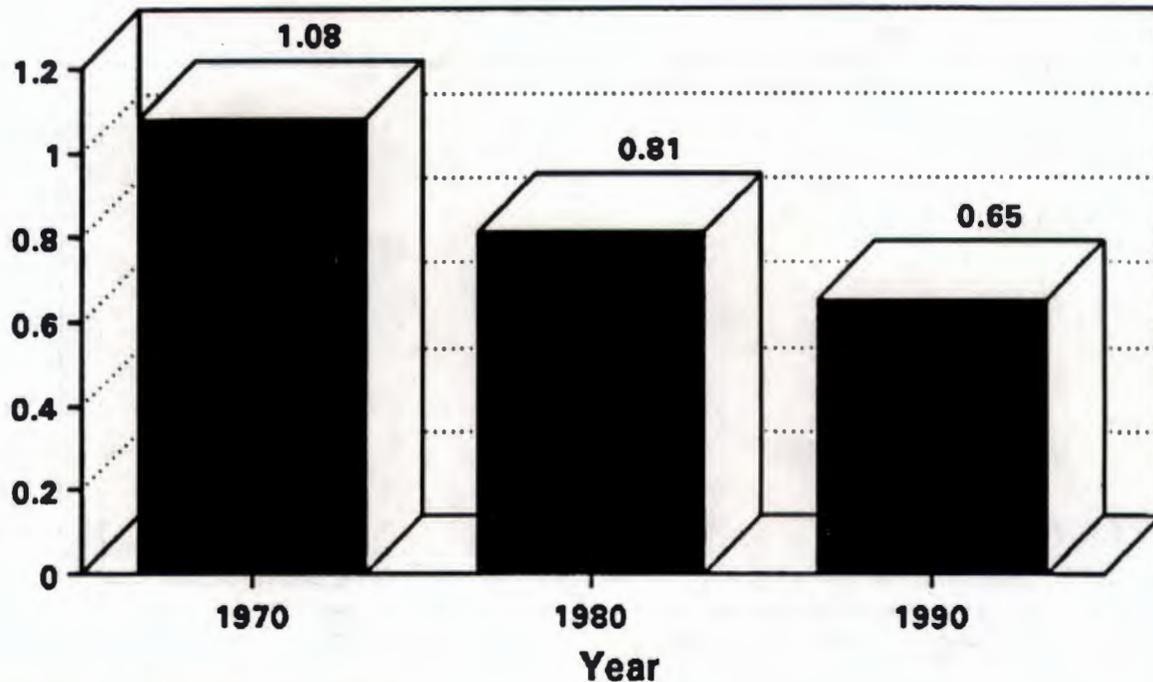
Overall, it is assumed that, in the long run, regional economic growth will be sufficient to sustain population growth rates in the 1992-2010 period fairly comparable to the rates that were experienced in the 1980s. Although declines in job growth are expected during the '90s, employment is expected to accelerate somewhat around the turn of the century as the regional economy diversifies and as York County's economic development efforts bear fruit.

With regard to demographics, it is assumed that fertility rates in York County will continue to mirror statewide fertility rates, which are expected to decrease in the long run. Nevertheless, some short-term increases in the *birth* rate are anticipated, particularly in the 1992-95, since a large share of the baby boom generation will remain in the childbearing ages through 1995.

To a certain extent, York County, because of its substantial military population, is shielded from national demographic trends, for the County's demographics are skewed somewhat by the large presence of military families. Although household sizes in Census Tract 506-which consists solely of the Naval Weapons Station, Camp Peary, and Cheatham Annex-followed the national trend of decline during the 1980s, the average household size in Bethel Manor (Langley Air Force Base housing) rose slightly. In fact, the ratio of Federal-impact aid students to military personnel in the County increased slightly during the 1980s-from 1.80 to 1.82-indicating that the decline in household sizes in the County has been mitigated to a certain extent by military growth. As Figure 28 illustrates, the average household size in the County did decline between 1980 and 1990 (from 3.15 to 2.89 persons per household) but would have declined more if not for military growth. This military growth in the County is assumed to continue only in the short term.



**FIGURE 29**  
**SCHOOL STUDENTS PER HOUSEHOLD**  
**IN YORK COUNTY, 1970-1990**



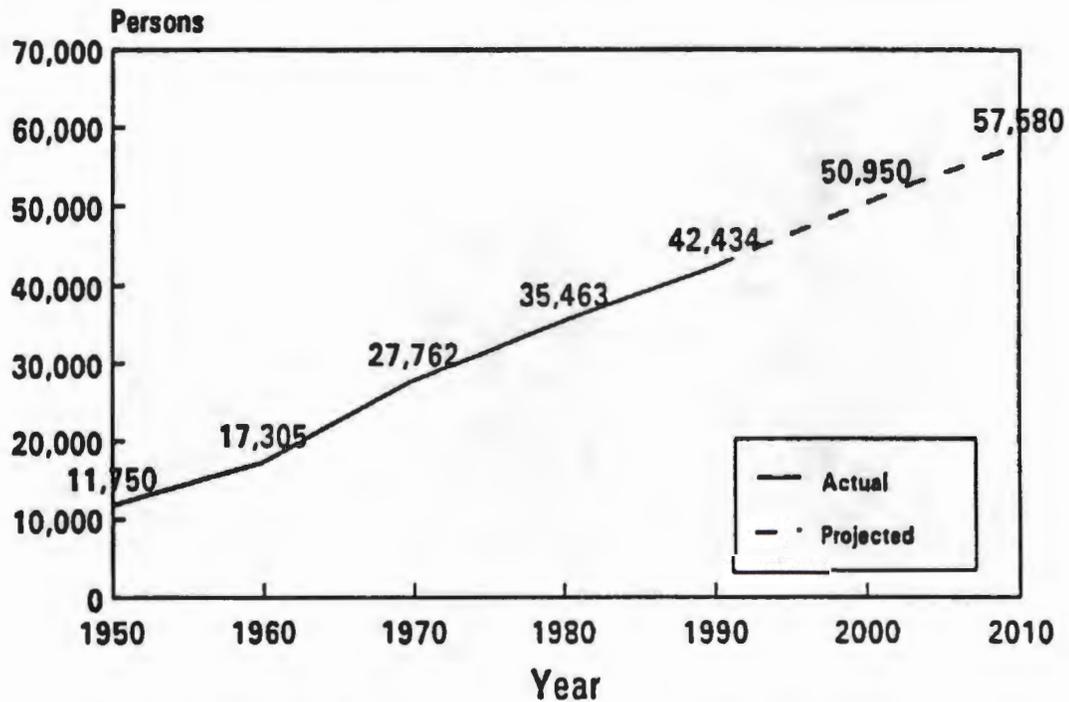
**Sources: U. S. Census Bureau and York  
County School Division**

Household sizes are assumed to remain constant through the year 2000 and then begin to decline around the turn of the century, dropping at an annual rate of .7% throughout the 2000-2010 period. For the purposes of comparison, the average household size in the County fell at an average rate of .8% per year during the 1980s.

The assumption that household sizes will be stable during the 1990s, despite the steady decline in the average household size that has been taking place for at least the past thirty years both nationally and in York County, reflects the assumption of short-term growth in the military population and the increased birth rate in the County during the 1985-95 period caused by the presence of the bulk of the baby boom echo in the peak childbearing ages. It should be noted that even during the peak years of the baby boom—from 1950 through 1960—household sizes in the United States declined, albeit slightly, from 3.37 to 3.33 persons per household.

Household sizes are assumed to start to fall in the year 2000 for two reasons. The baby boom generation began to pass out of the childbearing ages in 1991 and will ultimately be replaced by the smaller baby bust generation. This natural decline in the number of potential mothers dampens the birth rate and therefore reduces average household sizes. Of course, there will be women between ages 15 and 44 moving into York County, but there will not likely be enough to

**FIGURE 30  
PROJECTED YORK COUNTY POPULATION  
1950-2010**



Sources: U.S. Census Bureau (actual)  
and York County Department of Community  
Development (projected)

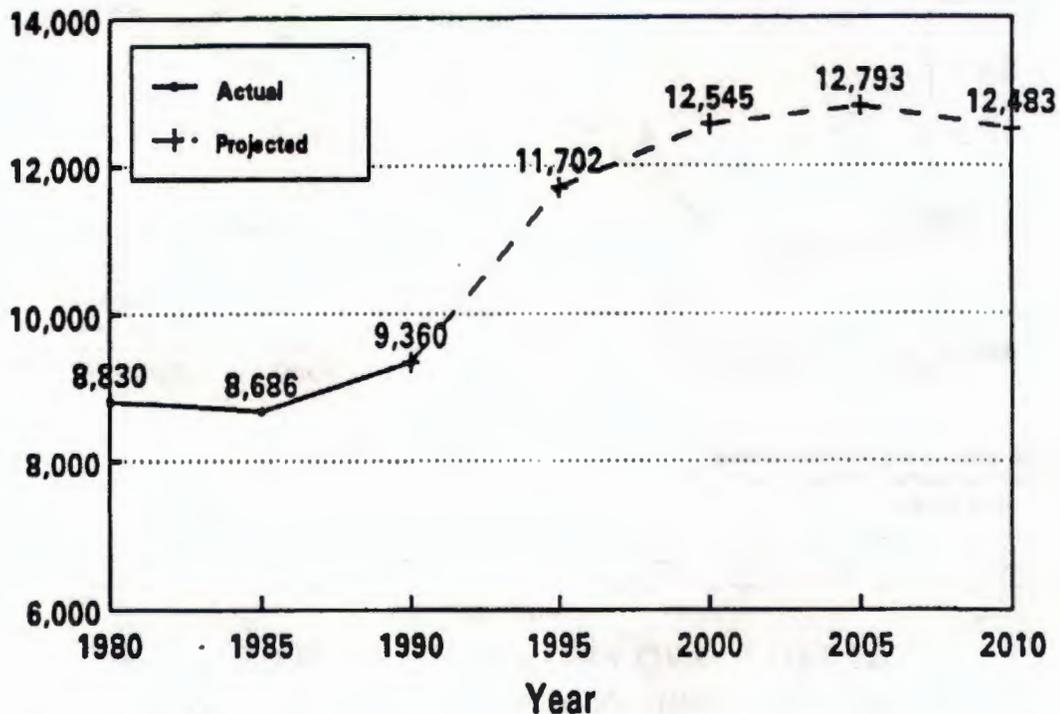
increase the size of this age group at rates comparable to the 1970s or '80s. It should be remembered that these trends are taking place nationwide as well, and this is reflected in the sharp decline in the migration rate of childbearing-age women into York County in the 1980s in comparison to the 1970s.

In addition, little or no growth in the military population is assumed to occur after the turn of the century, thereby removing the upward pressure on household sizes and subjecting the County to national demographic trends.

#### School Membership Projections

Projected school membership is shown in Figures 31 through 34. As these figures indicate, York County is expected to experience continued growth in school membership throughout the 1990s. Increases in elementary school membership will be fueled by the baby boom echo, which will also begin to have an impact on secondary school membership around 1993. Of course, the impact of these increases in school membership will be felt mostly in the schools in the Grafton/Tabb area

**FIGURE 31**  
**ACTUAL AND PROJECTED SCHOOL MEMBERSHIP**  
**IN YORK COUNTY, 1980-2010**

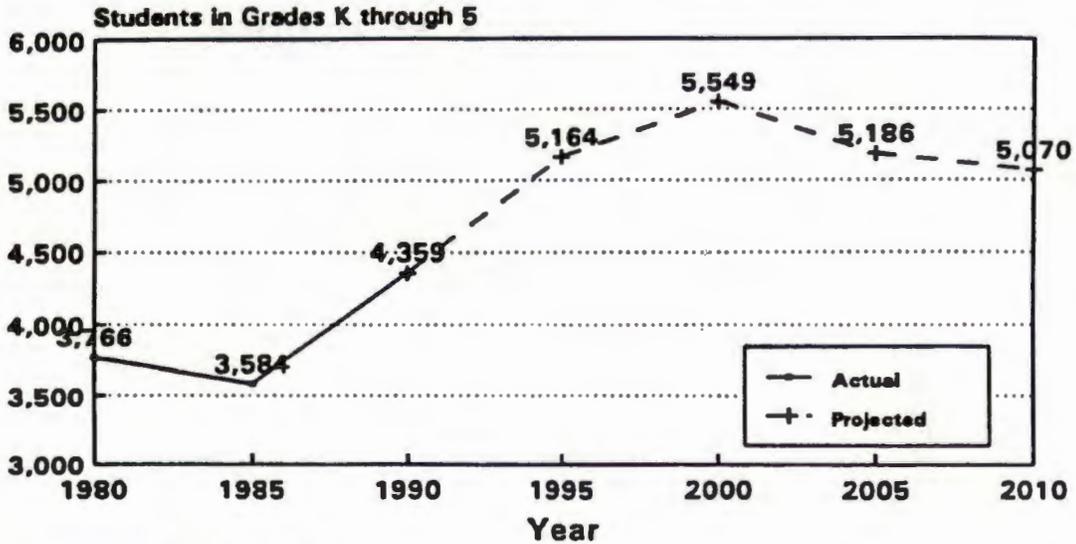


*Notes: Figures are for the month of September and do not include Special Education students.*

of the County, where most of the population growth is projected to take place as the Coventry and Kiln Creek planned developments proceed toward build-out (completion). Based on development plans submitted to the County and the availability of vacant, developable land, this area of the County is expected to attract most of the population growth throughout the 1992-2010 period, although some growth is also anticipated in the Williamsburg area.

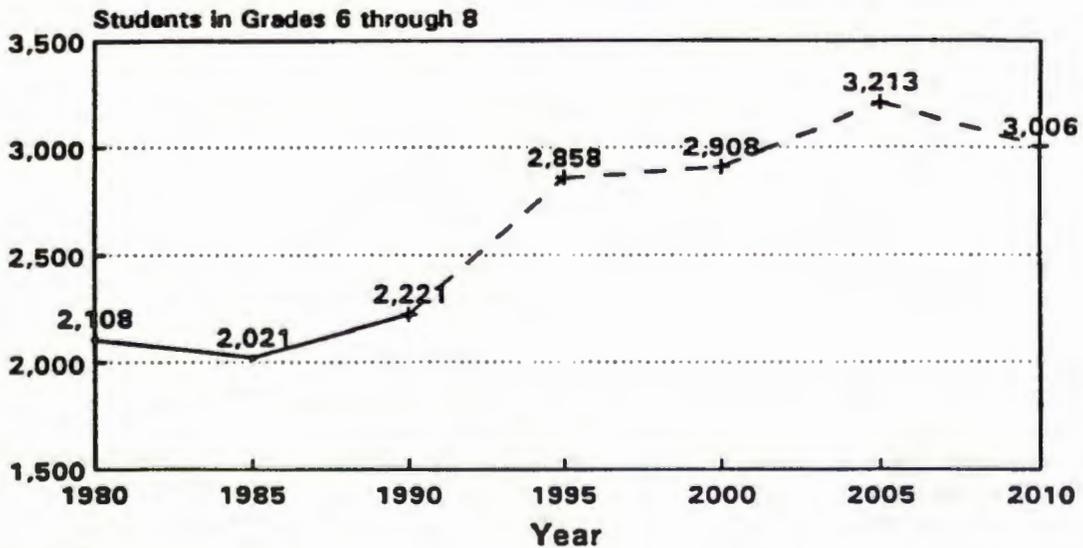
The turn of the century is expected to bring slower population growth in York County. By the year 2000, most of the baby boom will have advanced beyond the childbearing ages, only to be replaced by the baby bust. Just as the baby boom had its echo, the baby bust will have an echo of its own, and the birth rate will fall as the number of people in the childbearing ages falls. Residential development activity is expected to continue-bringing new families into the County-but is not expected to match the housing growth of the 1990s. This reflects such factors as the decreasing supply of residential land, new residential land-use designations which will allow less housing density, new environmental constraints on development, and the County's priority for extending public utilities to developed rather than undeveloped residential areas.

**FIGURE 32**  
**ACTUAL AND PROJECTED ELEMENTARY SCHOOL**  
**MEMBERSHIP IN YORK COUNTY, 1980-2010**



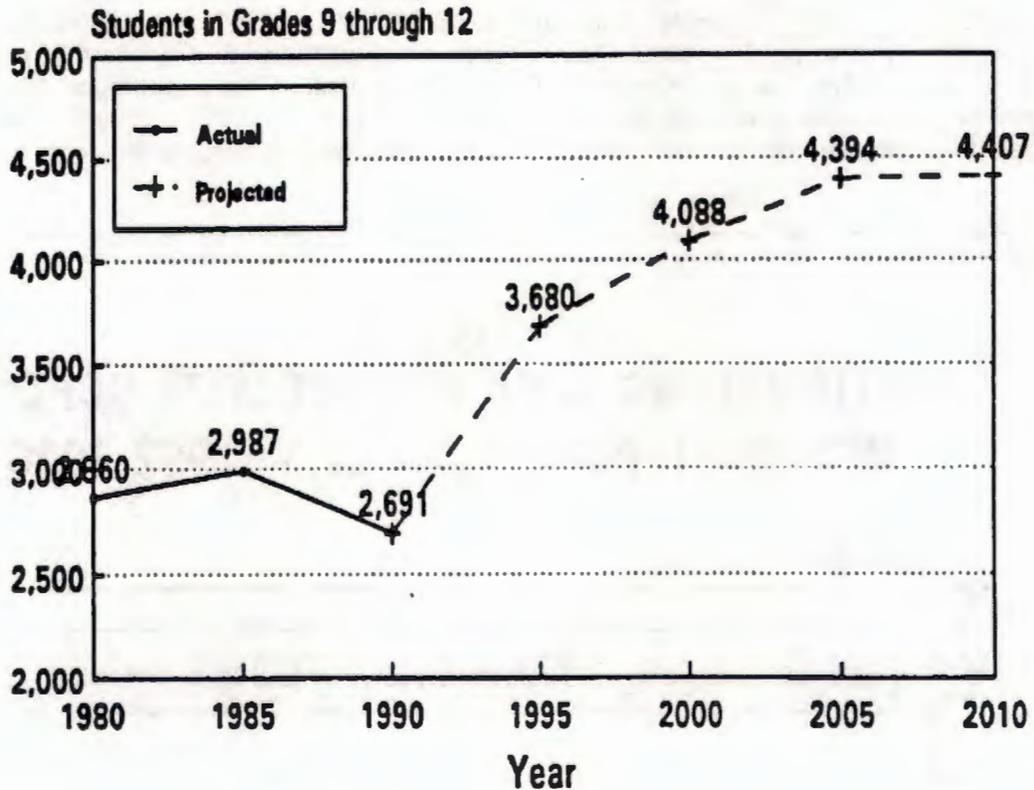
*Note: Figures are for the month of September and do not include Special Education students.*

**FIGURE 33**  
**ACTUAL AND PROJECTED MIDDLE SCHOOL**  
**MEMBERSHIP IN YORK COUNTY, 1980-2010**



*Notes: Figures are for the month of September and do not include Special Education students.*

**FIGURE 34**  
**ACTUAL AND PROJECTED HIGH SCHOOL**  
**MEMBERSHIP IN YORK COUNTY, 1980-2010**



*Notes: Figures are for the month of September and do not include Special Education students.*

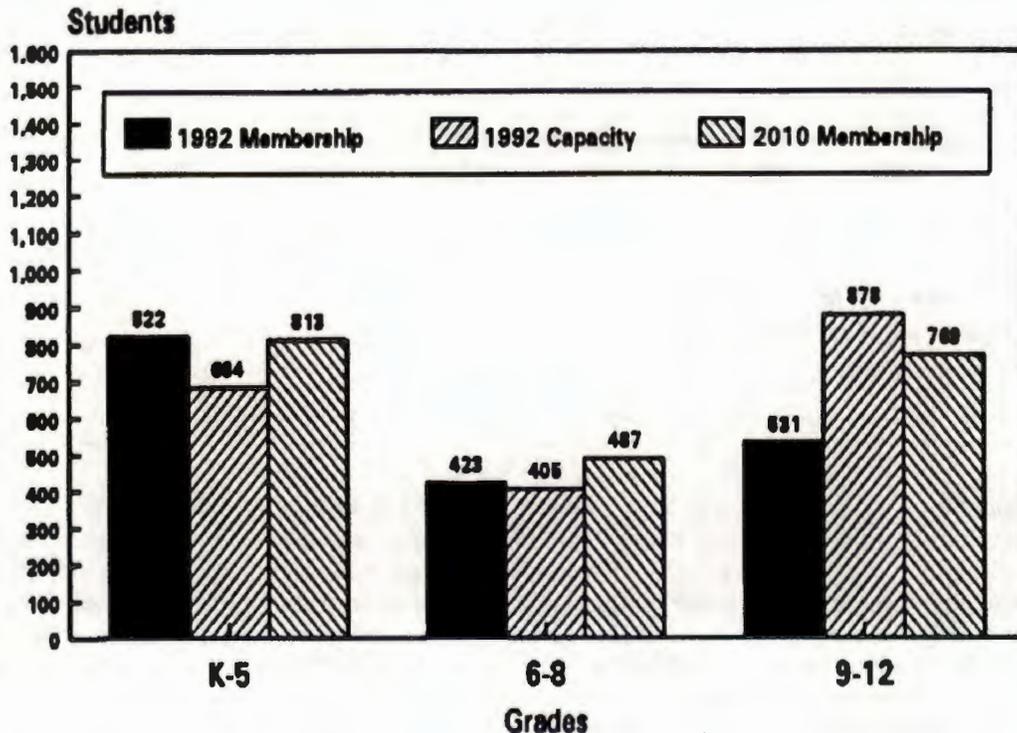
Slower population growth will translate into slower growth in school membership. As the baby boom echo grows up and exits the school system, it will be replaced by the baby bust echo, which will bring relative stability to school membership as the baby bust during the 1970s brought relative stability after the high-growth '60s. Elementary school membership is expected to begin to decline sometime during the 2000-2005 period, while secondary school membership most likely will start to fall during the latter part of the decade. At around the year 2005, however, the baby boom echo will begin to reach the childbearing ages, bringing an increase in births that will cause elementary school membership to rise once again around the year 2009. Of course, the full impact of this increase in the birth rate will be felt beyond 2010.

### Membership and Capacity

Since school membership can be so volatile and thus is difficult to forecast beyond the short term, it would be neither realistic nor prudent to make school construction recommendations or decisions on the basis of long-range membership projections. Five years is an appropriate horizon for school facility planning.

The school system capacities developed by Dr. Earthman, as well as actual and projected membership, are shown in Table 4 and in Figures 35, 36, and 37. The Williamsburg area is considered to be that portion of the County to the north of Route 238, while that portion to the south of that roadway is considered the Grafton/Tabb area. This hypothetical division of the County into two areas is only for the purpose of forecasting general trends and is not meant to suggest that there can be no mixing of students between the two geographic areas.

**FIGURE 35**  
**WILLIAMSBURG AREA YORK COUNTY SCHOOL**  
**MEMBERSHIP AND CAPACITY, 1992-2010**



*Note: September enrollment figures*  
*Source: York County School Board*

**TABLE 4: CURRENT AND PROJECTED YORK COUNTY SCHOOL ENROLLMENT AND CAPACITY**

SCHOOL	BUILDING CAPACITY	1990		PROGRAM CAPACITY	1992		1995		2000		2005		2010	
		Students	Surplus or Deficit		Students	Surplus or Deficit								
<b>WILLIAMSBURG AREA</b>														
Elementary	985	913	72	684	822	(138)	866	(182)	1,029	(345)	847	(163)	813	(129)
Middle	500	293	207	405	423	(18)	444	(39)	515	(110)	597	(192)	487	(82)
High	1,300	505	795	878	531	347	581	297	582	296	816	62	769	109
Total	2,785	1,711	1,074	1,967	1,776	191	1,891	76	2,126	(159)	2,260	(293)	2,069	(102)
<b>GRAFTON/TABB AREA</b>														
Elementary	4,745	4,176	569	3,539	4,636	(1,097)	4,298	(759)	4,520	(981)	4,339	(800)	4,256	(717)
Middle	1,400	1,287	113	1,215	1,315	(100)	2,414	(1,199)	2,393	(1,178)	2,616	(1,401)	2,518	(1,303)
High	2,600	2,186	414	2,126	2,602	(476)	3,099	(973)	3,506	(1,380)	3,578	(1,452)	3,638	(1,512)
Total	8,745	7,649	1,096	6,880	8,553	(1,673)	9,811	(2,931)	10,419	(3,539)	10,533	(3,653)	10,412	(3,532)
<b>TOTAL COUNTY</b>														
Elementary	5,730	5,089	641	4,223	5,458	(1,235)	5,164	(941)	5,549	(1,326)	5,186	(963)	5,070	(847)
Middle	1,900	1,580	320	1,620	1,738	(118)	2,858	(1,238)	2,908	(1,288)	3,213	(1,593)	3,006	(1,386)
High	3,900	2,691	1,209	3,004	3,133	(129)	3,680	(676)	4,088	(1,084)	4,394	(1,390)	4,407	(1,403)
Total	11,530	9,360	2,170	8,847	10,329	(1,482)	11,702	(2,855)	12,545	(3,698)	12,793	(3,946)	12,483	(3,636)

Notes: In 1992, the School Board initiated a transition from "intermediate schools" (encompassing grades 7 and 8) to "middle schools" (encompassing grades 6 through 8). This was first implemented at Queens Lake Middle School and is planned for implementation ultimately at York & Tabb middle schools. Therefore, the Grafton/Tabb area middle school capacity and enrollment figures for 1990 and 1992 include only grades 7 and 8, while the figures for later years include grades 6, 7, and 8 in the middle school category. In 1992 there were 650 6th graders in the Grafton/Tabb area.

Middle school program capacity figures reflect the total program capacity in each school and do not necessarily provide for physical separation of sixth, seventh, and eight grade students as in the desired program arrangement under the Middle School Concept.

Future changes in programs may lead to changes in program capacity.

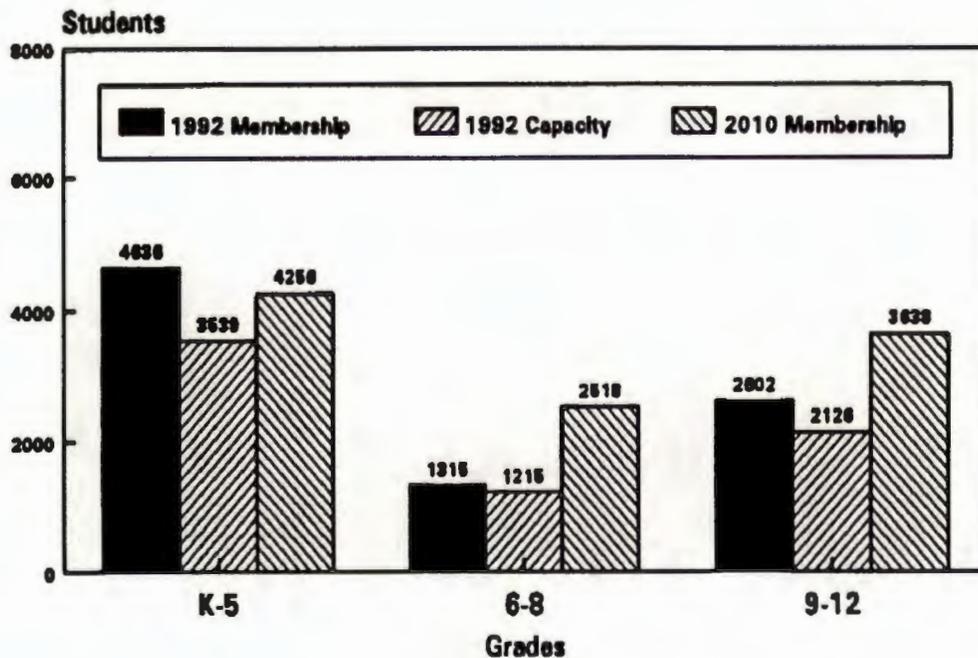
Membership figures for 1992 and beyond do not include Special Education students, and classrooms dedicated to Special Education students are not included in the program capacity figures. In 1992 there were 49 Special Education students.

Shaded areas indicate deficits.

As Table 4 demonstrates, in 1992 the York County school system as a whole had insufficient capacity at the elementary, middle, and high school levels. In fact, only at the high school level in the Williamsburg area is there excess capacity. The level of overcrowding is greatest in the Grafton/Tabb area.

Projections indicate more than a two-fold increase in the high school capacity deficit in the Grafton/Tabb area between 1992 and 2010. The middle school capacity deficit also is projected to increase dramatically from 100 in 1992 to 1,303 in 2010, with the biggest increase in middle school overcrowding projected to occur in the 1992-95 period, when it is presumed that sixth graders will be attending middle schools as they do currently in the Williamsburg area (Queens Lake Middle School). It is important to note that the inclusion of sixth graders in Tabb and Yorktown Middle Schools will cause a dramatic and sudden increase in overcrowding in the near future. Elementary schools as a whole in the Grafton/Tabb area also are projected to remain seriously overcrowded through the year 2010, although the deficit is projected to decline somewhat after 1995.

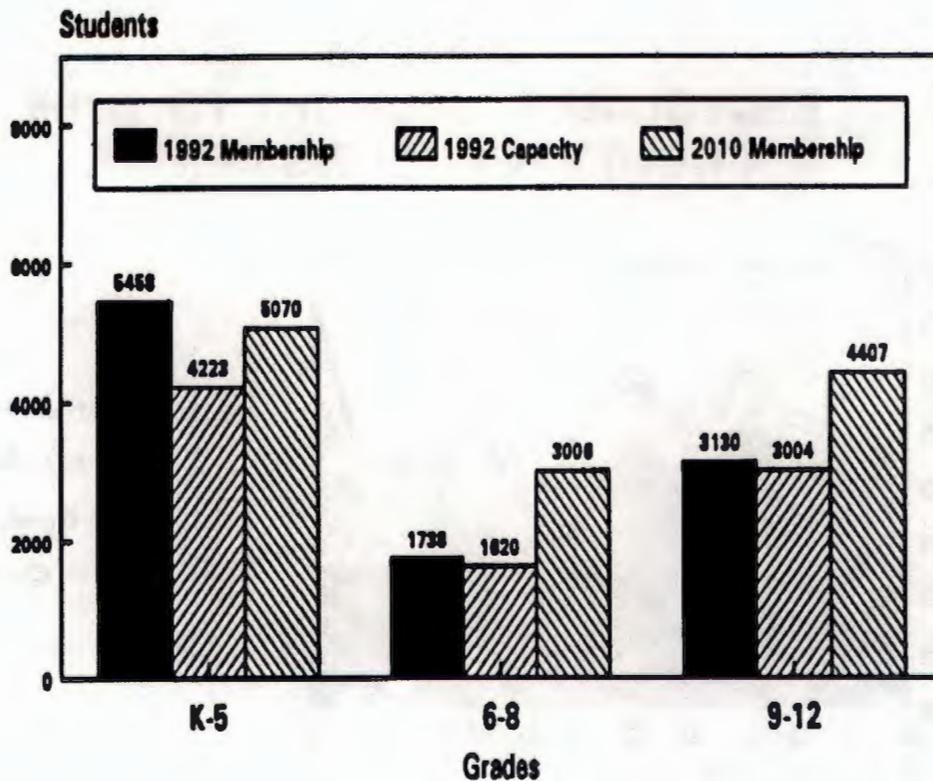
**FIGURE 36**  
**GRAFTON/TABB AREA YORK COUNTY SCHOOL**  
**MEMBERSHIP AND CAPACITY, 1992-2010**



*Note: September enrollment figures*  
*Source: York County School Board*

In the Williamsburg area, overcrowding is projected to continue through 2010 but will be far less serious than in the Grafton/Tabb area schools. Overcrowding in the Williamsburg area is projected to be worst in the elementary schools, where the capacity deficit is projected to peak at 345 in the year 2000. Bruton High School, in contrast, is projected to have excess capacity through 2010.

**FIGURE 37**  
**YORK COUNTY SCHOOL MEMBERSHIP**  
**AND CAPACITY, 1992-2010**



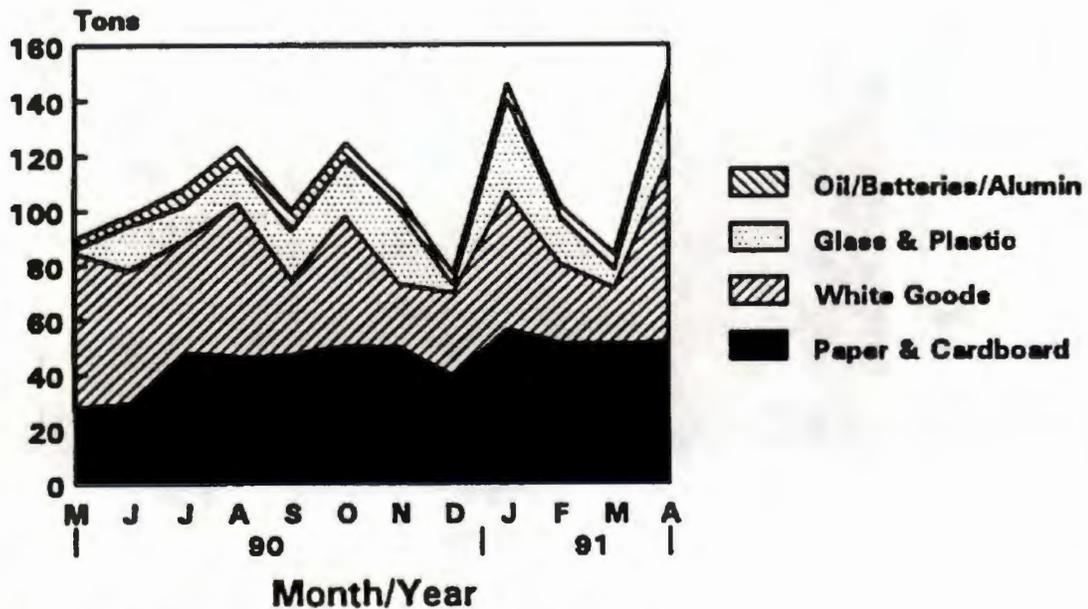
*Note: September enrollment figures*  
*Source: York County School Board*

## Solid Waste Management

Solid waste management has risen to the forefront of public policy concerns for cities and counties all across the country which are now finding that landfilling is not the final solution to their solid waste problems. The capacity of existing landfills is strained by continual growth in the amount of municipal solid waste (MSW) generated, and new landfills are increasingly difficult to construct because of opposition from residential neighbors and more stringent regulation. Perhaps even more importantly, there is a growing understanding and awareness of the potential adverse environmental and health impacts of landfills, and the methods that have been developed to mitigate these impacts have greatly increased the expense of operating landfills. As a result, there is now a growing acceptance of source reduction, re-use, and recycling as means of decreasing the amount of MSW generated or requiring landfilling.

There is no municipal garbage collection in York County. Rather, most County households either haul their trash to the landfill or hire a private firm, either individually or through their homeowners' associations, to collect and dispose of their trash. Trash trucks are charged a tipping fee of \$33 per ton, while County residents can dump their trash for free. A small number of citizens continue to burn their trash; burning of leaves and yard debris, however, is widespread.

**FIGURE 38**  
**RECYCLABLES BROUGHT TO YORK**  
**COUNTY RECYCLING CENTER**



*Note: Center opened on April 28, 1990.*  
*Source: York County Department of Environmental Services*

The York County landfill occupies a 93-acre site along Goodwin Neck Road. Sixty-seven acres have been permitted for landfilling. Also located on the site is York County's recycling center, which opened in April 1990. The recycling center is open five days a week and accepts newspaper, office paper, aluminum, plastics, glass, used motor oil, and corrugated cardboard. In addition, the landfill collects and recycles large appliances known as "white goods" (e.g., refrigerators, washing machines, etc.). There is also a private landfill on Wolf Trap Road that accepts construction and demolition materials. The James City County landfill, located at 1206 Jolly Pond Road, is also open to County residents.

In 1990, York County's landfill accepted 31,000 tons of trash, approximately half of it generated by households and half generated by commercial and industrial uses. At this rate it is estimated, based on the permitted acreage of the site, that the remaining life expectancy of the landfill is 15-20 years. This life expectancy has been constrained, however, by the adoption of new solid waste management regulations which will dramatically alter the technical aspects and costs of landfilling in Virginia. The purpose of these regulations, which were adopted by the Virginia General Assembly in 1988 and will go into effect on July 1, 1992, is to minimize any impacts on human health and the environment. All currently operating landfills in the State must comply with them as of January 1995. These changes have made ownership and operation of landfills by smaller localities expensive and difficult. The cost of bringing the York County landfill into compliance with the new regulations has been estimated to be as high as \$12.5 million.

The State has adopted another new regulation relating to solid waste management, and it will have a strong impact in York County and elsewhere. Recognizing the need both to preserve landfill space and to conserve valuable resources such as paper, plastics, glass and metals, the State established a series of mandatory recycling goals that all localities must meet. Localities must divert 10% of their solid waste materials into recyclables by the end of 1991, 15% by the end of 1993, and 25% by the end of 1995. The penalty for localities that do not make a good-faith effort to achieve these goals can be as much as a fine of \$25,000 per day. Consequently, recycling will have to play an important role in every Virginia locality's comprehensive waste management strategy.

York County has begun to address the need for recycling with its drop-off recycling center. This is an important first step toward an aggressive recycling strategy, and it currently diverts approximately 5% of the trash from the County's waste stream. In addition, the County has initiated an office paper recycling program for all County offices. Several other possible collection methods exist that can be included in such a strategy, such as curbside collection of recyclable household and yard waste. Aggressive recycling strategies have been successfully implemented in other localities around the nation. Berlin Township, New Jersey, set a record in 1989 by recycling 53% of its municipal waste.

Because solid waste management is a regional concern and as such will likely require a regional solution, the twelve localities of the Peninsula and Middle Peninsula regions have joined to form the Virginia Peninsulas Public Service Authority (VPPSA), which was created to develop and implement regional solutions to solid waste management.

In its 1990 Solid Waste Management Plan for the middle and lower peninsulas, VPPSA identified economies of scale both in the construction and operation of landfills and in the implementation of recycling programs. According to the plan, "Large landfills cost significantly less to construct and operate than smaller sites on a unit cost basis. This supports the concept of regional and subregional landfill facilities." VPPSA estimates that York County can reduce its cost of waste disposal from approximately \$80 per ton to \$60 per ton by participating in a regional landfill program. Similarly, VPPSA reports that economies of scale exist in the recycling industry, not

only in the cost of fixed facilities (drop-offs, materials recovery facilities), equipment, and personnel, but also in the marketing of recyclables in the secondary materials marketplace since a large regional supplier is likely to have more clout (ability to negotiate favorable contracts) in the market than will a lot of small, local suppliers.

Even without the economies of scale associated with regionalism, it is likely that the cost to citizens of waste disposal can be reduced through the establishment of County-wide curbside trash collection. Currently with private subscription, different firms typically collect in the same neighborhood on different days. This method is not only inefficient (and thus costly) but inequitable as well. Households that hire a private firm to collect their trash are indirectly paying the landfill tipping fee charged to commercial haulers while households that haul their own trash pay nothing. Subscribers are in effect subsidizing self-haulers. County-wide curbside collection—whether contracted or franchised by the County to a private hauler or haulers—would provide for uniform collection in each neighborhood, thus increasing the efficiency and lowering the cost of garbage pick-up. It would also ensure that everyone in the County pays equally for waste disposal. Furthermore (as discussed below), curbside collection would likely increase participation in the County's recycling program and discourage the practice of illegal dumping along County roadways.

Key to the success of recycling, both locally and nationally, is the creation of new markets—and the expansion of existing markets—for recycled products, since products will not be recycled if the demand for recycled products is too low to make it financially feasible to produce them. That the cost of recycled paper currently exceeds the cost of "virgin" paper is evidence of the need for increased markets. All over the country, however, progress is being made in this direction as new uses for recyclables are developed and more and more firms begin to use recycled products. Recently, for example, McDonald's restaurants not only switched from styrofoam to paper packaging but also began using bags made of recycled paper. Locally, York County stationery and business cards are printed on recycled stock.

More importantly, a successful recycling program requires the active involvement of the community. People need to have a reason to separate their trash. Public information and education can play a vital role, but will not likely achieve 100% participation. A recent nationwide study of 264 cities with recycling programs found that the mean average participation rate in those cities that had voluntary programs was 40%. Cities with mandatory programs, in contrast, achieved a 75% participation rate. These cities also achieved an average trash diversion rate of 22%, while the cities with voluntary programs diverted 12% of their garbage.

Although no final decisions have been made, current VPPSA plans call for the construction of a regional recycling center, also known as a Materials Recovery Facility (MRF), in York County at the site of the current landfill. VPPSA is also studying potential regional landfill sites within all 12 member localities. In addition, York County has entered into a contract for the curbside collection of recyclables, scheduled to begin in December 1991.

# GOALS/OBJECTIVES/IMPLEMENTATION STRATEGIES

## I. OVERALL

As the population grows, so too does the need for community services and the facilities where these services are provided. Such facilities include schools, parks, fire stations, libraries, jails, waste management facilities, and government offices. The overall goal is to provide high-quality community facilities at appropriate locations to serve conveniently, efficiently, and economically the needs of all County residents.

### A. Objectives

- ✓ 1. Use the Comprehensive Plan to guide the process of budgeting County funds for capital improvement projects.
- ✓ 2. Coordinate the location and timing of community facilities in recognition of existing and anticipated needs and characteristics of present and future populations.
3. Recognize the County's community facility needs that are shared by neighboring localities and the opportunities of meeting these needs more efficiently through regional approaches.

### B. Implementation Strategies

- ✓ 1. Each year, develop a six-year Capital Improvements Program to guide the construction of capital improvements in accordance with the Comprehensive Plan.
- ✓ 2. Ensure that architectural and aesthetic standards for community facilities meet or exceed the standards for private facilities so as to provide for public buildings that are attractive and set a positive example for high-quality development in the County.
- ✓ 3. Design public buildings to accommodate a variety of uses.
- ✓ 4. Where feasible and practical, cooperate with neighboring localities in the establishment of regional facilities to provide for greater convenience, efficiency, and economy in the construction and operation of community facilities.

## II. DETENTION AND LAW ENFORCEMENT

The goal for detention and law enforcement is to provide detention/correctional facilities of sufficient capacity to house securely the County's future inmate population.

## **A. Objectives**

1. Participate in regional approaches to providing facilities for the incarceration of both adult and juvenile inmates.
2. Provide for the separation of sentenced and unsentenced inmates and different types and classes of inmates (e.g., male and female, felons and misdemeanants).
3. Provide adequate and appropriately located administrative/office space (e.g., headquarters, sub-stations) to accommodate a manpower level sufficient to meet the County's present and future law enforcement needs.
4. Establish conveniently located facilities for juvenile detention.
5. Provide adequate holding facilities convenient to the County courthouses.

## **B. Implementation Strategies**

1. Working with the other localities of the 9th Judicial District, and the 15th District localities as well, develop a regional 20- to 24-bed juvenile detention center in a location which provides opportunities for future expansion of the facility as necessary. This facility should provide accommodations for both sexes and should include youth recreational and classroom space and office space. Since historically more juvenile detainees come from the Peninsula area than from any of the other areas involved, the juvenile detention center should be built in York County, James City County, Williamsburg, or Gloucester County. For the convenience of all localities involved, the juvenile detention center, if it is to be in York County, should be built in the northern area of the County.
2. Participate in the performance of a feasibility study, conducted by the Hampton Roads Planning District Commission, for a Peninsula regional jail to serve York County, Poquoson, Williamsburg, and James City County.
3. Study carefully the results of the above-mentioned feasibility study and, if the feasibility of a regional jail is indicated, proceed with negotiations with the other three localities involved for the development of a Peninsula regional jail. If built in York County, this jail should be located in the an area where it will be most easily accessible for all four jurisdictions.
4. Establish a Sheriff's Department sub-station in the northern portion of the County. Perhaps such a facility could occupy a portion of the Hubbard Lane Fire Station site if there would be no conflict in telecommunications needs. Another possibility is to locate a sub-station within a residential or commercial development, if there is developer interest, on a dedicated site, thus benefiting both the County and the developer.
5. Maintain holding facilities in the current Sheriff's Department building at least until the construction of a new courthouse.
6. Perform a needs study to determine if the County should consider the creation of a police department.

### III. FIRE AND RESCUE

The central purpose of emergency response planning is risk minimization. Emergencies, by definition, cannot be predicted. Although certain types of disasters may never occur, it is important that the County be prepared to respond to them. Toward this end, the goal for fire and rescue is to provide prompt and effective fire protection and emergency medical service to the entire County.

#### A. Objectives

1. Establish fire stations so located, designed, equipped, and staffed to provide fire protection and emergency medical service to all areas of the County within an acceptable response time.
- ✓ 2. Locate and design fire stations in such a way as to provide opportunities for expansion of service at such times and in such locations as necessary based on future population growth and development patterns.
3. Participate with neighboring localities in mutual emergency aid agreements to provide for the sharing of resources in the event of a major fire or other disaster and to allow fire station service areas to cross jurisdictional boundaries so that fire protection and emergency medical service will be available to those areas which are isolated by geographical barriers or which have a population density too low to justify their own fire station.
- ✓ 4. Participate with area military installations in mutual emergency aid agreements to provide for the coordination of response activities and the sharing of resources in the event of a major fire or other disaster, including water-related disasters.
- ✓ 5. Consider the special needs of the Fire and Rescue Service with regard to roadway access and water availability prior to approval of development plans and in all decisions regarding utility extension and roadway construction.
- ✓ 6. Enhance the capability of the Department of Public Safety to respond to and handle hazardous materials incidents and accidents and other special rescue situations.
- ✓ 7. Provide greater opportunities for the training of County fire and rescue personnel to take place in the County.

#### B. Implementation Strategies

1. Adequately staff and equip every fire station in the County. The prioritization of equipment/manpower assignment to the various stations, as indicated by current trends with regard to development patterns and emergency locations, should be 1) Yorktown, 2) Tabb, 3) Seaford, and 4) Skimino. In addition, a station should eventually be constructed at the Kiln Creek site timed to coincide with the completion and occupancy of the Kiln Creek and Coventry planned developments it would serve. This station will be needed after the year 2000.
2. Maintain and strengthen existing mutual and automatic aid agreements with all localities and military installations in the region. These agreements are vital

components of the County's emergency response capability, and they should remain in place and, if possible, be strengthened even further. One potential area for improvement is maritime disaster response. With the possible introduction of a dinner cruise line on the York River and plans to revitalize Yorktown and generate more activity on the waterfront, the risk of a ship collision, boat fire, or other severe boating accident in the York River will grow. Plans and procedures should be in place to enable the Fire and Rescue Service to work in coordination with the Coast Guard (and/or the Navy) in the event of such a disaster.

3. Upgrade the County's hazardous materials response capability from Level 2 to Level 2E (Enhanced) if further industrial development utilizing hazardous materials takes place in the Goodwin Neck area. Such an upgrade would involve special special training and equipment acquisitions. To the extent possible all avenues for sharing the burden for the cost of this upgrade with the development community should be explored. It may eventually be necessary to upgrade to Level 3, but that determination will have to be made sometime in the future after the County has had a chance to evaluate its hazardous materials risk.
4. Secure one light-duty crash response vehicle and one heavy-duty crash response vehicle, with a second light-duty crash vehicle to be acquired later if deemed necessary. The light-duty crash vehicle should be housed at the Bruton district station and should be acquired first since I-64 runs through the northern section of the County and is the site of the most serious traffic accidents. The heavy-duty crash vehicle should be located at the Yorktown Station because of its central location. This recommendation was adopted by the Board of Supervisors in April 1989 as part of the County's Transportation Safety Plan, which called for the acquisition of all three vehicles. However, since this proposed vehicle assignment will ensure that crash response will be available to all County residents, an additional light-duty crash vehicle may not be necessary.
5. Begin to acquire all equipment and training necessary to establish a County Special Tactical and Rescue (STAR) team for handling special rescue situations. As of October 1989, sixteen York County Fire and Rescue Service personnel had voluntarily undergone the extensive training and were available for use as team members. Rescue equipment that will need to be acquired includes, in addition to the crash response vehicles recommended in #4 above, a remote supplied breathing air system, a portable compressor, trench equipment, confined space hardware, and additional rope, hardware and air bags. It is possible that much of this equipment can be provided by various businesses in the County that would most likely benefit from the existence of a STAR Team, such as owners of high-rise buildings. The STAR Team should operate out of the Yorktown Station, both because of its central location and because the heavy-duty crash vehicle is proposed to be housed there. As with #4 above, this recommendation was adopted by the Board of Supervisors as part of the 1989 Transportation Safety Plan.
6. It is recommended that the County investigate the construction of a facility for the training and re-training of fire and rescue personnel. This training facility should include a training tower, burn building, classrooms, offices and equipment storage. The facility can also be made available to neighboring localities for their fire and rescue training needs.

7. Expand the availability of and accessibility to public water throughout the County. Although this issue is dealt with in the Utilities element of this plan, it is important to recognize the need for expanded water availability for reasons of public safety as well as public health. This means that not only does public water need to be extended into unserved areas, but also there must be an adequate number of hydrants in place. The Fire and Rescue Service does have tankers to respond to fires in areas not served by public water, but just as private wells are not an ideal substitute for a steady supply of public water, neither are tankers. In addition, the Department of Public Safety should continue to be consulted in all future decisions relating to either public water extensions or approval of development plans.

#### **IV. GOVERNMENT OFFICES**

The goal for government offices is to provide sufficient and appropriately located office space to house efficiently and economically the County's administrative and constitutional offices and the court system.

##### **A. Objectives**

1. Provide offices with sufficient space for the employees, equipment and records necessary to provide the citizens with efficient and responsive County government.
2. Maintain Yorktown as the center of County government.
3. Expand courtroom space to accommodate sharply increasing caseloads in York County's court jurisdiction.
4. Develop and utilize alternative means of record storage to minimize the amount of space needed.
5. Require County offices to meet or exceed the development standards, including landscaping standards, that are required of private development so as to ensure public buildings that are attractive and set a positive example for high-quality development in the County.

##### **B. Implementation Strategies**

1. Explore the possibility of converting County files and records to a microfiche or other space-saving format.
2. Develop a master plan for additional courtroom and office space.

#### **V. LIBRARY SERVICE**

The goal for library service is to ensure the availability of convenient high-quality library service to every resident of the County.

## **A. Objectives**

1. Establish library service that meets or exceeds the minimum standards for a Level I library as defined by the Virginia State Library Board.
2. Provide convenient library service to residents of the Tabb area.
3. Maintain the availability of high-quality library service in the northern area of the County.
4. Expand and extend library service to accommodate the needs of the present and future population.

## **B. Implementation Strategies**

1. The County should proceed with the acquisition of land for and construction of a permanent facility. In order to meet the floor space guidelines of the Virginia State Library Board, library space in the southern portion of the County will have to increase by about 130% by 2010; this is beyond the expansion capabilities at the present facility. Since the present facility is under-utilized by Tabb residents, and since Tabb has the most heavily concentrated population in the County (and will become much more so), any new facility should be built in Tabb. Libraries are most successful when located in shopping areas that attract a lot of people, so this new library should be located along the Route 17 or 134 corridor, or in close proximity thereto. The ultimate size of the Tabb library should be about 16,000 square feet; however, a smaller building could be constructed initially and be designed for easy expansion. Approximately 2-3 acres of land will be needed to accommodate such a building, including parking space and landscaped open space (buffers). The library may include ancillary activities and/or features, such as community meeting rooms or an amphitheater, but these may not be included in the library floor space calculation.
2. When the Tabb library is built, relocate central library operations to the Tabb library and designate the current York County Library as a branch. With at least 6,000 more square feet of floor space than the existing York County Public Library, the Tabb library should become the central library. The VSLB guidelines state that at least half of the necessary total library floor space in a locality (based on the standard of .6 square feet per person) should be located in the main or central library. Since this would entail relocating the library offices and technical services from the present library to the Tabb library, it would also enable the present library to expand its collection without enlarging the building itself, which would be costly.
3. Continue the agreement with the Williamsburg Regional Library to provide funding in exchange for service to York County residents. Any attempt on the part of York County to provide library service in this area would be a duplication of effort. The County should provide adequate annual funding to the regional library system in order to continue its service to County residents. It may eventually be necessary for the County to join the regional library system.

## VI. PARKS AND RECREATION

The goal for parks and recreation is to provide for a range of recreational facilities and activities adequate in number, type, size, and location to accommodate the needs of all County residents.

### A. Objectives

- ✓ 1. Continue implementation of the "school/park" concept to provide for cooperation between the school system and the Board of Supervisors in the provision of County recreational facilities.
- ✓ ~~2.~~ 2. Recognize the existence and importance of private and other non-County facilities and programs which help to meet the recreational demands of County residents.
- ✓ 3. Consider the particular needs of special populations in the County, such as the young and the elderly, when planning for recreational facilities.
- ✓ 4. Acquire land in the County for additional recreation facilities as determined necessary, and within budgetary constraints, to meet the existing and projected demand for both public and private recreation programs.
- ✓ 5. Consider expansion of existing recreational facilities where feasible.
- ✓ 6. Increase recreational and boating access to waterways.
- ✓ 7. Increase utilization of New Quarter Park in a manner which is appropriate in recognition of its ecological and environmental characteristics and access limitations.
- ✓ 8. Promote the provision of open space and recreational facilities in new residential developments.
- ✓ 9. Ensure that athletic fields and other recreational facilities are well maintained.

### B. Implementation Strategies

1. Review, revise as necessary, and present for formal consideration by the Board of Supervisors the "Second Wind" plan for establishing recreational facilities at County school sites.
2. Maintain the formal written agreement between the School Board and the Board of Supervisors providing for the sharing of recreational facilities on school grounds and setting specific terms for this joint use.
3. Begin developing master plans for the Kiln Creek and Grafton Drive school sites to allow for the consideration of the establishment of athletic fields and/or courts, lighted wherever possible, at these sites in advance of construction of schools.
- ✓ 4. Evaluate the recreational use potential of the former County landfill and, subsequent to closeout, the current landfill.

5. Develop a community center to include meeting rooms, kitchen facilities, recreational facilities, satellite County offices, and multi-purpose rooms; it could also be co-located with the Tabb library recommended elsewhere in this element. Such a center would be an appropriate location for any senior citizen programs that may be developed in the future to serve the County's rapidly growing senior population. In addition, consideration should be given to including appropriate recreational facilities. Initially, as a pilot program, the County should explore the possibility of renting various private facilities—such as club houses that are owned and operated by homeowners' associations—for senior citizen programs and other community uses.
6. Open New Quarter Park to the general public for passive and active recreation purposes on a seasonal basis (i.e., Spring, Summer, early Fall, weekends).
7. Pursue the acquisition of available surplus government and private lands for use as park land. Acquisition of waterfront property is particularly needed, for much of York County's shoreline is federal property and unavailable for the use and enjoyment of citizens of the County.
8. Establish improved communication between the County and the various private recreation associations in the County—such as York County Little League Baseball, York County Youth Football Association, and the Yorktown United Soccer Club—to incorporate the needs of such groups in parks and recreation planning and policy-making. Toward this end, the York County Parks and Recreation Advisory Board should meet with representatives of these groups on a regular and frequent basis.
9. Work to establish an agreement with James City County and the City of Williamsburg to allow residents in the northern area of the County to join the James City County Recreation Center for the same fee paid by residents of those localities.
10. Use as a cultural resource the various museums and college facilities within the Tidewater area and acknowledge their contribution to the cultural arts of our area.

*Revised December 3, 1992  
by Ordinance No. 092-46*

## **VII. SCHOOLS**

The goal for schools is to provide a learning environment that is conducive to the education of all present and future school-age children in the County, while also encouraging adult education.

### **A. Objectives**

1. Establish a system of schools so located and designed to accommodate projected growth in the school-age population while continuing to provide a high-quality education.
2. To the maximum extent feasible, recognize the existence of both the general boundaries of residential neighborhoods and their proximity to schools in establishing school attendance zones.

- ✓
- ✓ 3. Establish the following program capacity guidelines for each of the school levels:  
Elementary: 350 - 700 students  
Middle: 700-1000 students  
High: 1200-1800 students
  - ✓ 4. Consider existing and planned development activity levels and their relationship to school system capacity before approving rezonings and planned developments so as to minimize the overburdening of the County school system.
  5. Provide for sufficient program capacity in every school to accommodate reasonable fluctuations in enrollment.
  6. Provide opportunities for the use of school facilities by the community at large for non-school activities that do not conflict with school-related activities.
  7. Continue and refine implementation of the "school/park" concept to provide for cooperation between the School Division and the Board of Supervisors in the provision of County recreation facilities and programs.
  8. Locate and secure dedication or reservation of school sites in advance of need through land-use controls or incentives or outright purchase.

#### B. Implementation Strategies

- ✓ 1. Review school membership and program capacity figures every 2-3 years with a committee composed of representatives of the School Board, Board of Supervisors, Planning Commission, and York County citizens.
- ✓ 2. When feasible, alleviate school overcrowding through revisions to school attendance zones, rather than construction of new capacity, as long as there is excess school capacity at the appropriate grade level in the system.
- ✓ 3. Effectively utilize existing facilities by optimizing school capacity through permanent additions to and modifications of existing schools as a priority over new construction. Such modifications could include changing the use of an existing school.
4. If capacity deficits cannot be overcome through practical revisions to school attendance zones or additions to or modifications of existing school buildings, then new school construction should be pursued.
5. Maintain and strengthen cooperation between the School Division and the Department of Community Development in the preparation of school membership projections, which are integral to the school planning process.
- ✓ 6. Provide a cafeteria and a gymnasium in every school.
- ✓ 7. Maintain the formal written agreement between the School Division and the Board of Supervisors providing for the sharing of recreational facilities on school grounds and setting specific terms for their use. Consider expansion of existing recreational facilities where feasible. Any new school sites acquired should be able to accommodate recreational facilities as well.

8. Encourage future magnet programs, if any, to be located where excess capacity exists.
9. Participate with neighboring localities in providing regional "continuing education" programs for adults in York County and throughout the Peninsula.

## VIII. SOLID WASTE MANAGEMENT

The goal for solid waste management is to establish a comprehensive, coordinated system for managing York County's municipal solid waste in an efficient, cost-effective manner which protects the environment and promotes the health and safety of all County residents.

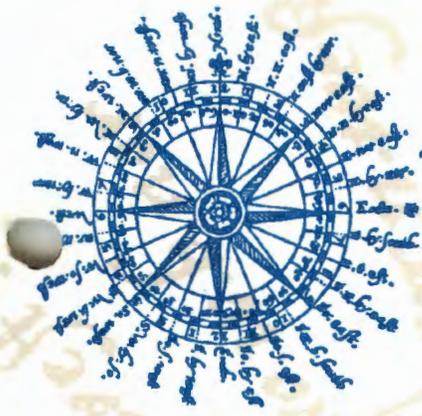
### A. Objectives

1. Participate with neighboring localities in establishing a coordinated regional solid waste management system to maximize the efficiency and economy of waste collection, recycling and disposal.
2. To the maximum degree possible, promote and provide the necessary facilities and programs for the recycling of waste products—by both households and businesses—to preserve landfill space, conserve valuable resources, and protect the environment.
3. Work to expand markets for recycled and recyclable products.
4. Increase public awareness of the need for and benefits of recycling.

### B. Implementation Strategies

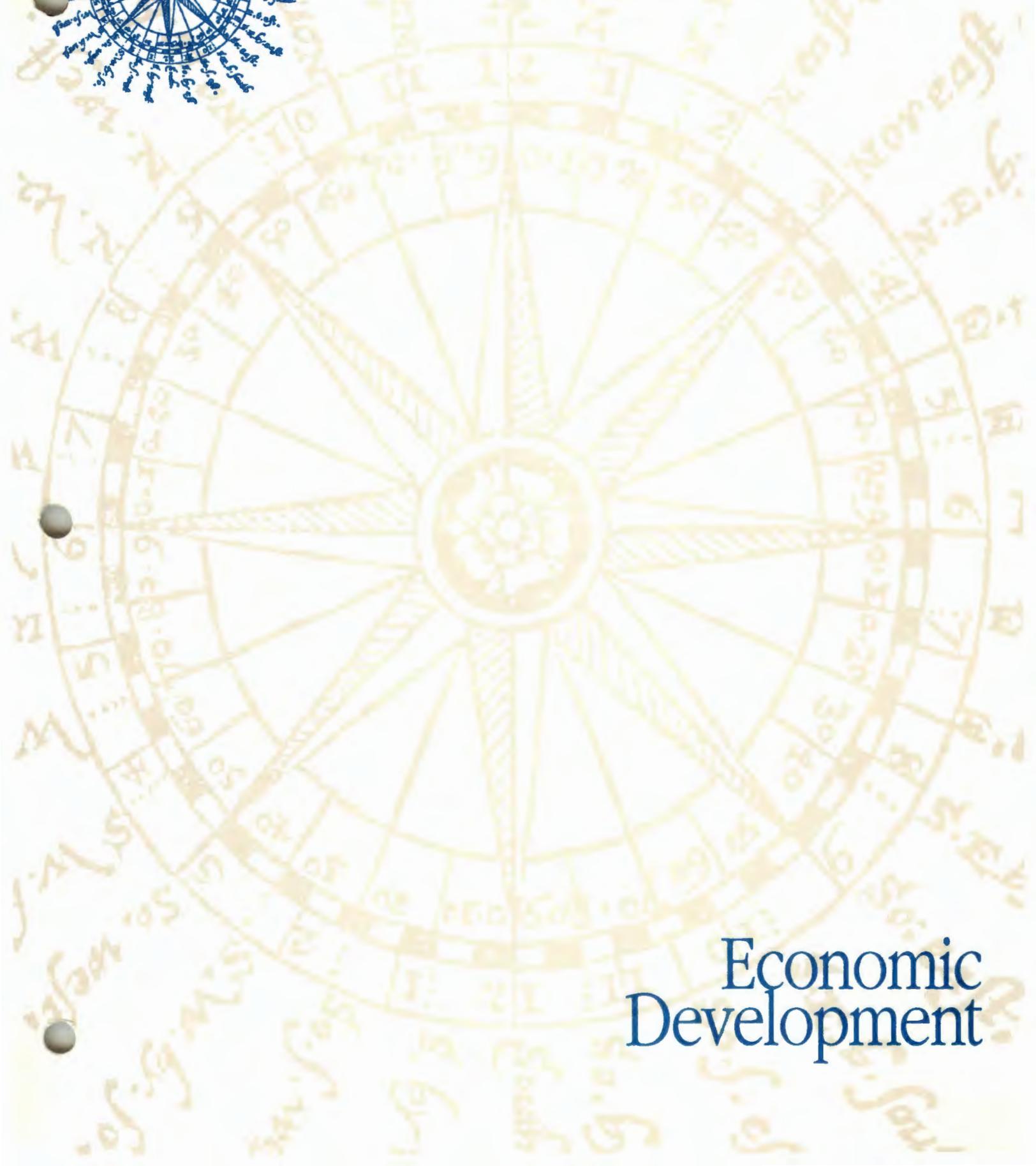
1. Participate with the member jurisdictions of the Virginia Peninsulas Public Service Authority in the construction of a regional landfill and a Materials Recovery Facility (MRF). Every effort should be made to build the MRF at the site of the current York County landfill since it is centrally located and already has an established recycling drop-off facility on the premises.
2. Establish a system of mandatory curbside collection of residential trash and recyclables contracted or franchised by the County (or VPPSA) to private haulers. A realistic waste disposal strategy for the 1990s will have to focus on integrated waste management strategies. In order to emphasize that recycling is the preferred means of waste disposal, curbside collection should be tied in some way to a system of rewards and penalties. For example, a higher pick-up fee can be charged for garbage than for recyclables, or people can be fined for failing to separate their recyclables from their garbage. For such a system to work, all County residents will have to be assessed a collection fee.
3. Require recycling on the part of business and industry in the County, using a similar system of rewards and penalties as proposed for households.

4. Provide facilities, either locally or through VPPSA, for the collection and processing of yard waste into compost and mulch to be sold commercially, made available to County residents, and/or used by the County in landscaping and beautification projects.
5. Adopt County purchasing regulations and practices emphasizes the purchase of supplies that are made of recycled products and/or recyclable themselves. For example, only recyclable white office paper should be used (for ordinary, everyday purposes), and yellow legal pads should be prohibited unless made from recycled paper.
6. Review existing County development ordinances—such as the Zoning and Subdivision Ordinances and the Building Code—to identify sections where amendment would be appropriate to promote recycling. For example, trash dumpsters are currently required in all new commercial, industrial, and multi-family residential developments as well mobile home parks. There is no requirement, however, for receptacles for recyclables.
- ✓ 7. Conduct information/education campaigns to continue to instruct the public on the need for recycling.
8. Establish minimum recycling goals for years beyond 1995.
- ✓ 9. Incorporate recycling education throughout the public school program, beginning in the elementary school curriculum.



# *Charting the Course to 2010*

Preserving the Past, Ensuring the Future



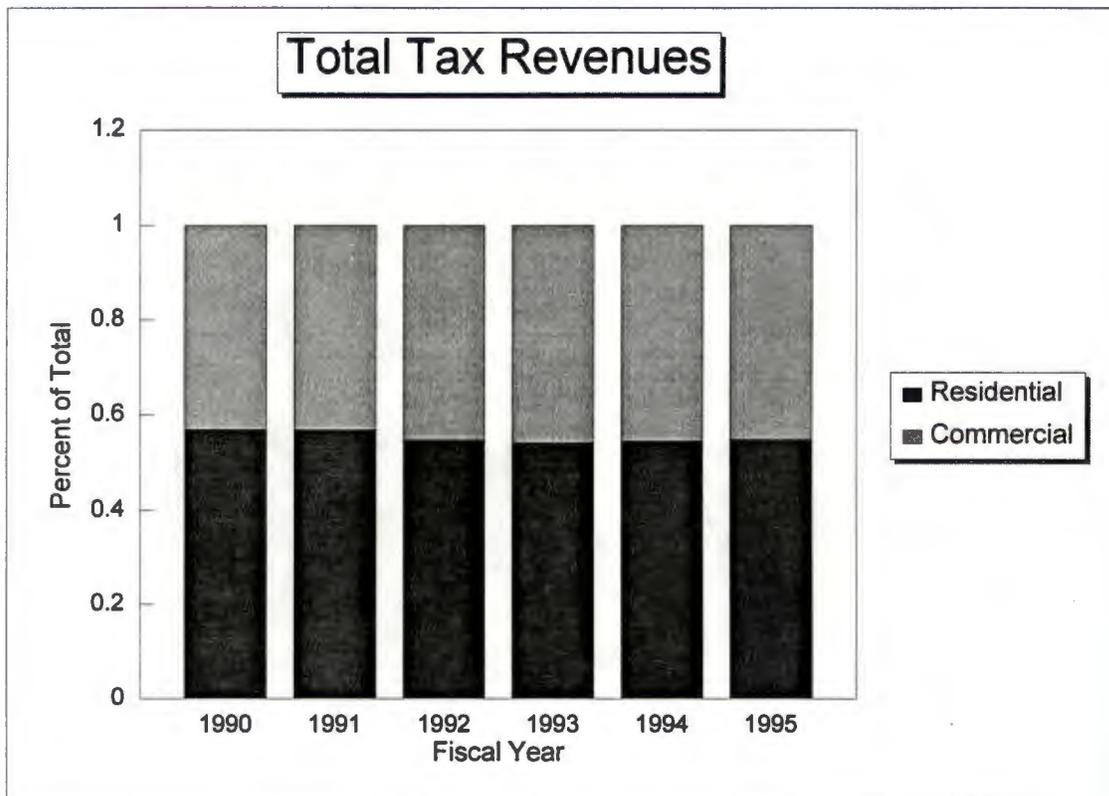
Economic  
Development

# RESIDENTIAL AND COMMERCIAL

## Total Tax Revenues

### FISCAL YEARS 1990 - 1995

<u>Fiscal Year</u>	<u>Residential</u>		<u>Commercial</u>	
	<u>Amount</u>	<u>Percent</u>	<u>Amount</u>	<u>Percent</u>
1990	\$13,765,280	56.98%	\$10,391,927	43.02%
1991	15,156,962	56.95%	11,457,565	43.05%
1992	15,954,008	54.82%	13,149,421	45.18%
1993	17,195,525	54.25%	14,504,213	45.75%
1994	20,494,351	54.65%	17,004,744	45.35%
1995	23,661,318	55.00%	19,355,812	45.00%

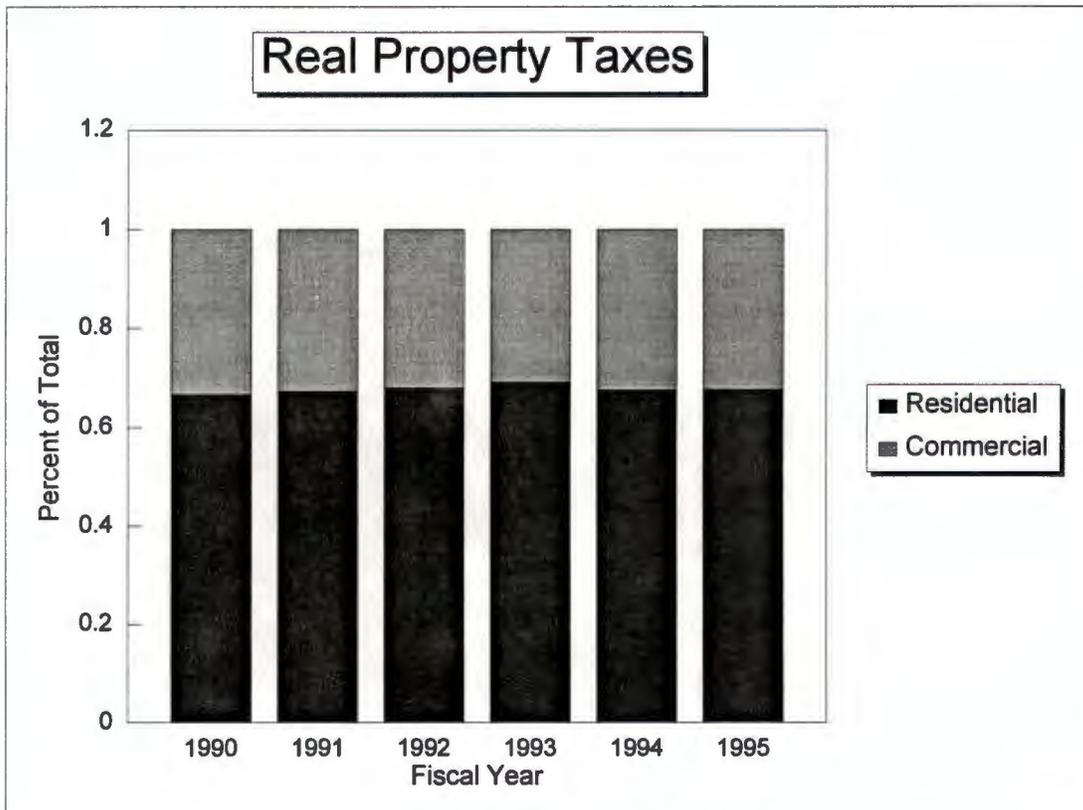


# RESIDENTIAL AND COMMERCIAL

## REAL PROPERTY TAXES

### FISCAL YEARS 1990 - 1995

<u>Fiscal Year</u>	<u>Residential Property</u>		<u>Commercial Property</u>	
	<u>Amount</u>	<u>Percent</u>	<u>Amount</u>	<u>Percent</u>
1990	\$8,983,815	66.67%	\$4,491,003	33.33%
1991	10,390,900	67.33%	5,041,792	32.67%
1992	10,990,509	67.96%	5,181,077	32.04%
1993	12,658,507	69.10%	5,660,112	30.90%
1994	14,679,184	67.60%	7,034,873	32.40%
1995	17,078,517	67.66%	8,161,849	32.34%

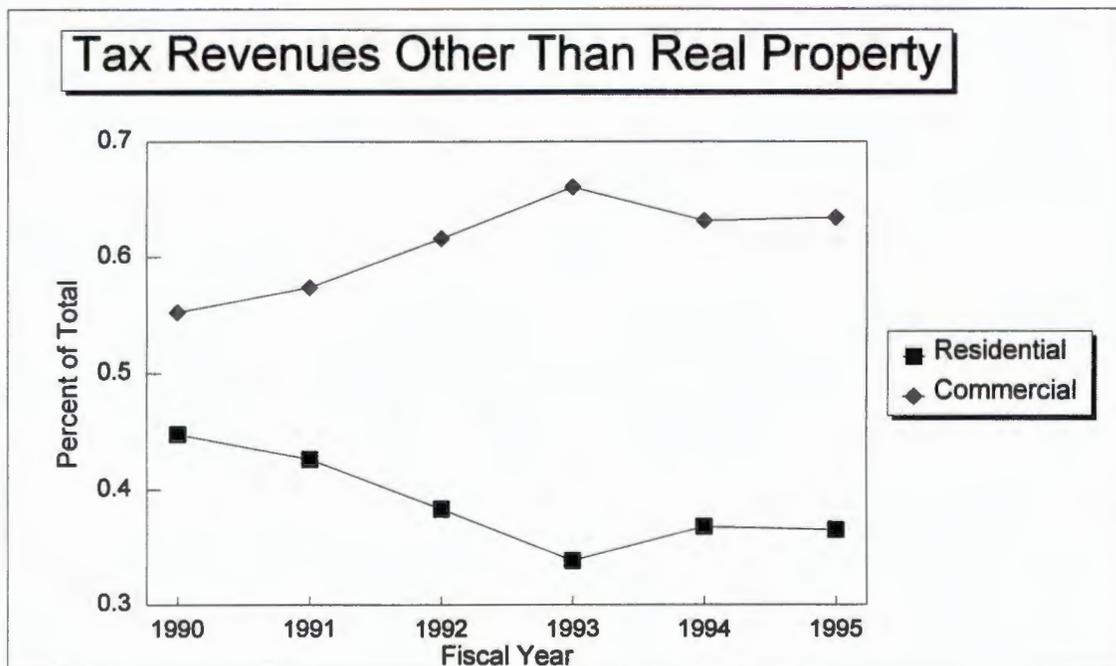


# RESIDENTIAL AND COMMERCIAL

## Tax Revenues Other Than Real Property

### FISCAL YEARS 1990 - 1995

Fiscal Year	Residential		Commercial	
	Amount	Percent	Amount	Percent
1990	\$4,781,465	44.76%	\$5,900,924	55.24%
1991	4,766,062	42.62%	6,415,773	57.38%
1992	4,963,499	38.38%	7,968,344	61.62%
1993	4,537,018	33.91%	8,844,101	66.09%
1994	5,815,167	36.84%	9,969,871	63.16%
1995	6,450,021	36.56%	11,193,982	63.44%



# ECONOMIC DEVELOPMENT

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# ECONOMIC DEVELOPMENT

## INTRODUCTION

Business and industry make a positive contribution to the fiscal health of a community both by providing employment opportunities for the residents of the community and by contributing local tax revenues that exceed the cost of providing public services to such development. These excess tax revenues can then be used to assist in funding the public services required by the County's residents while helping to keep residential taxes to an acceptable level.

Given the uncertainties surrounding the fiscal health of the federal and state governments, York County must be prepared to place a greater reliance on locally-generated revenues. This need is further compounded by a growing County population that is targeted ultimately to reach 80,000 residents, all of whom desire not only the basic necessities of excellent public schools and public health and safety but also a quality of life that embraces the recreational and cultural opportunities that contribute to a truly livable community. In order to accomplish these objectives in the face of uncertain federal and state assistance and without dramatic increases in residential tax rates, a comprehensive analysis was completed which determined that a real property tax assessment ratio of 30% non-residential property to 70% residential property would provide a desirable balance at the ultimate build-out of York County. This represents an increase from the present percentage of non-residential real property tax assessment of 19%.

## EXISTING CONDITIONS

### Introduction

The 1980s were years of economic growth for York County, as they were for both the Peninsula region and the nation as a whole. Overall, York County's position within the regional economy grew, but in some key areas, the County lagged behind the rest of the region.

Although York County shared fully in the Peninsula-wide retail boom, it did not share proportionately in the industrial expansion that occurred in the region from 1982 to 1989. While York County experienced significant job growth throughout the decade, an inordinately large share of these new jobs was in the retail trade and construction sectors, both of which are typically lower-paying and subject to layoffs. As a result, average wages in the County tend to be lower than those in the region as a whole. While York County consistently has a lower unemployment rate than the region, this is because the County is home to many well-educated, affluent residents who work in other localities that have better employment opportunities. This also explains how York County can have such a high median household income (as noted in the Demographic Base) and yet have such low wage rates relative to the rest of the Peninsula. One area where York County has made significant gains is tourism, with sizable increases in travel expenditures and hotel/motel sales enabling the County to increase its share of the Williamsburg area tourism market. However, the total number of tourists attracted to this area appears to have leveled off somewhat by the late 1980s.

During the preparation of this element personal interviews were held with a number of County leaders in an attempt to determine areas of general agreement with respect to the County's future economic development objectives. The following is a summary listing of those themes that consistently ran through these interviews:

- Economic development efforts must not proceed at the expense of the environment or the County's quality of life. New industry must be clean.
- There is a need for more high-quality office development with an emphasis on regional and

district headquarters facilities.

- The County should avoid the attraction of industries that import low-wage labor. Tourism and services are already providing enough low-end jobs.
- York County must address the absence of public utilities in certain areas and consider long-term water supply needs.
- Retail development should be more concentrated, and lower-quality "strip" development should be discouraged.
- There must exist more of a relationship between projected highway improvements and the economic development priorities of the County.
- County plan review and approval procedures should be streamlined to avoid costly delays when such procedures do not result in a higher quality of development than would otherwise be the case. A written development guide would be helpful in this effort.

### Economic Trends of the 1980s

#### Retail Sales

Figure 1 reflects the history of retail sales growth in York County, by category, for the decade of the 1980s. These figures indicate a dramatic 215% increase in total retail sales in only eight years. This increase placed York County fifth in percentage increases during this period of the 136 cities and counties in Virginia. Of this \$169 million increase in retail sales, \$37 million (22%) resulted from an increase in grocery sales during this period. While this 246% increase in grocery sales is not significantly out of proportion with the 215% increase overall, there is room for concern in that there is growing support in the Commonwealth of Virginia to repeal the retail sales tax on food. If this were to happen, York County would lose over \$630,000 annually in local tax revenue.

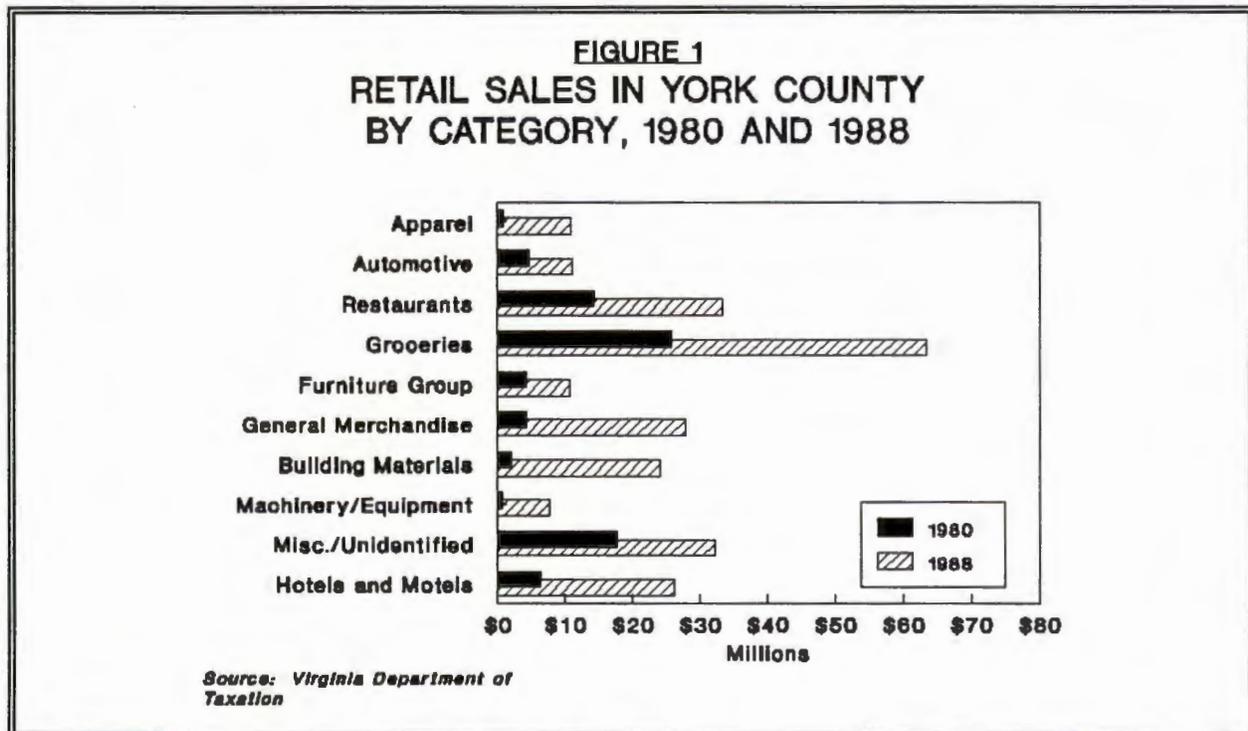


Table 1 reflects the County's share of various types of retail sales. In analyzing Table 1, it should be remembered that York County has approximately 10% of the total Peninsula population.

**TABLE 1**

York County Proportional Share of Selected Retail Sales - 1988			
Category	Peninsula Total	YORK COUNTY	
		Total	Percentage
Apparel	\$161,028,223	\$10,803,625	6.7%
Restaurants	313,208,124	33,348,939	10.6%
Furniture	144,039,477	10,717,067	7.4%
General Merchandise	393,407,832	27,911,608	7.1%
Building Materials	246,950,524	24,014,561	9.7%

*Source: Virginia Department of Taxation*

Based on Table 1, it is apparent that York County is under-represented in sales of apparel, furniture, and general merchandise. These are items typically found in larger "comparison shopping" areas or malls.

**Building Permits/Land Book Assessments**

New residential development in York County reached record highs in the mid-1980s. This trend is indicative of the fact that York County has increasingly become the residential community of choice on the Peninsula, particularly in the move-up market.

Non-residential development trended upward since 1983, though somewhat sporadically. This trend is reflective of improvement in the economies of the Peninsula, the State, and the nation as a whole. New hotel construction has been strong, particularly in the Bypass Road area. New commercial development has largely centered on the growth in the number of new community commercial centers, led by Washington Square in Grafton. In all, eight new shopping centers have opened in York County in the 1980s, leading to the surge in retail sales discussed above.

Non-residential construction was down significantly in 1989, reflective of over-building in virtually all market segments. This "trough" may be expected to last for another one to three years.

**TABLE 2**

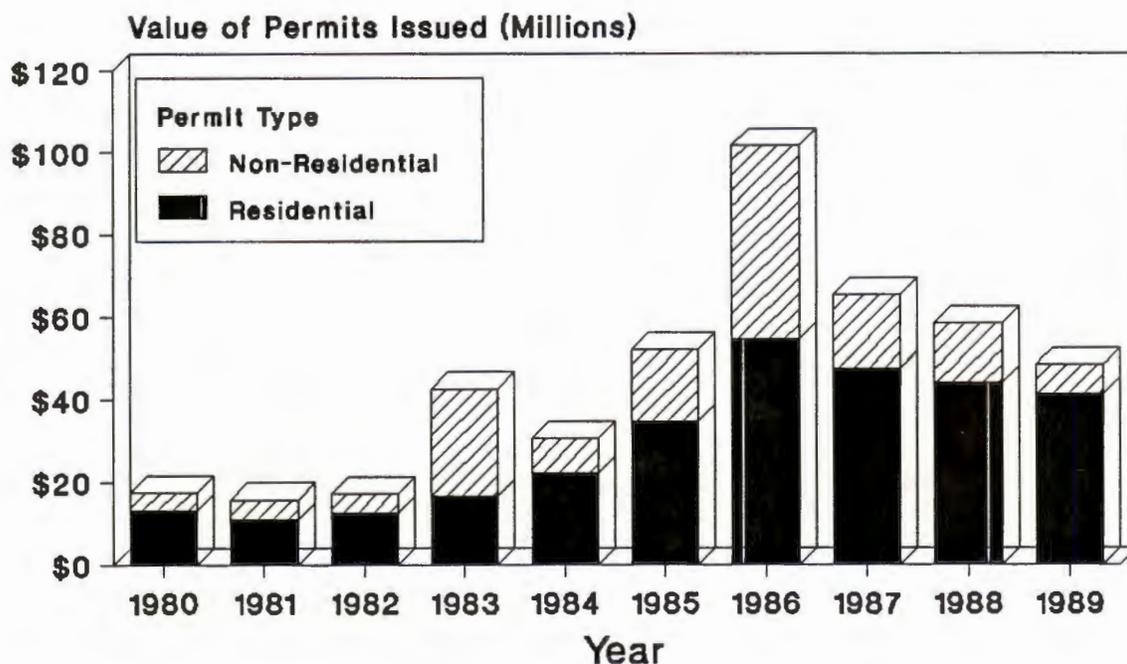
Building Permits - New, Non-Residential		
Year	Number	Value
1980 *	83	\$ 4,617,209
1981 *	87	4,860,610
1982 *	96	4,531,315
1983	48	26,070,166
1984	63	8,319,332
1985	57	17,483,873
1986	89	47,084,781
1987	98	17,517,566
1988	64	14,482,683
1989	34	7,137,166

\* Figures include remodeling and additions  
 Source: York County Building Regulation Division

New industrial development in York County has largely been in smaller buildings in the 5,000 - 10,000 square foot range. This type of structure will likely dominate in the new Victory Industrial Park as well. Exceptions are the Colonial Kitchens facility, Liberty Warehouse, and the Mid-Atlantic Coca-Cola facility, all built since 1986. The County has not experienced the development of larger industrial facilities such as have been attracted to Oyster Point and Oakland Industrial Park.

With the notable exception of the new Dominion Center on Waller Mill Road, new office development in York County has primarily been frame, second-class office space. York County lacks the office park environments necessary to attract first-class steel and masonry construction. This situation should improve dramatically with the opening of Kiln Creek Corporate Office Center, a 350-acre, high-end commercial and office park, half of which is in York County, along the new Route 171 extension. Eventual development of the 260-acre Whittaker's Mill Corporate Office Center at I-64 and Route 199 will also greatly help development of both higher-end office and light industrial product. New, first-class office development will not occur quickly, however, because of significant overbuilding in the Peninsula office market.

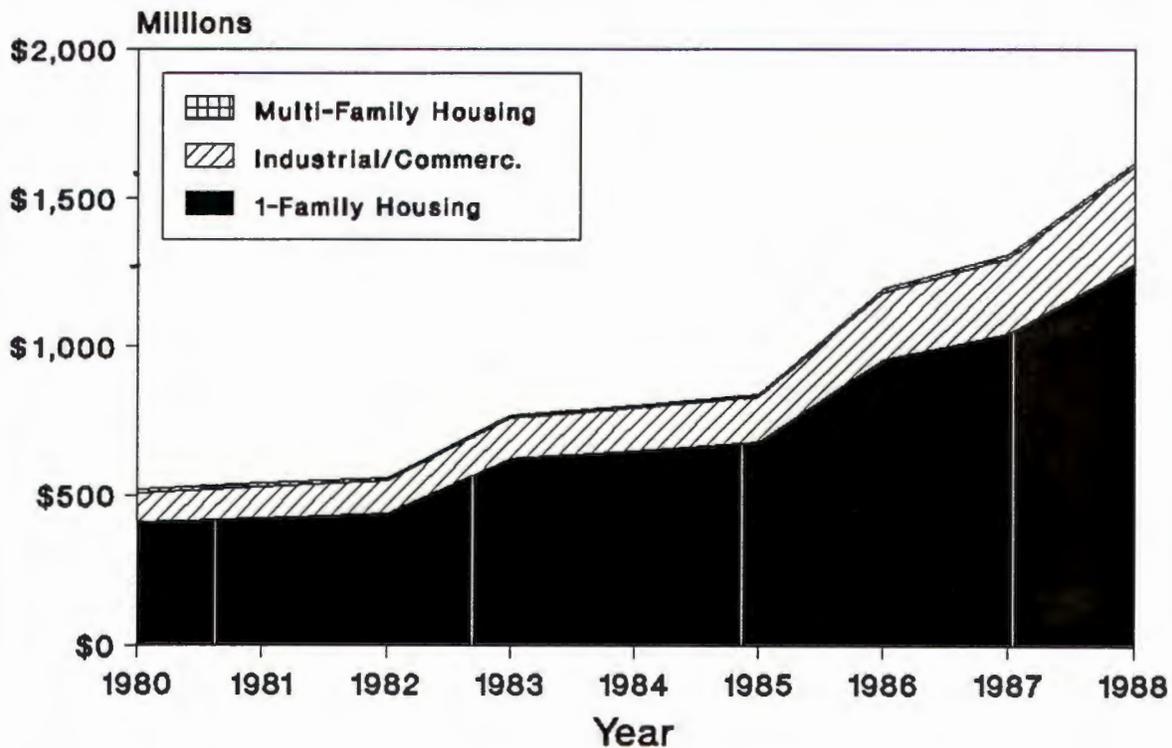
**FIGURE 2**  
**BUILDING PERMITS ISSUED IN YORK COUNTY**  
**1980-1989**



Source: York County Department of Community Development

Figure 3 indicates the relative proportion of the total County land book assessment provided by single family, multi-family, and commercial and industrial development. As Figure 3 shows, despite the unprecedented surge in new residential development, the industrial/commercial percentage of the total land book assessment has—with the exception of 1983-1985—remained relatively constant, and, in fact, has increased slightly since 1980. This key statistic indicates that York County has essentially held its own in new industrial and commercial development, a fact further reflected in the local tax information that follows.

**FIGURE 3**  
**YORK COUNTY LAND BOOK ASSESSMENTS**

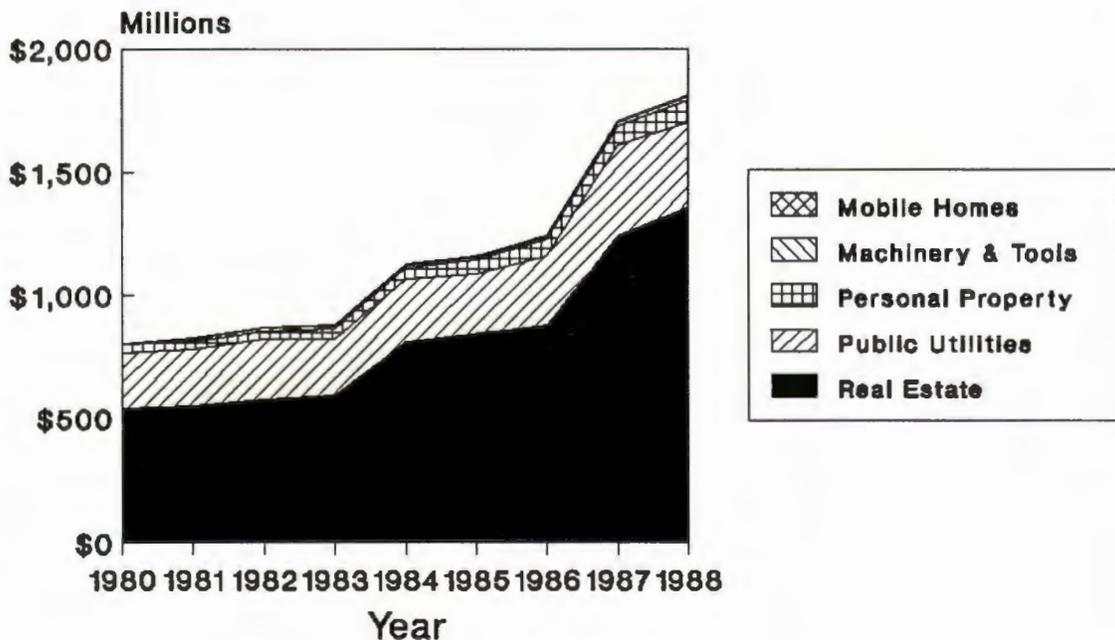


*Source: York County Land Books,  
1980-1988*

## Tax Rates And Revenues

As can be noted from Figure 4, which indicates the relative proportion of taxable property attributable to each class of property taxed by the County, the relative proportion of real estate has increased from 67% in 1980 to 75% in 1988. During this same period, the relative proportions of machinery and tools and public utilities have declined. This situation is likely the result of increased residential and commercial development, with a resulting decline in the share of the total tax burden attributed to the Amoco refinery and the Virginia Power electric generation plant. With regard to machinery and tools assessments, it should be noted that while such assessments have decreased as a proportional share of total tax assessments, assessments within this category have increased by almost 50% since 1981.

**FIGURE 4**  
**ASSESSED VALUE OF TAXABLE PROPERTY**  
**1980-1988**



Source: York County Comprehensive Annual Report

During the same period, tax rates levied by the County have gone down in all categories as shown in Table 3.

**TABLE 3**

Property Tax Rates (per \$100 of assessed value) 1980 - 1990				
Fiscal Year	Real Estate	Personal Property	Machinery and Tools	Pollution Control Equipment
1980	\$0.70	\$4.70	\$4.70	\$0.00
1981	0.70	4.70	4.70	0.56
1982	0.84	4.70	4.70	0.67
1983	0.90	4.70	4.70	0.72
1984	0.64	4.70	4.70	0.51
1985	0.66	4.50	4.50	0.53
1986	0.68	4.50	4.50	0.54
1987	0.57	4.20	4.20	0.46
1988	0.57	4.20	4.20	0.46
1989	0.63	4.00	4.00	0.46

Source: County of York, Comprehensive Financial Statement, Fiscal Year Ended June 30, 1988.

While the County's tax picture during the 1980s has been largely favorable, it should be recognized that the real estate rate increased from 57 cents to 63 cents per hundred dollars of assessed value in 1989. A large portion of this increase is attributable to increased school costs brought on by declining federal impact aid and state-mandated teacher salary increases in the face of rising enrollment and school construction needs. In addition, the County had a need to increase capital expenditures, debt service and personnel costs associated with the expansion of fire and public safety facilities and service, all of which also contributed to the needed increase.

## Employment And Wages

Table 4, below, indicates the change in total, non-agricultural civilian employment for each jurisdiction in Hampton Roads for the period 1970 to 1987.

### TABLE 4

Hampton Roads Non-Agricultural Civilian Employment					
	1970	1975	1980	Sept. 1987	% Chng 1970- 1987
Hampton	36,112	38,365	46,703	55,541	2.6
James City County	3,641	5,013	9,883	14,109	8.3
Newport News	60,717	62,548	66,368	77,185	1.4
Poquoson <sup>1</sup>	-	-	721	1,102	-
Williamsburg	9,016	10,116	9,799	16,669	3.7
York County	6,340	6,974	8,142	10,846	3.2
<b>Peninsula</b>	<b>115,826</b>	<b>123,016</b>	<b>141,616</b>	<b>175,452</b>	<b>2.5</b>
Chesapeake	17,462	16,756	24,596	35,596	4.3
Franklin	2,626	2,560	2,969	2,811	0.4
Isle of Wight County	7,399	7,506	9,965	8,934	1.1
Norfolk	133,568	127,914	140,890	154,363	0.9
Portsmouth	40,659	39,063	44,681	45,392	0.6
Southampton County	3,224	2,830	3,793	3,550	0.6
Suffolk	17,063	14,613	15,575	14,558	-0.9
Virginia Beach	30,163	38,000	61,203	110,594	7.9
<b>South Hampton Roads</b>	<b>252,164</b>	<b>249,242</b>	<b>303,672</b>	<b>376,133</b>	<b>2.4</b>
<b>Hampton Roads</b>	<b>358,297</b>	<b>372,258</b>	<b>445,288</b>	<b>551,585</b>	<b>2.6</b>

<sup>1</sup> Poquoson was a part of York County until June 1, 1975  
Source: Virginia Employment Commission

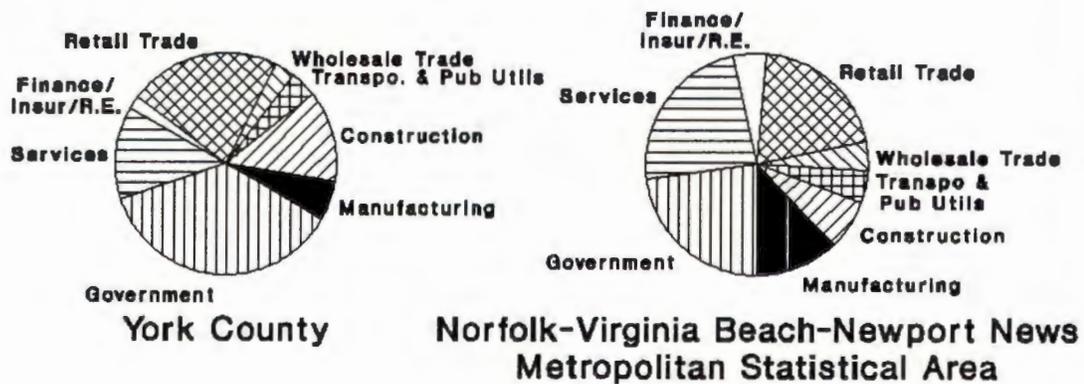
As can be noted from Table 4, the most significant increases in new job growth in Hampton Roads occurred in James City County, Virginia Beach, and Chesapeake. All three of these jurisdictions, like York County, are relatively affluent suburban communities that, unlike York County, made significant investments in public infrastructure that led to the growth of new ex-urban employment centers such as Busch Corporate Center and the Route 60 corridor in James City County, Lynnhaven in Virginia Beach, and Greenbriar in Chesapeake. In addition, each of these jurisdictions experienced significant increases in retail trade employment as retail facilities dispersed to serve the dispersing population.

Job growth in York County during the 1970-87 period exceeded that of the Peninsula and of Hampton Roads as a whole. However, while York County is home to approximately 10% of the population on the Peninsula and 3% of the population of the entire Hampton Roads region, only 6% of total Peninsula civilian employment and less than 2% of the employment in the entire MSA are located in York County.

With regard to the types of jobs in York County as compared to the MSA, Figure 5 shows York County is over-represented in construction and government employment. The over-representation of the

is over-represented in construction and government employment. The over-representation of the governmental sector is indicative of the presence of the Naval Weapons Station, Coast Guard Station, and Cheatham Annex in particular. However, there is a disproportionately high number of construction jobs relative to other types of employment. The construction industry is very cyclical, and a downturn—such as that which began in the late 1980s—can cause serious reduction in the number of job opportunities in the County. York County is also under-represented in the manufacture of durable goods; wholesale trade; services; and finance, insurance and real estate. All of these employment sectors are being increasingly drawn to larger business park environments which do not presently exist in York County.

**FIGURE 5**  
**NON-AGRICULTURAL EMPLOYMENT**  
**IN YORK COUNTY AND MSA, 1987**



*Sources: Virginia Employment Commission and Forward Hampton Roads*

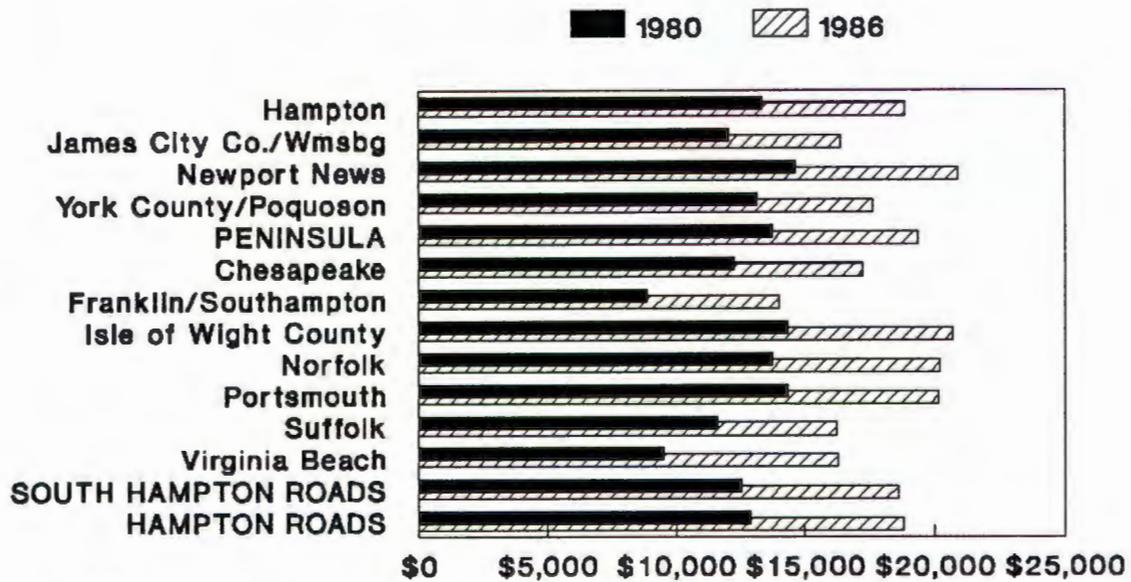
From 1974 through 1988, York County's average unemployment rate has consistently remained below that of the Peninsula and the Hampton Roads MSA as a whole. This is likely more a result of the socio-economic profile of County citizens and less a result of employment opportunities offered within the County. York County has increasingly become the community of choice for better-educated, more affluent residents, most of whom work outside the County. Nevertheless, the County's job growth rate has been somewhat higher than for the region as a whole (see Table 4 and Figure 6). Average wage rates in the County, however, are lower than those of the region as a whole. In addition, York County has had the lowest percentage increase in average earnings per worker from 1980 to 1986 of any jurisdiction in all of Hampton Roads.

**TABLE 5**

Unemployment Rates				
	<u>Year</u>	<u>Hampton Roads</u>	<u>Peninsula</u>	<u>York County</u>
	1974	5.0%	4.8%	4.2%
	1975	6.4%	6.4%	5.7%
	1976	6.8%	6.9%	6.1%
	1977	6.0%	6.2%	5.5%
	1978	6.3%	6.3%	5.0%
	1979	5.4%	5.5%	3.8%
	1980	5.4%	5.3%	4.8%
	1981	6.3%	6.2%	5.9%
	1982	7.0%	6.7%	4.4%
	1983	5.5%	5.1%	3.7%
	1984	4.6%	4.7%	3.3%
	1985	5.1%	5.0%	3.2%
Mar	1986	5.2%	5.4%	3.8%
Jan	1988	4.6%	5.0%	3.4%

*Source: Virginia Employment Commission*

**FIGURE 6**  
**AVERAGE EARNINGS PER WORKER**  
**BY PLACE OF WORK, 1980 AND 1986**



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

As discussed earlier, York County is over-represented in retail and construction jobs, jobs that (in a non-union state) are typically lower-paying and subject to cyclical downturns. Like Williamsburg, James City County, and Virginia Beach, a large portion of the York County economy revolves around the tourist trade—another typically low-paying sector. Such lower average earnings are reflected in the figures for these other tourist-oriented areas; however, Virginia Beach has made enormous strides in diversifying the city's economy and increasing earnings, and this has been reflected in a more than 70% increase in average earnings from 1980 to 1986.

## Tourism

The annual paid attendance since 1980 at each of the major visitor attractions in the Williamsburg area tourism market is given in Table 6.

**TABLE 6**

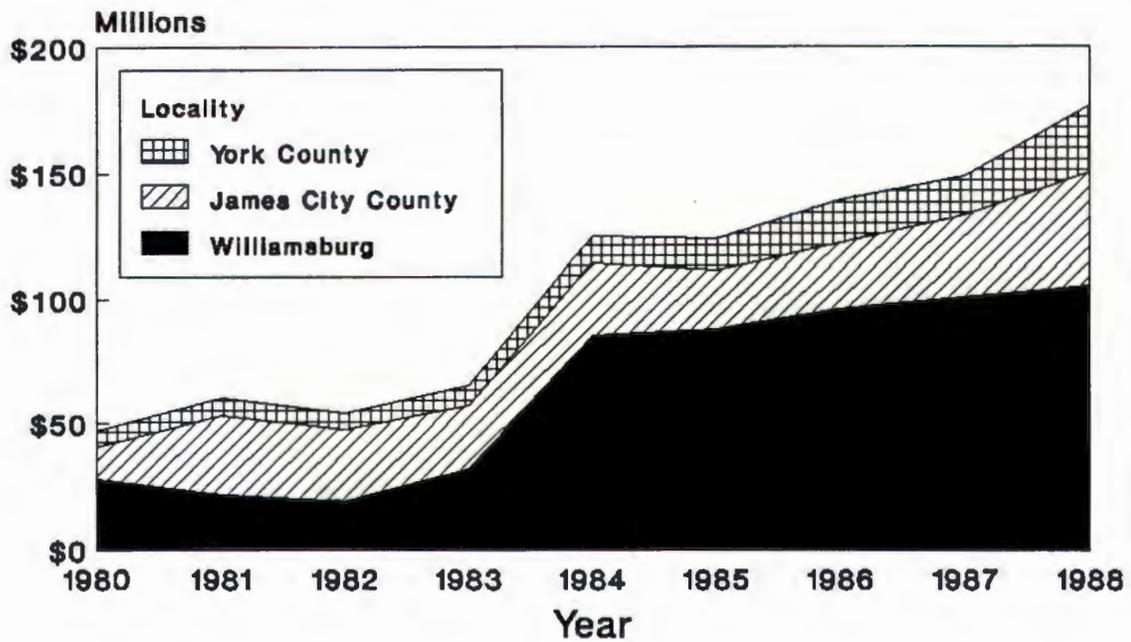
<b>Annual Paid Attendance at Williamsburg-Area Tourist Attractions</b>						
	<u>Colonial Williamsburg</u>	<u>Yorktown Victory Cntr.</u>	<u>Jamestown</u>	<u>Busch Gardens</u>	<u>Water Country</u>	<u>Total</u>
1980	1,032,403	111,744	278,516	2,159,126	---	3,581,789
1981	1,078,931	83,714	242,428	2,102,467	---	3,507,540
1982	956,491	83,515	250,354	1,918,656	---	3,209,016
1983	946,224	80,203	253,870	1,952,493	---	3,232,790
1984	1,005,638	97,601	270,190	1,961,987	159,994	3,495,410
1985	1,078,547	98,593	276,575	2,057,454	251,990	3,763,159
1986	1,192,562	86,873	257,847	1,973,794	313,728	3,824,804
1987	1,137,074	82,594	257,217	1,941,664	340,081	3,758,630
1988	1,201,325	90,520	279,027	2,094,050	302,095	3,967,017

Source: College of William & Mary, Williamsburg Business Index

While visitors at all major attractions have increased somewhat since 1984, the Williamsburg area tourism market no longer appears to be a major growth market. In fact, total tourism figures have increased less than 11% since 1980. Despite this low rate of market expansion, however, there was a 274% increase in hotel, motel, and tourist camp sales during the same period (see Figure 7). While some of the increase in hotel, motel, and tourist camp sales is certainly due to inflation, inflation alone cannot account for such a dramatic increase.

Prior to 1984, the Virginia Department of Taxation significantly under-reported hotel sales in the City of Williamsburg. In 1984, approximately \$45 million was shifted, for reporting purposes, from "miscellaneous" sales to hotel sales in the City of Williamsburg. If the 1983 Department of Taxation figures are revised, each locality's proportional share of hotel, motel, tourist court and camp sales for the years 1983 through 1990 is as reflected in Table 7.

**FIGURE 7**  
**HOTEL/MOTEL/TOURIST COURT**  
**AND CAMP SALES, 1980-1988**



Source: Virginia Department of Taxation

**TABLE 7**

HOTEL/MOTEL/TOURIST COURT AND CAMP SALES 1983 - 1990					
	James City County	City of Williamsburg	York County	Total	York County % of Total
1983	\$25,369,000	\$ 77,045,200	\$ 7,898,400	\$110,312,600	7.2%
1984	29,230,800	85,536,100	10,654,000	125,420,900	8.5%
1985	23,277,700	88,329,700	12,900,500	124,507,900	10.4%
1986	26,204,300	96,515,900	17,131,300	139,851,500	12.2%
1987	32,424,228	101,138,388	15,201,034	148,763,650	10.2%
1988	44,854,887	105,501,349	26,100,732	176,456,968	14.8%
1989	46,418,740	106,719,824	23,597,089	176,735,653	13.4%
1990	49,571,418	104,474,960	23,418,917	177,465,295	13.2%

*Source: Virginia Department of Taxation*

As indicated in Table 7, York County's proportional share of Williamsburg area lodging sales increased steadily from 1983 through 1988, and then dipped slightly and leveled off in the tourism off-years of 1989 and 1990.

Meanwhile, as shown in Table 8, total travel expenditures in the Williamsburg area market increased from \$302 million in 1980 to \$635 million in 1988, for a total percentage increase of 110% during the period, a figure not much higher than the rate of inflation during this same period. York County's proportional share of total travel expenditures has grown at a faster rate than regional expenditures as a whole. In addition, as indicated by Table 9, York County's share of area lodging spaces has also increased steadily during those few years for which such records were kept.

**TABLE 8**

TOTAL TRAVEL EXPENDITURES					
	James City County	City of Williamsburg	York County	Total	York County % of Total
1980	\$ 50,181,000	\$228,756,000	\$23,005,000	\$301,942,000	7.6%
1981	106,144,000 <sup>(1)</sup>	208,628,000	25,009,000	339,781,000	7.4%
1982	93,224,000	200,730,000	22,990,000	316,944,000	7.3%
1983	83,006,000	242,421,000	26,531,000	351,958,000	7.5%
1984	93,088,000	272,087,000	33,970,000	399,145,000	8.5%
1985	89,415,000	338,210,000	49,502,000	477,127,000	10.4%
1986	100,116,000	367,835,000	61,029,000	528,980,000	11.5%
1987	100,060,000	384,073,000	54,013,000	538,146,000	10.0%
1988	162,932,000	383,296,000	88,486,000	634,714,000	13.9%

<sup>(1)</sup>This figure indicates an unusually high increase over the previous year, primarily because of Virginia Department of Taxation adjustments to individual sales tax accounts, several of which had been erroneously attributed to adjoining localities in previous reports.

*Source: U. S. Travel Data Center*

TABLE 9

	TOTAL LODGING SPACES <sup>1</sup>				York County % of Total
	James City County	City of Williamsburg	York County <sup>2</sup>	Total	
1983	3,701	4,025	1,034	8,760	11.8%
1984	3,232	3,218	1,554	8,004	19.4%
1985	3,321	4,313	1,694	9,328	18.2%
1986	2,616	5,137	2,187	9,940	22.0%

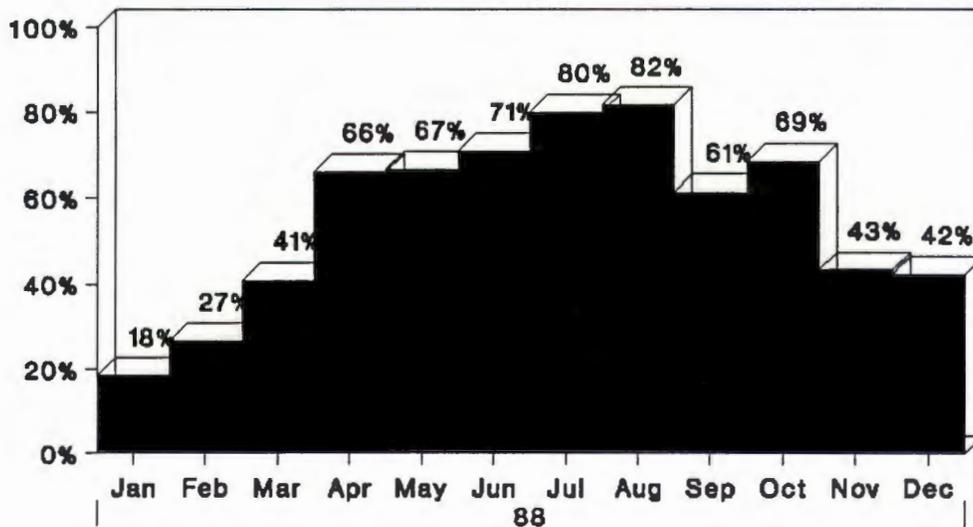
<sup>1</sup>Includes motels, hotels, motor hotels, tourist homes, classified lodging and campsites.

<sup>2</sup>Includes City of Poquoson

Source: Virginia Department of Taxation

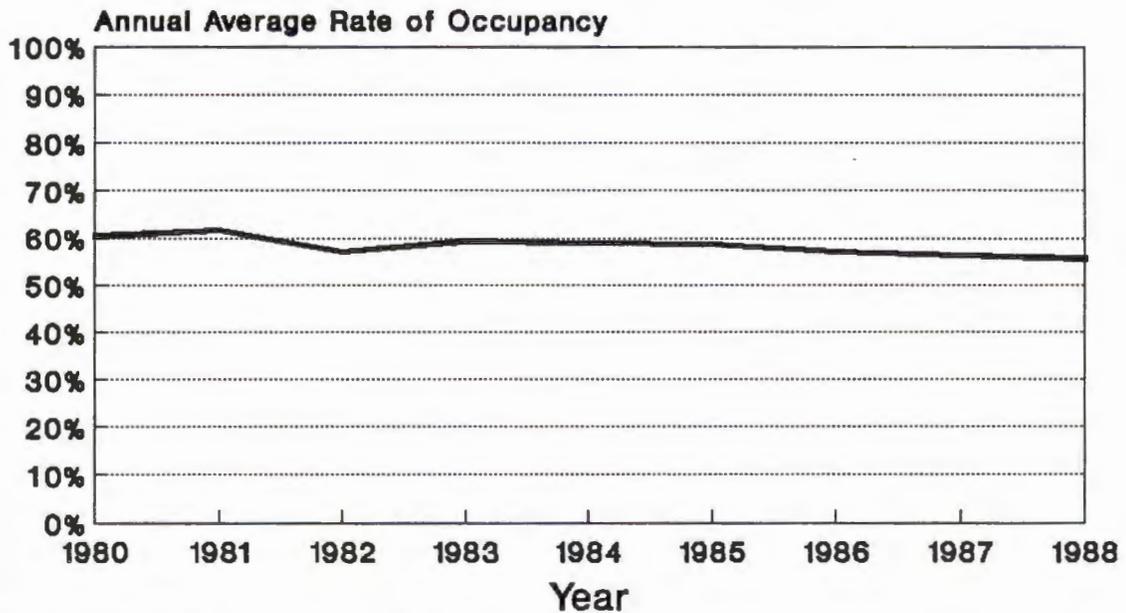
The data in Figures 8 and 9 raises two serious issues concerning the Williamsburg area lodging market. First is the seasonality of the market as reflected in the low occupancy rates during the spring and fall "shoulder" seasons. This not only hurts hotel operators but also weakens the seasonal stability of the labor market. Secondly, occupancy rates have clearly trended downward as a result of the recent surge in hotel construction. Those hardest hit are the owners of older, second-class properties that must be either renovated or put to some form of adaptive re-use.

FIGURE 8  
WILLIAMSBURG AREA HOTEL  
OCCUPANCY RATES BY MONTH, 1988



Note: Based on a selected sample.  
Source: College of William and Mary,  
*Williamsburg Business Index*

**FIGURE 9**  
**WILLIAMSBURG AREA HOTEL OCCUPANCY**  
**RATES, 1980-1988**



*Note: Based on a selected sample.*  
*Source: College of William and Mary,*  
*Williamsburg Business Index*

Table 10 indicates York County's proportional share of travel-related jobs in the Williamsburg area market. The figures in Table 10 largely mirror the figures in Table 8 in that the County's percentage increase in total travel expenditures is almost identical to the increase in travel-related jobs. In fact, the figures are so close as to suggest that the Virginia Department of Tourism may have simply extrapolated its job figures from its travel figures. Since the more reliable State Health Department figures show York County's share of total lodging spaces doubling from 1983 to 1986, the figures in Table 9 should be viewed with some caution.

TABLE 10

	TRAVEL-RELATED JOBS				York County % of Total
	James City County	City of Williamsburg	York County	Total	
1980	1,743	7,674	764	10,181	7.5%
1981	3,269	6,419	762	10,450	7.3%
1982	2,712	5,830	660	9,202	7.2%
1983	2,324	6,777	733	9,834	7.5%
1984	2,502	7,313	912	10,727	8.5%
1985	2,612	9,905	1,449	13,966	10.4%
1986	2,933	10,792	1,789	15,514	11.5%
1987	2,793	10,831	1,522	15,146	10.0%

*Source: U. S. Travel Data Center*

In summary, York County has expanded its role in the Williamsburg area tourist market, largely as a result of County and private efforts to develop the Bypass Road area. This development has contributed significantly to York County's tax and employment base. Significant opportunities for expansion of the County's tourism base remain as a result of the several hundred acres of undeveloped land located in the County in the Lightfoot corridor, next to the Williamsburg Pottery Factory, one of the most significant visitor draws on the East Coast.

### SUMMARY OF PRIOR STUDIES

In 1974 and 1975, the Real Estate Research Corporation (RERC) completed two economic studies for York County entitled Market Evaluation of Proposed York County Comprehensive Plan and York County Economic Study, respectively. Both of the RERC studies accurately foretold the impact of inadequate provision of public water and sewer facilities. York County has not shared proportionately in the industrial expansion that occurred on the Peninsula during the 1982-1989 period. The majority of the new office, industrial, and warehousing facilities constructed on the Peninsula have occurred in Hampton and Newport News, two localities that invested public funds in infrastructure and were thus in a position to capitalize on the longest peacetime economic expansion since World War II.

While the 1974 and 1975 RERC studies accurately emphasized the need for public infrastructure improvements, several conclusions contained in those studies may have had a damaging effect on the County's understanding of its own economic potential. The following points are pertinent in this regard.

These studies essentially started with the position of throwing in the towel on meaningful economic development. Throughout these studies there are references to the fact that other neighboring localities are so far ahead of York County such that the underlying assumption is that York County cannot be competitive in this environment. There is no appreciation of the potential of the Lightfoot area of the County as indicated by the recommendation that only five acres of tourist commercial land be set aside at the I-64-Route 646 interchange. The 1975 study foresaw no demand for light industrial development in the Williamsburg area of the County, totally ignoring the appeal of a Williamsburg address so dramatically demonstrated by the success of Busch Corporate Center.

- These prior studies based demand for commercial development solely on the needs of York County residents. There is no consideration of the fact that York County shares a common boundary with every other jurisdiction on the Peninsula, and that opportunities therefore exist to reverse the flow of retail sales dollars across the County's boundaries. Even convenience center demand was significantly understated as evidenced by the fact that roughly five times as much convenience center space has been constructed in the southern portion of the County as was envisioned by the 1974 and 1975 RERC studies.
- The RERC studies were conducted during a period of economic retrenchment and perhaps it is this fact that led to such overly pessimistic forecasts for non-residential demand in the County. We are presently in a similar period of overbuilding in virtually all market sectors. It is essential that short-term market considerations not disproportionately color long-range land use planning. The real estate market is historically a very cyclical market and there are no indications on the horizon that future development patterns will be any less cyclical.

The 1983 York County Land Use Plan provided for some expansion of commercial and industrial designations. However two key considerations relative to the 1983 Plan are particularly noteworthy.

- The predominant land-use designations contained in the Plan were predicated on an identifiable demand for increased single-family residential development. While this demand has, in fact, been extremely strong, there is no consideration of the fiscal impact on the community from so much residential development. In essence, the supply of residential land contained in the Plan was based on very real demand, however, the large supply of such land may have disproportionately encouraged residential development in the County.
- Two large tracts of land were designated in the Land Use Plan for Office-Professional-Research. It is valid to allow for large-scale concentrated office development in the future, particularly as the national economy moves further into the information age. However, such sites must be marketable, and marketability relies heavily on good interstate access. Neither of the areas designated for large-scale OPR development (Denbigh Boulevard corridor and Waller Mill Road area) offer good access, while the areas surrounding two of the only four interchanges physically located in York County were largely dedicated to residential uses.

## **TRANSPORTATION AND ENVIRONMENTAL ISSUES**

A notable increase in transportation congestion on the Peninsula, particularly during the past decade, has raised traffic concerns to the forefront of public policy issues. In York County, increased congestion on Route 17 has led to the creation of two crucial "choke points," one at Route 17's intersection with Lakeside Drive (Route 620) and the other at the intersection of Route 17 and Goodwin Neck Road (Route 173). Presently, much needed widening of Route 17 is not in the Virginia Department of Transportation's Six-Year Plan, and the prospect of continued congestion on this major artery necessitates that significant new economic development efforts focus along Interstate 64, the one major artery with the capacity to handle additional traffic. York County is a linear county that follows Interstate 64, and, as such, enjoys a number of opportunities to develop job-creating centers at or in near proximity to major interstate interchanges, locational advantages that are demanded by major industrial and office developers.

The City of Newport News is also aggressively pushing the extension of Snidow Boulevard from Fort Eustis Boulevard to a new full interchange with I-64 in the Denbigh area of the city. This would provide another needed link to I-64 from the rapidly growing Denbigh area in between the existing Route 143 (Airport) and Route 105 (Fort Eustis Boulevard) interchanges.

There are five (5) existing and proposed Interstate 64 interchanges that have the potential to impact

greatly on the future economic health of York County. Each will be discussed, in turn, below:

- **Route 171 (Victory Boulevard)**

The extension of Route 171 from its former terminus at Route 17 to Jefferson Avenue (Route 143), including a full interchange with I-64, is now completed. This new limited access road links the Tabb area of York County with the Denbigh area of Newport News. These are the two fastest-growing residential areas on the Peninsula. In addition, this roadway bisects the proposed Kiln Creek Corporate Center, a 350-acre Class-A office park located half in Newport News and half in York County. This office center, together with a significant amount of undeveloped and underdeveloped retail acreage located along Route 171 between Route 134 (Hampton Highway) and I-64 will play a major role in the County's attraction of high-end office jobs and expanded retail sales from neighboring jurisdictions, as well as from County residents.

- **Snidow Boulevard**

The proposed extension of Snidow Boulevard from Fort Eustis Boulevard to a full interchange at I-64 (discussed above) could provide improved access to approximately 200 acres of privately-owned, developable land located along Denbigh Boulevard at the York County-Newport News border. The development potential of this land will be further enhanced if an alternative to Woodside Lane is constructed in York County linking Denbigh Boulevard directly to the proposed Snidow Boulevard extension. This land in York County is particularly important because it is located in close proximity to Newport News/Williamsburg International Airport, the expansion plans for which include a major corporate center to be owned and marketed by the City of Newport News. Therefore, it is essential that the adjacent land in York County be serviced with public utilities to allow it to realize its full economic potential.

- **Route 199**

The existing full interchange at I-64 and Route 199 will provide direct access to the 900-acre, master-planned Whittaker's Mill Tourist Destination Center and Corporate Park. No further improvements appear to be necessary at the existing interchange at this time; however, direct access from Route 199 to the Whittaker's Mill Corporate Center must be maintained.

- **Route 143 (Camp Peary)**

While a larger portion of the land surrounding this interchange is owned by Camp Peary, the interchange is also adjacent to several hundred acres of land held by Colonial Williamsburg. This land was designated as Low Density Residential in the 1983 Land Use Plan. However, its highly visible location and Colonial Williamsburg's demonstrated commitment to high-quality development suggest that this property may ultimately be put to a use that would not only return far greater benefits to the County than would residences, but that would provide a much higher-quality image "Window on Williamsburg" than would be provided by residential development.

- **Route 646 (Lightfoot Road)**

The Lightfoot area of York County represents enormous economic potential. This area is located adjacent to the nationally-known Williamsburg Pottery Factory and the Route 60 Outlet Mall corridor in James City County. Presently, Virginia Department of Transportation plans call for the completion of the Route 199 Bypass to tie into the existing Route 646/I-64 interchange, with Route 646 (Lightfoot Road) being relegated to service road status. Such a development would have the advantages of speeding James City County commuters to I-64. However, the limited access design of Route 199, with only one point of access between I-64 and Route 60,

significantly devalues the commercial potential of the Route 646 frontage. Conversely, commercial potential of the land surrounding the proposed intersection at the back entrance to the Williamsburg Pottery would be enhanced, as would the frontage along the relocated Mooretown Road in the vicinity of this intersection.

The area surrounding the existing I-64/Route 646 interchange was designated General Commercial in the 1983 Land Use Plan, while the Route 646 corridor was designated Tourist Commercial and over 1,000 acres of land in the Lightfoot area were designated low-density residential. Given the strategic location of this intersection between Norfolk and Richmond, and the existence of the well-known commercial drawing appeal of the Pottery, it appears that residential is not the optimum land use designation for the areas with easy Interstate access.

- **Non-Interstate Improvements**

There has been much controversy surrounding the existing congestion problems at the Coleman Bridge. Present VDOT plans call for the Coleman Bridge to be widened to four lanes, while York County officials have publicly endorsed the construction of a new upriver crossing in the vicinity of Route 199 near Cheatham Annex. Expansion of the existing bridge would aid in the present a.m. and p.m. peak congestion at the bridge itself, but would not provide any economic development benefits to York County. Most of the land on the York County side of the bridge is owned by the National Park Service and is undevelopable. However, an upriver crossing would serve the dual purpose of making the emerging Williamsburg employment center accessible to much needed labor on the Middle Peninsula while providing neighboring Gloucester County with access to I-64 that is essential if Gloucester is to develop its own economic base.

Finally, a key long-range project is the extension of Fort Eustis Boulevard (Route 105) from its present terminus at Route 17 to Seaford Road. Amoco and Virginia Power presently control several hundred acres of what is the only remaining land in the County designated General Industrial. This land presently lacks good interstate access, with access presently via the congested Route 17-Route 173 intersection mentioned above.

- **Air Transportation**

Presently, the Peninsula is served by three second-class airports, a situation that greatly diminishes the area's competitiveness in attracting higher-paying office development. There are plans to expand Newport News/Williamsburg Airport into a mini-hub. While such a move would help existing service, York County citizens will have to bear the burden of the increased noise. Even given such expansion, it is doubtful that Newport News/Williamsburg has sufficient acreage to become a truly world-class facility. Because of this, the region has joined with Southside Hampton Roads and the Richmond area to pursue development of a world-class airport (such as Dulles) that could offer direct national and international flights. Such an airport would complement the existing world-class port facilities and make the entire region competitive with those areas such as Washington, D. C. and Dallas-Fort Worth that are attracting major office headquarters largely because of their airport facilities.

Commercial retail development is often viewed as a very clean development in that no air or water pollution is associated with it. Such development is, however, the single largest traffic generator of any type of development. In addition, the need for extensive automobile parking greatly increases the amount of stormwater run-off, which can increase the pollutants entering stormwater outfalls and may exacerbate stormwater management problems in an area of the County where flooding of low-lying areas is a constant nuisance.

Office development is similar to retail in its environmental impact. Trip generation figures are

somewhat less for offices, but extensive parking requirements remain. The impact of both retail and office development could be greatly alleviated by increased investment in public transit facilities, such as rail transportation. Not only would highway construction needs be reduced, but the run-off problems associated with vast amounts of impervious cover would be lessened as well.

Light industrial and warehouse development involves a somewhat different set of issues. Such development involves considerably lower levels of employment and traffic generation. However, there is considerably more heavy truck traffic, requiring that these activities be located along major thoroughfares.

General (heavy) industrial development is, of course, most often identified with air and water pollution. Certainly, the advent of EPA standards has lessened the impact of heavy industry; however, the County must continue to exercise caution that short-term fiscal needs do not eclipse long-term quality of life considerations. Not all general industry is a problem, and most general industrial projects are subjected to scrutiny through the Special Use Permit process, which allows such concerns to be raised and studied. Traffic impacts of general industry vary greatly, depending on whether a particular industry is labor-intensive or capital-intensive. Given the existing highway constraints in the County's Route 173 (Goodwin Neck Road) General Industrial corridor, it would be prudent to emphasize capital-intensive industry in this area of the County until such time as the Route 105-Seaford Road connector is completed.

## REGIONAL MARKET CONSIDERATIONS

### Manufacturing and Industrial Park Development

A January 1989, study by Coldwell Banker Commercial/Torto Wheaton Services, as reported in the October 1989, Urban Land Institute Trends, projects that the Hampton Roads metropolitan area will be one of the ten fastest-growing industrial markets between 1989 and 1994 on a percentage basis. This report projects an annual demand for 1,362,000 square feet of industrial space during this five year period.

A 1989 report entitled America's Future Industrial Space Needs conducted by Cognetics, Inc. for the National Association of Industrial and Office Parks projects industrial space absorption for the Hampton Roads metropolitan area for the ten-year period 1988-1998 to be 30,000,000 square feet or 3,000,000 square feet of industrial space per year.

The latter study differs markedly in its projections because it takes into account the burgeoning demand for industrial space for non-manufacturing uses. The following quotations from the Cognetics study are particularly enlightening in this regard:

*With declining industrial employment, a weak dollar and increasingly strong international competition, one might expect that the outlook for construction of new industrial space is rather bleak. Yet the reality is that demand for new industrial space—both traditional factory space and bulk distribution, as well as newer-type "flexible" space—will continue to be strong through the 1990s... The real estate effects of these trends are equally diverse: they range from increased use of flexible space for office purposes, to high levels of obsolescence among the existing industrial stock.*

*One result of...two trends—the restructuring of American manufacturing and the coincident growth of distribution—is continued increase in the need for industrial space. Restructuring contributes to this as a result of the non-interchangeability of much industrial space: smaller companies, new products and new production techniques translate into specifications and configurations which make older industrial*

*buildings obsolete. Add to this the needs of a booming distribution sector and the result is a situation where demand for industrial space far outstrips conventional measures of growth, such as net job creation.*

Utilizing the more encompassing projections for industrial space in the Cognetics study, the following scenario can be developed for industrial space needs on the Peninsula.

- Average annual space needs (metro area) = 3,000,000 sq. ft.
- Peninsula as approximately 30% of metropolitan area = 900,000 sq. ft.
- 8,000 sq. ft. of space per acre absorbed = 112.5 acres absorption

This figure compares with the projected annual absorption rate of 114 acres per year prepared by the Industrial Development Authority of York County in its May 1987, study, Industrial Parks on the Peninsula. The following section is excerpted from that study.

**LAND ABSORPTION**

*"...the strongest land absorption has occurred in Oyster Point, Hampton Roads Center and Patrick Henry International Airport Park. The following is an overview of absorption in these three (3) parks.*

<u>Park</u>	<u>Original Non-Residential Acreage</u>	<u>Years Open</u>	<u>Acreage Sold</u>	<u>Annual Absorption</u>
Oyster Point	530	7	289*	41
Hampton Roads Center	226	3	190	63
Airport	131**	2	71	<u>35</u>
			Total	<u>139</u>

\*Excluding land sold, but with no construction activity, for which reverter clause may be involved.  
 \*\*Fully-serviced, non-residential.

*In August, 1986, the firm of Zuchelli, Hunter & Associates prepared the Applied Research Center Development Study for the City of Newport News. In that study, the following conclusion was reached relative to industrial land absorption:*

*"The total amount of industrial park land absorbed over the period 1976 to mid-1985, excluding land developed for residential, retail and other commercial purposes, amounts to approximately 1,400 acres. The average rate of 140 acres per year has been greatly accelerated since 1983. In 1984 to 1985, a total of approximately 420 acres have been developed or sold for industrial use, including the two major land transactions associated with AAFE and Canon, U.S.A., each of which is expected to create its own satellite industrial space demands. The increasing pace of industrial land development on the Peninsula reflects strong regional economic performance, in both basic industries, notably the transportation sector (including the Shipyard) and successful marketing to new activities such as represented by the Canon, U.S.A. decision. We expect that industrial land absorption trends will continue to account for*

*approximately 150 to 200 acres per year over the next several years."*

*[The IDA], however, believes that it is unrealistic to assume, as did Zuchelli, Hunter, that, "On the basis of recent trends, we estimate that externally-induced growth is likely to result in...an additional 100 to 150 acres per year." The attraction of firms such as Canon are not every-day occurrences. This writer suggests that perhaps 50 acres per year for such external growth is a more appropriate projection.*

*Zuchelli, Hunter supported an annual absorption rate of 55 acres per year in internally induced growth by a quantitative analysis based on projected increases in manufacturing employment. The ZHA projection of a manufacturing employment increase of 8,321 employees from 1985 to 1990 is not supported by locally-generated data. The Southeastern Virginia Planning District Commission (SVPDC) preliminarily projects a net increase of 3,805 jobs for the period 1984 (actual data) to 1995. This projection would result in absorption estimates as follows:*

- 3,805 jobs x 1,000 square foot building area per employee = 3,805,000 square feet*
- 20% building-to-land ratio = 19,025,000 square feet ÷ 43,560 = 437 acres*
- 437 acres ÷ 11 years = 40 acres per year*

*One cannot only look at manufacturing employment, however, because a very significant percentage (if not the majority) of industrial park sites are purchased by non-manufacturing, service concerns. SVPDC preliminarily projects a total, non-retail, service-related growth of 23,372 employees from the period 1984 to 1995, including the construction and transportation sectors.*

*Given the trend toward business park development on the Peninsula, it appears reasonable to assume that perhaps 25% of such service-sector growth would occur in park settings. In this scenario:*

- 23,372 employees x 25% = 5,843 service-sector employees in park properties.*
- 5,843 employees x 500 square feet per employee = 2,921,500 square feet of building area.*
- 25% building-to-land ratios = 11,686,000 square feet of land ÷ 43,560 = 268 acres*
- 268 acres ÷ 11 years = 24 acres per year*

*Based on the above projections, industrial park land absorption may be estimated as follows:*

<u>Sector</u>	<u>Acres/Year</u>
Manufacturing	40
Service, including construction and transportation	24
New, external growth	<u>50</u>
Total	<u>114</u>

*This figure, of course, does not include incidental commercial space which is drawn to parks that allow such usage. Therefore, an annual park absorption rate of 130 acres per year does not appear to be unreasonable.*

The question remains as to how much of this land may be absorbed in York County.

York County represents approximately 10% of the population on the Peninsula. However, it would be unrealistic to simply apply this percentage to industrial space needs due to two, very important factors.

- The trend in the marketplace is clearly toward suburban locations. As reported in the 1980 Cognetics study: *"No longer will the greatest proportion of industrial activity find it necessary—or even desirable—to locate near center-city transportation nodes. Consequently, much of the future's industrial growth will take place in suburban or exurban areas. In particular, we can look for an acceleration of the 'edge city' phenomenon for industrial space demand (where growth concentrates in selected areas at the urban fringe), as well as for residential and other types of commercial activities."*

One need only look to Fairfax County and the cities of Virginia Beach and Chesapeake to see verification of this trend. This uneven market absorption and suburban location preference will bode positively for York County's efforts to attract new employment and tax-generating firms if a second important factor is considered.

- Intra-area location decisions are influenced heavily by what properties are currently available. York County's failure to adequately capitalize on the 1982-1989 economic expansion was due in no small part to the unavailability of attractive, fully-serviced properties at interstate locations.

Were York County to continue to aggressively pursue business park development along Interstate 64, York County's proportional share of the 120 acre annual industrial absorption projected for the Peninsula may be as high as 30% or more. This suggests that, in planning 30 years into the future, York County should reserve at least 1,200 presently undeveloped acres of suitable industrial land along Interstate 64. Such land must be developable and, as such, the vast areas of land owned by the Newport News Waterworks and the City of Williamsburg, and designated as light industrial in the 1983 Plan should not be counted since it is destined to remain as watershed protection.

### Commercial Development

The Southeastern Virginia Planning District Commission projected in its June 1987, Hampton Roads Economic Forecast that retail employment in York County would grow from 1,221 in 1980 to 3,301 in 2010. This estimate, like most projections, extrapolated from past trends and did not consider the dramatic (215%) increase in York County retail sales that occurred between 1980 and 1988. The Virginia Employment Commission reported retail employment in York County at approximately 2,300 in 1987—almost double the County's retail employment reported in 1980. Clearly, SVPDC's year 2010 projection of 3,301 retail jobs must be revised in any consideration of future commercial acreage needs.

A February 1989, article in Urban Land included an analysis by David B. Van Horn, a planning and economic consultant, entitled, "A Community's Commercial Land: Is 'How Much' a Matter of Standards?". In this study, Van Horn analyzed 1987 commercial land ratios in 11 U. S. cities. He identified the following facts:

	<u>Low</u>	<u>High</u>	<u>Average</u>
• Amount of Commercially Developed Land as a Percent of all Developed Land	4.3%	9.0%	7.7%
• Commercial Acres Per 1,000 Residents	6.7	15.6	12.4

Given the fact that York County encompasses 108 square miles, of which perhaps 50 square miles is available for private development, total developable land in York County approximates 35,000 acres. Considering York County's strong tourist orientation, and the favorable fiscal impact of retail development, a ratio at the high end of the range would appear appropriate. This would suggest the need for 2,800 - 3,000 acres of commercial land at ultimate County build-out.

Given the high end estimate of 15-16 acres of commercial land per 1,000 residents, 2,800 to 3,000 acres of commercial development would support a population base of approximately 180,000 persons. Clearly, such a population is far beyond the desires of either the citizens or the County leadership. However, York County is in a unique position to serve not only the Williamsburg and Yorktown tourist markets, but also surrounding jurisdictions as well if retail centers are developed at such key locations as Route 17 and Route 171, Denbigh Boulevard, Route 199, Bypass Road and Lightfoot Road.

It is presently estimated that approximately 3,000 acres of land are designated commercial in York County. It therefore appears that there is not a need for large amounts of additional commercial acreage. However, this should not preclude the consideration of commercial designation of those additional areas listed above that are located convenient to neighboring localities. Such designation could help continue the flow of retail sales dollars back into the County from neighboring jurisdictions.

## FISCAL IMPACT CONSIDERATIONS

Long-range land use decisions must take into some account the relative impact of each of the various types of development on the fiscal health of the community. This section will provide a basic comparative analysis of the local tax and employment ramifications of the more common types of residential and non-residential land use.

- ASSUMPTIONS

- The number of persons and school-age children per household were derived from blended rates for various types of residential developments in the Mid-Atlantic region as reported in the New Practitioner's Guide to Fiscal Impact Analysis, Center for Urban Policy Research, Rutgers University, 1985.
- Average real property and personal property valuations were derived from selected samples of typical, recent developments in York County, and from conversations with the York County Real Estate Assessor.
- Retail sales tax calculations were derived from the mean average sales per square foot of 18 different retail classifications as reported by U. S. Regional Shopping Centers in 1984.
- Business license revenues were not estimated because, with the exception of retail, specific business license rates cannot be ascribed to specific types of real estate development.
- Local education costs per student were obtained from the York County School Division.
- Local recreation costs per person were obtained by dividing the total 1989-90 Recreational Services budget by the total population of York County in 1989.
- Public safety costs (including police, fire and rescue) and general County administrative costs will be incurred for each type of development included in

this analysis. Average police costs per resident can be estimated based upon information received from the York County Sheriff's Department. However no such average police costs can be calculated for non-residential development. In addition, average fire, rescue, and administrative overhead costs cannot be accurately apportioned to each of the types of development included.

- Both education and recreation costs can be apportioned to the various types of residential development, and it can be assumed that non-residential development will not add to these costs. Based on the impossibility of accurately apportioning public service costs other than education and recreation to each type of development, and on the fact that education represents the largest public service cost, only education and recreation costs have been factored into this analysis. While the net tax revenues per acre indicated would be reduced by the costs of other public services, this analysis nonetheless accurately reflects the "comparative" fiscal impact of each type of development relative to all other types of development.
  - Average employment per square foot of development is based on York County parking requirements for each type of development and on empirical evidence.
  - Average wages for each type of development were derived from the 1988 Virginia Employment Commission quarterly reports.
- **COMPARATIVE FISCAL IMPACTS (per acre; at 1989-90 tax rates)**

**Single Family Residential - (2 units per acre)**

<b>REAL PROPERTY</b>	
• \$125,000 valuation per unit x 2 units per acre x .0063 tax rate	\$1,575.00
<b>PERSONAL PROPERTY</b>	
• \$5,000 valuation per unit x 2 units per acre x .04 tax rate	<u>400.00</u>
<b>GROSS TAX REVENUES</b>	<b><u>\$1,975.00</u></b>
<b>LESS: EDUCATION COSTS</b>	
• .782 school age children per unit x 2 units per acre x \$1,050 local cost per student	(\$1,642.20)
<b>LESS: RECREATION COST</b>	
• 3.179 persons per unit x 2 units per acre x \$10 cost per person	<u>(63.58)</u>
<b>NET TAX REVENUES PER ACRE</b>	<b><u>\$ 269.22</u></b>

**Townhouses - (8 units per acre average)**

<b>REAL PROPERTY</b>		
• \$77,000 valuation per unit x 8 units per acre x .0063 tax rate		\$3,880.80
<b>PERSONAL PROPERTY</b>		
• \$5,000 valuation per unit x 8 units per acre x .04 tax rate		<u>1,600.00</u>
	<b>GROSS TAX REVENUES</b>	<b><u>\$5,480.80</u></b>
<b>LESS: EDUCATION COSTS</b>		
• .496 school age children per unit x 8 units per acre x \$1,050 local cost per student		(\$4,166.40)
<b>LESS: RECREATION COST</b>		
• 2.685 persons per unit x 8 units per acre x \$10 cost per person		<u>(214.80)</u>
	<b>NET TAX REVENUES PER ACRE</b>	<b><u>\$1,099.60</u></b>

**Apartments - (10 units per acre average)**

<b>REAL PROPERTY</b>		\$2,016.00
• \$32,000 valuation per unit x 10 units per acre x .0063 tax rate		
<b>PERSONAL PROPERTY</b>		
• \$5,000 valuation per unit x 10 units per acre x .04 tax rate		<u>2,000.00</u>
	<b>GROSS TAX REVENUES</b>	<b><u>\$4,016.00</u></b>
<b>LESS: EDUCATION COSTS</b>		
• .263 school age children per unit x 10 units per acre x \$1,050 local cost per student		(\$2,761.50)
<b>LESS: RECREATION COST</b>		
• 2.086 persons per unit x 10 units per acre x \$10 cost per person		<u>(208.60)</u>
	<b>NET TAX REVENUES PER ACRE</b>	<b><u>\$1,045.90</u></b>

**Timeshare Projects - (8 units per acre average)**

<b>REAL PROPERTY</b>		\$7,560.00
• \$150,000 valuation per unit x 8 units per acre x .0063 tax rate		
<b>PERSONAL PROPERTY</b>		<u>0.00</u>
	<b>GROSS TAX REVENUES</b>	<b><u>\$7,560.00</u></b>
<b>LESS: EDUCATION COSTS</b>		0.00
<b>LESS: RECREATION COST</b>		<u>0.00</u>
	<b>NET TAX REVENUES PER ACRE</b>	<b><u>\$7,560.00</u></b>

### Office Development

<b>REAL PROPERTY</b>		
• 10,000 square feet per acre x \$70 valuation per square foot x .0063 tax rate	\$4,410.00	
<b>BUSINESS PERSONAL PROPERTY</b>		
• 10,000 square feet per acre x \$5 valuation per square foot x .04 tax rate	<u>2,000.00</u>	
	<b>GROSS TAX REVENUES</b>	<b><u>\$6,410.00</u></b>
<b>LESS: EDUCATION COSTS</b>		0.00
<b>LESS: RECREATION COST</b>		<u>0.00</u>
	<b>NET TAX REVENUES PER ACRE</b>	<b><u>\$6,410.00</u></b>

### Retail Development

<b>REAL PROPERTY</b>		
• 10,000 square feet per acre x \$60 valuation per square foot x .0063 tax rate	\$3,780.00	
<b>BUSINESS PERSONAL PROPERTY</b>		
• 10,000 square feet per acre x \$4 valuation per square foot x .04 tax rate	1,600.00	
<b>SALES TAX</b>		
• 10,000 square feet per acre x \$150 annual sales per square foot x .01 local tax share	<u>15,000.00</u>	
	<b>GROSS TAX REVENUES</b>	<b><u>\$20,380.00</u></b>
<b>LESS: EDUCATION COSTS</b>		0.00
<b>LESS: RECREATION COST</b>		<u>0.00</u>
	<b>NET TAX REVENUES PER ACRE</b>	<b><u>\$20,380.00</u></b>

### Light Industrial

<b>REAL PROPERTY</b>		<i>2409</i>
• 8,000 square feet per acre x \$35 valuation per square foot x .0063 tax rate	\$1,764.00	
<b>BUSINESS PERSONAL PROPERTY</b>		
• 8,000 square feet per acre x \$5 valuation per square foot x .04 tax rate	<u>1,600.00</u>	
	<b>GROSS TAX REVENUES</b>	<b><u>\$3,364.00</u></b>
<b>LESS: EDUCATION COSTS</b>		0.00
<b>LESS: RECREATION COST</b>		<u>0.00</u>
	<b>NET TAX REVENUES PER ACRE</b>	<b><u>\$3,364.00</u></b>

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• **COMPARATIVE EMPLOYMENT IMPACT**

**Office Development**

• Employees Per Acre: 10,000 square-foot building per acre @ 1 employee per 300 square feet	33 emp/acre
• Average Weekly Wage:	
Finance, Insurance Real Estate	\$295
Government	\$476

**Retail Development**

• Employees Per Acre: 10,000 square-foot building per acre @ 1 employee per 350 square feet	29 emp/acre
• Average Weekly Wage	\$162

**Light Industrial**

• Employees Per Acre: 8,000 square-foot building per acre @ 1 employee per 1,000 square feet	8 emp/acre
• Average Weekly Wage	
Manufacturing	\$638
Construction	400
Trans., Comm., Utilities	595
Wholesale	437
Services	259

• **FISCAL IMPACT - SUMMARY**

On a relative basis, it is apparent that retail development generates the greatest returns to the County in terms of tax revenues while retail and office development return the most in the way of job creation. However, several other factors must come into consideration in this regard:

- Retail development will be guided by demand which, with the exception of tourist-related retail, is largely generated by residential growth.
- Retail development also generates a great deal of vehicular traffic and, as such, should be concentrated in those areas best equipped to handle such traffic.
- As evidenced by the table on Comparative Employment Impact, retail jobs are the

lowest-paying jobs of any category with an average weekly wage well under \$200.

Office development generates higher tax revenues and job creation than does light industry and does so in a much more aesthetically pleasing environment. However, with the exception of management and scientific/technical jobs, office development still lags behind manufacturing in average wage rates for less-skilled workers.

All of these considerations lead to the conclusion that a balanced approach must be taken with regard to land-use and real estate development. In essence, the high tax-paying attributes of retail development can be balanced against the aesthetic appeal of office development and the typically higher wages associated with industry. Each of these types of non-residential development has its place in an overall economic development strategy. Consequently, great care must be taken to ensure that the land made available for each type of development is, in fact, suited to such development with regard to such considerations as visibility, access, availability of utilities, environmental sensitivity, and proximity to residential neighborhoods.

## ECONOMIC NEEDS

York County enjoys a highly educated and trained citizenry. However, the largest number of new jobs created in the County in recent years have been lower-paying jobs in the retail and service sectors. York County continues to maintain a high per capita income level; however, this is largely the result of County residents working and owning businesses in neighboring localities. In order for our citizens, including our recent graduates, to find employment in the area, it will be necessary to encourage the location of professional and technical firms that provide higher-paying career opportunities both in York County and in the Peninsula area. The attraction of such companies will necessitate the creation of the first-class business park environments in which these types of firms prefer to locate. A primary reason that such parks were not developed in the County has been the lack of mainline utilities to the County's interstate interchanges. In a vehicle-oriented economy, immediate proximity to the Interstate highway system is essential.

The absence of higher-paying career opportunities is particularly a problem for York County's high school and college graduates who wish to remain in the area but are unable to obtain suitable employment. As noted above, wage rates (by place of employment) have risen at the lowest rate in York County of any jurisdiction on the Peninsula because of the preponderance of jobs created in the lower-paying retail and service sectors. While such jobs provide entry-level opportunities for lower-skilled residents, they do not offer the advancement potential necessary to retain workers and to provide those workers with the wherewithal to raise a family. For those high school graduates who wish to enter the permanent work force, more higher-paying industrial jobs of the caliber supplied by Newport News Shipbuilding and Anheuser-Busch must be created in the area. While the attraction of Canon USA was a major success for the area, the wage rates at production line companies such as Canon do not match those of the shipyard, the brewery, and the Amoco refinery.

With regard to college graduates, it is evident that the Peninsula and the County must expand employment opportunities in the Finance, Insurance and Real Estate sectors. The Peninsula is not presently competitive with Richmond and Norfolk/Virginia Beach for these white collar jobs, and steps must be taken to ensure the development of first-class office park settings such as Kiln Creek and to continue the development of the region's cultural and educational base as well as the air transportation necessary to attract major white collar employers.

As indicated above, the Peninsula area has a primary need of creating higher-paying jobs rather than simply creating large numbers of jobs. In addition, the public service needs of a growing population necessitate the attraction of high tax-generating companies. These dual needs can best be served by emphasizing the location of "capital-intensive" rather than "labor-intensive" businesses.

Based on the input of County citizens, as well as all of those individuals involved in the planning process, protection of our environment is of paramount concern. The natural environment of York County is one of its primary positive features, for businesses as well as residents, and the utmost care must be taken to ensure that economic progress proceeds in harmony with natural conservation efforts. Moreover, the visual attractiveness of a community is an important consideration not only for residents, but for business as well. In the 1980s, York County enacted strong landscaping and site design standards that will pay substantial dividends in years to come. However, these standards are applicable only to new developments, and there are a number of older establishments that create a blighting influence, particularly along Route 17. Some means must be developed to address the long-term visual attractiveness of the County's primary traffic corridors.

York County must build on its base as a tourist destination. York County has been a primary beneficiary of the surge in new hotel construction in the Williamsburg market area during the 1980s. New hotel and timeshare/resort developments were among the most significant generators of new local tax revenues in the County. However, as tourism flattened in the late 1980s, area lodging establishments experienced a decline in average occupancy rates. Traditionally, the spring and fall "shoulder seasons" have been periods of very low occupancy, and there is a significant need to increase visitation during these "off months" both to assist hotel operators and to provide greater seasonal stability to the labor market. In order to assist these existing businesses in the County, it is necessary to promote the Williamsburg area as more than just a place to visit the restored area. In addition, it is essential that the Village of Yorktown continue to be developed as an attraction in and of itself.

Land-use and zoning flexibility is another area of concern. The national trend in local government has been toward more complex regulation and greater specificity in land-use and zoning classifications. The intent of this extensive regulation has been to encourage higher quality development. Unfortunately, complex levels of regulation and zoning specificity have often had the opposite effect, stifling creativity in project design and leading to costly delays with no resultant improvement in project quality. In response to this concern, York County has recently enacted procedures such as conditional zoning, planned-unit developments and the team site plan review process that have had a positive impact on the County's development climate while continuing to serve the public interest. A remaining concern is the large number of very specific commercial zoning districts, each with a relatively small number of permitted uses. There still remains a strong need for the creation of a more flexible zoning classification that can accommodate the wider range of business activity that has become the trend in large, mixed-use corporate centers and non-residential districts.

## ECONOMIC OPPORTUNITIES AND CONSTRAINTS

York County is uniquely located to benefit from regional, national, and international economic trends.

On a regional basis, York County is a linear county that follows Interstate 64. York County is also the only jurisdiction on the Virginia Peninsula that shares a common boundary with every other jurisdiction on the Peninsula. Economic growth patterns are moving up the Peninsula from Hampton and Newport News toward the mid-Peninsula area and Williamsburg. York County is located directly in this pathway and enjoys close proximity to four I-64 interchanges in the mid-Peninsula area and has another four full interchanges located entirely within the northern portion of the County. Approximately 4,000 acres of developable vacant land is located adjacent or proximate to six of these eight interchanges; however, two of the three interchanges with the most long-range economic potential, Lightfoot and Camp Peary (Exits 55 and 56), lack even the most basic public utilities.

Within the Southeastern Virginia region which reaches from Richmond to Virginia Beach, there is fierce competition for new economic investment. This region has been one of the strongest economic development markets in the East; however, the location of new and expanding business and industry has not been uniform throughout the region. York County must compete with a number of well-located,

publicly-subsidized business parks in the cities of Virginia Beach, Portsmouth, Chesapeake, Suffolk, Hampton, Newport News, and Richmond, and in the counties of Henrico and Chesterfield. Any new corporate center development in York County must be price-competitive with these surrounding communities.

On a national basis, Southeastern Virginia can expect to continue to benefit from the desire of people and companies to locate in warmer climates close to the coast. While the industrial Northeast has recently enjoyed a degree of resurgence, the rapid movement of people, goods, and communication has continued to contribute to an overall trend toward decentralization of business and a quest for enhanced quality of life. The County's climate, excellent school system, low tax rate, wooded environment, and proximity to the water all combine to make York County a very attractive business location provided sufficient infrastructure is in place.

In recent years, the global economy has become progressively more inter-dependent with a blurring of national economic boundaries. As the European Community moves toward economic unification with over 400 million consumers, ties with Europe will become increasingly important. Two primary advantages enjoyed by York County are its proximity to the Port of Hampton Roads, the premier emergent load center on the East Coast and the existence of thousands of acres of land with a Williamsburg address, an internationally known name that is synonymous with quality.

While enjoying abundant opportunities, York County is nonetheless faced with certain constraints to enhanced economic development. With the expanded enforcement and definition of "non-tidal wetlands" by the U. S. Army Corps of Engineers and the Environmental Protection Agency, a significant amount of the non-residentially zoned land in the southern portion of the County will be rendered undevelopable. In addition, certain commercial properties in the southern end of the County may need to be tested for toxic contaminants as a result of prior uses. Therefore, it is imperative that the land resources in the northern portion of the County be utilized to achieve the maximum fiscal benefit to the County if economic development objectives are to be met.

The majority of the land in the County designated General Industrial is owned by Amoco, which has no intent to develop this land in the foreseeable future. There does not appear to be public support for expanding the County's General Industrial land use designation, thus putting the County in a disadvantageous position to compete for heavier, capital-intensive industry.

Another very serious consideration is the looming shortage of raw water to service the entire Peninsula. Presently, York County is cooperating with other area localities in exploring new long-term sources of raw water; however, this is a long, costly process with no guarantee of success.

Finally, local governments are functioning in an era when both the Federal and State governments are shifting more public responsibilities to the localities with no means to pay for these services. This means that any incentives to promote enhanced economic development must be documented to be cost-effective so as to ensure that the County receives the maximum fiscal benefit from any investment of scarce public funds.

## SUMMARY

With the advent of the 1990s, York County is poised to enter a new cycle in its recent economic history. In the late 1950s, the development of the Amoco refinery and the Virginia Power Yorktown Power Station provided the County with a strong heavy industrial base. In addition to providing approximately 400 well-paying jobs, these plants greatly bolstered local tax revenues.

The County's second recent economic cycle began in the 1970s and continued throughout the entire decade of the 1980s. During this cycle, York County experienced dramatic growth in new hotel construction and retail sales development. New hotel construction in the Williamsburg area of the County was largely a result of the widening of the Route 60 Bypass (Bypass Road) and the private provision of public water and sanitary sewer service to this area. This provided York County with a viable location to attract new lodging spaces demanded by increasing visitation to the Williamsburg market. The dramatic growth in the County's retail sales was a result of the development of several new convenience shopping centers to serve an increasing residential population and the impact of the tourist commercial development mentioned above.

Both the general retail and tourism sectors are exceptional generators of local tax revenues and new jobs. However, the downside of this type of economic development is that such jobs are typically lower-paying and seasonal. Therefore, while on a percentage basis, annual employment growth in York County from 1980 to 1986 exceeded that of the region as a whole, York County had the lowest percentage increase in average earnings of any jurisdiction in the region. If the County is to generate higher-paying, stable jobs, it must do so through the attraction of new industry and office development.

During prior decades, light industrial and office development on the Peninsula was largely concentrated in Hampton and Newport News. These communities boasted fully serviced, properly zoned properties such as Copeland Industrial Park, Langley Research and Development Park, and Oyster Point. However, several factors have combined to place York County in a particularly advantageous position to capture a much larger share of the higher-paying job opportunities created in such business park settings.

The national trend in development patterns is generally toward increasing decentralization. Gone are the days when transportation and communications difficulties required business and industry to locate in close proximity. This trend, which began with the development of the interstate highway system, has been further reinforced by revolutionary advances in telecommunications. Another factor contributing to this trend is the desire of business to locate in aesthetically pleasing environments, with significant amounts of green space. Finally, employment centers tend to be the "trailers" in the movement to the suburbs that begins with residential construction and is followed by retail development, both of which have already occurred in York County.

The challenge facing York County in the 1990s and beyond is to offer prime locational opportunities to those light industrial and office concerns that provide the desired quality of development. As demonstrated in the comparative fiscal impact analysis, business pays a higher proportional share of the County's bills than residential development without generating large public service demands. If the County is to pursue a favorable mix of residential and non-residential development, the County must offer what business wants and what is already being offered in an intensely competitive, inter-jurisdictional market.

Secondly, the County must undertake an educational and public relations effort to inform the citizens of the fiscal benefits provided to the County by business. A conscious choice must be made. Residential development can be pursued exclusively with a resultant rise in residential taxation to pay for the cost of services, or the County can utilize a portion of its resources to invest in business so that business can bear an increasing share of the tax burden, thereby relieving the fiscal pressures on the residents of the County.

If the conscious decision is made to pursue a balanced tax and employment base, the County must assume a pro-active, rather than reactive stance relative to economic development. York County is fortunate in that its natural locational and aesthetic advantages result in a very favorable image for the County. Rather than face the daunting task faced by the older central cities of reversing negative images, York County need only remove the impediments standing in the way of natural migratory trends. Clearly, the most significant such impediment is the lack of adequate public utilities at key potential business locations, particularly along Interstate 64. The public sector must join with, and perhaps in some instances precede, the private sector in the extension of mainline public water and sanitary sewer service to key economic priority areas. Shown in Table 11 are preliminary cost estimates of providing public sewer service to five (5) designated economic priority areas: Lightfoot, Whittaker's Mill, Denbigh Boulevard, the Amoco tract and the Kiln Creek area (see Map ED-1). Of these areas, only Lightfoot requires significant investment in public water facilities. For more extensive discussion of these and other utility needs, reference the Utilities element of this plan.

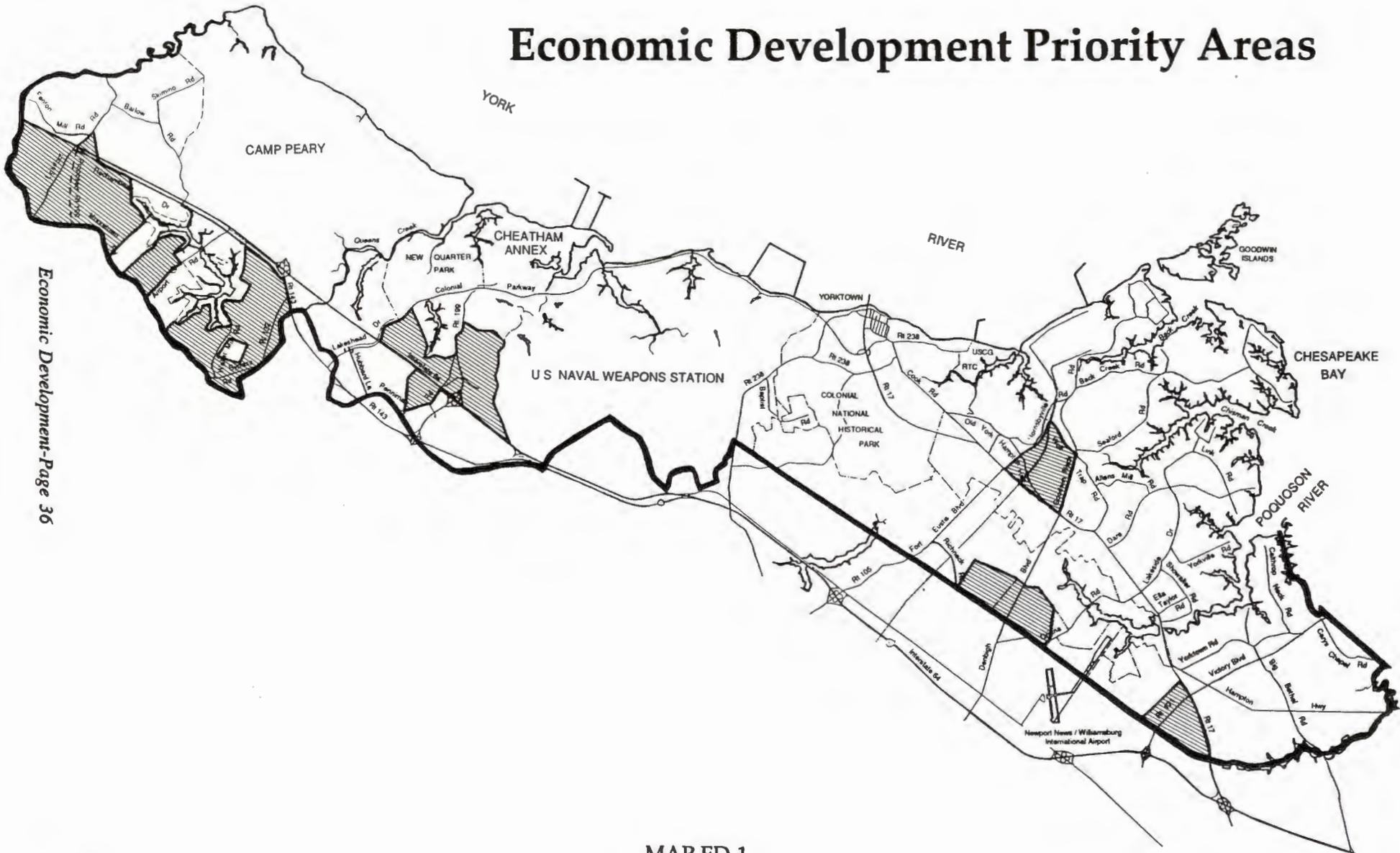
With the provision of adequate public utilities comes the necessity of having sufficient developable land properly zoned to meet market demands. This study has demonstrated a need to reserve at least 1,200 acres of suitable, developable land along I-64 for industrial use. In addition, existing commercial and office zoning designations must be reviewed to determine their appropriateness given market demands and transportation constraints.

York County is ideally situated to attract high-quality, environmentally sensitive economic development if the County is prepared to address the needs of the marketplace through public investment in infrastructure and appropriate land-use designations.

**TABLE 11  
WATER AND SEWER NEEDS  
ECONOMIC DEVELOPMENT AREAS  
(1990 DOLLARS)**

<b>WATER</b>	
• Upper County, including:	
• Lightfoot	
• Mershon-Royalls Tract	
• Camp Peary Interchange Area	
• 7.3 MGD (Long-range) Scenario	
• Development of well system, including 1 million gallon storage tank (1mgd)	\$ 2,500,000
• Extension of above service from Lightfoot toward Airport Road	800,000
• 12" distribution main to serve the area east of Waller Mill reservoir between I-64 and Route 60 and another 1 million gallon storage tank	2,500,000
• 12" main loop extension along I-64	1,700,000
• Newport News Water Works Charges	<u>100,000</u>
<b>TOTAL WATER</b>	<b><u>\$ 7,600,000</u></b>
<b>SEWER</b>	
• Lightfoot	
• 3 major pump stations	\$ 1,050,000
• 4 force mains	<u>700,000</u>
Subtotal	<b><u>\$ 1,750,000</u></b>
• Mershon-Royalls Tract	
• 1 small pump station	\$ 250,000
• 1 force main	<u>150,000</u>
Subtotal	<b><u>\$ 400,000</u></b>
• Camp Peary Exit	
• 1 major pump station	\$ 350,000
• 1 force main	<u>150,000</u>
Subtotal	<b><u>\$ 500,000</u></b>
• Whittaker's Mill and Egger Tract	
• Upgrade existing pump station C	\$ 300,000
• Force main, engineering, etc. (Corp. Center West)	200,000
• New pump station in Corp. Center East	300,000
• Force main (Corp. Center East)	<u>200,000</u>
Subtotal	<b><u>\$1,000,000</u></b>
• Denbigh Boulevard	
• Pump station to serve proposed industrial area	\$ 350,000
• Force main (assuming no flows through Newport News)	<u>550,000</u>
Subtotal	<b><u>\$ 900,000</u></b>
<b>TOTAL SEWER</b>	<b><u>\$ 4,550,000</u></b>
<b>GRAND TOTAL</b>	<b><u>\$12,150,000</u></b>
<i>Source: York County Environmental Service Department</i>	

# Economic Development Priority Areas



Economic Development-Page 36

MAP ED-1



## GOALS/OBJECTIVES/IMPLEMENTATION STRATEGIES

The Economic Development element of the Comprehensive Plan is based on the realization that business and industry make a positive contribution to the fiscal health of a community both by providing employment opportunities for the residents of the community and by contributing local tax revenues that exceed the cost of providing public services to such development. These excess tax revenues can then be used to assist in funding the public services required by the County's residents while helping to keep residential taxes to an acceptable level. To this end, the following overall goals have been established for this Economic Development element:

### A. OVERALL GOALS

1. Promote economic development in order to enhance the quality of life for all citizens of York County.
2. Encourage the diversification of the County's tax and employment base through the attraction and retention of clean, environmentally-sensitive industry and commerce.
3. Promote the creation of a balanced employment base that provides economic opportunities for the full range of County citizens.
4. Capitalize on the County's central location on the Virginia Peninsula and its relationship to the Interstate highway system.
5. Encourage a regulatory environment that assists entrepreneurial activity.

### B. OBJECTIVES

1. Expand white collar and technical employment in order for our highly educated and trained citizens, including our recent graduates, to find employment in the County. The attraction of professional and technical firms that provide higher-paying career opportunities will necessitate the creation of the first-class business park environments in which these types of firms prefer to locate. In a vehicle-oriented economy, immediate proximity to the Interstate highway system is essential.
2. Expand the County's base of capital-intensive business and industry both to create higher-paying jobs (rather than simply creating large numbers of jobs) and to generate the tax revenues to help meet the public service needs of a growing population. These dual needs can best be served by emphasizing the location of "capital-intensive" rather than "labor-intensive" businesses.
3. Ensure that all new business activity in the County is environmentally sensitive. Based on input of County citizens, as well as all of those individuals involved in the planning process, protection of our environment is of paramount concern. The natural environment of York County is one of its primary positive features, for businesses as well as residents, and the utmost care must be taken to ensure that economic progress proceeds in harmony with natural conservation efforts.
4. Build on the County's base as a tourist destination. Traditionally, the spring and fall "shoulder seasons" have been periods of very low occupancy, and there is a significant need to increase visitation during these "off-months." In order to assist these existing businesses in the County, it is necessary to promote the Williamsburg area as more than

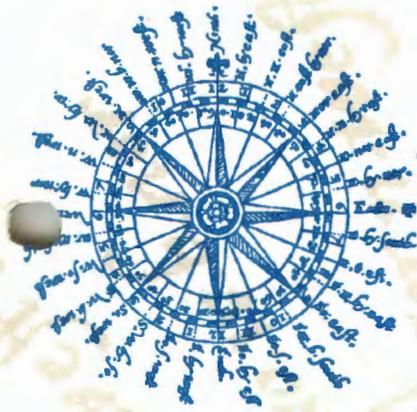
just a place to visit the restored area. In addition, it is essential that the Village of Yorktown continue to be developed as an attraction in and of itself.

- ✓ 5. Promote landscaping and eliminate visual blight to enhance the long-term visual attractiveness of the County's primary traffic corridors.
- ✓ 6. Provide for greater flexibility in zoning and land use regulation to encourage creativity in project design and prevent costly and unnecessary delays.

### C. IMPLEMENTATION STRATEGIES

- ✓ 1. Participate with the private sector in the development of two or more corporate centers in the County. Primary emphasis should be on:
  - ✓ a. assisting in the cost of public utility extension in order to foster land price competitiveness. Primary emphasis should be on Interstate interchanges.
  - ✓ b. exploring the need for state-of-the-art telecommunications facilities in these parks.
  - c. seeking "Foreign Trade Zone" status for all or a part of at least one corporate center.
  - d. providing an opportunity for taller building heights in corporate center locations near the Interstate.
- 2. Study the need for and financial feasibility of creating a small business and technology-oriented "business incubator" facility in the County.
- 3. Investigate the feasibility of the development of a new convention and exhibition center.
- ✓ 4. Continue the Yorktown revitalization effort with initial emphasis on public improvements.
- 5. Determine the financial feasibility of alternative reuse for existing blighted commercial properties.
- 6. Create a new, more-flexible economic development zoning classification for designated large tracts of land. Such a designation would allow, either by right, by use permit or through a planned development, the following range of economic development uses:
  - . offices
  - . hotels
  - . retail
  - . timeshare/resorts
  - . golf courses
  - . warehousing and distribution
  - . "limited industrial activities" (as defined by the York County Zoning Ordinance.)
- 7. Support the development of surface, air and water transportation improvements that will ensure the easy, economical and safe movement of the employees, customers and merchandise so vital to a vibrant regional economy.
- ✓ 8. Support the development of state-of-the-art telecommunications facilities in the County to serve both the educational and professional/commercial communities.

- ✓ 9. Promote and support linkages between the secondary and higher education systems and business and industry to ensure that the needs of both employers and potential employees are being addressed.
- NOW in  
Utilities → 10. Require the use of water-saving fixtures in all new development and do not encourage water-intensive industrial users.
- ✓ 11. Continue to participate with the private sector in jointly marketing privately owned, non-residential properties, utilizing proceeds from the Industrial Development Authority Capital Fund.
- ✓ 12. Continue to seek opportunities to replenish the Industrial Development Authority's Capital Fund for economic development and to seek to acquire surplus state and federal properties for expanded economic development opportunities.
- ✓ 13. Continue to enhance public awareness of the role of economic development in York County.



# *Charting the Course to 2010*

Preserving the Past, Ensuring the Future



Environment

# ENVIRONMENT ELEMENT

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# ENVIRONMENT

## INTRODUCTION

Our attitudes toward land development have been changing. No longer is land strictly a commodity to be bought and sold. When land was cheap, the undesirable sites were left alone. Now with a scarcity of land in many parts of the County, development is being considered for those "passed over" sites. The 1983 Land Use Plan noted that a well known planner once said "let the land do the planning." Unfortunately, we often do not follow this advice as structures built on poor soils fail, new developments experience drainage problems, and eroding shorelines threaten homes. The Census Bureau notes that 75% of the U. S. population lives within 50 miles of a coast. With large population centers adjacent to coastal areas, it is easy to see how pressures of growth and development have affected the overall environmental quality of these sensitive areas. Information provided in this element identifies existing conditions and gives an inventory of the natural resources found in York County.

## EXISTING CONDITIONS

### Air

The well being of a community, both in terms of health and economic development, depends on air quality. In terms of human health, poor air quality can affect those residents that have particular sensitivities (i.e., asthma) to degraded air quality. Hot and humid days often force these people to curtail activities when pollutant levels are high.

The economic health of a community may also suffer as a result of having existing businesses and industries which, as permitted through the Air Pollution Control Board, must limit certain air pollutant levels through the use of expensive technology. Taken together with surrounding industries in neighboring localities, the allocation level for a particular pollutant may be nearing the maximum permitted level since older technology may still be in use. As a result, new industries or existing plants undergoing expansion often must install expensive air pollution reduction equipment. In some instances the costs associated with installation of advanced air pollution removal equipment force some potential companies to look at alternate locations where air quality levels can accommodate their projected emission rates without that equipment.

The implication for York County is that, as part of a regional airshed defined as the Peninsula and Southeastern Virginia localities, air pollutant standards will be increasingly difficult to meet as new legislation begins to take effect. While air quality within the County is generally satisfactory, major industries are currently faced with the expense and selection of the best method for complying with the new mandates of the Clean Air Act.

The following sections describe how air quality is evaluated and the mechanisms for ensuring that mandated standards are achieved.

### Air Pollutants and Regulations

- Air quality in Hampton Roads is examined and measured in terms of air pollutants—either in gaseous and/or particulate (i.e., solid) forms. Federal legislation has established National Ambient Air Quality Standards (NAAQS) for the following pollutants:
  - Sulfur oxides (SO<sup>n</sup>)
  - Total suspended particulates (TSP)
  - Carbon monoxide (CO)

- Photochemical oxidants, primarily ozone (O<sup>3</sup>)
  - Hydrocarbons (HC)
  - Nitrous Oxides (NO<sup>n</sup>)
  - Lead (Pb)
- Any building, structure, facility or installation which emits any air pollutant is a stationary (or direct) source. Examples include: power generating facilities, incinerators or refuse combustion facilities, and industrial processing plants.
  - An indirect source occurs when a facility, building, structure or installation will attract to it mobile sources (e.g., automobiles) and thereby result in the generation and emission of pollutants. Such indirect sources include, but are not limited to:
    - Highways and roads;
    - Parking facilities;
    - Airports;
    - Office and governmental buildings; and
    - Recreation, amusement, sports and entertainment facilities, etc.
  - Major stationary sources in York County permitted to emit air pollutants (at certain specified maximum levels) by the Virginia State Air Pollution Control Board are shown in Table 1:

**TABLE 1**

<b>Stationary Source Emissions</b>					
	SO <sup>n</sup>	TSP	CO	HC	NO <sup>n</sup>
VA Power Plant, Yorktown	X	X	X	X	X
Naval Weapons Station		X	X	X	X
Cheatham Annex		X			
Amoco	X	X	X	X	X
Coast Guard Reserve Training Center		X	X		X
Camp Peary		X	X		X

SO<sup>n</sup> = Sulfur Oxides  
 TSP = Total Suspended Particulates  
 CO = Carbon Monoxide  
 HC = Hydrocarbon Chemicals  
 NO = Nitrogen Oxides

*Source: Air Pollution Control Board*

The Virginia Power Yorktown Plant is one of the existing stationary source sites which emits sulfur oxides, primarily sulfur dioxide. The Clean Air Act of 1990 requires a significant reduction in existing levels of sulfur dioxide emissions for all industry and localities. In response to this new legislation, the EPA has chosen the Yorktown plant to test a new sulfur oxide reduction process called limestone injection multistage burner (LIMB) system. If successful, a 50% reduction in sulfur dioxide emissions is anticipated which will help to meet the new requirements of the Clean Air Act. A major feature of the LIMB process is that it appears, at this time, to be feasible for use by older power plants which historically have had

trouble meeting lower emission standards.

The Amoco Oil Company is actively working toward reducing emission rates and meeting federally established environmental goals. Two initiatives are now underway:

- **Industrial Toxics Project** - This project, which is sponsored by the Environmental Protection Agency, targets reducing emission rates by 50% within the next four years.
- **Joint Pollution Prevention Project** - Amoco Corporation is participating with EPA in a multi-media review and assessment of pollutant releases to the air, water, and ground. Since several federal, state, and local regulations affect the method of pollution reduction, Amoco's purpose is to identify the most effective pollution removal method while still achieving various mandated standards. It is hoped that information gained from this project will eventually be used at other Amoco refineries.

#### Air Quality - The Clean Air Act of 1990

The Clean Air Act is implemented by the U. S. Environmental Protection Agency which has established "primary" and "secondary" NAAQS for certain air pollutants. The primary standard must protect the "public welfare" which is interpreted to mean all environmental and economic interests.

NAAQS's regulated by the Clean Air Act are a part of Virginia's State Implementation Plan (SIP) and are administered by the Virginia Air Pollution Control Board. The SIP places emission limitations on stationary sources (i.e., existing industries) and, to a certain degree, mobile sources (i.e., automobile usage). If a state fails to develop a SIP, the EPA may develop a plan for that state to ensure compliance with air quality standards.

York County is part of the Hampton Roads Region which means that air quality standards on the region as a whole (i.e., Southside and Peninsula) affect the County's air quality standing. A region may be classified as:

- Attainment - meeting all NAAQS
- Nonattainment - failing to meet one or more of the NAAQS
- Prevention of Significant Deterioration (PSD) - air quality that exceeds any NAAQS

The Hampton Roads Region is in violation of the National Ambient Air Quality Standard for ozone (smog). This nonattainment status is listed as marginal--the least restrictive category. Nevertheless, this nonattainment status requires a revision in Virginia's SIP. This revision, currently being formulated, could require that some or all of the following actions be taken within the region:

- Use of "best available control technology" to limit emissions,
- Vehicle inspection and maintenance programs,
- New stationary source permits required to meet the "lowest achievable emission rate," and
- "Offset reductions" in the nonattainment pollutant from other sources.

One of the primary sources of this type of air pollution is automobile emissions. Provisions in the Clean Air Act limit emissions of new vehicles, require oil refiners to develop cleaner automotive fuels, and mandate that states include "transportation controls" within their SIPs. These controls include such measures as improved public transit, bike lane facilities, car pool lanes, staggered work hours, etc. Should the nonattainment status for ozone in the region not be reversed by the actions cited above, restrictions on vehicle usage could become a possible alternative which might be included in a future SIP. Failure to reach attainment status within the time period stated in the SIP could jeopardize federal funding for highways.

The region currently meets all other NAAQS. Prevention of Significant Deterioration (PSD) refers to areas of superior air quality. In order to maintain the high level of air quality, new emitting sources must demonstrate that:

- Best available control technology will be used,
- Ambient air quality will not be reduced, and
- All other emission levels will be met.

The Clean Air Act also sets standards for hazardous air pollutants which have been determined by EPA "to result in an increase in mortality or serious illness." Air pollutants classified as "hazardous" include asbestos, beryllium, mercury, vinyl chloride, benzene, radio-nucleates, arsenic, and radon. After the pollutant is identified, EPA develops standards which must be met. A hazardous air pollutant standard applies to existing and proposed sources.

### Climate

The climate on the Virginia Peninsula has traditionally been mild as evidenced by the average temperatures and long growing season.

- Average January temperature is 42°
- Average July temperature is 79°
- Growing season is 190 days from spring through fall

**TABLE 2**

<b>HISTORICAL PRECIPITATION RECORDS</b>		
(in inches of precipitation)		
(Monthly Averages)		
	<u>Langley AFB</u> (1930 thru 1982)	<u>Williamsburg</u> (1949 thru 1982)
January	3.41	3.71
February	3.21	3.40
March	3.67	3.96
April	2.85	2.90
May	3.68	4.32
June	3.63	3.98
July	5.01	5.15
August	4.90	4.68
September	4.45	4.23
October	2.88	3.43
November	2.73	3.17
December	3.00	3.40
<b>Average Annual Precipitation</b>	<b>43.42</b>	<b>46.33</b>

*Source: "201 Facilities Plan - Sewer System Study Sanitary District #2" - Buchart-Horn, Inc.*

## Land

More than any other feature, the land and its characteristics, such as slope, soils and vegetation, influence planning decisions. York County has been blessed with a wide variety of each of those characteristics, making land development decisions challenging. For instance, the wet soils and flat topography of the southern portions of the County need to be considered when constructing tall buildings. Often these areas need extra foundation work for structures beyond one story. The well-drained soils and steep slopes predominantly found in the northern part of the County, but also found elsewhere in the County, require attention to erosion control during the development process. Slopes greater than 20% often contribute large quantities of sediment and associated pollutants to streams and rivers when not properly stabilized during and after the development process.

### **Forested/Open Lands/Agriculture**

Vegetation serves important functions in maintaining the land and supporting development by stabilizing the soil, preventing erosion, increasing soil permeability and decreasing storm water runoff. The Tree Preservation and Landscape Design Ordinance approved in 1989 requires the retention of trees through all phases of the development process which may include: Erosion and Sediment Control, Subdivision Review and Site Plan Review. Retention of existing trees and vegetation is a primary focus of these regulations.

Vegetation also buffers adjacent and/or incompatible land uses, attenuates noise, wind and heat, improves air quality through photosynthesis, provides a visually attractive amenity and acts as a refuge for wildlife.

Mixed pine and hardwoods are located in the upland areas and are generally characterized by the following predominant species:

- American Beech
- Tulip Poplar
- Oaks
- Loblolly Pine
- Virginia Pine
- Dogwood

Forestry operations which include managing woodland through reforestation, thinning and clearing are present on 3,451 acres within York County (1991 USDA Soil Conservation Service).

Agricultural uses which include cropland and livestock operations are present on 3,374 acres. The County has 66 active farms (1987 Agriculture Census). Crops grown in the County include corn, soybeans, wheat, and barley.

### **Topography**

The topography or slope of the County has an effect on how land is developed and what measures may have to be taken to ensure that the development is free of problems associated with slope. From the low-lying areas in the south to rolling hills in the north, the elevation of the County changes from sea level to over 100 feet at its highest point. In many sections of the County around the Williamsburg area, slopes of 20% or more line the shoreline including the following areas:

- Queen Creek
- Skimino Creek
- Waller Mill Reservoir

In the 1983 Land Use Plan, these steep slope areas were identified and placed in protective land use designations such as:

- Resource Management/Protection
- Conservation

Any development along steep slopes requires compliance with zoning ordinance regulations ensuring the integrity of the slope.

Slight to severe slopes (i.e., slopes of 1% to 20% +) occur along the York River shoreline and along the upper reaches of the Poquoson River, Wormley Creek, King Creek, and Queen Creek. Under the stress of development, wind and rain factors, and the soil composition, these steep slopes are potential erosion sites in the County where valuable land may be lost. (See Map E-1).

### Soils

The York-James Peninsula lies entirely within the Coastal Plain physiographic province. The bedrock is buried by deep layers of unconsolidated materials. Four scarps are recognized on the Peninsula—Big Bethel, Suffolk, Kingsmill, and Surry. General soils studies indicate that sandy loam clay mixtures predominate, varying in depth throughout the County. The USDA Soil Conservation Service classifies soils as "severe" when the soil characteristics are unfavorable for the intended use and could significantly increase construction costs and maintenance.

Soil conditions are identified in the soil survey conducted by the Soil Conservation Service (in cooperation with Virginia Polytechnic Institute and State University).

The following soil types are identified on Map E-2:

Tomotley-Altavista-Dragston: Deep, poorly drained, moderately well drained and somewhat poorly drained soils that dominantly have a loamy subsoil and are nearly level; on low flats and terraces. These soils are found generally in the area east of the Suffolk scarp in the southern end of the County.

Emporia-Bohicket-Slagle: Deep, well drained, very poorly drained and moderately well drained soils that have a loamy subsoil or clayey substratum and are nearly level to very steep; on saline or brackish water marshes and escarpments and side slopes. These soils are found generally in the vicinity of Harwood's Mill Reservoir along the York River and the various creeks which flow into it.

Bethera-Izagora-Slagle: Deep, poorly drained and moderately well drained soils that dominantly have a clayey or loamy subsoil and are nearly level or gently sloping. These soils are found generally in the area west of the Suffolk scarp in the southern end of the County.

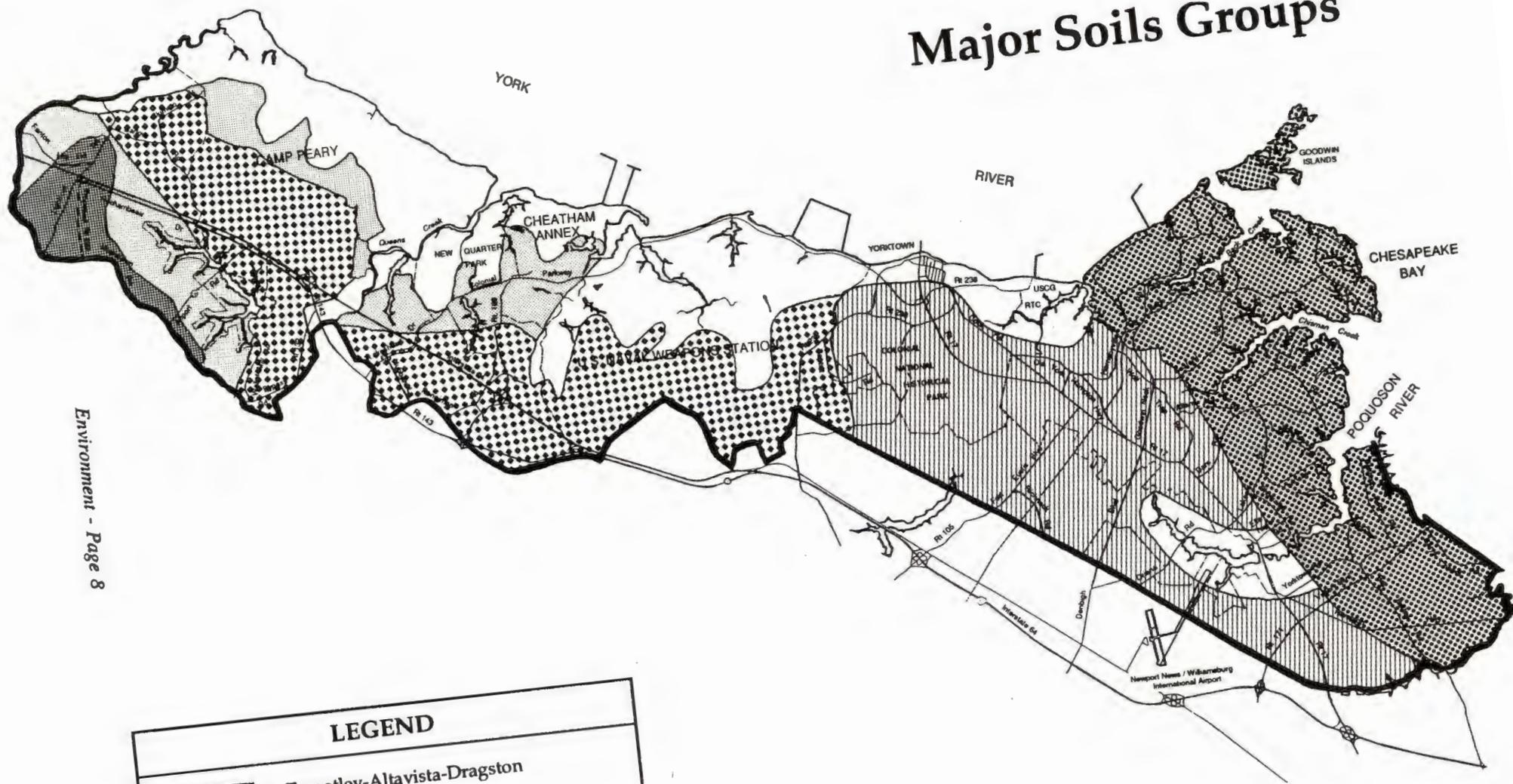
Slagle-Emporia-Uchee: Deep, moderately well drained and well drained soils that dominantly have a loamy subsoil and are gently to moderately sloping. These soils are found generally in a band existing from Route 238 in a northwesterly direction through Williamsburg and east of Waller Mill Reservoir.

Emporia-Craven-Uchee: Deep, well drained and moderately well drained soils that dominantly have a loamy or clayey subsoil and are gently sloping to very steep. These soils are found generally in a narrow band along the Colonial Parkway and along the western side of Waller Mill Reservoir.

Kempsville-Emporia-Suffolk: Deep, well drained soils that dominantly have a loamy subsoil and are gently sloping to very steep. These soils are found generally in the vicinity of Mooretown Road and Route 646.



# Major Soils Groups



Environment - Page 8

LEGEND	
	Tomotley-Altavista-Dragston
	Emporia-Bohicket-Slagle
	Bethera-Izagora-Slagle
	Slagle-Emporia-Uchee
	Emporia-Craven-Uchee
	Kempsville-Emporia-Suffolk

Source: U.S. Department of Agriculture, Soil Conservation Service

MAP E-2

The various soil characteristics and limitations considered and evaluated in conjunction with this element of the Comprehensive Plan include the following:

**High Water Table (Map E-3)** A high or seasonally high water table may create significant limitations for building foundations, septic effluent disposal, road construction, parking lot construction, etc. For the purposes of this element, a water table elevation of less than 2 1/2 feet below ground surface level was considered to represent a constraint. Most development potentially involves excavations of this depth or more and would, therefore, necessitate consideration of appropriate techniques to mitigate the wetness caused by the high water table.

In most areas of the County south of the Naval Weapons Station the water table is less than 2 1/2 feet below the ground surface. This, coupled with the lack of topographical relief, produces extremely wet conditions in many areas which must be dealt with during the development process. Conversely, conditions to the north are essentially the opposite with most areas having a water table more than 2 1/2 feet below the ground surface.

**Septic System Limitations** (see Utilities Element) The suitability of soils for supporting a properly functioning septic system is dependent on such factors as slope, susceptibility to severe wetness, flooding potential, percolation (permeability) rate, and filtering characteristics. The composite effects of these factors were evaluated by the VPI soil scientists to arrive at the septic system limitation ratings presented in the soil survey.

With few exceptions, the entire County is generally characterized by soils with severe limitations for septic systems. There are system failures reported by the Health Department in various areas of the County. However, they should not be construed as an absolute indication that septic systems will not function properly in a particular area. For site-specific conditions, on-site surveys and samples must be obtained.

The combined characteristics of a high water table, slope, permeability and flood potential make the proper functioning of septic tanks difficult in the southern end of the County. The Department of Health, Division of Shellfish Sanitation, conducts a "shoreline sanitary survey" of the County every other year. Where on-site deficiencies exist, the property owner is notified of the violation. Follow-up inspections are conducted by the local Health Department to ensure that corrections are made to the system.

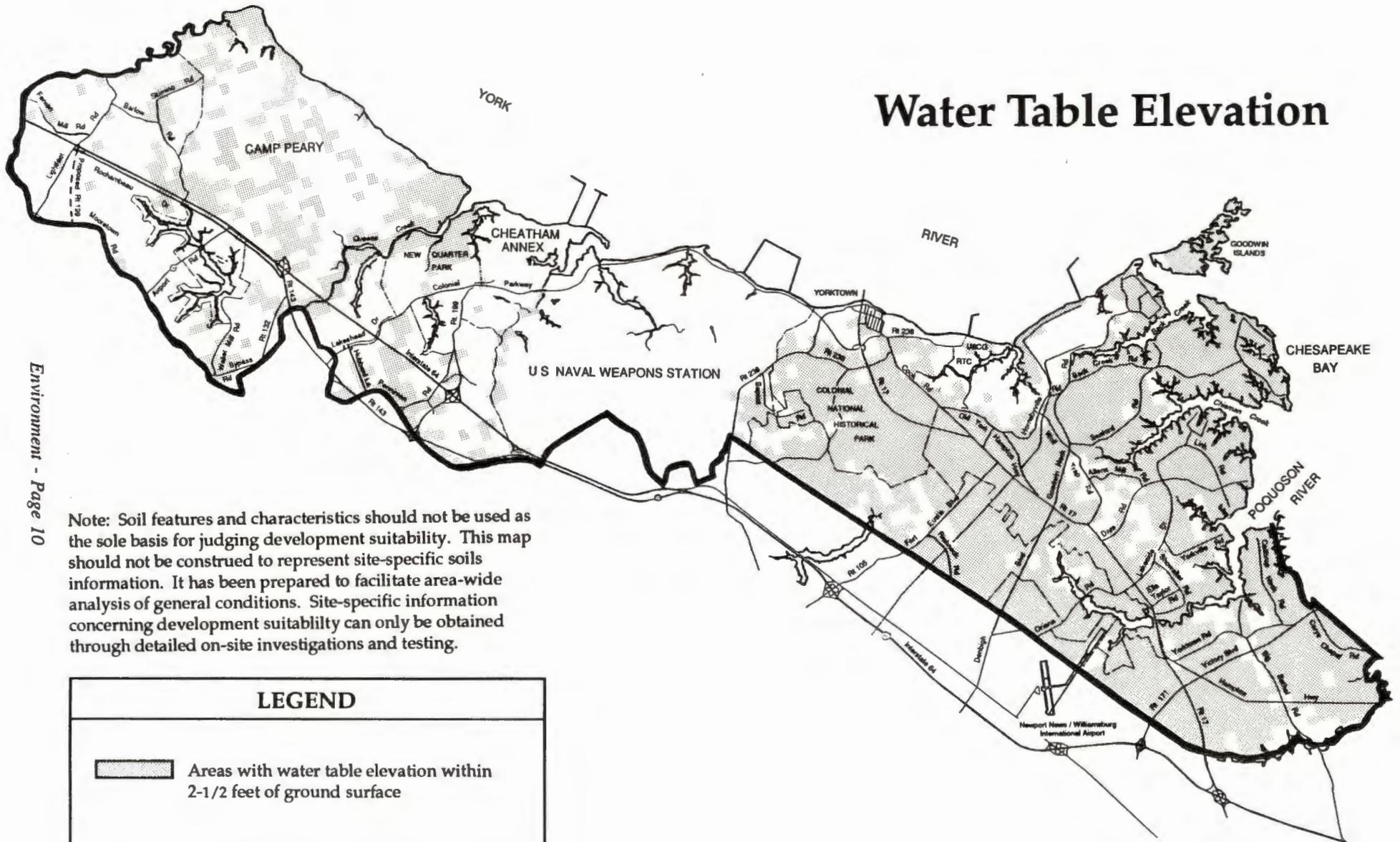
- Table 3 lists those poorly drained soils which hinder development. These soils tend to be found primarily in the southern end of the County

**TABLE 3**

<b>SOILS SUITABILITY FOR SEPTIC FIELDS</b>		
<u>Soil Name</u>	<u>Limitations</u>	<u>Problems</u>
Altavista	Severe	W
Bethera	Severe	W, P, PS
Bohicket	Severe	W, P, PS
Dragston	Severe	W, PS
Emporia	Severe	W, PS
Izagora	Severe	W, PS
Tomotley	Severe	W, PS
Uchee	Severe	W, PS

**Key:** W - Wetness    P - Ponding    PS - Percs Slowly  
**Source:** Soils Survey of James City and York Counties and the City of Williamsburg, Virginia

# Water Table Elevation



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Note: Soil features and characteristics should not be used as the sole basis for judging development suitability. This map should not be construed to represent site-specific soils information. It has been prepared to facilitate area-wide analysis of general conditions. Site-specific information concerning development suitability can only be obtained through detailed on-site investigations and testing.

## LEGEND

 Areas with water table elevation within 2-1/2 feet of ground surface

Source: U.S. Department of Agriculture,  
Soil Conservation Service

MAP E-3

Susceptibility to Severe Wetness (Map E-4) This composite map combines the ratings for high water table, surface runoff, and permeability to depict those general areas which have a high susceptibility to severe wetness. For the purpose of preparing this composite, slow surface runoff, slow permeability and high water table ratings were combined to indicate those areas with the most severe wetness problems.

As would be expected, the lack of topographical relief, slowly permeable soil and high water table combined to make most of the southern County extremely susceptible to severe wetness. The County north of the Naval Weapons Station evidences the opposite effect with most areas only slightly susceptible to severe wetness.

Many of the soils identified are classified as "hydric" soils; i.e., the soils are "saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions" (USDA Soil Conservation Service, 1987) (Map E-5). Soils with these characteristics are identified in Table 4.

### **Agricultural Soils**

The U. S. Department of Agriculture defines prime farmland as those soils "best suited to producing food, feed, forage, fiber and oilseed crops." Within York County, there are several soil types classified as prime farmland. These include:

- Altavista
- Craven
- Dragston
- Emporia
- Izagora
- Kempsville
- Slagle (where drained)
- Suffolk

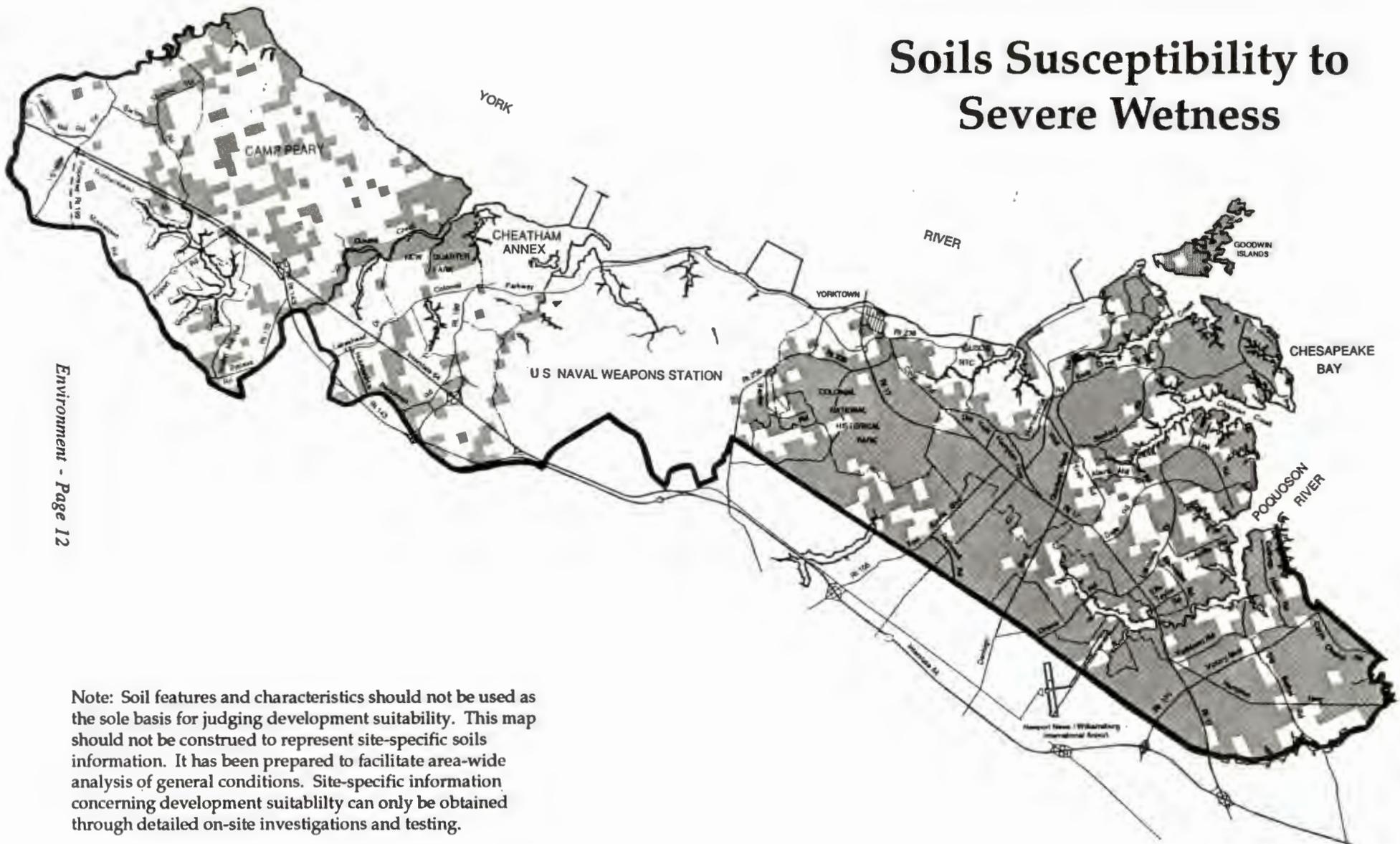
One or more of these soil types are found throughout various sections of the County making agricultural activities possible. However, much of this acreage has been converted to residential development over the past decade, removing this acreage from the prime farmland category.

### **Erosion and Sediment Control**

Erosion and subsequent loss of soil often accompany development that has not been adequately designed for controlling sediment loss. With a newly adopted Erosion and Sediment Control Ordinance (March 7, 1991), all land disturbance greater than 2,500 square feet, including single-family construction, must be reviewed for consistency with County regulations and to ensure that properly sited erosion control devices (i.e., silt fences, strawbales, etc.) are installed on the site to capture soil loss.

As a form of nonpoint source pollution, sediment often binds with phosphorous and nitrogen in the soil and when erosion occurs, these pollutants end up in the stream system. Uncontrolled runoff also has the potential to cause erosion and siltation problems for properties located down stream from the land disturbance.

# Soils Susceptibility to Severe Wetness



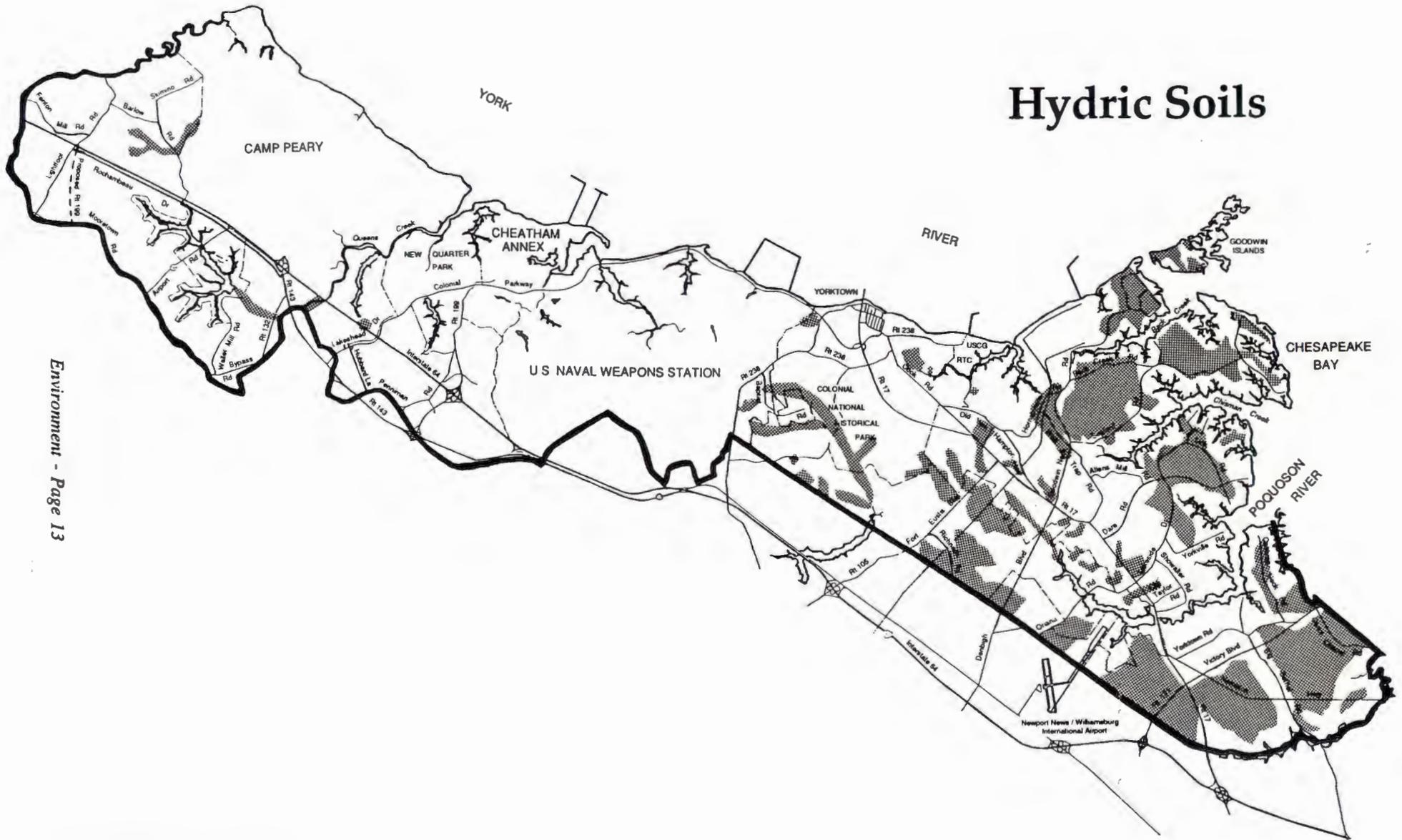
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Note: Soil features and characteristics should not be used as the sole basis for judging development suitability. This map should not be construed to represent site-specific soils information. It has been prepared to facilitate area-wide analysis of general conditions. Site-specific information concerning development suitability can only be obtained through detailed on-site investigations and testing.

Source: U.S. Department of Agriculture,  
Soil Conservation Service

MAP E-4

# Hydric Soils



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Source: Soil Survey-Hydric Soils  
VirGis Maps

MAP E-5

TABLE 4

SOIL CHARACTERISTICS			
Soil Name	Hydric	Highly Permeable	Highly Erodible Soil
Altavista			
Augusta			
Axis	X		
Bethera	X		
Bohicket	X		
Bojac			
Caroline			
Chickahominy	X		
Craven			X
Dogue			
Dragston			
Emporia			X
Izagora			
Johnston	X		
Kempsville			
Kenansville		X	
Levy	X		
Munden			
Newflat	X		
Nimmo	X		
Norfolk			
Pamunkey			
Peawick	X		
Seabrook		X	
Slagle			
State			
Suffolk			
Tetotum			
Tomotley	X		
Uchee		X	
Udorthents			X
Yemassee			

*Source: Soil Survey of James City and York Counties and the City of Williamsburg.*

## Soil Conservation District

The Colonial Soil and Water Conservation District provides assistance to Peninsula localities on the conservation of soil, water and related natural resources. The District staff also works with the agricultural community in preparing conservation plans and advising farmers on proper land management.

In 1990, the County and the District formalized this working relationship with a Memorandum of Understanding. Included as part of the agreement are provisions for the Soil Conservation District to:

- Assist the County with erosion and sediment control programs;
- Provide education on natural resource conservation; and
- Assist in developing ordinances, policies, and plans for managing soil, water, and natural resources.

A member of the York County Board of Supervisors is appointed as a liaison representative to the District to ensure joint coordination of soil conservation efforts.

## Water

Water quality is a critical issue to all communities, but is particularly so for York County because of its location and topography. Not only is water an important resource in terms of providing drinking water, it also provides important recreational, aesthetic, and economic benefits to the County. As with the other resources considered in this element, regulation of water quality involves a significant number of programs and initiatives at the federal, state and local levels. These regulations and requirements are primarily directed at three targets: point sources such as "end-of-the-pipe" discharges, but also including leaking underground storage tanks, animal waste yards, and certain mining operations; nonpoint sources such as agriculture, stormwater runoff and land development; and wetlands which can serve as natural filters and groundwater recharge areas. All of these sources, together with the natural forces acting on the County's shoreline, contribute directly and indirectly to the level of water quality in the Chesapeake Bay, York River and all of their tributaries.

### Point Sources

In adopting the Federal Water Pollution Control Act in 1972, Congress made it a federal government responsibility to establish and enforce water quality standards as a means of controlling pollution of the nation's waterways. The goal of this act which later became the Clean Water Act, is to *restore and maintain the chemical, physical, and biological integrity of the nation's waters.*

In order to achieve this goal, the Act originally only considered "point source" discharges (i.e., "end-of-the-pipe" discharge). Specific standards are incorporated into the permits for these types of discharges. Referred to as the National Pollutant Discharge Elimination System (NPDES) permits, the State has assumed responsibility for issuing these permits through the State Water Control Board. Permits are now referred to as Virginia Pollutant Discharge Elimination System (VPDES) permits.

The Clean Water Act prohibits the discharge of a pollutant into State waters without a VPDES permit. Such permits often limit the amount and manner in which the pollutant can be discharged. Industrial wastes and wastes from sewage treatment plants are uses that typically require a VPDES permit prior to any discharge.

The Water Quality Standards established by the State Water Control Board require maintaining the levels of dissolved oxygen and pH for the lower York River segment, noted in Table 5 below. Other standards have been established for mercury, chlorine, and substances. In areas where shellfish are present, fecal coliform levels are established. In meeting established standards, new industries or modifications to existing industries must use the "best available control technology" in order to comply with the water

quality standards.

The York River and its tidal tributaries are listed as Class II (estuarine) by the State Water Control Board. Standards which must be met include those shown in Table 5 for dissolved oxygen and pH.

**TABLE 5**

<u>Dissolved Oxygen (mg/l)</u>	<u>pH</u>
4.0 (min.) - 5.0 (avg.)	6.0-9.0

High fecal coliform counts and low dissolved oxygen conditions have been noted in the river system (SWCB).

Virginia Pollution Discharge Elimination System permits have been issued to the following major municipal and industrial discharges (See Map E-6):

- Amoco, Yorktown
  - Virginia Power, Yorktown Station
  - Hampton Roads Sanitation District, York River Sewage Treatment Facility
- The Hampton Roads Sanitation District, York River Sewage Treatment Plant is being used as a demonstration plant for biological nutrients removal system. To date, phosphorus concentrations from effluent have fallen almost 90% and nitrogen concentrations have been reduced by 65-80% (SWCB, 1990).

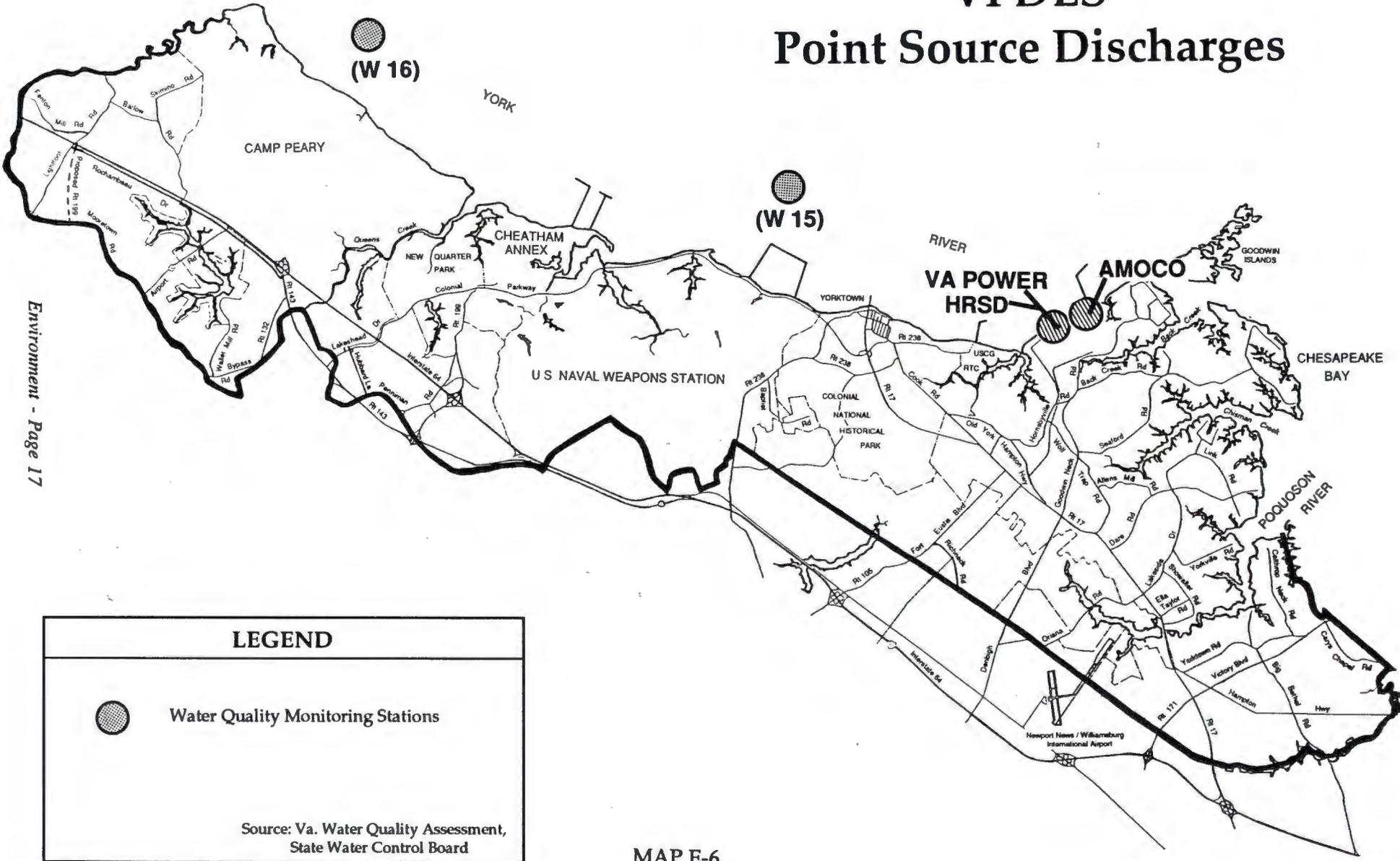
#### **Nonpoint Sources**

In 1987, the Clean Water Act was amended to include "nonpoint sources" (i.e., pollution from an indirect source such as stormwater runoff). The goal for the control of nonpoint source pollution states:

*It is the national policy that programs for the control of nonpoint sources of pollution be developed and implemented in an expeditious manner so as to enable the goals of this chapter to be met through the control of both point and nonpoint sources of pollution.*

According to the SWCB, nonpoint source pollution in the lower York River basin comes from several sources—"residential, urban, and/or agricultural runoff, failing/inadequate septic systems, natural conditions and drainage, and boat pollution from the surrounding public and private boat slips." Loss of protective vegetation and the increase in impervious surfaces (buildings, roads, parking lots) increase the amount of runoff and also the levels of pollution and nutrients. Besides sediment and nutrients, toxins are discharged adding to the overall stress on the finfish and shellfish population. Land use activities contribute directly to a decrease in water quality through the various activities shown in Table 6.

# VPDES Point Source Discharges



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LEGEND	
	Water Quality Monitoring Stations
Source: Va. Water Quality Assessment, State Water Control Board	

MAP E-6

**TABLE 6**

<u>Land Use Activities</u>	<u>Pollutant</u>
Land clearing, tilling	phosphorus bound to sediment
Parking lots and streets	petroleum products
Heavy application of plant fertilizers	nitrogen/phosphorus
Malfunctioning septic tanks/ sewage treatment plants	nitrogen/phosphorus/fecal coliform

Since the vast majority of these pollutants are carried to the area's creeks, streams and rivers by stormwater runoff, managing this runoff is one of the keys to controlling nonpoint source pollution and provides a major challenge to localities. Stormwater management is discussed in greater detail in the Utilities element.

Water quality monitoring is done by the SWCB from two stations in the York River (See **Map E-6**) and is compiled into a report, Water Quality Inventory (305(b) Report) which is required by the Federal Water Pollution Control Act. The most recent report, completed in 1990, noted problems with nonpoint source pollution but classifies the lower York River as "Effluent Limiting" meaning that the "minimum waste treatment requirements applied to the effluent of a waste treatment plant are sufficient to maintain water quality at or above the applicable standards." While the overall water quality is satisfactory, improvements in the control of nonpoint source pollution are necessary and appropriate, particularly within specific areas.

In York County numerous streams and surface water areas have been closed to shellfishing by the Virginia Department of Health (Bureau of Shellfish Sanitation) because of existing high coliform bacteria counts or as a precautionary closure zone around point source discharges such as the power plant outfall. As shown on **Map E-7**, the following bodies of water have been closed to the taking of shellfish:

- \* Wormley Creek
- \* Skimino Creek
- \* Queen Creek
- \* Patricks Creek
- \* Lambs Creek
- \* Poquoson River
- \* Chisman Creek
- \* Back Creek
- \* Felgates Creek
- \* King Creek
- \* York River-at Cheatham Annex Sewage Treatment Plant discharge and between Sandy Point and Yorktown

Recognizing that nonpoint source pollution was on the rise and affecting the health of the Chesapeake Bay, the Virginia General Assembly, in 1988, enacted the Chesapeake Bay Preservation Act. Generally, the purpose of the Act is to manage land in a manner that reduces pollutants contained in stormwater runoff.

Although the Act was created by the State, local governments are required to implement the Chesapeake Bay Preservation Area (CBPA) provisions since the regulation of land use and development has traditionally been a function of local government. York County, as well as other localities within the Bay watershed,

adopted regulations to conform with the CBPA regulations which include:

- Preserving vegetation
- Minimizing land disturbance
- Minimizing impervious cover
- Controlling stormwater runoff
- Pumping out septic tanks
- Providing for reserve drainfields

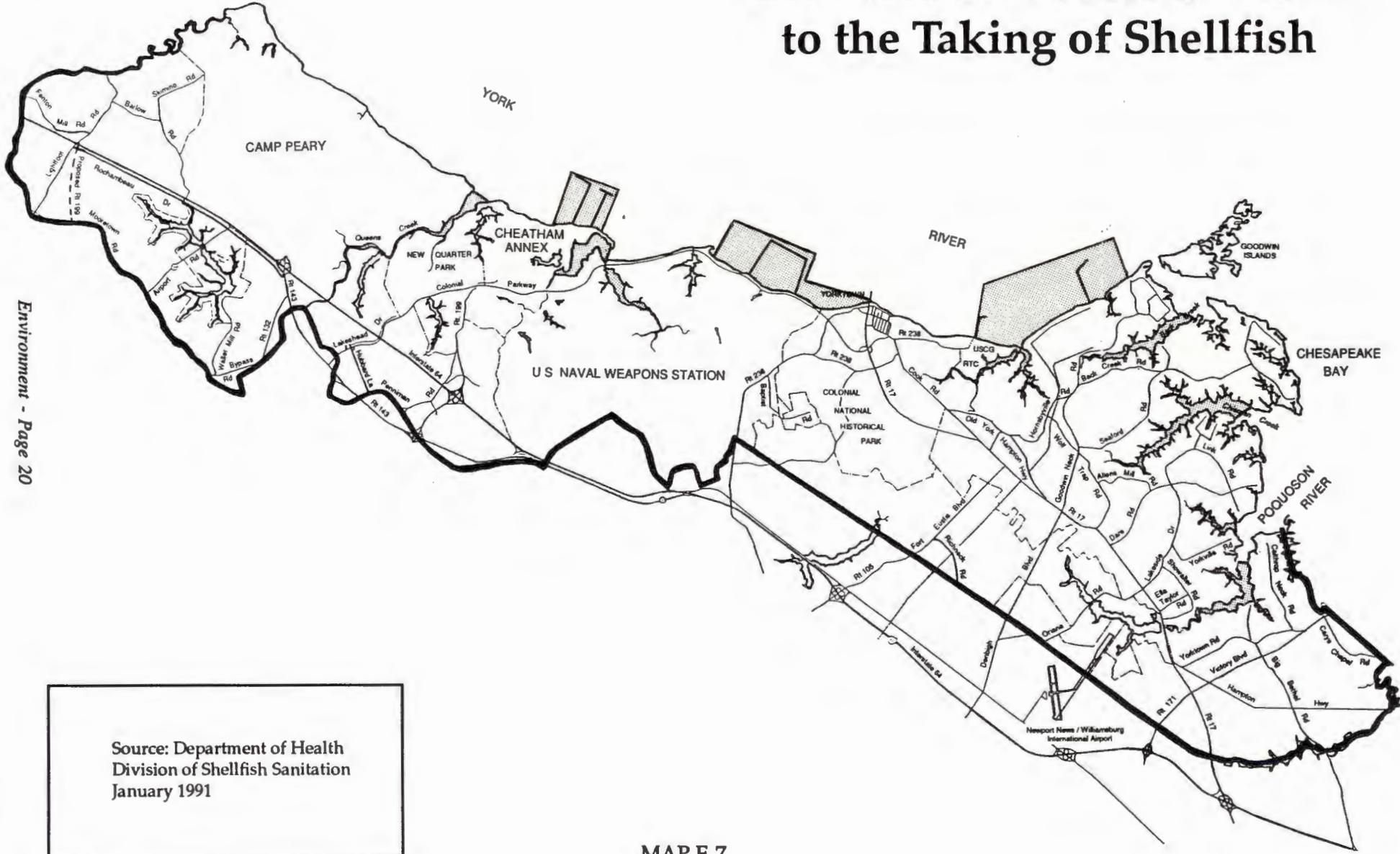
The Chesapeake Bay Preservation Areas shown on Map E-8 were adopted by York County in September 1990.

### **Wetlands**

Wetlands, commonly referred to as swamps and marshes, combine the characteristics of both aquatic and terrestrial areas. They are typically found along the floodplain, behind dams of various types, and in sheltered areas along intertidal coasts; however, they can occur wherever there is, for at least part of the year, shallow stagnant water in which higher order plants can grow.

Wetlands have traditionally been thought of as being undesirable features because they can be breeding grounds for mosquitoes. Consequently, wetlands have been the object of a large number of drainage projects and land filling efforts in an attempt to convert them to farmland or development sites. Since the early 1970s, however, significant information has been obtained by the scientific community regarding the function and importance of wetlands. Wetlands, including both tidal wetlands and nontidal wetlands, are a unique and important form of habitat occupying both coastal and inland sites. In particular, wetlands absorb floodwaters, provide nutrients and an aquatic and wildlife habitat/refuge for important marine life, filter sediment from upland runoff and impart to adjacent land extra value by virtue of water frontage.

# Condemned Bodies of Water to the Taking of Shellfish



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Source: Department of Health  
Division of Shellfish Sanitation  
January 1991

MAP E-7

The various values of wetlands which have been documented include the following:

- Because they lie in depression, wetlands hold vast quantities of storm (fresh) water by retarding the rate at which it can run off. This allows water to percolate into the ground, recharging groundwater supplies while, at the same time, filtering stormwater runoff.
- Retarding runoff helps reduce or prevent flooding. Wetlands located adjacent to streams also allow floodwaters to dissipate across areas which should cause relatively little damage to manmade structures. In most cases, salt marshes along coastal areas also provide self-regenerating protection from storm waves and reduce the risk of shoreline erosion.
- Wetlands, especially coastal marshes, provide the nursery grounds for hundreds of species of shellfish and finfish, including many commercially valuable species, as well as a number of sport fish.
- Wetlands furnish the primary nesting and feeding areas for waterfowl.
- Wetlands support a number of species of animals and plants that cannot survive elsewhere.

Tidal wetlands consist of saltwater marshes, freshwater marshes and nonvegetated areas such as beaches and mudflats. The marshes are typified by anaerobic mineral soils vegetated principally by grasses. They exist in areas with little topographic relief, poor drainage, and sufficient water supply to keep the ground waterlogged. Mudflats and beaches are formed of soils which for one reason or another do not support either aquatic or terrestrial vegetation. Frequently, these soils do not have a high enough supply of minerals to stimulate decay of organisms and prevent the accumulation of organic materials. Both vegetated and nonvegetated tidal wetlands support a multitude of animal species. The differences between the two types of tidal wetlands are depicted and described in Figures 1-3. York County has over 2,200 acres of tidal wetlands with the majority located in the Seaford and Dandy areas. (See Map E-9)

# MARSH VEGETATION

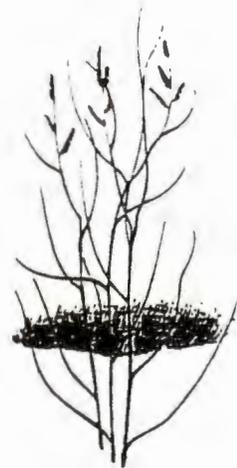
## FIGURE 1

Saltmarsh Cordgrass  
*Spartina alterniflora*



Source: "Technical Report"  
Wetlands Program, College of William & Mary,  
VIMS #90-2

Saltmeadow Hay  
*Spartina patens*



Source: "Technical Report"  
Program, College of William & Mary,  
VIMS #90-4

- Tidal wetlands currently located (York County Tidal Marsh Inventory, Virginia Institute of Marine Science) along the County's shoreline include: Saltmarsh Cordgrass (*Spartina alterniflora*) and Saltmeadow Hay (*Spartina patens*), Wax Myrtle (*Myrica cerifera*) and Marsh Elder (*Iva frutescens*).

- Tidal flats occur at the end of Calthrop Neck Road, at Ship Point and York Point along the northern shoreline of Goodwin Islands, and intermittently from the Sandbox westward to Queen Creek.

- Tidal flats and wetlands act as a source of nutrients and as nursery grounds for juvenile fin and shell fish. They are sensitive to almost any type of development.



Marsh Elder  
*Iva frutescens*

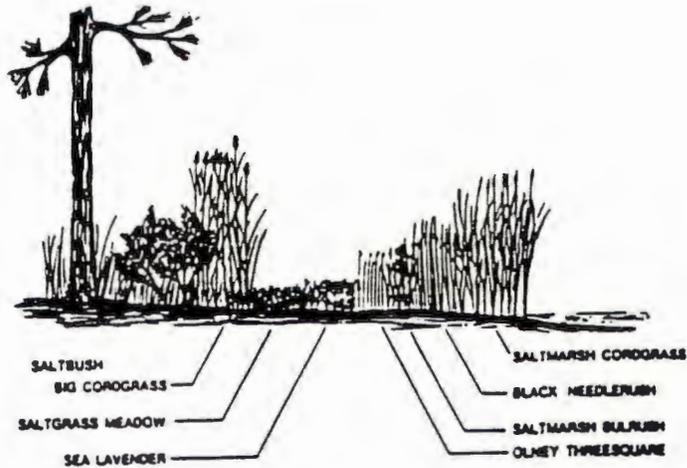
Source: "Tidal Wetland Plants of VA," Gene M. Silberhorn  
Illustrations by Mary Wainner



Wax Myrtle  
*Myrica cerifera*

Source: "Tidal Wetland Plants of VA," Gene M. Silberhorn  
Illustrations by Mary Wainner

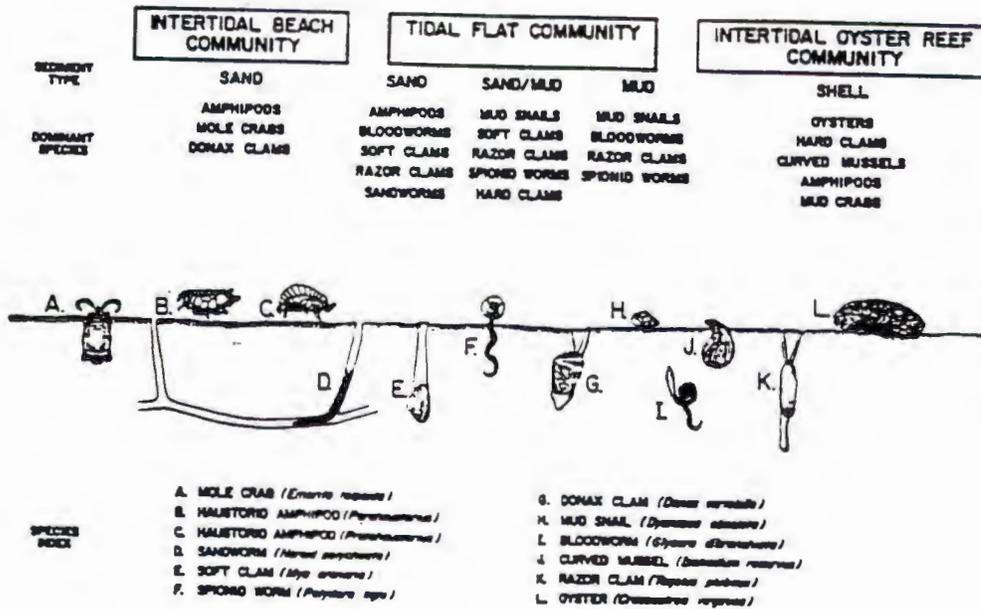
FIGURE 2



**Vegetated Wetlands**

Source: *Wetlands Guide, VA Marine Resources Commission and VIMS*

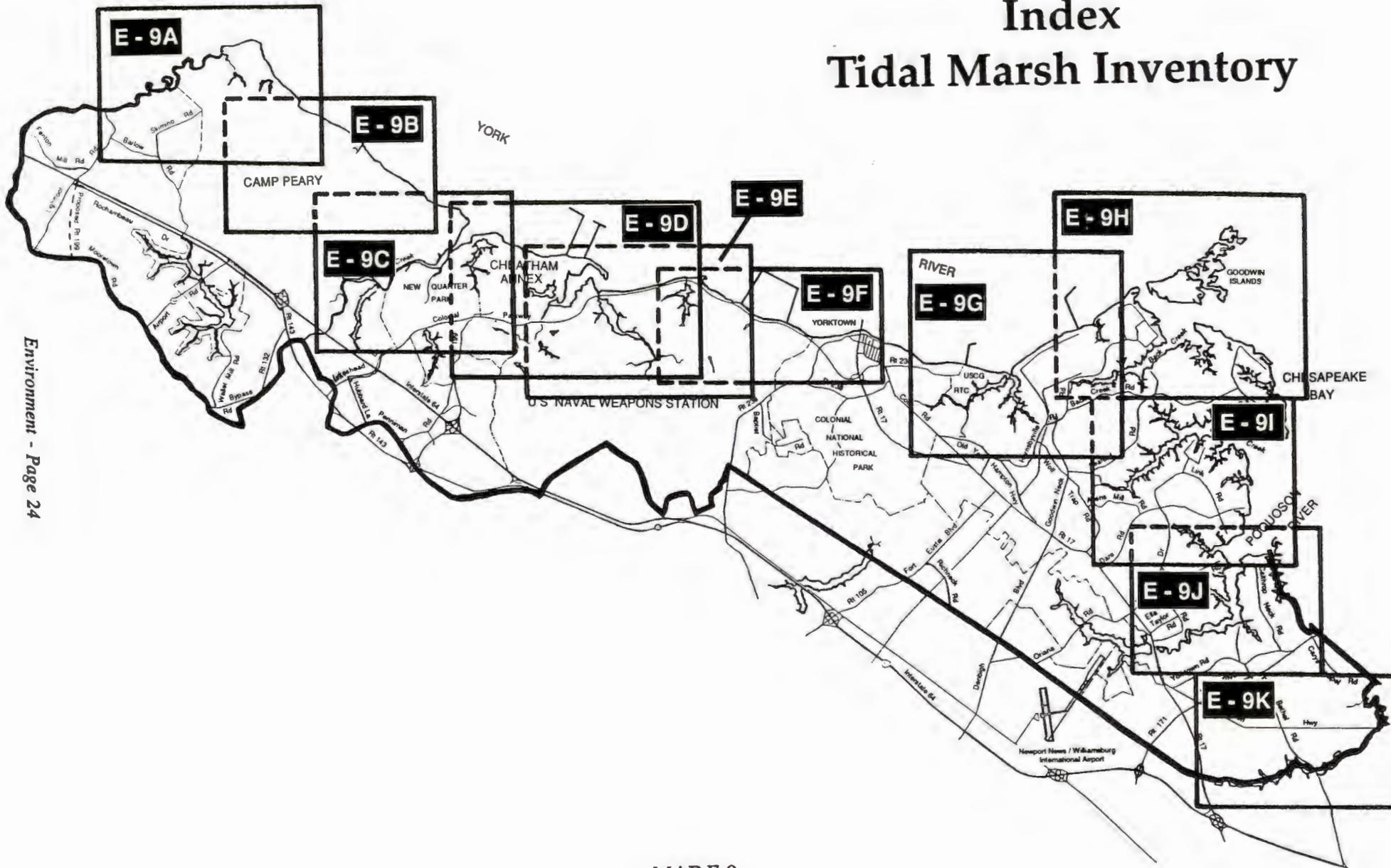
FIGURE 3



**Nonvegetated Wetlands**

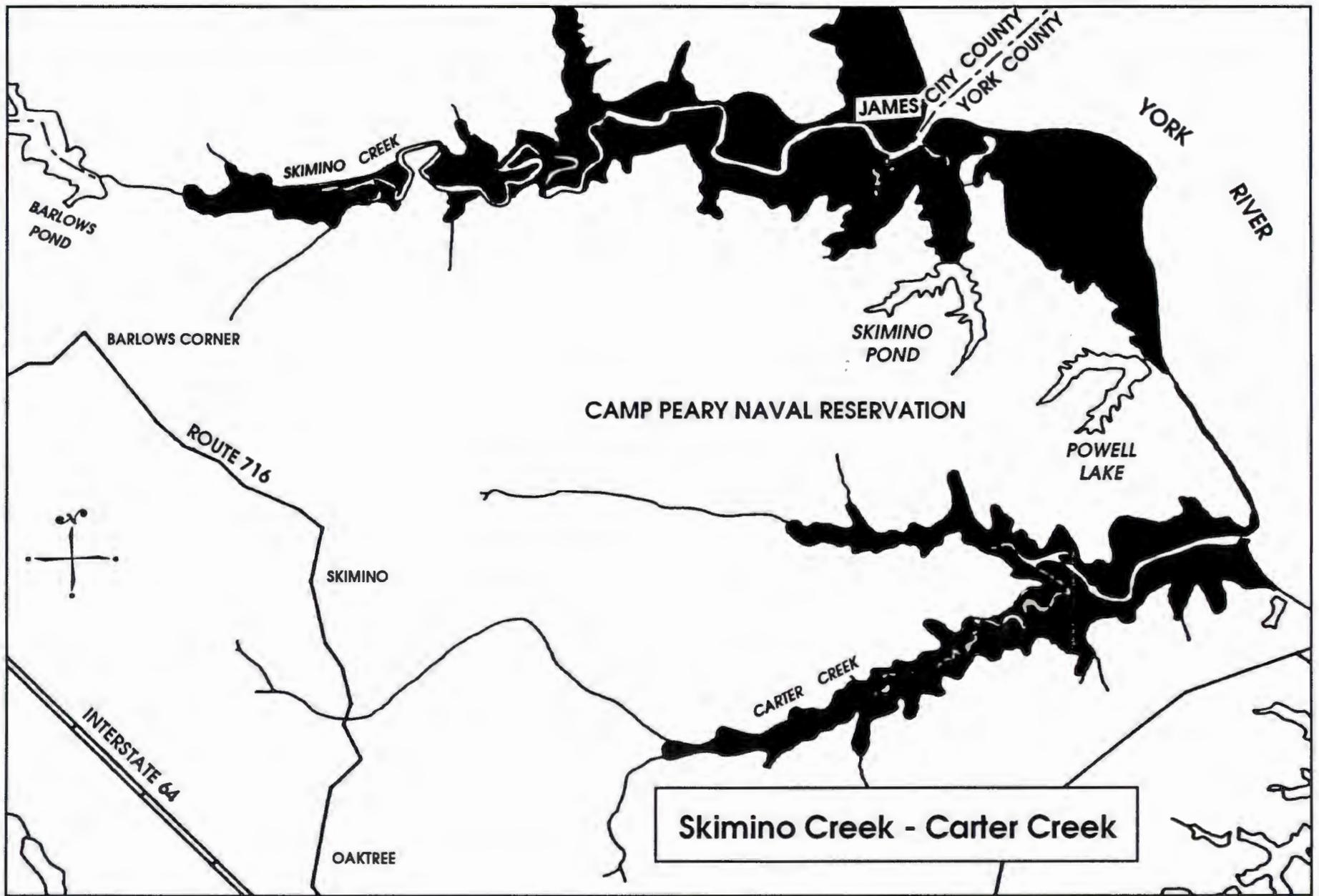
Source: *Wetlands Guide, VA Marine Resources Commission and VIMS*

# Index Tidal Marsh Inventory



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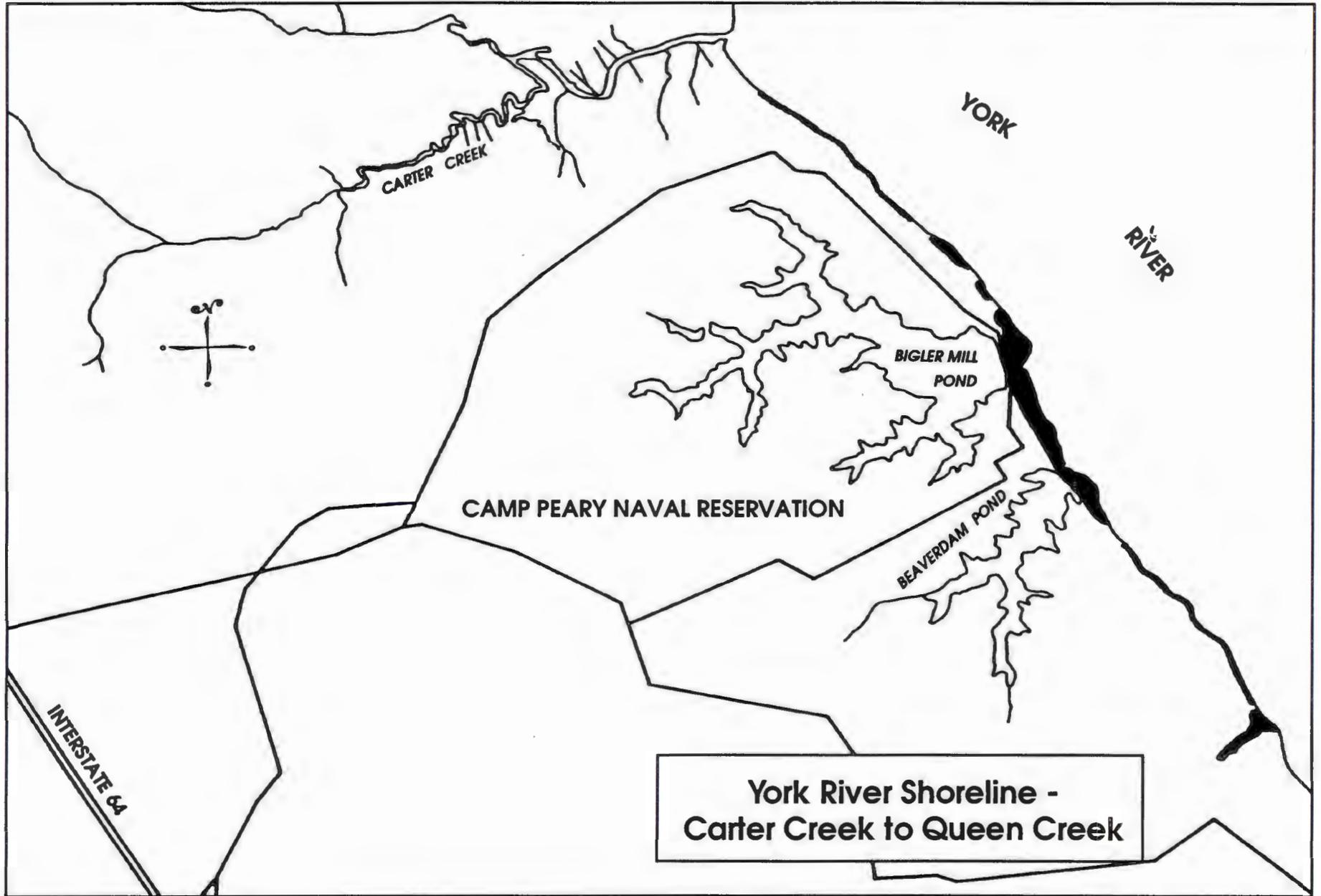
MAP E-9



NOT TO SCALE

E - 9A

MARSH VEGETATION

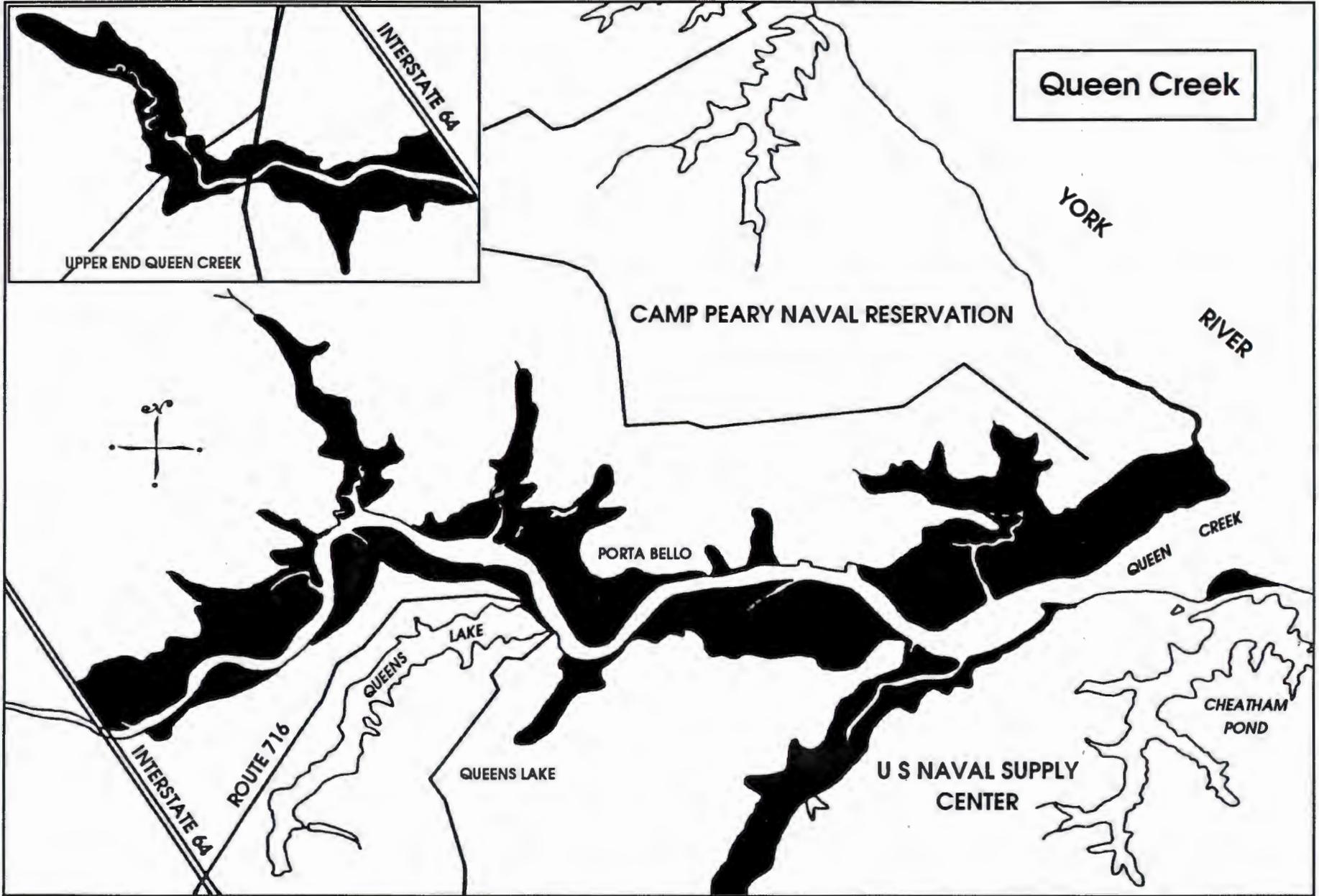


NOT TO SCALE

E - 9B

MARSH VEGETATION



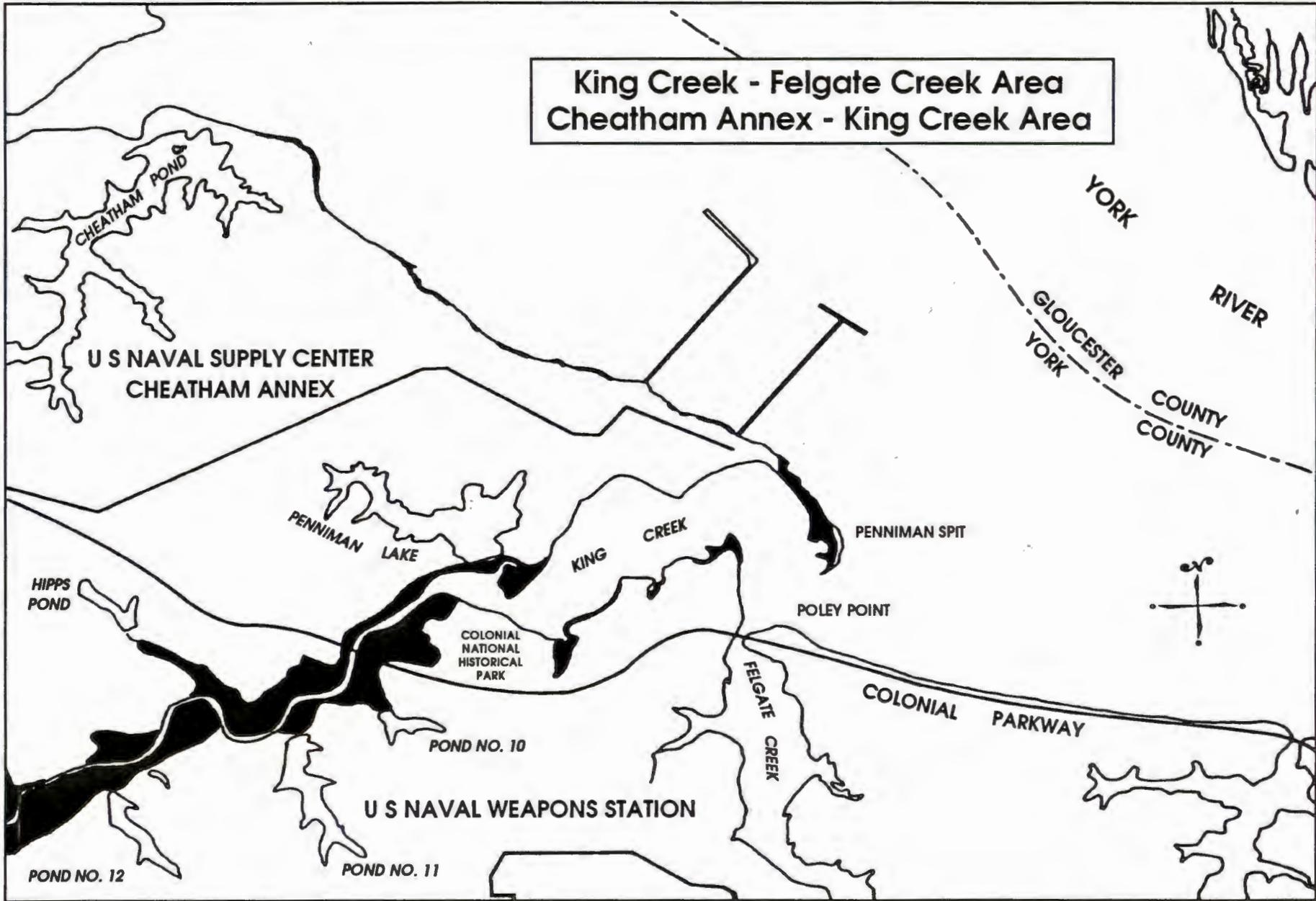


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E - 9C

MARSH VEGETATION 

King Creek - Felgate Creek Area  
Cheatham Annex - King Creek Area

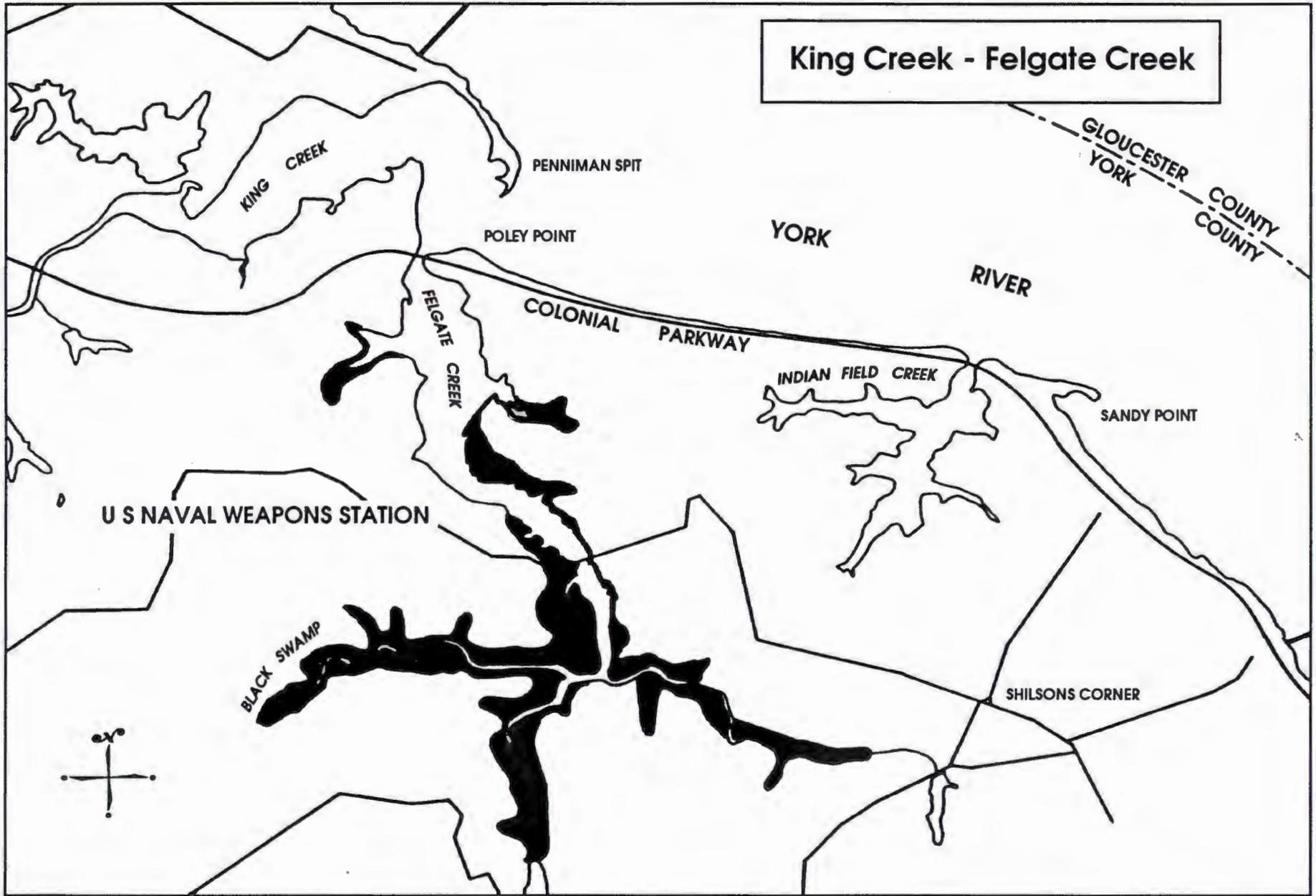


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E - 9D

MARSH VEGETATION 

King Creek - Felgate Creek

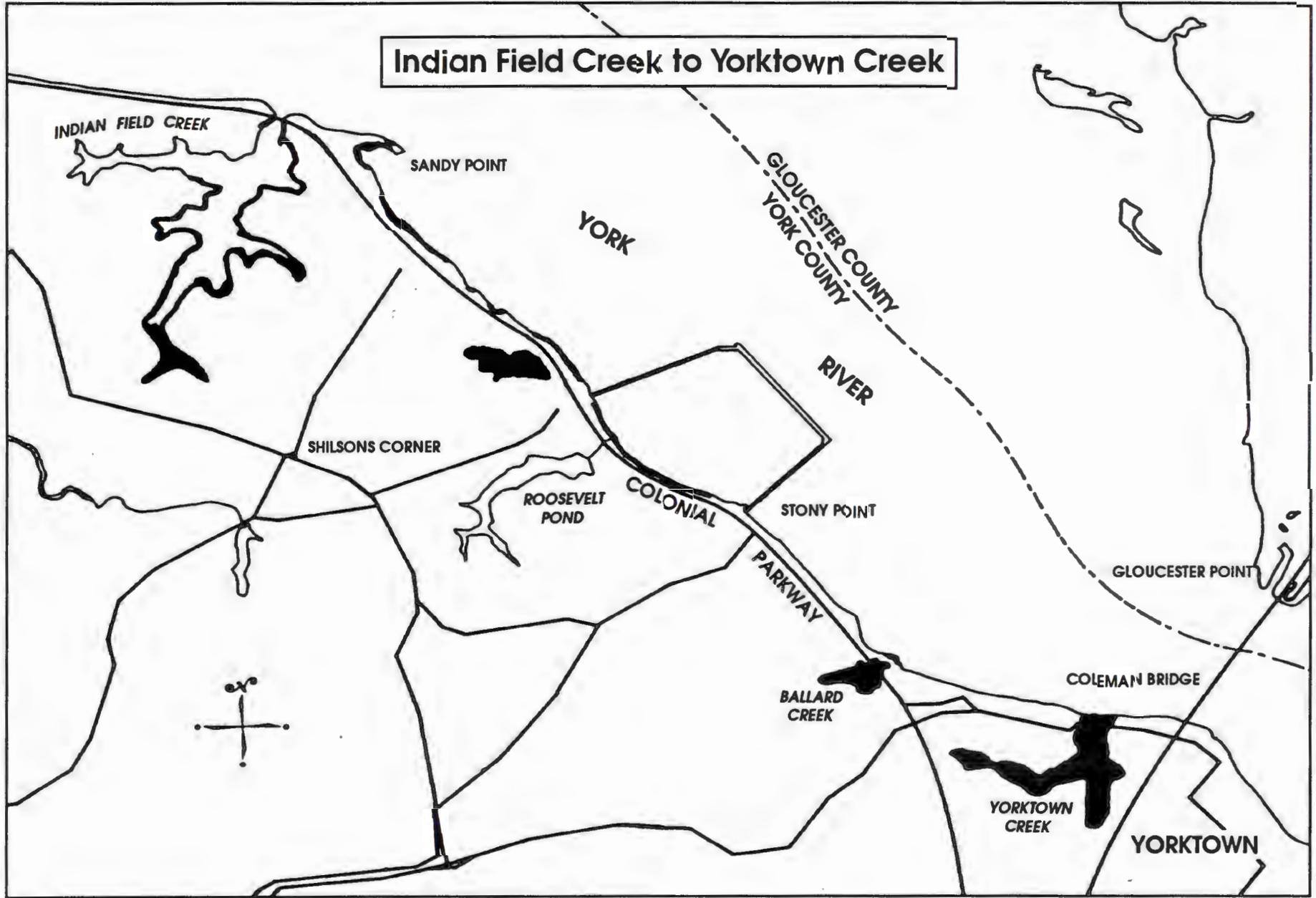


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E - 9E

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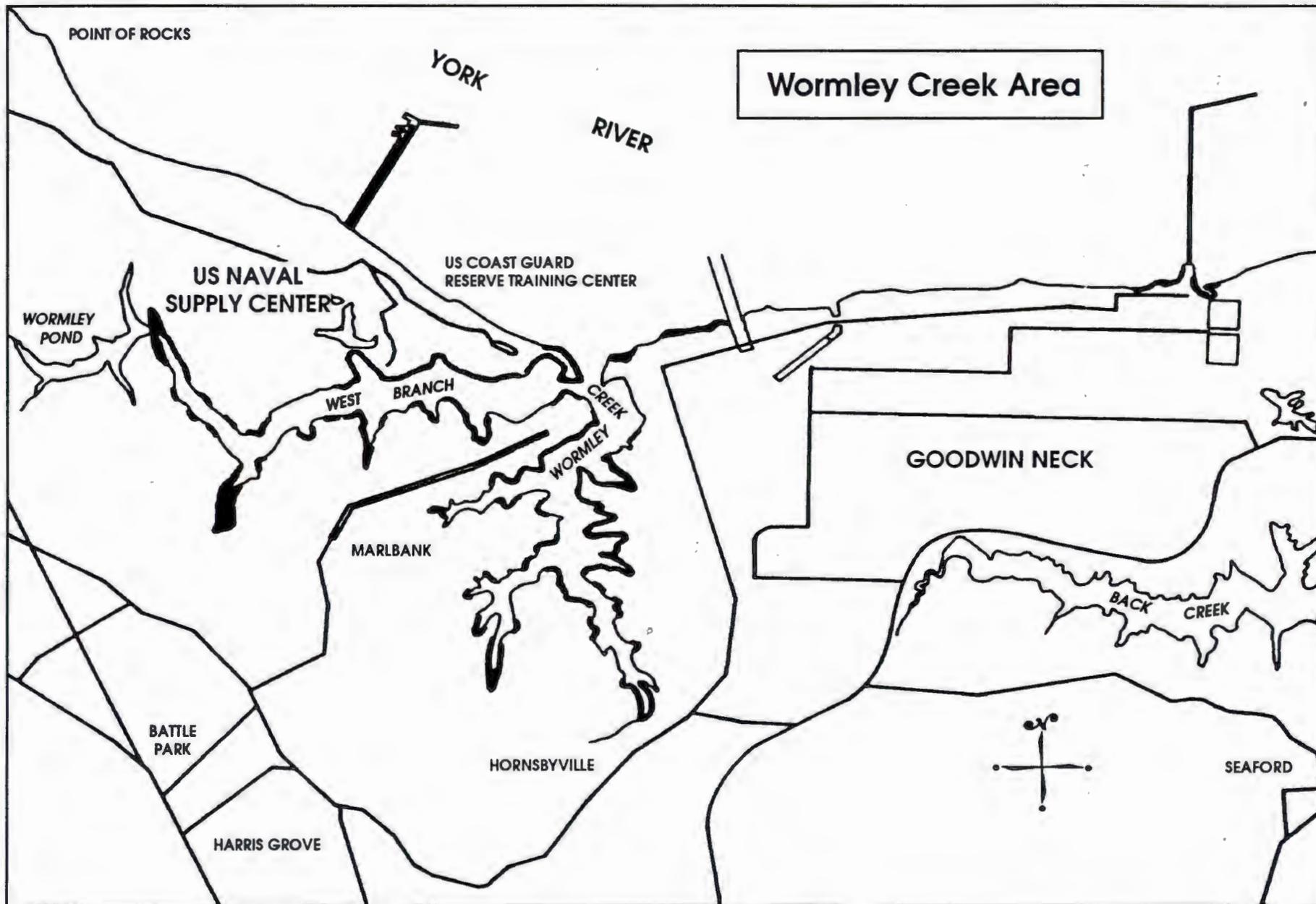




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E - 9F

MARSH VEGETATION 

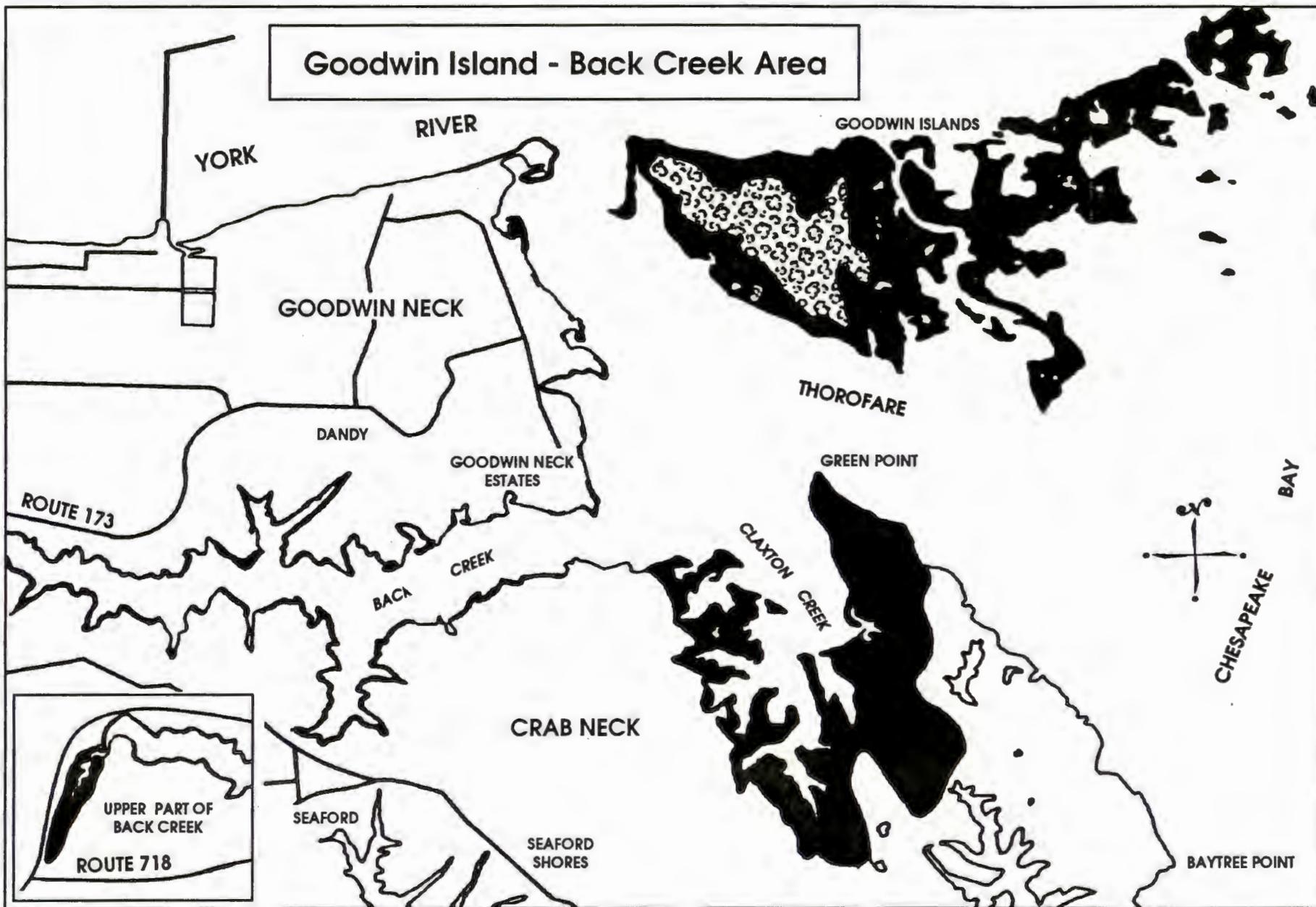


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E - 9G

MARSH VEGETATION 

# Goodwin Island - Back Creek Area

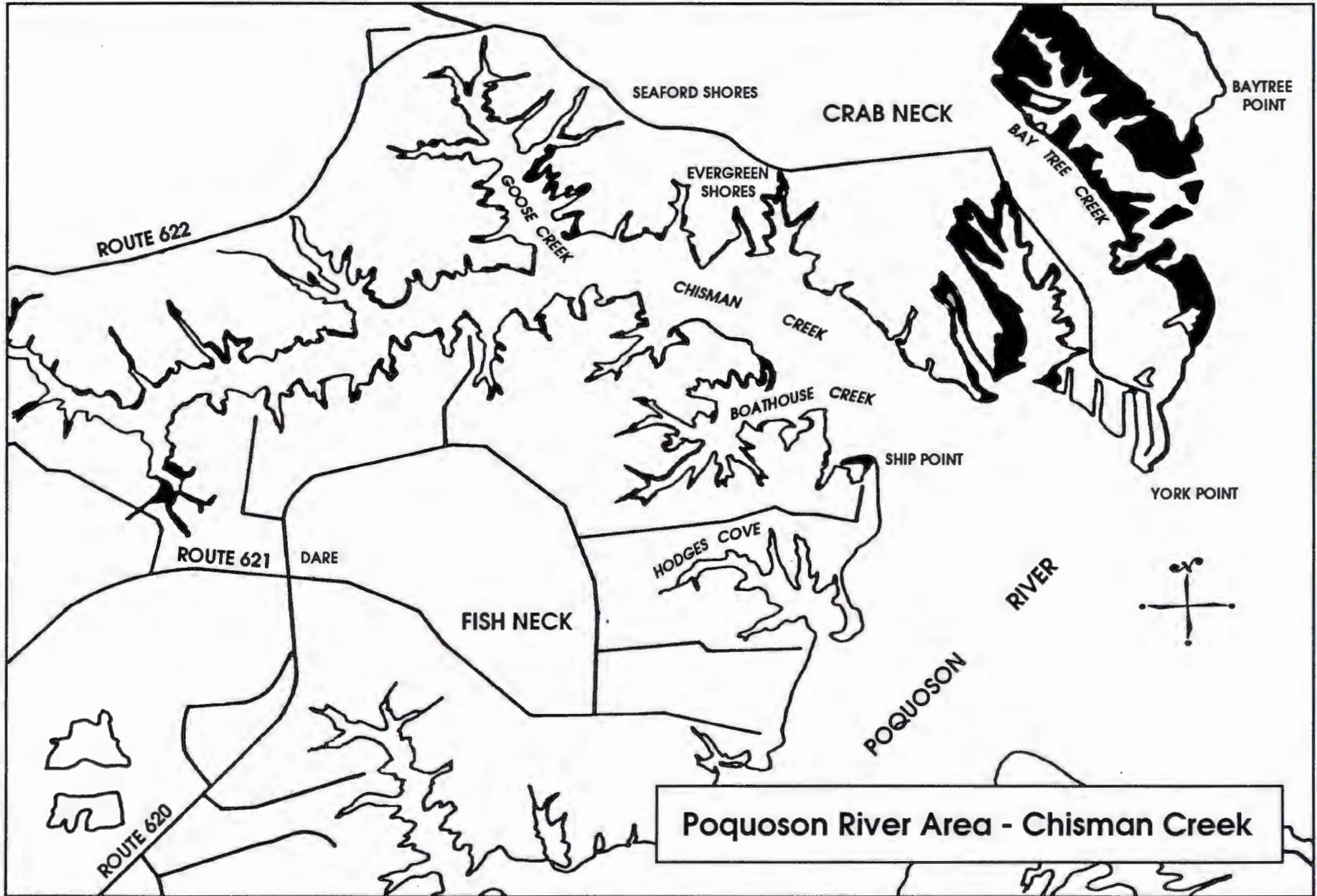


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E - 9H

MARSH VEGETATION



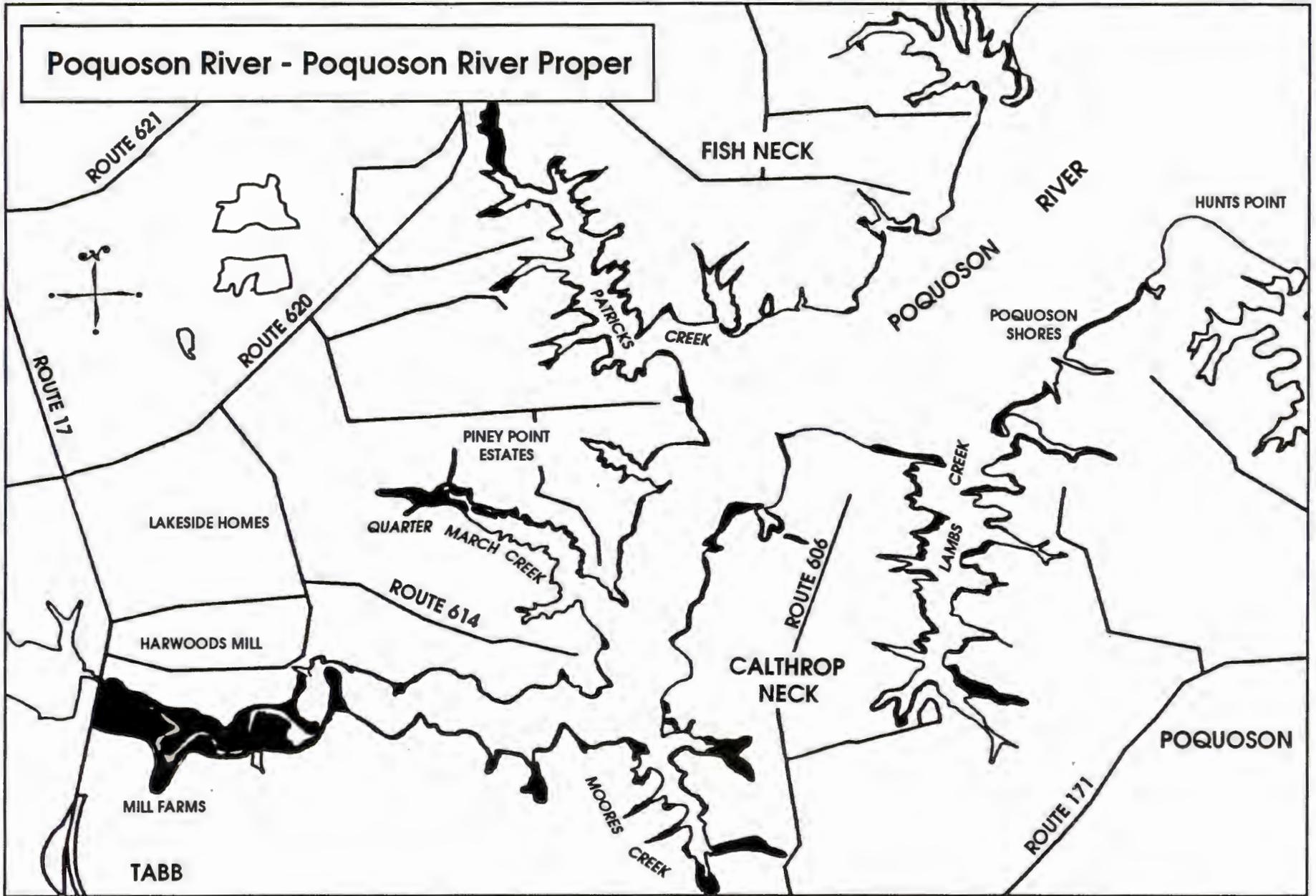


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E - 91

MARSH VEGETATION

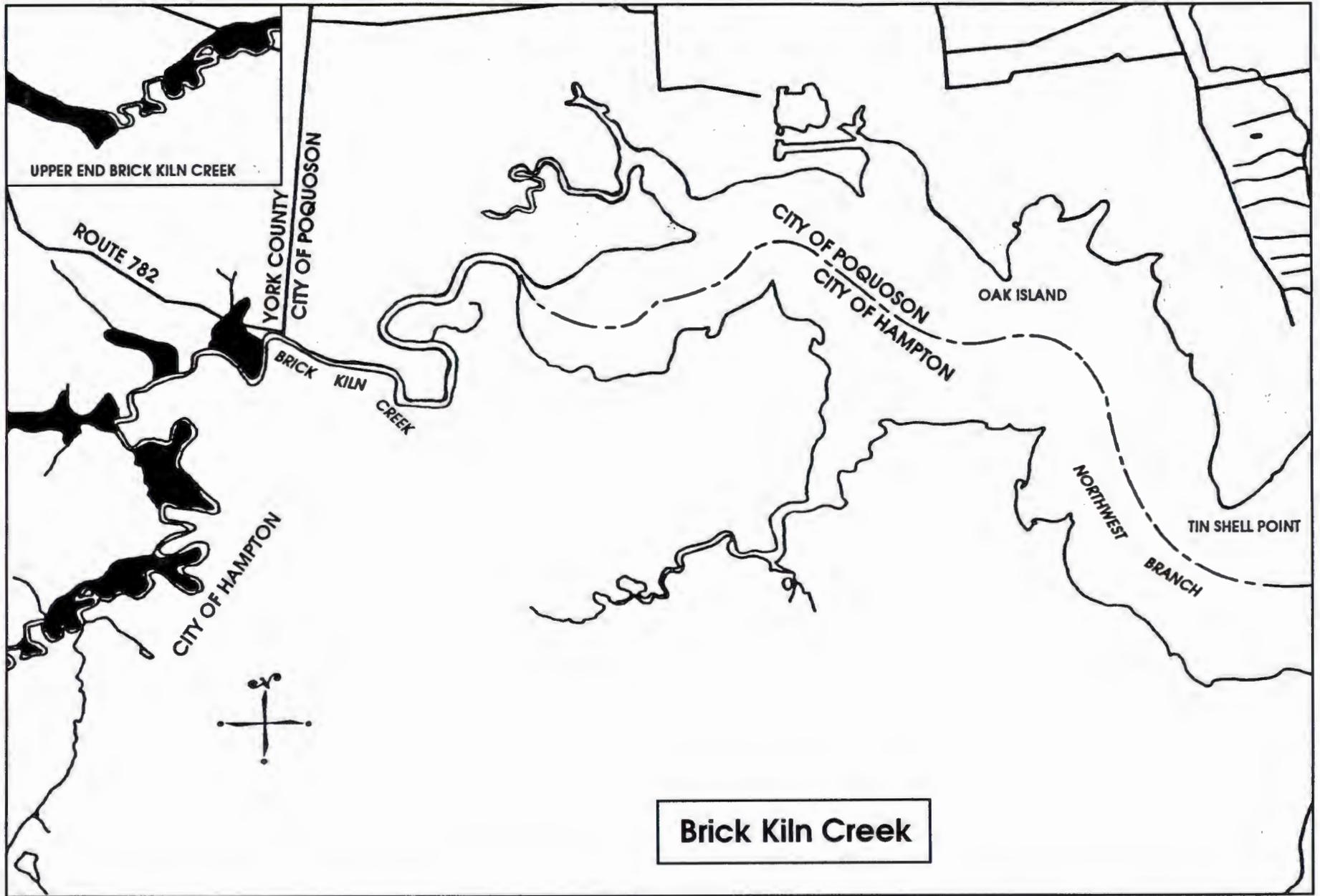




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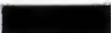
E - 9J

MARSH VEGETATION



NOT TO SCALE

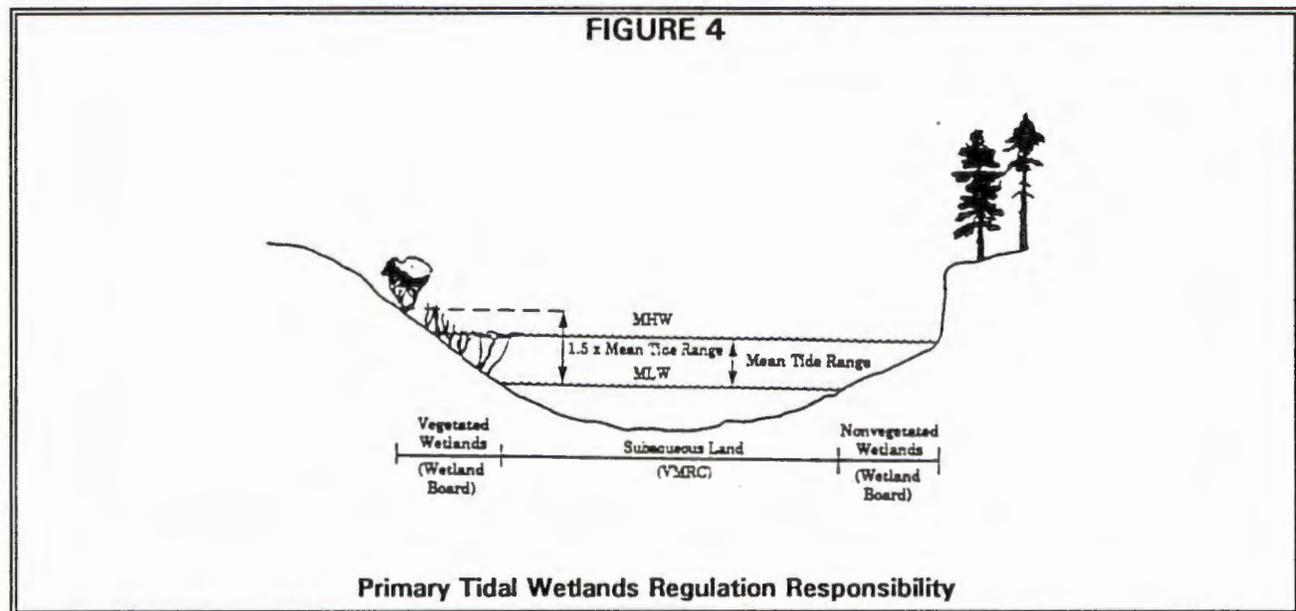
E - 9K

MARSH VEGETATION 

Nontidal wetlands do not receive daily tidal inundation, but exhibit the characteristics of wet soils (i.e., hydric), a high water table, and have vegetation which is tolerant of wet conditions. Due to seasonal and yearly variations, some nontidal wetlands may be dry in the summer and fall making identification difficult. However, because of the rich variety of species supported by such seasonal wetlands, many scientists believe them to be at least as valuable to the environment as the tidal and perennial wetlands.

Similar to tidal wetlands, nontidal wetlands function as groundwater recharge areas by trapping runoff and storing nutrients. Nontidal wetlands also act to hold water during floods and can lessen a storm's impact. Characteristic vegetation includes red maples, American holly, and a variety of sedges.

The management of wetlands in York County involves federal, state, and local regulatory entities. As shown in Figure 4, the area between mean low water and 1.5 times the mean tide range is under the jurisdiction of several governmental agencies, including the County Wetlands Board.



The York County Wetlands Board enforces Chapter 23, Wetlands, of the County Code. Requests for bulkheading or installing riprap to protect an eroding shoreline are typical of the requests the Wetlands Board must review in terms of their overall impact to tidal wetlands (i.e., both vegetated and non-vegetated varieties). The local Wetlands Board does not exercise authority over nontidal wetlands.

In deciding whether to grant a permit, the Wetlands Board is required to:

- determine whether the projects will alter the "ecological significance" of the wetlands system; and
- ensure that any project "to the maximum extent practical" will occur only in areas of "lesser ecological significance."

If the County Wetlands Board approves the application, other permits are also often needed. They must be obtained from the Virginia Marine Resources Commission and the U. S. Army Corps of Engineers. If an application is denied at the local level, it is generally denied by the other governmental agencies, as well.

The Virginia Marine Resources Commission (VMRC) exerts authority over the subaqueous area beyond mean low water. Title 62.1, Chapter 1, Code of Virginia states that:

*All beds of the bays, rivers, creeks and the shores of the sea within the jurisdiction of this Commonwealth...shall continue and remain the property of the Commonwealth of Virginia...*

Prior to encroaching or building on the subaqueous bottom, a permit must be obtained from the VMRC. Such permits are typically issued for dredging and filling of state-owned bottomlands, and the placement of wharves/bulkheads on such lands.

VMRC is also the appeals body for appeals from local wetlands board decisions.

Finally, the U. S. Army Corps of Engineers has been granted authority by the U. S. Congress to regulate activities which occur in "navigable waters." This authority is outlined in the Rivers and Harbors Act of 1899. Unlike VMRC, the Corps claims jurisdiction up to the mean high water line. Under §10 of the Act, a permit must be obtained from the Corps prior to undertaking any activity that would obstruct, alter, or modify the "navigable waters."

During the last decade, the original interpretation has changed as the criteria for "navigable waters" are broadened to include all activities that could have an effect on interstate commerce including, for example, nesting and feeding areas for migratory waterfowl. Since wetlands are adjacent to interstate waters, the Corps has begun to regulate areas beyond open water bodies. Activities proposed for altering wetlands (tidal and nontidal) often trigger the need for a Section 10 permit in addition to other federal, state, and/or local permits that may be necessary.

In addition to §10 of the Rivers and Harbors Act, §404 of the Clean Water Act requires permits for the discharge of dredge or fill material into "navigable waters." Typically a disturbance of wetlands under one acre does not require a permit from the Corps of Engineers. Probably the most familiar permit issued under this section is the "Nationwide Permit 26" which applies to upland wetlands and waterbodies located above the headwaters of nontidal rivers and streams.

Permits generally are not granted if there is a "practicable alternative" to the proposed filling/dredging activity which would, in the opinion of the Corps, have "less adverse impact on the aquatic environment." When plans are proposed for development in a nontidal wetlands site, the Corps evaluates the proposal based on the following sequence:

- Avoidance of wetlands impacts
- Minimization of impacts
- Mitigation

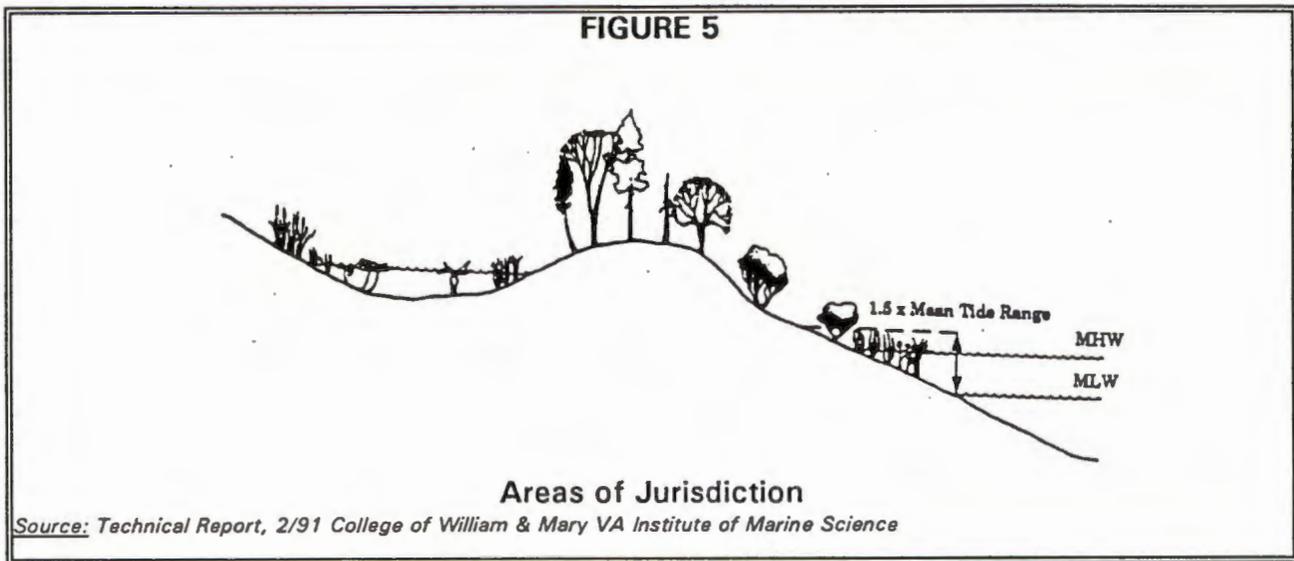
In addition to the Corps administered Section 404 permit, the State Water Control Board reviews all wetlands applications under Section 401 requirements relating to discharge into state waters. The 401 Certificate is to ensure that water quality is maintained.

Both Section 401 and Section 404 are linked in the permit process in that a denial by one agency automatically denies the permit of the other agency. Other federal agencies which often comment on wetlands applications include: U. S. Fish and Wildlife Service, EPA, and the National Marine Fisheries Service.

The number of permits required for construction along the shoreline may seem confusing and redundant; however, a typical example shows that each agency acts within a very narrow area of authority. As an example, a private residential bulkhead and pier application would be reviewed in the following manner:

- |   |                            |   |
|---|----------------------------|---|
| - | York County Wetlands Board | Bulkhead-impact on tidal wetlands                     |
| - | VMRC                       | Pier (if beyond MLW)-impact on state-owned bottomland |
| - | Corps of Engineers         | Pier/Bulkhead-impact on navigable waters              |

Only one application has to be filed with VMRC in order to initiate review by all three agencies. Figure 5 illustrates the areas of jurisdiction by various agencies in regulating wetlands.



### Shoreline Features and Management

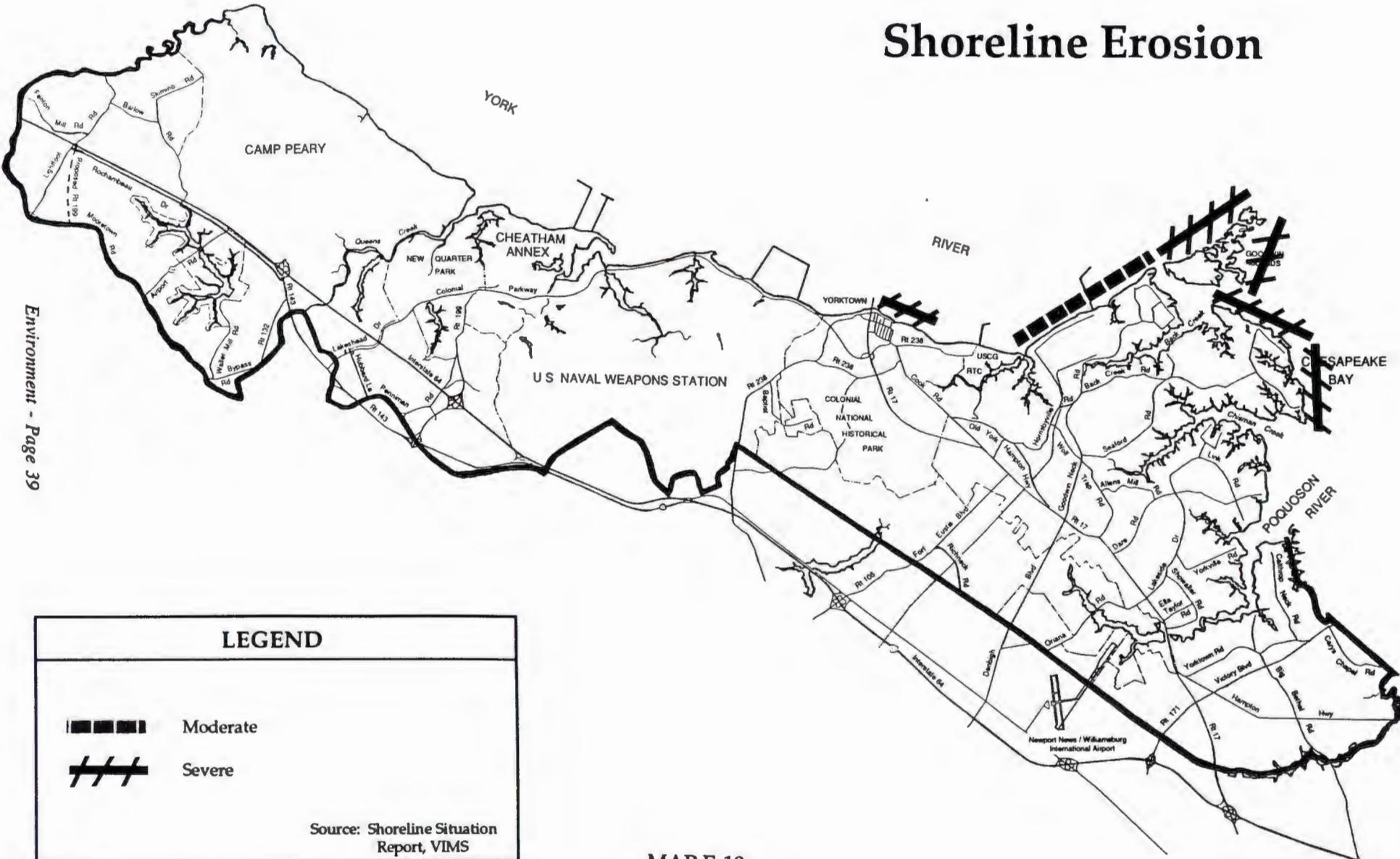
Nowhere is the interaction of water and land more dynamic than along the shoreline. It is an area where beaches and shoreline accrete or are eroded away. A broad floodplain usually surrounds the shoreline providing a water storage area during times of storms and high tides. While flooding is seen as a major threat for the southern portion of the County, eroding shorelines are the primary problem for steep bluffs in the northern reaches of the County.

Beaches, bluffs, wetlands and tidal flats are characteristic of the County's 195 miles of shoreline. The bluffs in Yorktown are generally unprotected, i.e., unvegetated, and are subject to erosion from wave action and occasional high water. Steep ravines along Wormley Creek generally have sufficient vegetation and tidal mudflats to deflect wave action. Seawalls and/or bulkheads, varying in condition, intermittently line the shoreline. Shoreline features provide amenities and recreational opportunities to local residents and the tourist population. Public waterfront recreational opportunities are provided at the Yorktown beach area and Back Creek Park. The County's three public boat ramps are located at the end of Old Wormley Creek Road and Tide Mill Road, and at Back Creek Park.

As shown on **Map E-10**, moderate erosion problems occur along portions of the York and Poquoson Rivers at three locations: (1) York Point, (2) The Thorofare, (3) Yorktown Creek, while severe erosion is found along the southern reaches of the York River. Sedimentation (from erosion) has occurred in the navigable channel of the Sandbox between Back Creek and the York River. The usual response by landowners has been various forms of "hardening" the shoreline through bulkheads, riprap, and other alterations to the natural shore.

As residential development along the shoreline increases, so too will the potential for alteration of the County's shoreline through the installation of not only bulkheads and riprap for erosion control, but also docks and piers for boating and other recreational pursuits. While such alterations are not likely to present problems on an individual basis, the cumulative impacts of widespread alteration of a shoreline or heavy recreational boating activity could become significant. The condition of the County's shorelines and waterways should be carefully studied and monitored with particular emphasis placed on the development of methods to evaluate the appropriateness of the existing or proposed intensity of the activity and use.

# Shoreline Erosion



Environment - Page 39

LEGEND	
	Moderate
	Severe

Source: Shoreline Situation Report, VIMS

MAP E-10

Because of the County's location in a tidal area and its low and relatively flat terrain, coastal flooding is an important potential hazard to development, affecting approximately 7,000 acres of land close to coastal streams and creeks. The flat topography of the Seaford and Dandy areas results in flooding during major storms. In 1968, Congress enacted the National Flood Insurance Program (NFIP) which made the federal government a partner in the risk-sharing of coastal development. Through this program, property owners can obtain flood insurance through the private insurance industry at a reasonable cost.

Communities, such as York County, established plans and adopted regulations to lessen potential losses from flood damage. All adopted regulations must be consistent with the NFIP. The regulations apply to those portions of a locality which are within the "100-year floodplain" (a statistical average of a flood being equalled or exceeded once every 100 years—a 1% probability in any year). Map E-11 shows those areas of the County identified by the Federal Emergency Management Agency (FEMA) as being located in a flood hazard area. In the southern portion of the County, flooding is due primarily to tidal influence of the York River and Chesapeake Bay as well as the low elevations, while in the northern portion of the County, flood hazards are primarily located along the stream banks. The Flood Insurance Rate Map for York County breaks down the flood zone into "premium rate" areas depending on the degree of risk.

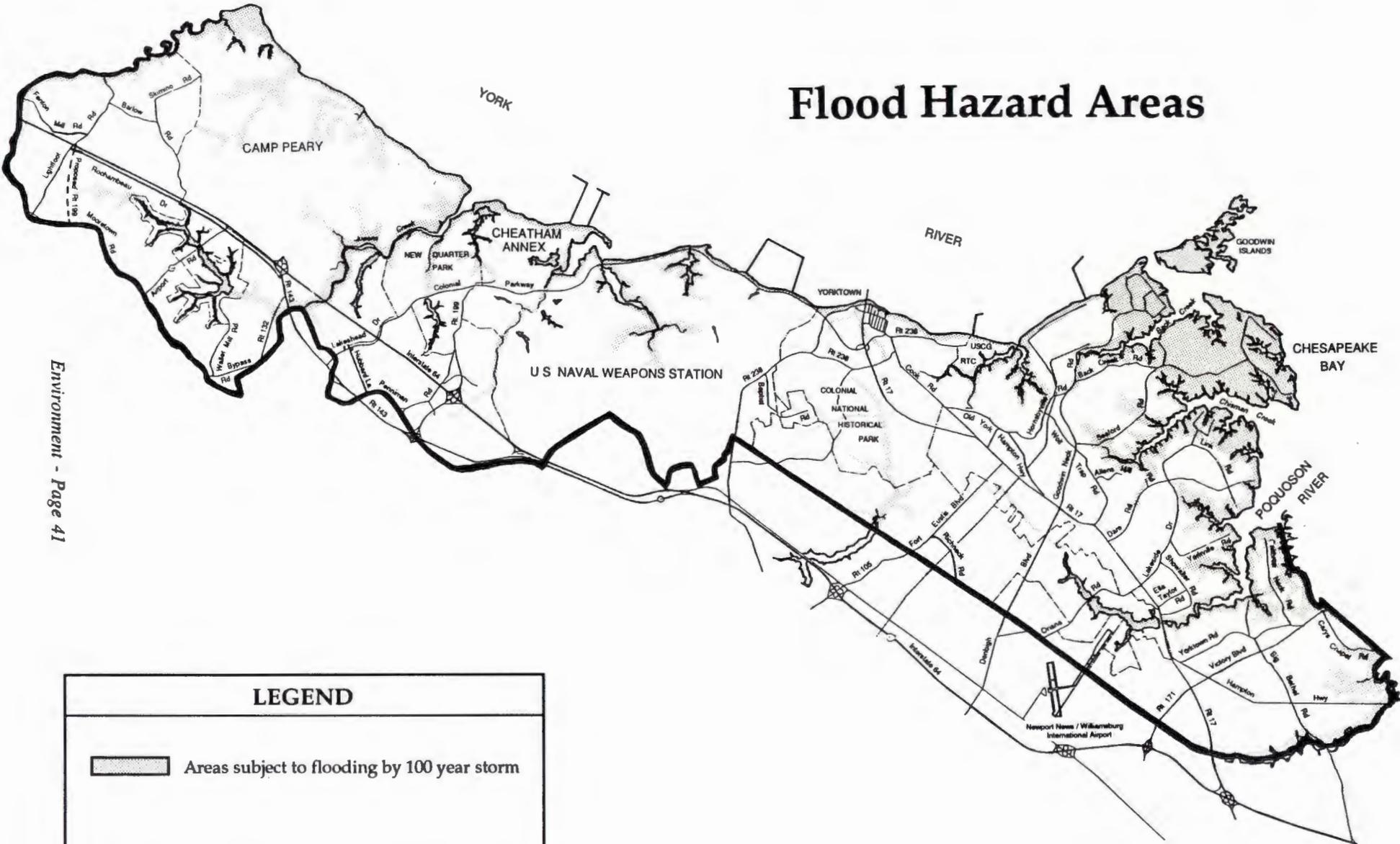
Communities participating in the NFIP require newly constructed and substantially improved residential structures in special flood hazard areas to have the lowest floor elevated to or above "the base flood level." Nonresidential structures must either elevate the lowest floor or design the structure to be watertight. In an effort to reduce losses even further, FEMA has recently developed a voluntary program known as the "Community Rating System" by which communities can augment their existing floodplain protection programs in ways which may reduce loss-payouts should a flood event occur. In return for implementing, the Federal Insurance Administrator can grant small general reductions in premium rates within the community.

Another shoreline management program is embodied in the Coastal Zone Management Act of 1972, which establishes a state/federal relationship over the management of coastal programs. It is the state's responsibility to develop plans which address submerged lands, the water column, surface waters, and the adjacent land as a whole. The Act acknowledges the state as the best level for developing a comprehensive coastal zone management program. Virginia is one of 24 states with an approved Coastal Zone Management Program.

A major incentive to participate in the CZM program is the availability of federal funds to implement approved coastal plans. In Virginia, coordination of grant funding is the responsibility of the Council on the Environment which assists localities in the application process. To date, York County has received CZM funding for the following programs:

- Natural Resources Inventory
- Stormwater Management Plan

# Flood Hazard Areas



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**LEGEND**

 Areas subject to flooding by 100 year storm

Source: Federal Emergency Management Agency, Flood Insurance Rate Map, 1988.

MAP E-11

## Groundwater

Groundwater is directly related to surface water and is an important drinking water source in its own right. It is contained in underground formations called aquifers which store, disperse and transmit water. The amount of water a particular aquifer contains depends on two features—porosity and permeability.

Porosity refers to the amount of open space between the sands and gravel while permeability is the ability of the water to be transmitted through the aquifer material. Sandy soils will absorb a large portion of water because there are larger and more connected spaces between sand particles. Clay soils, on the other hand, have small spaces that are often not connected, making water passage difficult.

Users of groundwater have had few incentives to conserve and have traditionally assumed that the supply is a renewable resource. Collectively, such actions may quickly degrade or deplete the groundwater source. Drought conditions in California re-enforce the need to practice conservation even when the supply seems limitless.

Saltwater intrusion is generally associated with the depletion of groundwater reserves. In the northern part of the County, saltwater intrusion is known to exist at several well sites. This type of hydrologic adjustment often occurs where fresh groundwater aquifers are adjacent to saline (saltwater) groundwater and overpumping introduces saltwater into the freshwater reservoir.

Although groundwater is relatively pure, improper land use is often a threat. Traditionally, the following activities have caused pollution of groundwater:

- Placing septic tanks at or near the watertable allows sewage effluent to enter the groundwater without adequate filtration.
- Leaks in sewer pipes connected to a centralized sewage system have the same results.
- Agricultural activities, such as feedlots and intensive fertilization, add nutrients and chemicals to the groundwater—especially where the watertable is close to the surface or the soil exceptionally permeable.
- Poorly constructed storage tanks for chemical and petroleum products, oil spills at airport or industrial sites, and petroleum pipeline leaks can create similar hazards.
- Excessive use of salt on highways can create saline pollution of groundwater resources.

Once the aquifer is polluted, corrective measures are difficult, if not impossible, since groundwater moves slowly—several inches to a few feet a day. Even after the source of the pollution is eliminated it often takes years before the groundwater is potable again. No technology exists to effectively remove groundwater from its aquifer, clean it, and then return it to the underground aquifer.

York County is part of the York-James Peninsula. Several aquifer units are present and have been defined by the State Water Control Board as follows:

- **Water Table Aquifer (uppermost)**  
A reliable and dominant source of groundwater, but fluctuates seasonally, is susceptible to contamination, and lacks sufficient storage for industrial/municipal use.
- **Upper Artesian Aquifer (second)**  
An artesian system on a regional scale which is 50-80 feet thick and consistent.

- Principal Artesian Aquifer (deepest)  
A large supply of groundwater with varying degrees of quality.

The SWCB assumed administrative authority over groundwater management with the General Assembly's enactment of the Groundwater Act of 1973. With this action, the SWCB can declare an area a Groundwater Management Area and require permits for any monthly withdrawal of groundwater greater than 300,000 gallons. Withdrawals for agricultural and livestock uses are excluded.

In determining whether to impose the designation, the Board looks at one or more of the following conditions:

- Declining groundwater levels
- Two or more groundwater uses which interfere with each other
- Groundwater which has become polluted or may be in danger of pollution
- Groundwater supply which is being or is about to be overdrawn

York County as well as other Peninsula localities was designated as a Groundwater Management Area in December 1989. This decision was based primarily on the Board's evaluation that overdrawn groundwater was a possibility.

### Drinking Water

Both groundwater and surface water which is used for human consumption must meet standards required by the federal Safe Drinking Water Act. Contained within the Act are the methods of protecting drinking water through:

- establishing maximum contaminant levels
- maintaining purity levels for drinking water
- identifying sole source aquifers

The Act's standards apply to "public water systems" (i.e., a system with at least 15 service connections or serving at least 25 individuals).

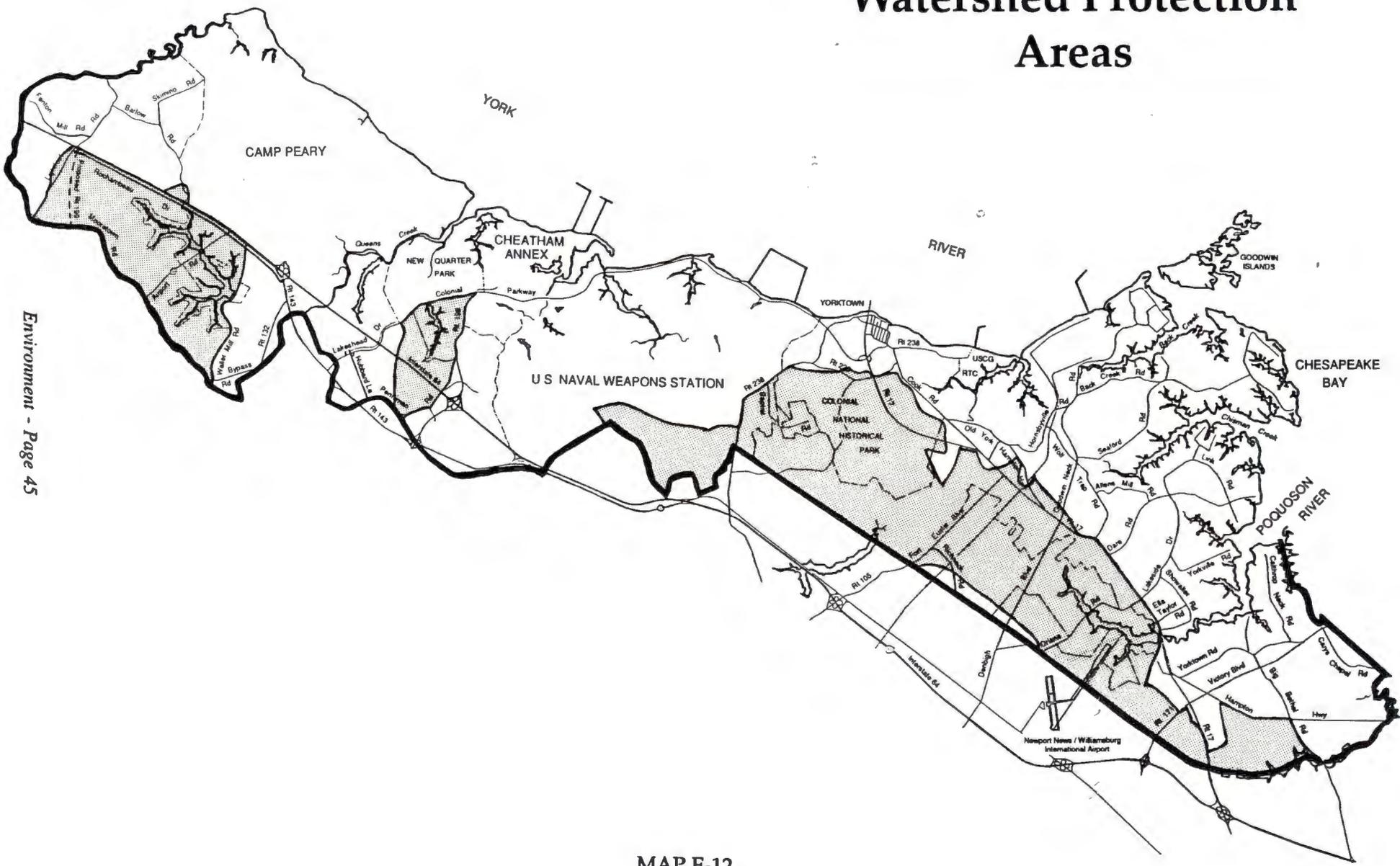
The National Primary Drinking Regulations developed by EPA set the maximum levels for all of the following contaminants which have been determined as potentially affecting public health:

Arsenic	Manganese	Foaming Agents
Barium	Mercury	Total dissolved solids
Cadmium	Nitrate	Chlorinated Hydrocarbon
Chloride	Phenols	Insecticides/Fungicides/Rodenticides
Chromium	Selenium	Chlorophenoxy Herbicides
Copper	Silver	
Iron	Sulfate	

In addition to the above standards set for surface water, there are additional standards for potential groundwater contaminants, including:



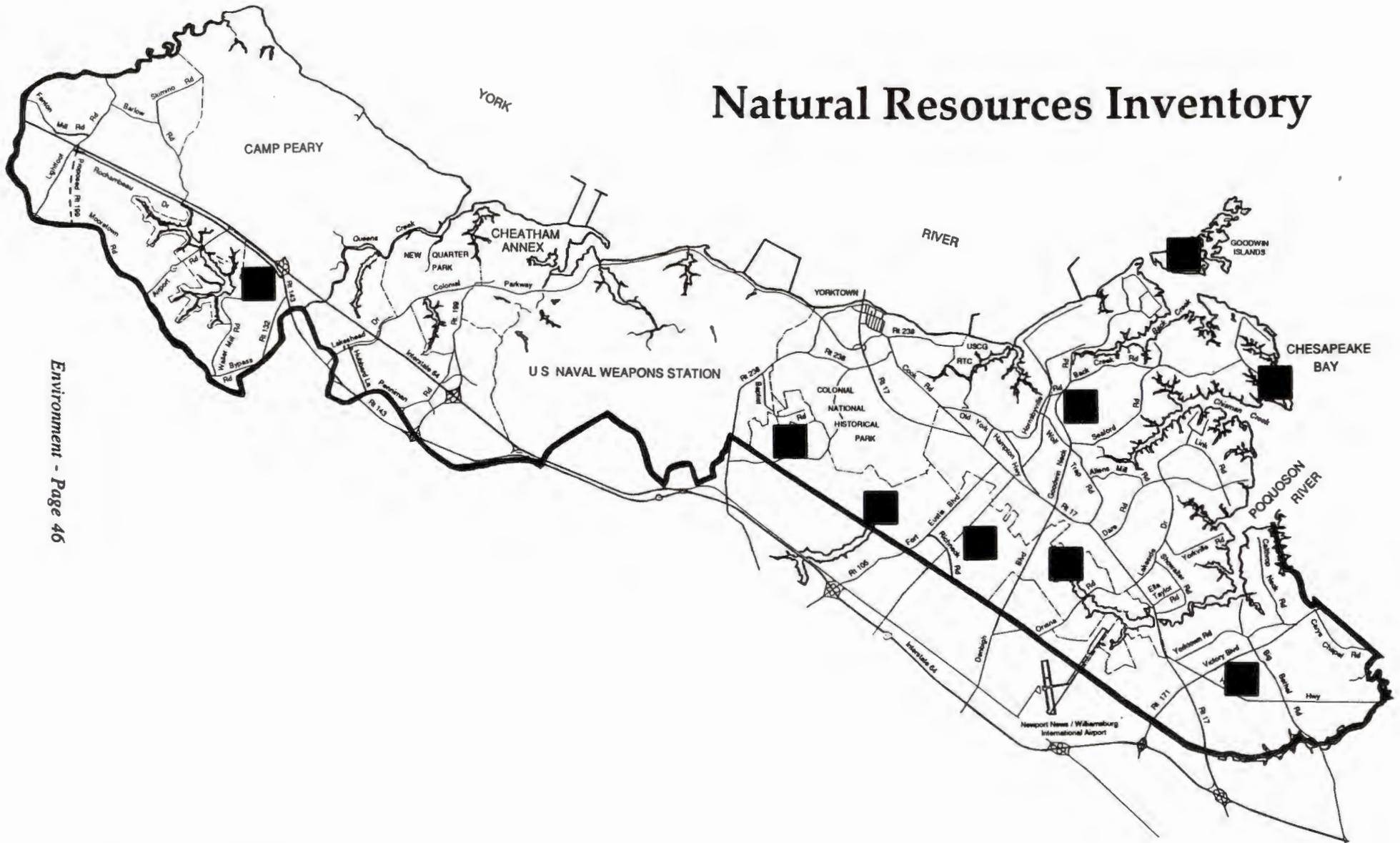
# Watershed Protection Areas



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MAP E-12

# Natural Resources Inventory



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Source: York County Natural Resource Inventory

MAP E-13

## **Noise and Noise Abatement**

While never really acknowledged as a form of environmental pollution, noise has become an increasing problem with the addition of new highways, the increase in all forms of traffic (vehicular/air), and various other motor noises. In 1972, the Noise Control Act was passed by Congress as a means of establishing noise emission standards for new products. EPA coordinates federal noise research programs and determines whether noise emission standards protect the public health. Although state and local governments do not set standards, noise can be controlled through local regulations and/or licensing requirements. York County currently regulates noise in public areas and excessive noise from radios, horns, animals, vehicles, and performances.

The Federal Aviation Act (amended in 1968) requires the FAA to consider noise abatement for aircraft. Standards for aircraft noise and sonic boom are determined prior to certification of an aircraft. As part of the 1972 Noise Control Act, EPA works with the FAA to determine aircraft noise standards.

The Noise Control Act, which was amended in 1978, provides information and assistance to the public on the effects of noise. This assistance is often in the form of grants to state, local, and regional bodies to develop noise abatement policies. Known as the Quiet Communities Act, the regulation recognizes that airports, highways and rail yards are major sources of noise pollution and federal funding may be available to help a state or local government trying to cope with noise problems resulting from such activities.

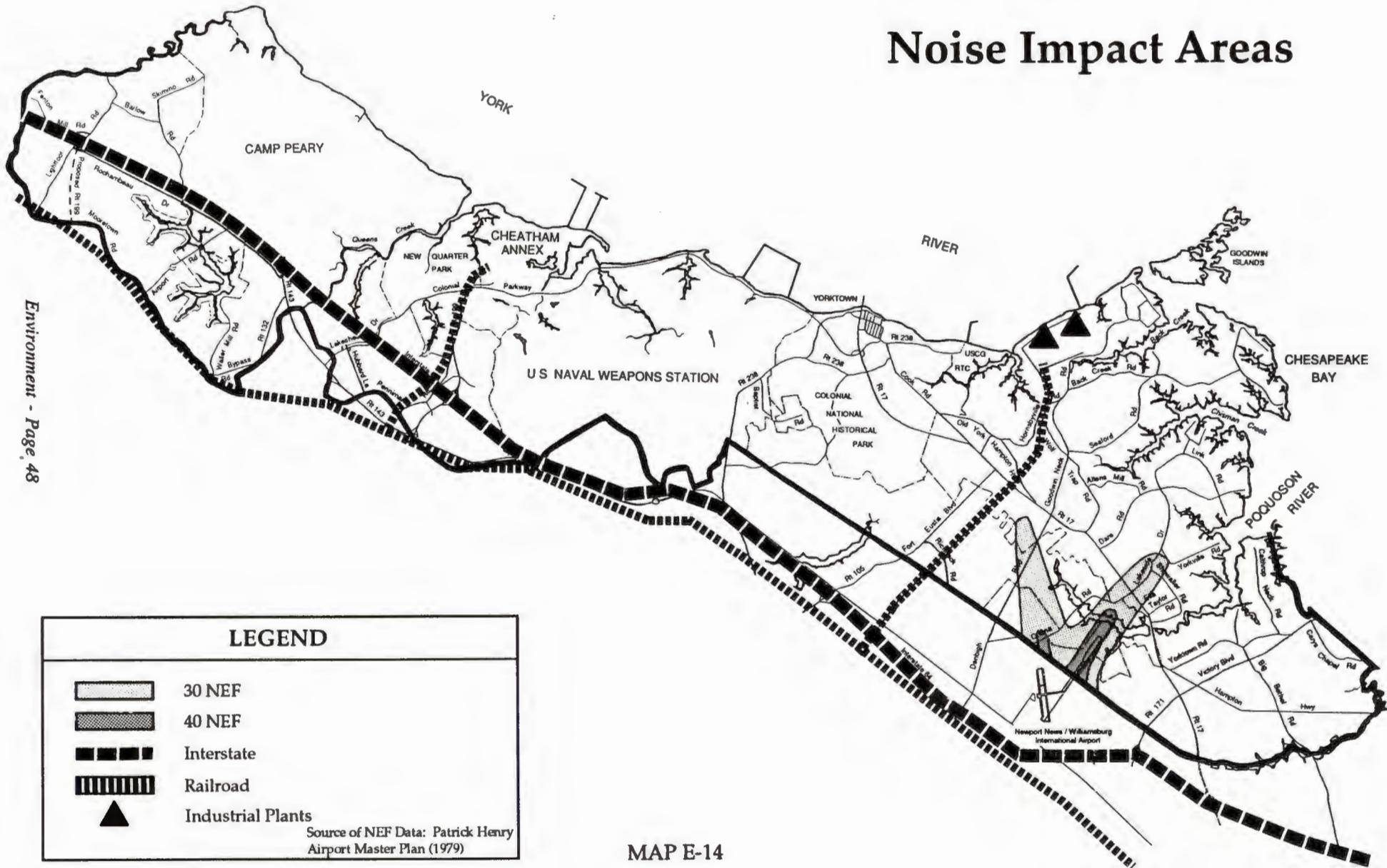
The County's major noise generators are shown on Map E-14.

- The County's most significant noise source is aircraft operations at Langley Air Force Base and Newport News-Williamsburg International Airport. According to the Department of Housing and Urban Development, no residential uses should be permitted in areas with a Noise Exposure Forecast (NEF) exceeding 40. No York County residential subdivision is within 40 NEF. However, Kentucky Farms and Lakeside Forest are within the 30 NEF.
- Railroad lines are another noise source for the County. The CSX main line parallels Route 60 and 143 through and adjacent to the County line. Three spurs from this main line exist—one to Cheatham Annex, one to the Naval Weapons Station, and one to Amoco and Virginia Power—and one more is possible in the Mooretown Road vicinity. The Navy spurs are currently not heavily utilized and the use which does occur is almost exclusively in the daytime. Virginia Power is working with the CSX Railroad to limit nighttime deliveries of coal to the power plant. In addition, it is modifying on-site equipment to reduce the ambient noise level. Nevertheless, increased usage of rail will likely increase the noise impacts of the rail lines, particularly during nighttime hours.
- Highways are the third major noise generator in the County. Because of the traffic volume and average speeds, Interstate 64 is the most significant noise source, but all roads have the potential to pose significant noise impacts, especially roads with higher than average truck volumes.
- The final major noise generators are major industrial plants—currently Virginia Power and Amoco. Other heavy industrial facilities may also contribute noise, should such facilities be located in the County.

## **Summary**

The current environmental regulations discussed above are contained in a multiplicity of federal, state, and local policies and legislation. Table 7 summarizes these regulations and what they regulate.

# Noise Impact Areas



MAP E-14

TABLE 7

PHYSICAL FEATURES REGULATED

ENVIRONMENTAL ELEMENT  
LAND REGULATORY MATRIX

PERMIT/REGULATION

	Topography/Slope	Geology/Bearing Capacity	Highly Permeable Soils	Highly Erodible Soils	Tidal Wetlands	Nontidal Wetlands	Shoreline, Beaches, Bluffs	Floodplains	Stream Influence Zone	Dredging	Landfill, Filling/Excavation	Drainage	Vegetation	Air	Noise
Building Regulations* - Chapter 7	•	•	•	•			•	•	•		•	•			
Erosion and Sediment Control Ordinance* - Chapter 10	•		•	•				•			•	•	•		
Noise* - Chapters 16 & 17															•
Subdivision Ordinance* - Chapter 20.5	•		•	•			•	•	•			•	•		
Tidal Wetlands Ordinance* - Chapter 23					•		•			•					
Chesapeake Bay Preserva. Area Ordinance* - Chap. 24, §24-158	•		•	•	•	•	•	•	•				•		
Floodplain Development Ordinance* - Chapter 24, §24-160								•							
Septic Tank System Regulations (Health Department)		•	•												
National Ambient Air Quality Standards - Virginia Air Pollution Control Board														•	
Waterways - Chapter 62 (VMRC)					•		•		•	•					
Clean Water Act - §401 Discharge into Navigable Waters (SWCB)					•										
Rivers and Harbors Act - §10 - "Navigable Waterways" Permit (COE)					•	•	•	•	•	•		•			
Clean Water Act - §404 "Dredge and Fill" Permit (COE)					•	•	•	•	•	•		•			
VA Waste Management Act - VA Dept. of Waste Management											•				

SOURCE: Division of Comprehensive Planning (1991)

\* York County Code

## GOALS/OBJECTIVES/IMPLEMENTATION STRATEGIES

The overall goal of the Environment element is to preserve and enhance the natural and manmade environment of York County while permitting development to occur in accordance with the Comprehensive Plan.

The Objectives and the Implementation Strategies will "carry" the Goal into a realistic method of execution. While the ideas are primarily those of the citizen review committee, some are the same statements made in the 1983 Land Use Plan and are slightly redefined. Other statements are those made at the Town Meetings as particular concerns of the County's citizens. Taken collectively, they represent a consensus of how environmental issues should be addressed.

### I. AIR

#### A. Objective

Maintain air quality by ensuring compliance with applicable air quality standards.

#### B. Implementation Strategy

Continue the County's active participation on the Hampton Roads Air Pollution Control District Committee.

### II. LAND

#### A. Objectives

1. Ensure that land use densities/intensities, site design and development occur in recognition of the ability of the land to support such development without environmental degradation.
2. Encourage land use management and development practices which contribute to the perception of a "rural" character in the County including: the retention of natural physical features; the retention of forest and woodland areas, both along roadways and within developed areas; the protection of existing agricultural areas; the protection or installation of landscaping and open space in all development; and the protection or enhancement of open space areas at strategic, highly visible locations throughout the County.
3. Encourage the provision of open space within developing areas for purposes of recreation, aesthetics, wildlife habitat, and the preservation of ecologically sensitive areas including groundwater recharge areas.
4. Promote site design and land development that blends appropriately with natural features and terrain.

#### B. Implementation Strategies

1. Establish tree preservation requirements for all new residential development.
2. Encourage the installation of "street trees" along new roads.
3. Require all new development and subdivisions to have underground utilities and encourage the eventual placement of existing distribution and service lines underground.

- ✓ 4. Encourage the use of conservation easements as a means to protect and preserve areas with desirable or sensitive environmental or aesthetic qualities. Particular emphasis and importance should be placed on shoreline areas.
- 5. Encourage the preservation of natural wooded areas or the installation of new landscaping along the edges of major roads. Such areas are often referred to as "greenbelts" and can make a positive contribution to the appearance of a highway corridor by keeping them "green"—thus contributing to the preservation and enhancement of "rural" character.
- 6. Establish Environmental Quality Areas to protect areas that have been identified as having significant wildlife/plantlife. Upon completion of the Natural Resource Inventory by the Division of Natural Heritage, examine and establish the best regulatory means available for protecting natural resources areas.
- 7. Require that development plans identify environmental constraints and opportunities and show how environmental impacts will be mitigated.
- 8. Continue participation under the Federal Flood Insurance Program and improve County regulations to meet the Community Rating System criteria, which would enable flood insurance participants to become eligible for certain reductions in premiums.

### III. WATER

#### A. Objectives

- 1. Preserve and protect environmentally sensitive areas and natural resources from the avoidable impacts of land use activities and development. Areas deserving special attention include coastal areas, tidal and certain non-tidal wetlands, lands within the 100-year floodplain, prime forest and agricultural lands, mature trees, highly permeable and erodible soils, and groundwater—with particular emphasis given to York County estuaries of the Chesapeake Bay.
- 2. Strictly enforce appropriate methods of construction early in the development process to control sedimentation, pollutant-loading and stormwater runoff, especially where development takes place in proximity to rivers, inlets and other bodies of water.
- 3. Ensure the conservation and enhancement of adequate and safe future water supply areas, both above and below ground.
- 4. Protect coastal wetlands, marshes, rivers, inlets and other bodies of water from destruction, disturbance, pollution and siltation associated with land development in order to maximize their future use and enjoyment.

#### B. Implementation Strategies

- 1. Upon completion of the Stormwater Management Plan, require all new development in the County to maintain no net increase in pollutant loadings, especially in proximity to drinking water reservoirs.
- 2. Develop a groundwater management handbook to provide a detailed set of guidelines, standards, and procedures for protecting groundwater.
- 3. Continue the County's participation in the Regional Raw Water Study Group.

4. Develop a County policy of notifying the Corps of Engineers of proposed development whenever the presence of nontidal wetlands is suspected.

#### **IV. NOISE**

##### **A. Objective**

Improve the quality of life by limiting noise associated with nonresidential development.

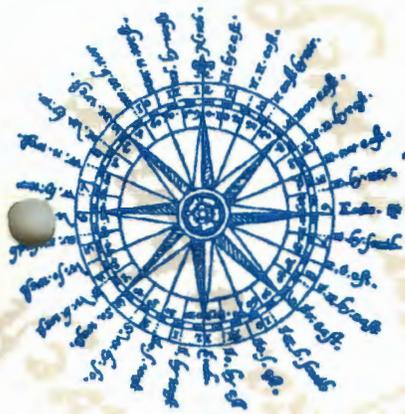
##### **B. Implementation Strategies**

1. Special noise impact areas should be designated around:
  - Newport News-Williamsburg International Airport
  - Virginia Power Plant, Yorktown
  - Interstate 64
2. Work with the Peninsula Airport Commission to install noise baffles around the runways as a means of reducing airport noise.

#### **V. CITIZEN INVOLVEMENT**

##### **Objective**

Attempt to enhance the County's natural and built environment through contacts with organizations involved in the encouragement of environmental and resource preservation.



# *Charting the Course to 2010*

Preserving the Past, Ensuring the Future



Housing

# HOUSING ELEMENT

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# HOUSING

## INTRODUCTION

Residential development in York County has always been primarily single-family detached, but significant strides toward diversification of the housing stock were made during the 1980s. The introduction of new housing alternatives—such as townhouses and condominiums—has made home ownership available to households whose options previously had been extremely limited, or who perhaps had been shut out of the housing market entirely. Although single-family detached homes continue to dominate the landscape, today there is a much greater variety of housing in the County. In some instances this variety has translated into increased affordability.

The physical and social aspects of housing are important to the planning process. The characteristics and distribution of housing development must be examined to determine appropriate land use locations and to plan for community facilities. Analysis of housing costs and conditions, as well as identification of the housing needs of low and moderate income people, is needed to effectively address housing problems and to implement improvements and housing programs.

Analysis of the housing stock, demand, and costs is required in order to effectively develop overall goals, objectives and implementation strategies for housing in York County.

## EXISTING CONDITIONS

### Land Use, Density, and Location of Recent Growth

In 1990, of the total 69,435 acres of land in the County of York approximately 23,025 gross acres (33%) were designated for residential purposes. Of these residentially designated land area, 11,566 acres (51%) is already built upon while 11,459 acres (49%) is presently undeveloped. The undeveloped residential land is almost equally split between the northern and southern portions of the County with approximately 5,323 acres (46%) in the Williamsburg area of the County and 6,136 acres (54%) in the remainder. Based on existing zoning designations and on an average household size of 2.88 persons per dwelling unit, there is a potential for 8,328 new dwelling units with a population of 23,985 in the County south of the Naval Weapons Station and 5,662 new dwelling units having a population of 16,306 in the Williamsburg area of the County. This would result in 13,990 total new units and a 40,291-person increase in population.

Although undeveloped acreage figures show a substantial amount of available residential land throughout the County, recent trends of housing unit locations (76.7% and 86.7% in the southern part of the County—1980 and 1988 respectively) are expected to continue, particularly with the greater number of development constraints associated with the northern end of the County (e.g., low-density zoning, lack of public utilities, and a severely limited road network).

### Housing Types

In 1980, the predominance of single-family detached homes in York County was overwhelming. According to the U. S. Census, there were 11,401 dwelling units in the County, of which 9,869 were privately owned. Military base housing, most of it in Bethel Manor (Langley Air Force Base housing), accounted for the remaining 1,532 units. Eighty percent of the County's non-base housing consisted of single-family detached homes, while multi-family housing (primarily apartments) accounted for 14% of private units. There were 475 mobile homes (5% of the total) and 85 single-family attached homes

(townhouses and some duplexes), representing 5% and 0.9% of the private housing stock respectively.

Table 1 and Figure 1 analyze 1980-90 change in the total distribution of dwelling units by type (including military units) in York County. Between 1980 and 1990 there was a 34% increase in the total housing stock to 15,284 units with single-family housing comprising 78% of the total stock—an increase from the 74% which it comprised in 1980<sup>1</sup>.

The 1980s brought great change to the County's housing supply. York County shared in the nationwide housing boom that followed the 1981-82 recession. As shown in Figure 2, the number of residential building permits issued annually by the County rose slowly but continually during the early '80s and then jumped dramatically at mid-decade, increasing from 340 permits issued in 1984 to 852 in '85 before peaking in 1986 at 1,050 permits issued. In the latter half of the decade, however, housing construction declined fairly steadily. Nevertheless, the number of building permits issued in 1989 was more than double the number issued in 1980. In all, a little over 5,000 permits were issued during the 1980s.

As shown in Table 1 a significant aspect of the housing boom of the 1980s is the change that it brought to the mix of housing in the County, for there was an explosion in townhouse development. At the start of the decade virtually all single-family attached housing was located in Bethel Manor. As the years progressed, however, several large townhouse subdivisions were begun, including Burnt Bridge Run, Wood Towne Quarters, York Crossing, and sections of Meadowlake Farms and Yorkshire Downs (see Map H-1). Of the 2,577 single-family residential building permits issued by the County for new construction between 1986 and 1990, 580—or 22.5%—were for townhouses (see Figure 3). In addition, the range of housing choices was further widened by the development of Williamsburg Commons, a 200-unit condominium apartment complex located off of Bypass Road (see Map H-2).

**TABLE 1**

HOUSING TYPES 1980-1990					
Type	Number of Units (Percentage of Total)				
	1980		1990* (Estimate)		% Change
Single Family Detached	8,035	(71%)	11,045	(72%)	
Single Family Attached	376	(3%)	918	(6%)	144%
Multi-Family	2,514	(22%)	2,688	18%)	7%
Manufactured Homes	475	(4%)	633	(4%)	33%
<b>TOTAL</b>	<b>11,401</b>	<b>(100%)</b>	<b>15,284</b>	<b>(100%)</b>	<b>34%</b>

\* Figures include military base housing units

Source: U. S. Census Bureau and York County Department of Community Development.

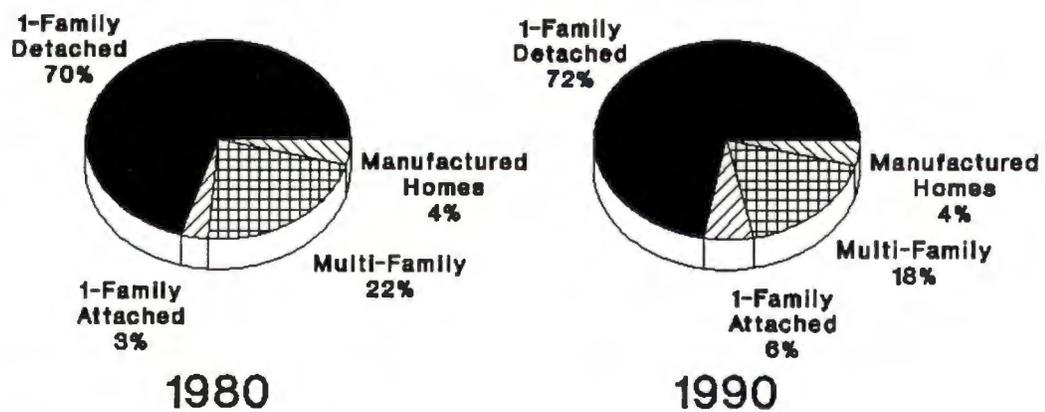
<sup>1</sup> 1990 data and analysis derived from York County Department of Community Development figures because of major inconsistencies between 1980 and 1990 U. S. Census information.

## Housing Size and Composition

The number of persons per household is often a critical market determinant in establishing whether condominiums, single-family units, or apartments are most appropriate and what size units are needed.

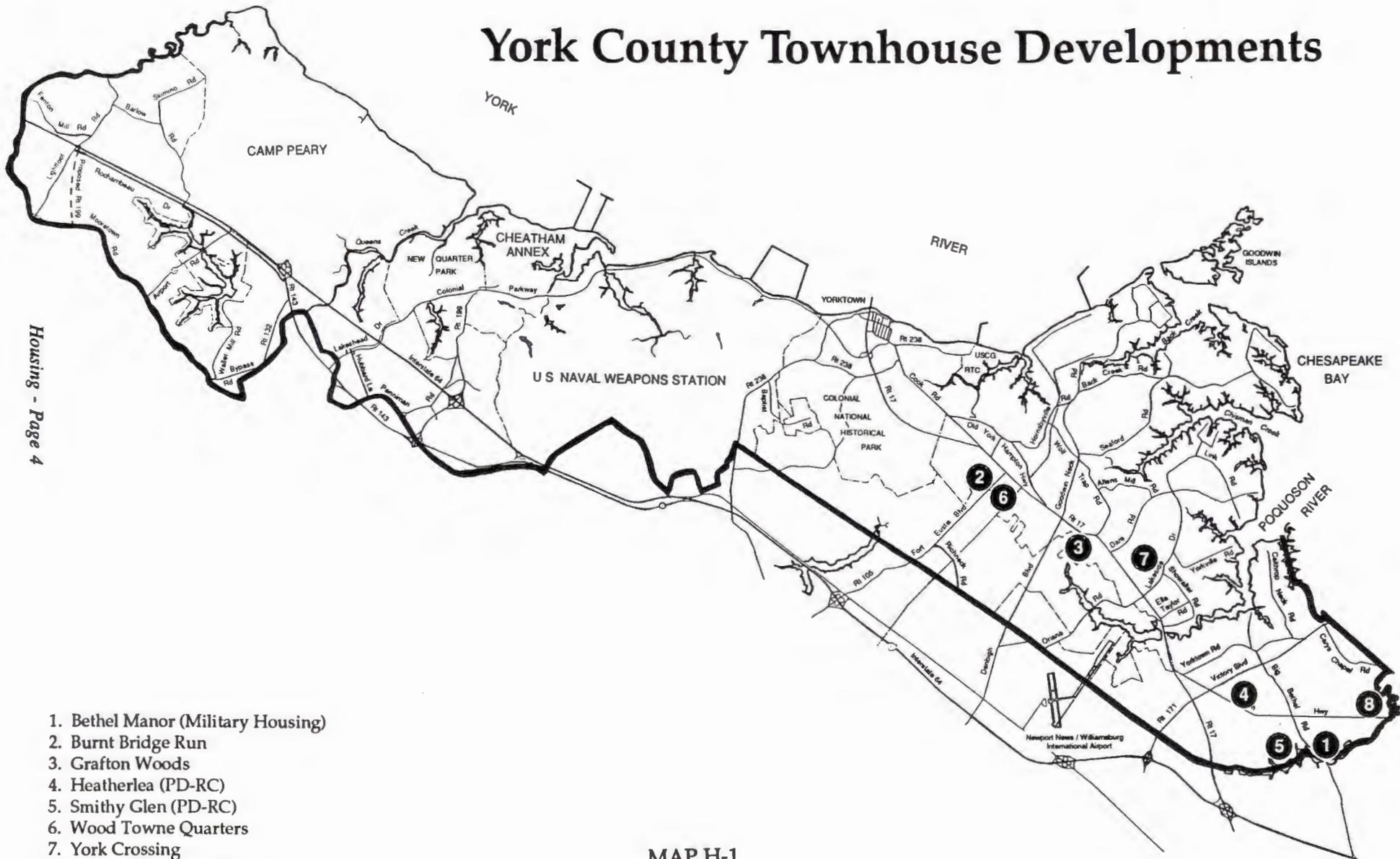
Although York County's population increased 23% during the 1980s, the number of households increased by 26%, implying a trend toward smaller households. In 1980, the average County household size was 3.15 persons as compared to a 3.63 figure in 1970. A 2.9-persons-per-household figure is estimated in 1990, with an average household size of 2.7 expected in the year 2000. As shown in Figure 4, approximately 48% of York County households in 1970 included 4 or more individuals as compared to 41% in 1980, thereby further emphasizing the trend toward smaller households. Factors contributing to this trend include changes in personal and family lifestyles such as couples having fewer children, more individuals living alone, and an increase in the number of single-parent families.

**FIGURE 1**  
**HOUSING UNITS BY TYPE**  
**1980 AND 1990**



*Note: Figures include military housing.  
Sources: U.S. Census Bureau and York  
County Dept. of Community Development*

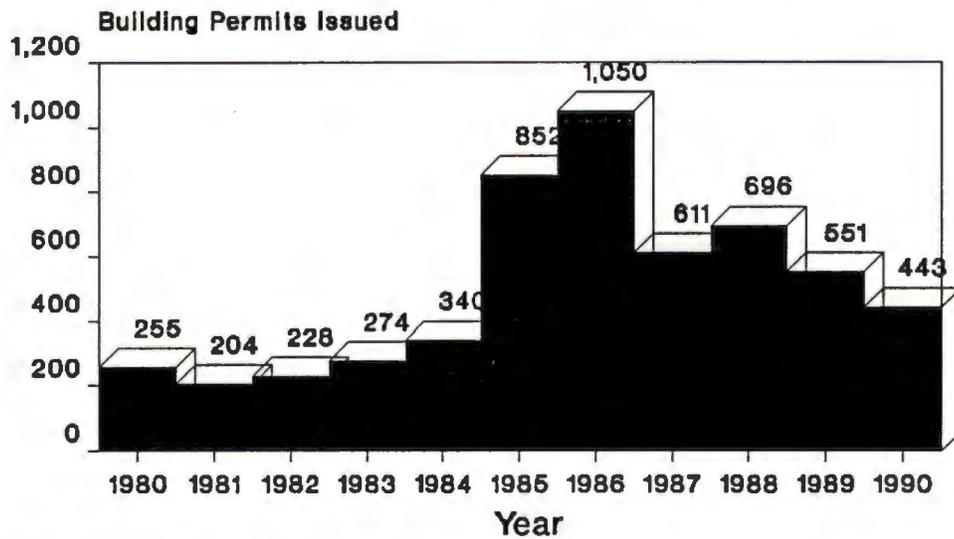
# York County Townhouse Developments



1. Bethel Manor (Military Housing)
2. Burnt Bridge Run
3. Grafton Woods
4. Heatherlea (PD-RC)
5. Smithy Glen (PD-RC)
6. Wood Towne Quarters
7. York Crossing
8. Yorkshire Downs (PD-RC)

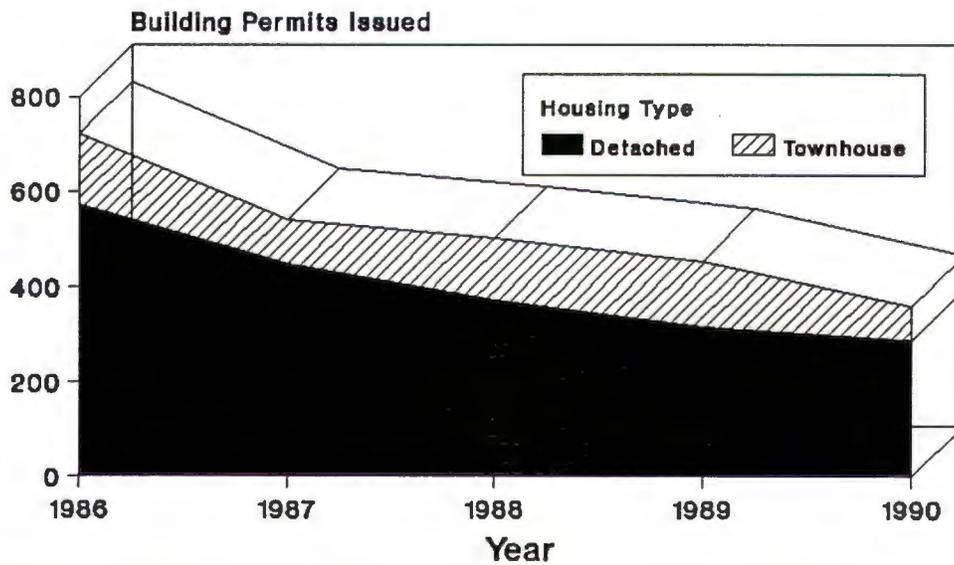
MAP H-1

**FIGURE 2  
RESIDENTIAL BUILDING PERMITS  
ISSUED IN YORK COUNTY, 1980-1990**



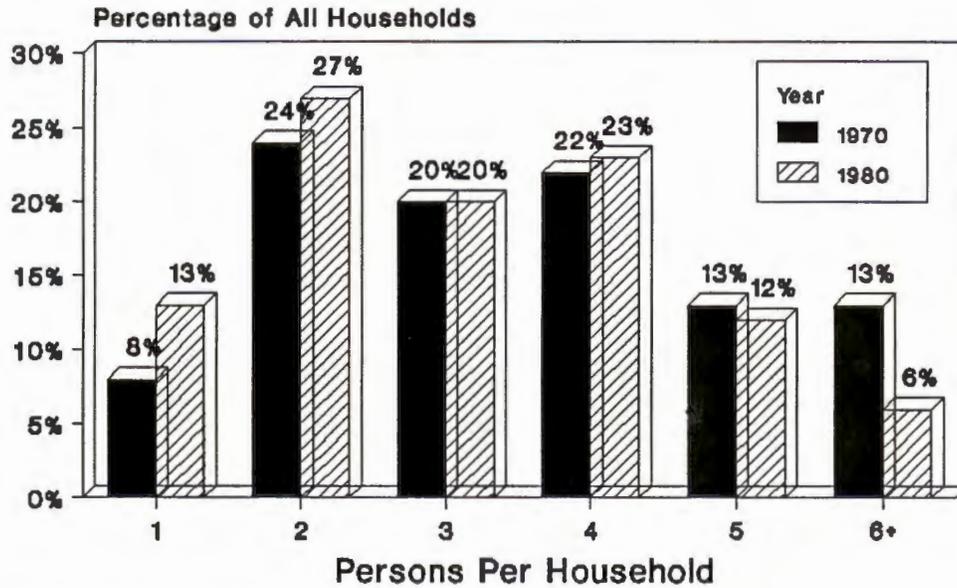
*Source: University of Virginia Center for Public Service and York County Division of Building Regulation*

**FIGURE 3  
SINGLE-FAMILY HOME CONSTRUCTION  
IN YORK COUNTY, 1986-1990**



*Source: York County Division of Building Regulation*

**FIGURE 4**  
**YORK COUNTY HOUSEHOLD SIZE**  
**1970 AND 1980**



Source: U.S. Census Bureau

**Housing Age**

Figure 5 and Table 2 provide information on the age of dwelling units in York County. This analysis indicates that York County has a relatively young housing stock with 55% of its housing units constructed within the past 20 years. However, it must also be noted that, according to these figures, approximately 3,305 housing units (21% of the County's housing stock) was built prior to 1960, equating to 31+ years of age for these units. The implication of this is that many of these dwellings are either in need of rehabilitation or will be so in the near future.

**TABLE 2**

**HOUSING AGE, YORK COUNTY**

YEAR BUILT	NUMBER OF UNITS	% OF TOTAL
1980 to 1990	3,883	26%
1970 to 1979	4,443	29%
1960 to 1969	3,653	24%
1950 to 1959	2,022	13%
1940 to 1949	656	4%
1939 or earlier	627	4%
<b>TOTAL</b>	<b>15,284</b>	<b>100%</b>

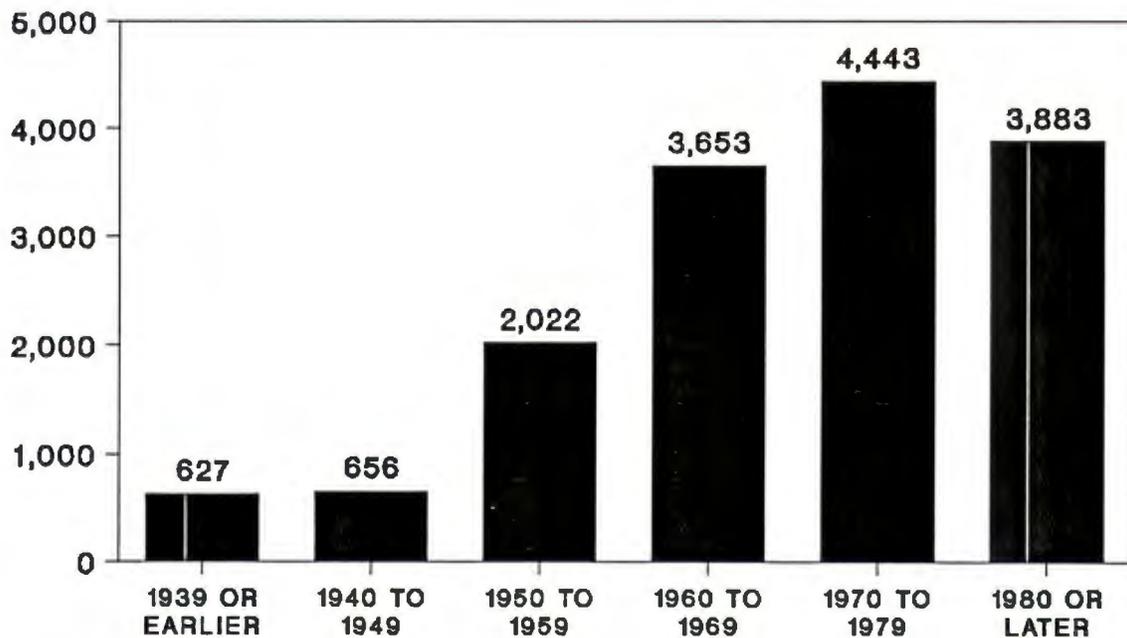
Source: U. S. Census Bureau

## Vacant Dwellings and Vacancy Rates

Vacant units may be divided into two classes--those units readily available to prospective tenants and those units unavailable to the public. The latter includes seasonal and migratory dwellings (for example, second homes and weekend retreats), units that are uninhabitable and/or are undergoing renovation, and units in probate and/or otherwise temporarily unavailable for market occupancy.

The vacancy rate within a given housing market indicates what proportion of the active housing stock is available to prospective tenants or homebuyers over a given time period. The availability of housing, as modified by the distribution of vacant units of varying types, prices, and locations within the County, is the central issue in any housing analysis. In an ideal market, some number of housing units should be vacant and available at any given time to allow adequate opportunities for households seeking new residences. Moreover, to operate efficiently, vacancy rates must run a fine line between an overbuilt market (usually considered above seven percent vacancy) and an underbuilt market (below three percent is normally considered too low). The implications of an overbuilt market include mounting mortgage risks for lenders, investors, and developers; while an underbuilt market tends to restrict residential mobility and increase housing prices as people bid-up the price of available units. In 1980, 4.4% of the total York County housing stock, or 506 units, were vacant dwellings. In 1990, a 5.3% vacancy rate or 810 units was estimated for the County.

**FIGURE 5**  
**HOUSING UNITS BY YEAR BUILT**



*Source: U.S. Census Bureau and York County Department of Community Development*

## Housing Assistance

The York County Department of Community Services, Division of Housing and Neighborhood Revitalization, is the local agency charged with, among other concerns, administering federal and state rental subsidies, housing rehabilitation loans and grants, and numerous other general and neighborhood housing programs. More specifically, activities of this department include, but are not limited to, the following primary programs:

- Rental Subsidy Programs
  - Section 8 Existing
  - Moderate Rehabilitation
  - Housing Vouchers
- Housing Rehabilitation
  - Local Rehabilitation
  - Winterization
  - Shellfish Condemnation (Residential Shoreline Sanitation Program)
  - Lackey Rehabilitation
  - Farmers Home Administration Rehabilitation
  - Emergency Home Repair
- General Programs
  - Fair Housing and Equal Opportunity
  - Information and Referral
  - Coordination of private sector low/moderate income housing development e.g., Tax Exempt Financing Issues (IRS 103(b)) federal/state funding sources.
- Neighborhood Programs - Revitalization and Improvement Activities
  - Darby-Firby Target Neighborhood
    - Farmers Home Administration Water Project
      - Virginia Water Projects
      - City of Newport News
    - Darby-Firby Neighborhood Corporation
      - Private, non-profit corporation (IRS 501(c)(3) & VA Neighborhood Assistance Act)
      - Fund raising
      - Blight removal/codes enforcement
      - Neighborhood Watch
      - Communications
      - "Quality of Life" activities, projects i.e.,
        - Housing preservation and improvement
  - Lackey Target Neighborhood
    - Utility issues
    - Housing preservation and improvement
- Special Projects
  - "Affordable Housing Study" projects in conjunction with private-sector housing industry
  - Homeless issues
  - Grantsmanship activities, i.e., Community Development Block Grant, etc.

Table 3 indicates the U. S. Department of Housing and Urban Development (HUD) income guidelines for administering York County's housing subsidies. Low income is defined as being 80% of the County median household income, while very low income equates to 50% of the median household income

of the County. These income figures, updated on a regular basis by HUD, are the basis for establishing most subsidies administered locally.

**TABLE 3**

<b>YORK COUNTY INCOME FOR HOUSING SUBSIDIES (2/1/91)</b>		
<u>HOUSEHOLD SIZE</u>	<u>LOW INCOME</u>	<u>VERY LOW INCOME</u>
1	\$20,900	\$13,050
2	\$23,850	\$14,900
3	\$26,850	\$16,800
4	\$29,850	\$18,650
5	\$32,250	\$20,150
6	\$34,600	\$21,650
7	\$37,000	\$23,150
8	\$39,400	\$24,600

*Source: U. S. Department of Housing and Urban Development.*

Presently, there are 94 Section 8 Existing Rental Subsidy certificates and vouchers being administered by the Housing and Neighborhood Revitalization Division, with 84 being available for rental use throughout the area. The remaining 10 certificates are used as subsidies for handicapped individuals and are assigned to the Peninsula Center for Independent Living. The entire 130 units located at Yorkshire Townhouses are subsidized through Moderate Rehabilitation Program subsidies. In addition, there are also approximately 250 ± housing units located in Yorktown Square I and II apartments and Rivermeade I and II apartments that were mortgaged by HUD 236 and Farmers Home Administration 515 financing and must provide lower than market rate rents.

Various other state and federal grant and loan programs have been used, are presently being used, or are available to the County to improve housing conditions. Some of the available federal and state programs and general descriptions for each are listed below. This list should in no way be construed to be all-inclusive. All programs are contingent on funding availability.

**State Programs**

Note: (\*) denotes programs currently being used by York County.

**\*Virginia Fair Housing Program**

**General Description:** Ensures compliance with Virginia Fair Housing Laws. Violations are investigated by the Virginia Real Estate Commission.

Housing that is covered by the Virginia Fair Housing Law includes property which is rented or sold--homes (including manufactured homes), apartments, apartment buildings, lots--by anyone, including a real estate broker, salesperson, a manager or the owner. Some exceptions do exist.

**Residential Repair and Renovation**

**General Description:** To assist in maintaining the homes of older persons in conformity with minimum housing standards and/or to adapt homes to meet the needs of an older person at

risk or potentially at risk of institutionalization.

Provides for home repairs and/or home maintenance to persons 60 years of age and older (includes weatherization provided with Older Americans Act funds). Coordination of other funding sources to provide a more comprehensive program is possible.

**\*Virginia Low Income Weatherization Program**

**General Description:** Provides assistance to low income households by helping them to reduce fuel bills and to increase home comfort through making homes more energy efficient.

Homes receive weatherization work; reduce air leakage; wall, ceilings and floor insulation; and heating distribution sealing. The work performed is site specific and varies from house to house depending on energy audit results. Mobile home weatherization has also been a standard part of the Virginia Weatherization Program.

Federal Guidelines allow an average expenditure of \$1,600 per house for weatherization materials and program support.

**\*Emergency Home Repair Grant Programs**

**General Description:** Provides grants of up to \$500 per housing unit to make repairs to properties which present an immediate threat to the health and safety of its occupants. Grant funds for up to \$1,000 may be used to make accessibility adaptation for the physically disabled.

**Homeownership Assistance Program**

**General Description:** The Homeownership Assistance Program makes low interest loans available to for-profit, non-profit, and governmental entities for the production and financing of affordable housing for low and moderate income persons. Successful applicants for these funds will be designated as Project Sponsors and work with the Department of Housing and Community Development and the Virginia Housing Development Authority in carrying out program activities.

**\*Local Housing Rehabilitation Program**

**General Description:** The Local Housing Rehabilitation Program makes loan and grant funds available for general improvements and energy-related improvements. These funds are reserved for local governmental bodies (including housing authorities) and non-profit organizations to carry out a rehabilitation program in their service area.

The goal of the program is to assist lower-income families and individuals to make repairs to their homes. It also provides assistance to landlords to improve rental property which houses lower income persons.

**\*Residential Shoreline Sanitation Program**

**General Description:** Provides grants to Chesapeake Bay area localities for correcting improper wastewater discharge into coastal waters from housing units occupied by low income households. Grants of up to \$10,000 per house are available to repair or replace septic systems and improve or install indoor plumbing.

### **Multi-Family Loan Programs**

**General Description:** The Multi-Family Loan Program is the single largest initiative within the Virginia Housing Partnership Funds, accounting for nearly half of the funding. The goal of the Multi-Family Loan Program is to increase the availability of decent and affordable rental housing for low and moderate income Virginia residents.

### **Seed Money for Non-Profit Program**

**General Description:** To build the capacity of local non-profit housing groups to carry out housing programs in areas where low income housing activity has been limited. Grant funds are used to support the administrative and operating expenses of these groups. Grants are awarded annually, on a competitive basis, for up to five years. The maximum amount for the five-year period is \$75,000.

### **Share Emergency Shelter Support Grant Program**

**General Description:** Provides grant assistance to shelters for the homeless which provide emergency housing to families and individuals. Grant funds under this program have primarily been used for paying shelter operating expenses; however, grantees may also use the funds for making general improvements and repairs to their facilities.

Grants are provided to each emergency shelter based upon the number of beds which they supply. Awards are made annually based upon a per bed formula which is determined by the number of applicants and the amount of funds available.

### **Multi-Family Low-Income Tax Credit Program**

**General Description:** Assists developers in providing rental housing units affordable to low income households by providing federal income tax credits to reduce the effective cost of producing them.

### **\*Rental Rehabilitation Program**

**General Description:** A federally funded program to assist in the moderate rehabilitation of existing low income rental housing units by providing loans or grants for up to 50% of rehabilitation costs.

### **State of Virginia Low Income Housing Tax Credit Program**

**General Description:** Provides a tax credit for landlords providing rent reduction for elderly and disabled tenants.

The landlord must provide a reduced rent to low income tenants who either exceed the age of 62 or are disabled from a physical or mental condition. Also, the rent charged for elderly or disabled tenants must be at least 15% less than the rent charged to other tenants for comparable units within the same property.

## Federal Programs

### Home Ownership Loans

**General Description:** Loans are made to families or individuals in rural areas who are without adequate housing and who are unable to obtain loans from private lenders at reasonable rates.

Homeownership loans may be used to buy, build, improve, repair, or rehabilitate rural homes and related facilities, and to provide adequate water and waste disposal systems. Funds may also be used to modernize homes--add bathrooms, central heating, modern kitchens, and other improvements such as driveways and foundation plantings.

### \*Rental Assistance Program

**General Description:** Payments are made to owners of Farmers Home Administration financed rental projects to reduce the rents (including utilities) paid by low income tenants to no more than 30% of their incomes.

### \*Weatherization Assistance Program

**General Description:** To reduce the effects of high fuel costs for heating and cooling on low income families, particularly the elderly and handicapped. The program pays for installation of cost effective weatherization measures, such as caulking and weatherstripping, storm windows, attic insulation and heating system improvements.

### Housing for the Elderly and Handicapped

**General Description:** HUD provides direct 40-year loans to finance construction or rehabilitation of residential projects for the elderly or handicapped.

### \*Section 8: Lower Income Rental Assistance

**General Description:** Assists families of low income in obtaining decent, safe, and sanitary rental housing. There are three major programs under Section 8. Under the Existing Housing Certificate Program and the new Housing Voucher Program, private owners receive the difference between what tenants can afford (up to 30% of adjusted income) and the fair market rent. Vouchers differ from certificates in that they are tied to the tenant rather than the unit and provide tenant greater freedom of choice in selecting housing.

The Moderate Rehabilitation Program provides subsidies to owners, normally higher than those provided under Certificates and Vouchers, to compensate costs incurred in rehabilitating units.

### \*Community Development Block Grants (CDBG)

**General Description:** Provides grants to carry out a wide range of community development activities directed toward neighborhood revitalization, economic development, and improved community facilities.

All CDBG activities must benefit low and moderate income persons; or aid in the prevention or elimination of slums, or address other community development needs that present a serious and immediate threat to the health and welfare of the community.

# HOUSING NEEDS ASSESSMENT

This section forms the foundation upon which the implementation strategies of the Housing element are based. This foundation includes an analysis of housing characteristics of the York County population; plus population and housing projections for the next 20 years followed by goals, objectives, and implementation strategies to address these housing needs.

## Home Ownership

In 1980, approximately 68% (7,406 units) of York County's occupied housing units were owner-occupied. This is expected given the high concentration of single-family housing units (75% of the housing stock) located in the County. By 1990, both the percentage and raw number had grown--10,359 or 72% of the occupied housing units were owner-occupied.

### **Cost/Affordability<sup>2</sup>**

As previously mentioned, in 1990 approximately 78% of the available housing units in the County were single-family units; however, as shown in Table 1, during the 1980s housing boom, a change in the mix of single-family housing types occurred, with a 144% increase in townhouse development. Also occurring, but not shown graphically, is the emergence of condominium ownership apartments, mainly in two locations, Williamsburg Commons and Yorkshire Downs.

Shifts can be attributed to a number of market factors. The rising cost of single-family detached homes in the County has made such housing prohibitively expensive for many households, forcing them to seek a less expensive alternative. Furthermore, the changing demographics also favor alternative housing types. Specifically, the average household size in the County has been continually falling, and smaller households--such as singles, young couples, and older couples whose children have grown up and left home ("empty nesters")--have lesser space requirements and lower incomes than the typical established family with two or more children.

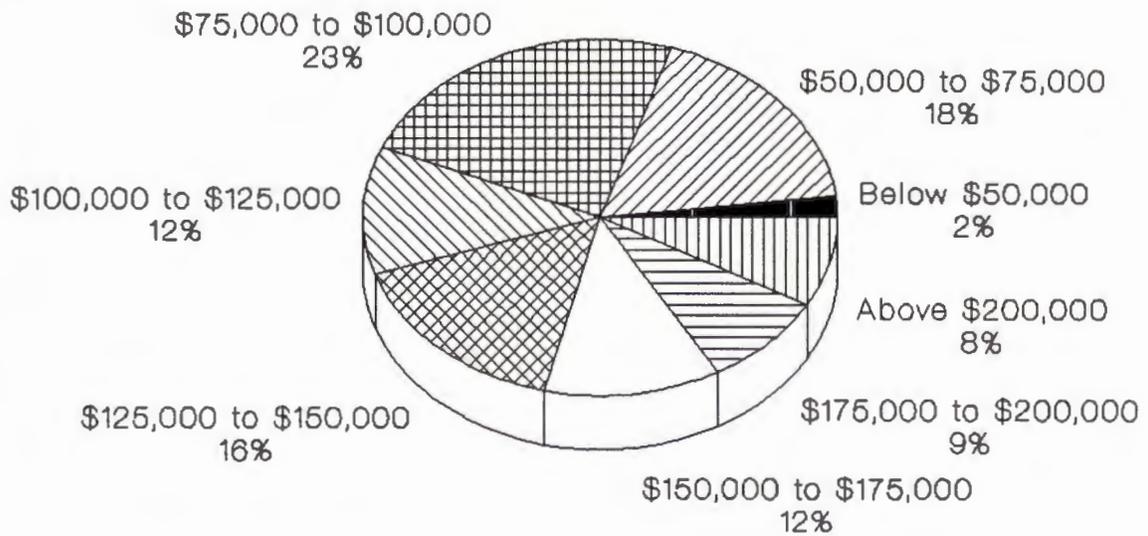
Whatever the cause, the result has been an overall increase in housing affordability in York County. More housing is now available to more people than was the case ten years ago. This trend has been reflected in the relationship between home sale prices and incomes in the County. In 1980 the ratio of median home sale price to median annual family income in the County was approximately 2.78; by 1990 this ratio had fallen to 2.53. By comparison, the national average for this ratio in 1985 was 3.03. Although it can be argued that these statistics are misleading since they reflect only those households that can afford to live in the County and not those who are shut out of the housing market, it is indisputable that there is an abundance of housing available in the under \$100,000 price range (see Figure 6). In fact, if housing affordability is based on the 30% standard (percentage of income spent on housing), over half of the homes sold in York County in 1990 (54%) were affordable to the half of the population with incomes below the median. A shortage of affordable housing is evident, however, for those households with a total income at or below \$21,332. These households represent 20% of the population, yet only 5.5% of all homes sold in the County in 1990 were affordable to this segment of the population. This is shown in Table 4, which compares the number of homes sold within the price range of each income decile in the County. Each income decile represents 10% of the households in the County; therefore, 10% of the households had incomes at or below \$14,305. The maximum house price that a household in this income range could afford to pay is estimated at \$45,280, and in 1990 there were nine homes sold in this price range (1.5% of all homes sold). In an ideal world where housing was both available and affordable to everyone, roughly 10% of the homes

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<sup>2</sup> The underlying premise of the analysis is that housing becomes affordable when households having incomes at or below the County Median pay no more than 30% of their gross income on housing costs.

sold would be within the price range of each income decile. Table 5 follows the same structure, but includes exclusively single-family detached housing. These housing affordability patterns are depicted graphically in Figures 7 and 8.

**FIGURE 6**  
**1990 HOME SALES IN YORK COUNTY**  
**BY PRICE RANGE**



**Source:** York County Commissioner of Revenue

**TABLE 4**  
**DISTRIBUTION OF INCOMES AND HOME SALE PRICES IN YORK CO., 1990**

INCOME DECILE	HOUSEHOLD INCOME AT UPPER LEVEL OF DECILE	AFFORDABLE HOME PRICE (Estimated)	HOMES SOLD IN PRICE RANGE (NEW AND RESALE)		
			Number in Decile	Per Cent in Decile	Cumulative Per Cent
1st	\$14,305	\$45,280	9	1.1%	1.1%
2nd	\$21,332	\$63,968	35	4.4%	5.5%
3rd	\$27,747	\$83,205	235	29.5%	35.0%
4th	\$34,334	\$102,950	75	9.4%	44.4%
5th	\$40,596	\$121,736	76	9.5%	54.0%
6th	\$47,865	\$142,480	98	12.3%	66.2%
7th	\$54,705	\$164,044	97	12.2%	78.4%
8th	\$61,221	\$183,584	70	8.8%	87.2%
9th	\$77,638	\$232,814	65	8.2%	95.4%
10th		>\$232,814	37	4.6%	100.0%
<b>TOTAL</b>	N/A	N/A	797	100.0%	N/A

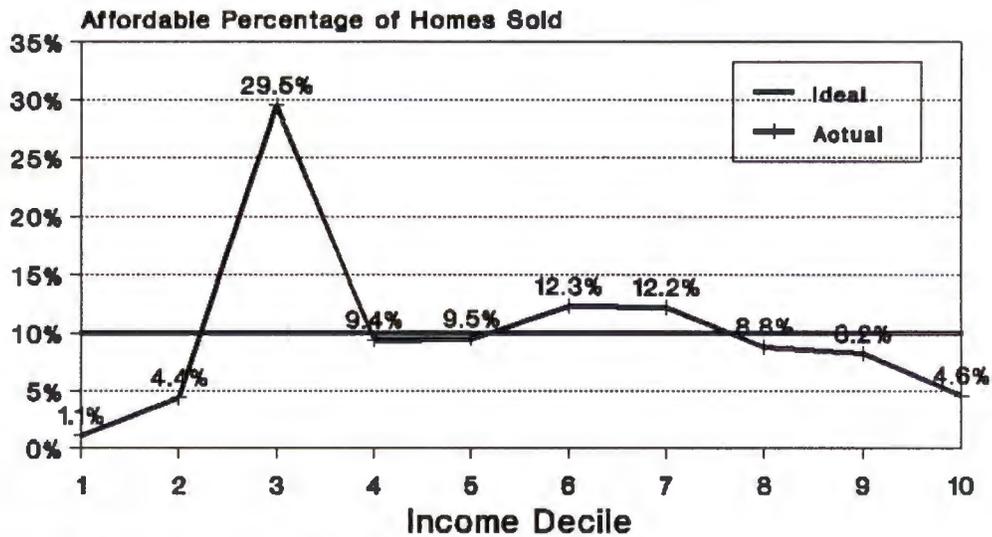
Sources: University of Virginia Center for Public Service (income projections) and York County Commissioner of Revenue (home sale data).

**TABLE 5**  
**DISTRIBUTION OF INCOMES AND SINGLE-FAMILY  
DETACHED HOME SALE PRICES IN YORK CO., 1990**

INCOME DECILE	HOUSEHOLD INCOME AT UPPER LEVEL OF DECILE	AFFORDABLE HOME PRICE	SINGLE-FAMILY DETACHED HOMES SOLD IN PRICE RANGE (NEW AND RESALE)		
			Number in Decile	Per Cent in Decile	Cumulative Per Cent
1st	\$14,305	\$45,280	9	1.5%	1.5%
2nd	\$21,332	\$63,968	28	4.7%	6.2%
3rd	\$27,747	\$83,205	47	7.9%	14.1%
4th	\$34,334	\$102,950	63	10.6%	24.7%
5th	\$40,596	\$121,736	75	12.6%	37.2%
6th	\$47,865	\$142,480	99	16.6%	53.9%
7th	\$54,705	\$164,044	97	16.3%	70.1%
8th	\$61,221	\$183,584	72	12.1%	82.2%
9th	\$77,638	\$232,814	68	11.4%	93.6%
10th		>\$232,814	38	6.4%	100.0%
<b>TOTAL</b>	N/A	N/A	596	100.0%	N/A

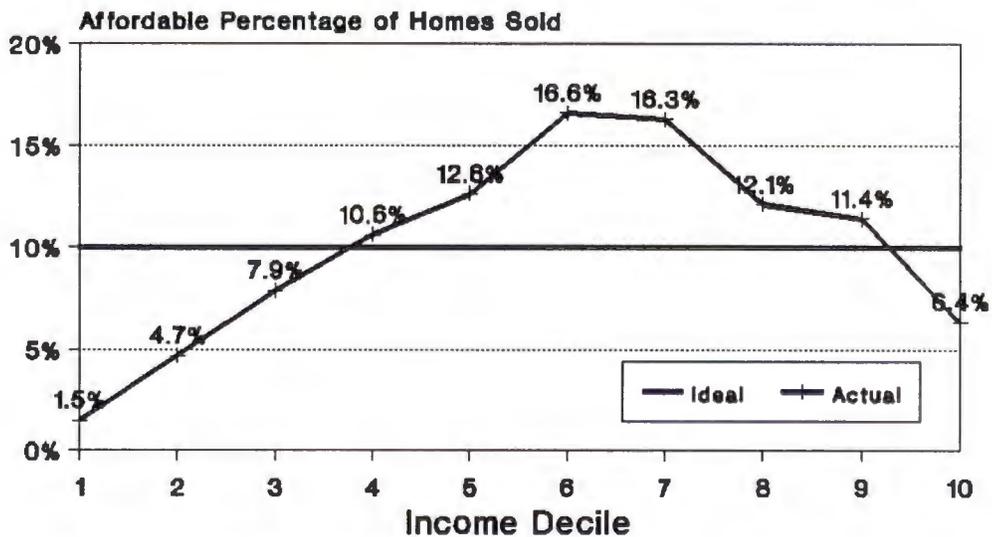
Sources: University of Virginia Center for Public Service (income projections) and York County Commissioner of Revenue (home sale data).

**FIGURE 7  
HOUSING AFFORDABILITY  
IN YORK COUNTY, 1990**



*Sources: University of Virginia Center for Public Service (income projections) and York County Commissioner of Revenue*

**FIGURE 8  
SINGLE-FAMILY DETACHED HOUSING  
AFFORDABILITY IN YORK COUNTY, 1990**

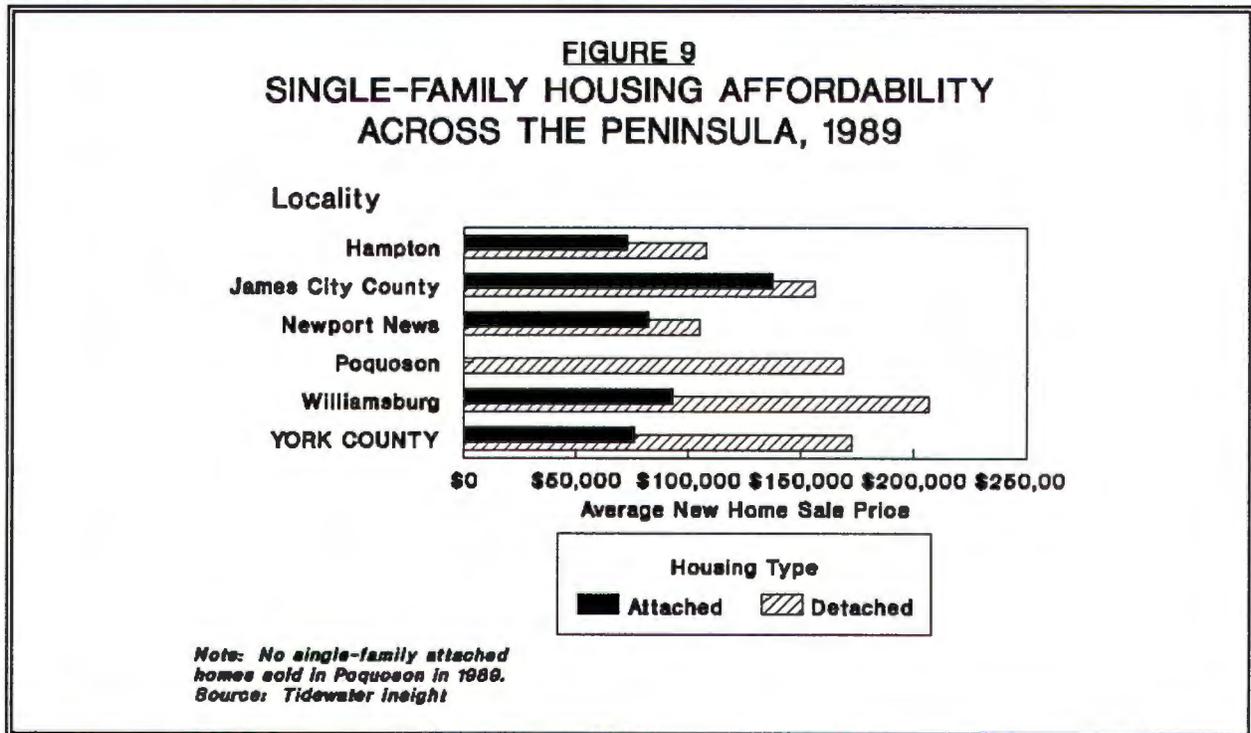


*Sources: University of Virginia Center for Public Service (income projections) and York County Commissioner of Revenue*

Despite the dramatic increase in townhouse construction, the vast majority of the County's housing inventory remains single-family detached. Development of this type, unlike townhouses and condos, has substantially increased the cost of housing in the County. The average (mean) sale price of the 239 new single-family detached homes sold in York County in 1989 was approximately \$173,000--32% above the Peninsula average. Figure 9 shows that, within the Peninsula region, York County is second in this respect only to the City of Williamsburg, where 18 new detached homes were sold at an average price of \$207,000. Meanwhile, the average sales price for all single-family detached homes sold in 1990 (new and resales) was \$145,465--almost \$20,000 higher than the overall average of \$126,850 for single-family detached, attached, and condominiums.

Thus it is particularly true for households seeking detached housing--especially new construction--that housing affordability is a problem. Based on the 30% housing cost/income standard mentioned above, 37% of the detached homes sold in the County in 1990 were affordable to the half of the population with incomes below the median (i.e., all households with incomes below \$40,596). Upon closer review, however, it becomes clear that the shortage of affordable detached housing exists only for the 30% of households with incomes at or below \$27,747. This income level translates into a maximum affordable house price of \$83,205. In 1990, 14% of all detached homes sold in the County had a sales price at or below this price. Not surprisingly, the shortage is more severe for the lowest income decile (under \$14,305), for which only 1.5% of the detached homes were affordable. However, shortages were evident even at the second and third decile--with an income range from \$14,305 through \$27,747--for which the percentages of homes in their price ranges were 4.7% and 7.9% respectively. For households earning more than \$27,747 there appears to be an abundance of affordable detached housing.

It appears, then, that York County's housing affordability problem is primarily an income problem. It is not realistic to try to provide home-ownership possibilities for every income level, as desirable a goal as that may be. Nevertheless, in today's market, housing in the \$65,000 - \$85,000 price range can realistically be built, and there does appear to be a shortage of affordable single-family detached housing in this range.



## Factors Influencing Cost

While the factors influencing the cost of housing are many, they may generally be categorized into three primary groups:

- *Individual buyer preferences*—market choices and demand, timing and financing options;
- *The development project*—including the size and type of structure and amenities as well as the scale of the project; and,
- *Public policy*—including zoning, taxation, density, required site improvements, and the approval process.

The single most important factor in realistically addressing the shortage of single-family detached housing units in the \$65,000 - \$85,000 range, is providing more flexible general residential designations where, in some cases, single-family units (detached or attached) are permitted by right adjacent to multi-family uses. In other instances where a multi-family development may be permitted by right, single-family detached units could be permitted with a use permit. The premise behind this concept would be to provide the opportunity for smaller lot subdivision development while simultaneously keeping within the density level assigned to the Multi-Family/General Residential designation. In fact, to assure that lot sizes do not become excessively small, maximum density levels for single-family units in this designation could be set lower than the 10 units per acre figure allowed for multi-family development, perhaps in the 6 units per acre range.

Other concepts that should be examined to bring housing costs down while still promoting creative designs in attractive settings include:

- Clustering houses with permanent landscape easements protecting the open space which remains. (See Figure 10)
- Concentrating houses, streets and utilities on the most buildable portions of a site, letting the rest of the site remain green.
- Reducing subdivision street widths (with VDOT approval) to appropriate widths to achieve cost-savings.
- Allowing houses to be built on the lot line, or "zeroed" to permit varied setbacks and make better use of the yards (open space). (See Figure 11)
- Providing density bonuses in certain circumstances.
- Pursuant to §§15.1-491.8 and 15.1-491.9 of the Code of Virginia certain jurisdictions may, by amendment to the Zoning Ordinance, provide for an affordable housing dwelling unit program which addresses housing needs, promotes a full range of housing choices, and encourages the construction and continued existence of moderately priced housing by providing for optional increases in density in order to reduce land costs for such moderately priced housing.

It should also be noted that the County's "Affordable Housing Incentive" provisions associated with the Planned Development - Residential Community (PD-RC) District of the York County Zoning Ordinance were established on October 2, 1986, to encourage more moderately priced single-family detached housing through reduction or elimination of the otherwise applicable planned development

open space requirements for lots of at least 7,500 square feet. In exchange, these provisions require either modular dwelling units or other approved single-family detached dwelling units and establish a maximum unit size, all with the objective of promoting affordability. Implementation of this concept should continue and should be expanded to explore the possibility of providing even greater opportunities for lowering housing costs.

FIGURE 10

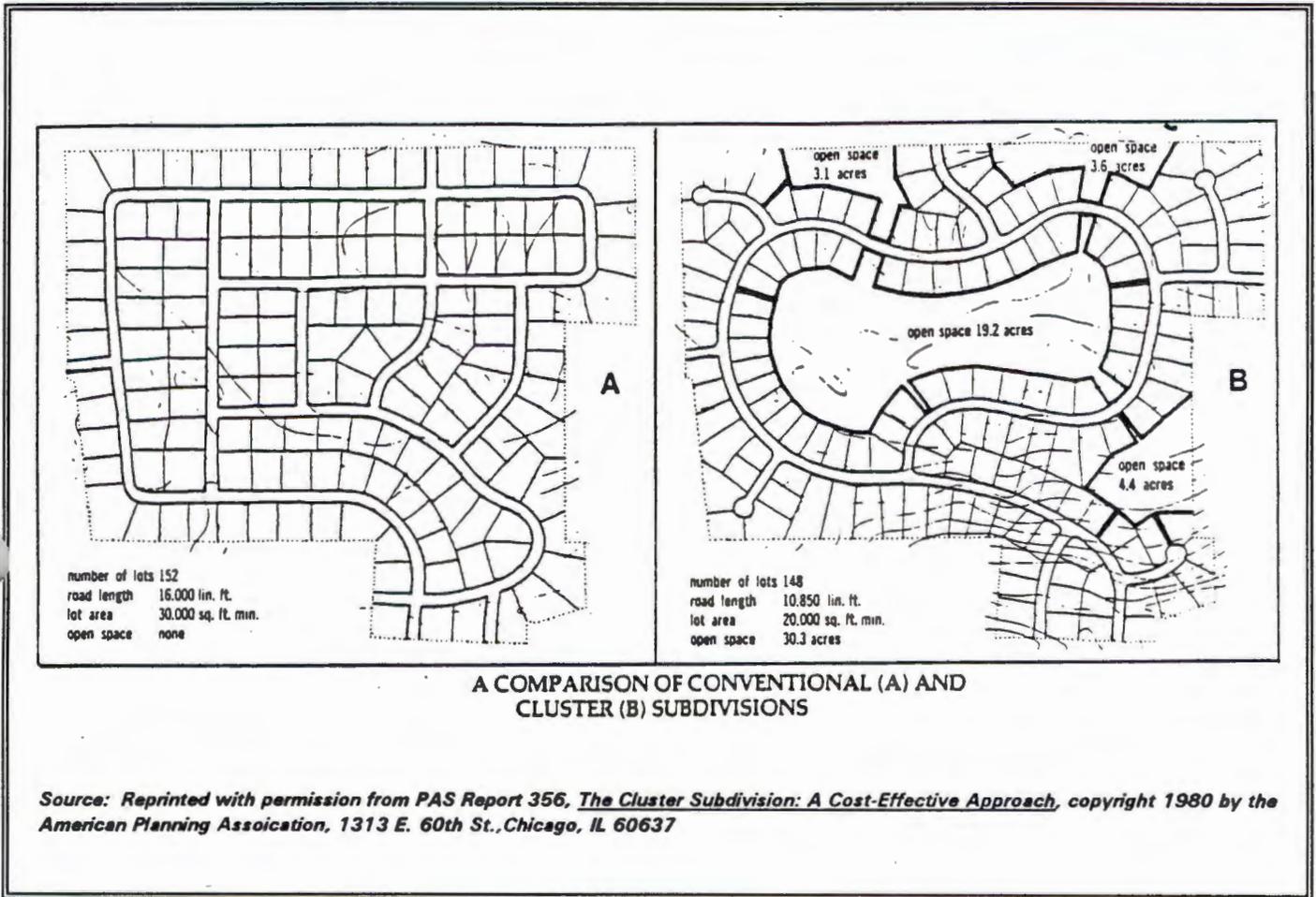
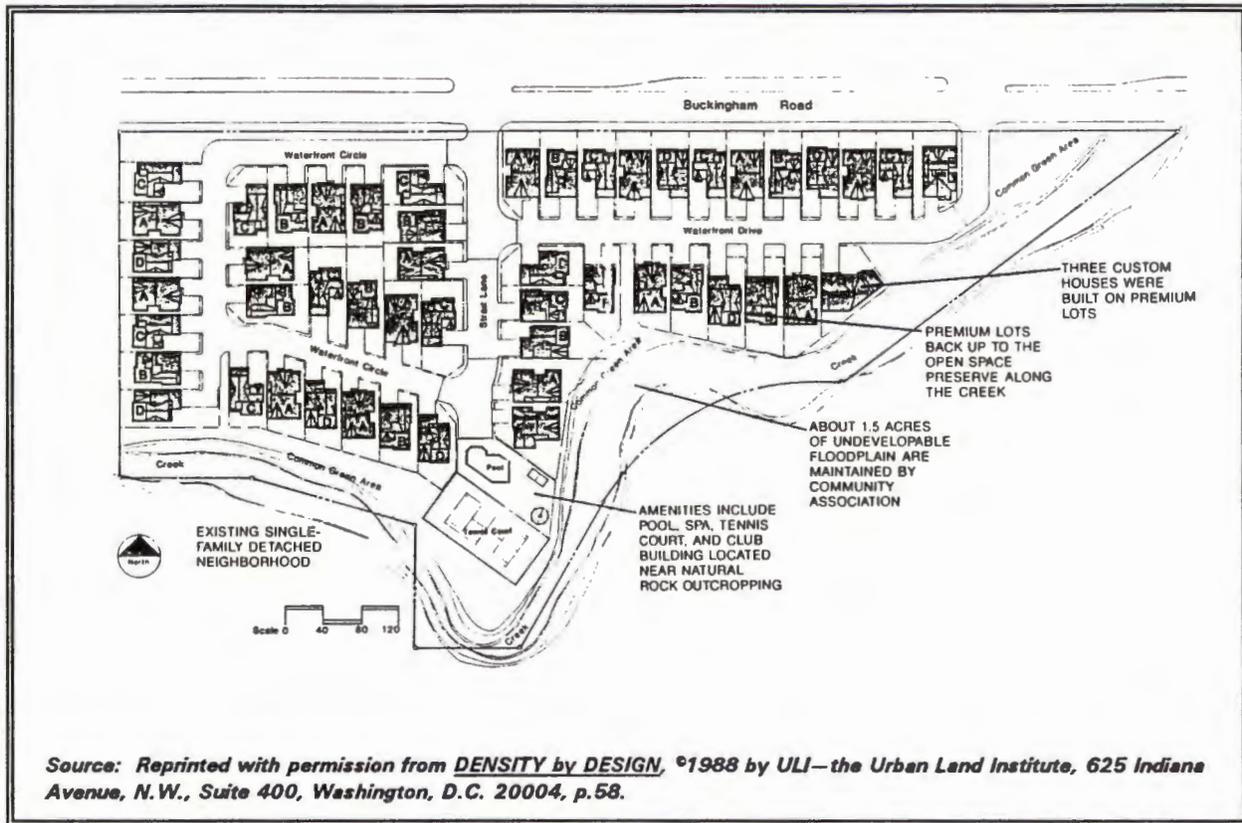


FIGURE 11



## Rental Housing

### Rental Housing Production

In 1980 approximately 32% (3,489 units) of York County's occupied housing units were renter-occupied. This is to be expected given the low concentration of multi-family housing units (22% of the total housing stock) located in the County. By 1990, the number of renter-occupied units had grown to 4,115; however, the percentage decreased to 28%. Over the same period, the number of multi-family units in the County increased by 7%. The majority of this increase is due to the development of the following rental units:

• Grafton Station	252 units	Route 17/Grafton
• Rivermeade	80 units	Goosley Road/Yorktown
• York Pointe	202 units	Route 134 Near Hampton City Line

All of these 534 rental units are located south of the Naval Weapons Station.

Other major rental apartment complexes located in the County are shown below:

• Four Seasons	320 Units	Route 134
• Pines of York	248 Units	Route 134
• Yorkshire Townhouses	130 Units	Route 238
• Yorktown Square I and II	116 Units	Goosley Road/Yorktown
• Country Club Apartments	100 Units	Route 143 Near Williamsburg
• Village Apartments	89 units	Yorktown

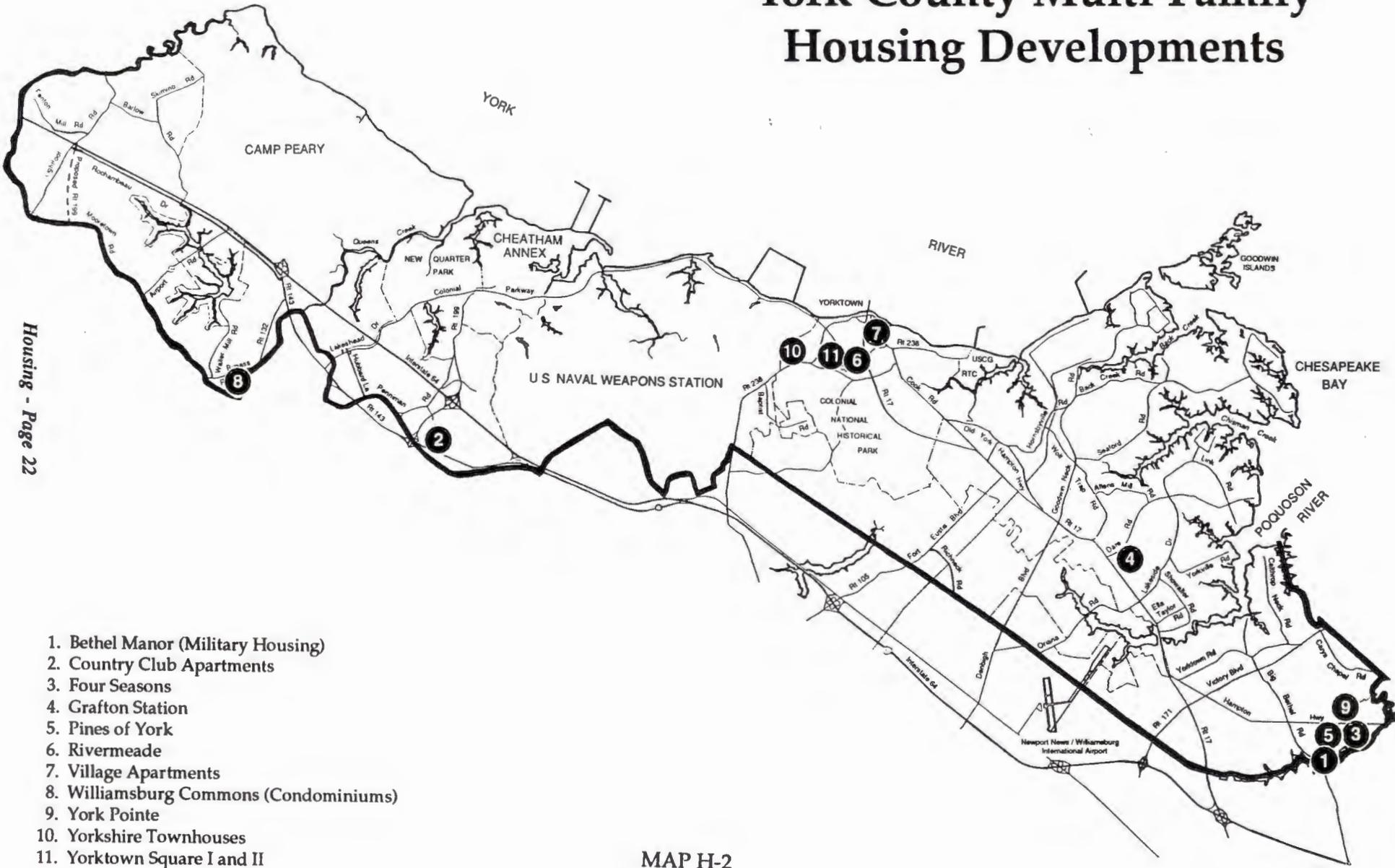
Although there was little change in the relative size of the multi-family housing sector (Table 1), within this sector—which includes all structures with two or more dwelling units, such as apartments—there has been a shift in favor of larger structures (i.e., structures with five or more units). Whereas in 1980 these structures represented half of the County’s multi-family housing stock, nine out of ten multi-family housing units authorized between 1980 and 1987 were in these larger structures so that by 1990, 72% of the multi-family units were located in such structures. Structures with three to four units showed a slight increase during the 1980-87 period, but their relative share of the multi-family housing inventory declined (see Map H-2).

#### Rental Cost

To obtain a measure of renter-occupied housing costs, the October 1, 1990, Department of Housing and Urban Development (HUD) estimated fair-market-value-rents for rental units in York County were reviewed. These fair-market-value-rents are used by HUD as a basis for their rental assistance programs. It should be noted that the rent ceiling landlords are allowed to charge is somewhat higher. Recent fair-market-value-rent levels estimated by HUD (10/01/90) were:

HUD Fair Market Value	
	<u>Monthly Rent</u>
Efficiency	\$359
1 Bedroom	\$436
2 Bedroom	\$436
3 Bedroom	\$514
4 Bedroom	\$719

# York County Multi-Family Housing Developments



Housing - Page 22

1. Bethel Manor (Military Housing)
2. Country Club Apartments
3. Four Seasons
4. Grafton Station
5. Pines of York
6. Rivermeade
7. Village Apartments
8. Williamsburg Commons (Condominiums)
9. York Point
10. Yorkshire Townhouses
11. Yorktown Square I and II

MAP H-2

**Manufactured Housing**

In 1980, the Congress adopted the term "manufactured home" in all federal laws and literature as a replacement for the term "mobile home," to refer to housing that meets the National Manufactured Home Construction and Safety Standards. Beyond this strict legal definition, "manufactured home" is often used generically to include other types of homes—termed modular, panelized, precut, or prefab—that are manufactured in a factory, but require some assembly and finishing at the construction site, and that meet Uniform Building Code Standards. However, for the purposes of this section, "manufactured home" refers to what was once labeled "mobile home."

The market share of manufactured homes remained virtually unchanged during the 1980s comprising approximately 4% of the County's housing (see Table 1). This trend is expected to continue through the 1990s and into the first decade of the 21st Century, since County zoning regulations limit additional placements to locations within either manufactured home parks or designated manufactured-home subdivisions.

Below is a listing of major manufactured home parks in York County:

**TABLE 6**

• Bethel Mobile Home Village	Route 134/Hampton City Line
• Blackwell Trailer Court	Oriana Road
• Colonial Mobile Home	Grafton/Route 17
• Colonial 76 Mobile Home Park	Route 17
• Fidelity Mobile Home Village	Oriana Road
• Grafton Trailer Court	Oriana Road
• Harwood Mill Trailer Court	Route 17
• L. T. Hummer Trailer Court	Route 134
• Julian Trailer Park	Route 17
• Kno-Mac Enterprises	Seaford
• Langley Trailer Court	Route 134
• Layne Trailer Park	Seaford
• Loweman's Trailer Court	Wolftrap Road
• Magruder Trailer Park	Fenton Mill Road
• Mershon Trailer Court	Route 60
• Micou Trailer Court	Rochambeau Drive area (Schenck Drive)
• Midway Mobile Home Park	Route 17/Victory Boulevard
• Pak Trailer Court	Route 134 area (Beechwood Lane)
• Presson Mobile Home Park	Seaford
• Smokey Mountain B-B-Q Trailer Court	Route 17
• Stout's Trailer Court	Rochambeau Drive
• Sulik Mobile Home Court	Old York-Hampton Highway
• Thomas Trailer Court	Seaford
• White's Trailer Park	Old York-Hampton Highway
• Whites Trailer Court	Seaford
• Woodland Trailer Court	Route 17
• Zooks Trailer Court	Old Williamsburg Road

*Source: York County Department of Community Development.*

In addition, Whispering Winds on Route 134 at the Hampton City line has been developed as a manufactured home subdivision.

**Special Housing Needs**

In developing this element, it became apparent to the citizen review committee that the elderly and, to a lesser extent, the military, have unique or special housing needs thereby meriting further discussion.

## Elderly

According to the 1990 census, there were 3,168 persons comprising 7.5% of the population aged 65 or over living in York County. Vital statistics projections indicate that this figure will increase to nearly 7,300 persons by the year 2010, marking a 130% increase over this 20 year period. These numbers also mirror a national trend of an aging population. This dramatic increase in the number of older Americans has directed attention to the needs of an aging society. Housing, in particular, has received considerable national attention, and currently available data indicate that it will remain a significant issue for our nation's aging population. While many older Americans are physically able to remain in homes and neighborhoods in which they have lived so many years, those with limited retirement income and diminishing strength often have difficulty coping with housing expenses and household demands. Also, for the elderly, housing must compete with other goods and services, particularly medical services, for a share of the household budget. Yet, for many older Americans, housing takes an increasingly larger share of the often limited household budget. One-fourth of the older population was classified as poor or near poor in the 1980 Census, a percentage likely to increase once the 1990 Census data becomes available.

Perhaps the most critical factor that should be taken into account when responding to the housing problems of the elderly is what older people want. Although some older people welcome a new and separate lifestyle such as condominium living units, and some need special nursing care, most are capable of leading independent lives—albeit with some support services. They do not want to be removed from their homes and neighborhoods in spite of the problems posed by their housing situations. As a result of these and other factors, a variety of mechanisms have been developed to enable the older population to "age-in-place." Two of these mechanisms that have been in existence in York County zoning policy, although not used very often, relate to the establishment of accessory apartments and shared living arrangements (group homes).

### ***Accessory Apartments***

Accessory apartments for the elderly (sometimes referred to as "granny-flats") are independent-living units developed in connection with existing single-family homes and are usually created in one of the following four ways:

- From existing space in the primary dwelling;
- From a combination of existing and newly created space;
- From space in an existing accessory building; or
- From the addition of a new accessory building.

Some generalizations can be made about the types of households that are likely to install accessory units in, or in conjunction with, their homes. These types of households include:

- The elderly with limited incomes who live in large single-family homes with underused space;
- "Empty nester" households—couples of all income levels whose children have moved out and who, as a result, have more space in their homes than they require;
- Families whose financial misfortune has put them in a position of risking the loss of their homes if additional income is not generated to help meet housing expenses;

- Single-person homes usually occupied by a middle-aged or retired person; and
- Households with an older relative who is still able to live substantially independently, but either wants or requires some degree of assistance in order to maintain that independence. A variation of this is the older relative who creates the unit in order to have a younger family member nearby, while still retaining privacy.

Although accessory units present possibilities for housing the elderly, either as homeowner or tenant (living in either the primary or the accessory unit), it is clear that the group of people who are interested in and could benefit from these conversions is far wider. In addition to the individuals who might benefit from the presence of accessory apartments, the County might benefit as well. Some advantages of accessory apartments include:

- A source of affordable housing;
- A more efficient use of existing housing;
- Maintenance of existing housing;
- Housing diversity with minimal disruption to the neighborhood;
- Neighborhood stability;
- Improved tax base (may be minimal); and
- Improved local government control (especially of already existing illegal apartments).

York County should continue to utilize the accessory apartment provisions of its Zoning Ordinance, however, with more emphasis on utilizing these structures to provide alternative housing options for the elderly.

#### ***Shared Living Arrangements (Group Homes)***

Home sharing can be defined as two or more unrelated people living together in the same dwelling unit, sharing living space and expenses. The benefits of home sharing for the individual and the community are the same as those associated with accessory apartments. Residents can continue to live independently with the financial and personal support of housemates. Communities maintain housing stock and community/neighborhood stability, while reducing the demand for community services.

The group home provisions of the York County Zoning Ordinance parallel the shared living residence concept described above, but on a somewhat larger scale. It appears that these provisions could continue to be utilized, particularly with an emphasis on providing more affordable housing options for the elderly.

In addition, York County provides, through the Zoning Ordinance, planned development opportunities for constructing elderly housing.

#### **Military**

During the 1980s the number of military base housing units in York County remained virtually unchanged with approximately 1,569 units being provided (Table 1). Cuts in federal defense spending, in conjunction with individual private market housing preferences, indicate that this figure will remain

constant into the 21st Century. These military base housing units were included at an assumed constant level in the County's total number of housing units when developing the housing market projections which follow.

### Housing Projections

Table 7 examines the housing market of York County. Included are projections for population, households, housing units and housing demand for the period 1990 to 2010. All population, household and housing unit assumptions coincide with those contained in the Demographic Base analysis which is a part of this Comprehensive Plan.

**TABLE 7**

<b>HOUSING MARKET ANALYSIS</b>			
	<b>1990</b>	<b>2000</b>	<b>2010</b>
<b>Step 1</b>			
a. Population	43,172	50,950	57,580
b. Group Population	- 1,260	- 1,528	- 1,820
c. Household Population	41,912	49,422	55,760
d. Average Household Size	+ 2.90	+ 2.73	+ 2.72
e. Number of Households	14,474	18,030	20,500
<b>Step 2</b>			
f. Occupied Units	14,474	18,030	20,500
g. Vacancy Rate (assumed)	x 5.3%	x 5%	x 5%
h. Vacant Units	+ 810	+ 940	+ 1,080
i. Total Housing Units	15,284	18,970	21,580
<b>Step 3</b>			
j. Change in # of Households (1990-2010)	6,026		
k. Change in # of Vacant Units (1990-2010)	+ 270		
l. Units Lost That Must Be Replaced (1990-2010) <sup>1</sup>	+ 406		
m. Total # of Units Needed (1990-2010)	6,702		
n. Plan Term (years)	+ 20		
o. Average Annual Demand	335	Units	

<sup>1</sup>Figure based on a 1% loss per 10 year period.  
Source: 1990 U. S. Census and York County Department of Community Development.

As shown above, the number of households is expected to increase by approximately 42% (6,026 households) between 1990 and 2010, with total housing demand reaching 6,702 units. Consequently, an average annual housing demand of 335 units is projected for the years 1990 through 2010.

## GOALS/OBJECTIVES/IMPLEMENTATION STRATEGIES

The overall goal of the Housing element is to promote decent, safe, sanitary, affordable and aesthetically pleasing housing for all County residents.

### A. Objectives

1. Encourage residential development at densities which recognize the inherent capacity of the land and which do not cause or contribute to environmental degradation.
- ✓ 2. Provide opportunities for a range of residential densities to be guided to specific areas of the County depending upon the availability of public utilities and facilities and the presence of environmental constraints.
3. Guide residential development to those areas where public infrastructure is in place and has the excess capacity to accommodate growth and ensure the continuation of adequate levels of service.
4. Discourage residential development in those areas where existing utilities, facilities, and roads are inadequate and where logical expansion of such infrastructure is not possible.
5. Promote low- and medium-density residential development to preserve the overall character of the County and to prevent the overburdening of utilities, facilities, services, etc.
- ✓ 6. Provide opportunities for a variety of housing types and arrangements so that suitable housing will be available to households of a wide range of income levels.
- ✓ 7. Protect residential areas from encroachment by incompatible land uses which could adversely affect the quality of the residential environment.
8. Promote the upgrading of housing conditions by encouraging maintenance and upkeep of housing by the owner.
- ✓ 9. Maintain and enhance the County's aesthetic quality by requiring open space, trees and landscaping in all new residential development.
10. Provide opportunities for manufactured housing in appropriate locations and subject to appropriate development regulations.
- ✓ 11. Provide opportunities for mixtures of different types of housing (i.e., detached, attached, multi-family) in a single residential development.
- ✓ 12. Provide opportunities for mixtures of residential, commercial, office and limited industrial uses within a single development.
13. Encourage the provision of commonly-owned open space/recreation space in new residential developments.
- ✓ 14. Encourage the provision of safe, convenient pedestrian circulation and access (including sidewalks) and adequate street lighting in new residential development commensurate with the density of development.

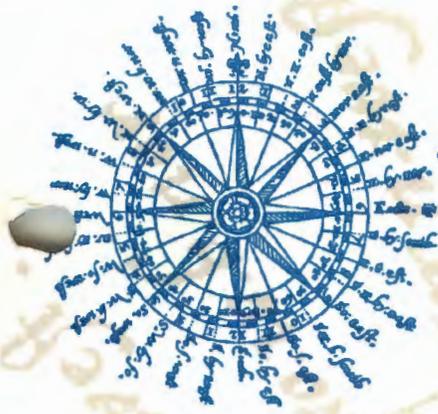
## B. Implementation Strategies

1. Adopt a new Zoning Map to coincide with established Land Use Plan densities.
- no* 2. Continue to require, within the County's development ordinances, larger lot size requirements for residential properties where public utilities are not available.
- ✓ 3. Utilize and expand, as deemed necessary, the "Affordable Housing Incentive Provisions" and other planned development opportunities of the Zoning Ordinance to continue to provide opportunities for a variety of housing types and arrangements so that suitable housing will be available to households of a wide range of income levels.
4. Maintain a site inventory of vacant residential properties as a guideline for prospective residential developers.
- ✓ 5. Continue, through the County's Division of Housing and Neighborhood Revitalization, to utilize federal and state housing subsidies, grants, loans, and tax savings programs to the fullest extent possible in order to meet the needs of lower income residents.
6. Support research efforts of the state and other agencies to identify and implement new cost-saving methods to finance the construction and/or maintenance of infrastructure so as to facilitate the provision of affordable housing.
- ✓ 7. Continue to require higher intensity development to provide landscaped transitional buffers adjacent to residential developments to ensure screening from incompatible surrounding land uses.
8. Develop a housing inventory to include the condition, age, and assessed value of the units as a monitoring mechanism for future planning for rehabilitation, replacement, and/or demolition of dilapidated structures.
9. Provide educational programming to encourage the maintenance and repair of existing renter and owner-occupied housing to prevent deterioration.
10. Require the removal of substandard units that cannot feasibly be rehabilitated.
11. The demolition of low-cost rental housing, without adequate assurance that suitable equivalent replacement units are or will shortly be made available, should be discouraged.
- ✓ 12. Continue to support and utilize private and public rehabilitation programs whenever feasible to assist low and moderate-income households in maintaining their properties.
- ✓ 13. In conjunction with community and neighborhood groups and associations, develop and support neighborhood watch and clean-up programs.
14. Update the Zoning and Subdivision Ordinances to require open space, trees, recreation space and landscaping in all new residential development and to encourage the use of clustering and other innovative community design techniques which provide for the permanent retention of open space values.
15. Continue to permit manufactured homes and manufactured home parks within specific areas zoned for such.

- ✓ 16. Review plans to permit mixed-use opportunities that would allow the mixing of residences with other land uses, when feasible and when the location is appropriate.
- ✓ 17. Develop and implement density bonus provisions which provide developers with incentives to provide design excellence in new residential development, including such things as more extensive recreational amenities than otherwise required, additional tree retention, dedication of land for public purposes, affordable housing opportunities, and other similar efforts.

# *Charting the Course to 2010*

Preserving the Past, Ensuring the Future



Land Use

# LAND USE ELEMENT

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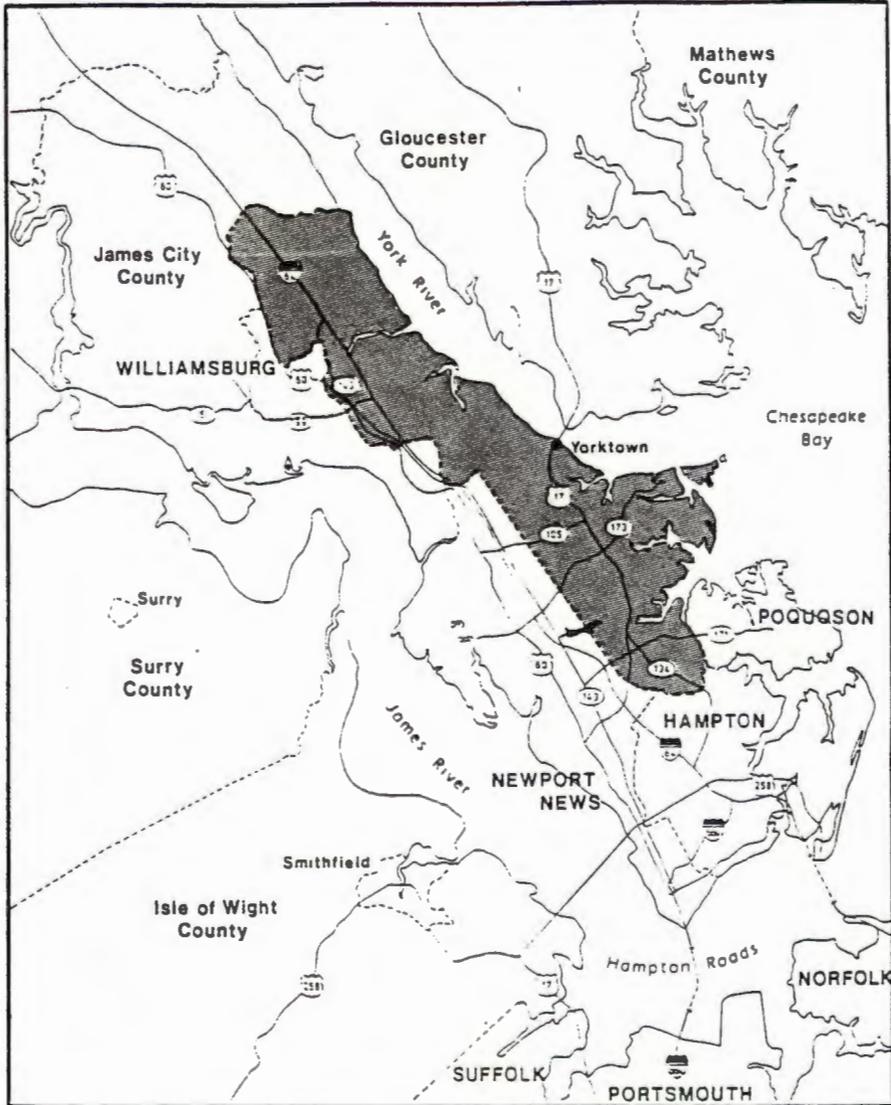
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# LAND USE

## INTRODUCTION

The Land Use element describes the distribution of existing land uses and the potential for future land development and is, perhaps, the chapter of the Comprehensive Plan with which citizens are most familiar. It is essential to know how much land is currently used for residential, commercial, industrial, recreational and other types of development and how much of the land is undeveloped. The Land Use element includes a thorough review and, in some cases, revisions to the 1983 Land Use Plan to provide for the future needs and desires of the County. While residential densities and use characteristics are generally described in the Land Use element, specific standards such as minimum lot sizes and appropriate uses are, and should continue to be, designated in the Zoning Ordinance and Zoning Map of the County.

York County is located in the Virginia Coastal Plain on a peninsula formed by the James and York Rivers and Chesapeake Bay. The County is a part of the "Hampton Roads" region which also includes the Cities of Hampton, Newport News, Poquoson and Williamsburg and James City County, all of which adjoin York County, together with the southside localities of Norfolk, Virginia Beach, Portsmouth, Chesapeake, Suffolk and Isle of Wight. It is important to recognize that York County is



inexorably linked to this much larger region. For example, much of the residential development that has occurred in the County is a result of the growth of major employment centers located within the Hampton Roads region, particularly those in the cities of Newport News and Hampton. With continued development/improvement of the transportation system, this trend will, in all probability, continue even with new job opportunities increasingly available in the County. The most important point is, however, that actions in neighboring localities affect land use decisions in York County and vice versa.

Of the 108 square miles which are contained within the County, approximately 36% of the total land area is owned by the federal government. These federal landholdings include military installations such as the Coast Guard Reserve Training Center, U. S. Naval Weapons Station, Cheatham Annex, and Camp Peary, totalling 21,247 acres, and the Colonial National Historical Park (3,892 acres). In addition to these large federal landholdings, the Cities of Newport News and Williamsburg each own reservoirs and watershed property in the County. Together, these two cities own 6,576 acres in the County. The combination of federal and municipal lands accounts for 31,715 acres which equates to 46% of the land area in York County. While presenting a number of constraints for the County, these landholdings do ensure that a relatively large amount of open space will be perpetuated, thus contributing positively to the County's quality of life and the perception of a rural atmosphere.

## EXISTING LAND USES

In 1957, the County adopted its first zoning ordinance but without the benefit of a Comprehensive Plan. Land development occurred accordingly, but with little thought for the future. By 1976 the first Land Use Plan was adopted. By 1983, when the 1976 Land Use Plan was updated, the pressures of growth and development were being felt and many citizens believed that the "rural" character of the County was being threatened. At that time, considerable attention was given to evaluating not only the various impediments to development, but also making decisions about the kind of community that the citizens ultimately wanted.

The process of creating a vision for the future always begins with an analysis of the existing conditions. Consequently, the following pages contain a summary of the various land uses within the County. The 1990 Existing Land Use Map (Map LU-1) shows the distribution of land uses throughout the County while Table 1 (on page 6) summarizes the distribution by use type. In these discussions, *gross area* means all of the land area in the County, *non-military land area* excludes the 31% of the County comprising the military installations, and *gross developable land area* excludes both military and recreation/conservation land. Gross developable land area is 49% of the County's gross land area and includes both already developed and vacant land. It is important to note that the term *gross developable land area* as used in the discussion in this section includes areas which, due to environmental characteristics (e.g., wetlands, slopes, etc.) or other factors, could be undevelopable.

The existing land use patterns clearly reflect the presence or absence of a wide variety of constraints and opportunities in the County. Included are environmental factors, the transportation network, utilities, and various real estate market forces. These are detailed in other elements of this Comprehensive Plan and are not repeated here.

### Residential

By 1990, the amount of residentially developed land had increased to 11,566 acres, representing an increase of 40% from the 1981 total of 8,275 acres and accounting for approximately 24% of the County non-military land area. Of this total acreage, single-family detached residential has been the major type of residential development in the County continuing the same trend noted in both the 1976 and 1983 Land Use Plans. No change in this preference for single-family detached housing is expected. It is significant to note, however, that while the County's population increased by 19% during the 1980s, the amount of residentially developed acreage increased by 40%. This trend is not unexpected given the preference for large-lot single family construction but it does suggest that efforts to encourage the use of the open-space-preserving cluster development techniques should be strengthened.

Medium and high density single-family uses have tended to be located in proximity to public utilities and where convenient access to major thoroughfares is available. Even though the designations of

"medium" and "high" denote smaller lots, the lot sizes permitted by zoning in these areas vary from 12,500 square feet to 17,500 square feet and are considerably larger than the lots in the neighboring cities of Hampton and Newport News.

Multi-family residential development encompasses rental units, condominium ownership, and federally owned units. Multi-family development occupies approximately 1.3% of the County's non-military land area.

## **Commercial**

The 1,698 acres devoted to commercial land uses represent 3.4% of the County's non-military land area. Most commercial activities have developed in a linear fashion along the County's major transportation corridors: Route 17 in the lower County; and Routes 143 and 60 in the upper County.

For the purposes of this analysis, the County's commercial activities have been grouped into the following categories:

***Neighborhood:*** Neighborhood commercial activities are oriented primarily toward serving the day-to-day needs of residents of nearby areas. These are generally termed convenience activities since their business depends more on the convenience of the establishment to the shopper than to any comparative advantage over other establishments offering similar products.

In York County, neighborhood commercial activities are generally located in the centers of the older, well-established residential areas. These types of activities are found in Lackey, Seaford, Dare, near Country Club Acres, and at the Queens Creek Road/Penniman Road intersection. While these existing uses represent a fairly insignificant percentage of the total developed acreage in the County, this type of convenience-oriented development provides a service to nearby residents.

***General:*** The general commercial category encompasses a wide range of retail and service activities oriented primarily toward supplying goods or providing services to a community or regional market. A majority of the commercial activities in York County fall under this classification.

General commercial activities in the southern portion of the County are concentrated along Route 17. The Grafton, York Square, Heritage Square, Kiln Creek, Washington Square and Patriots Square Shopping Centers are the major hubs of activity; however, numerous other establishments are interspersed between these along the Route 17 corridor. In addition to the Route 17 corridor, other general commercial activities include the Shady Banks Shopping Center which is located along the Route 134 corridor near a concentration of higher density residential developments.

The Route 143 corridor from Penniman Road to the Williamsburg city line is the location of the James-York Plaza and Farm Fresh Shopping Centers, as well as numerous other free-standing establishments. This activity center serves not only the residents of York County, but also draws business from adjacent areas of Williamsburg and James City County. Also important in the Williamsburg area are the Kingsgate Greene, Village Shops and the Festival Marketplace Shopping Centers which are oriented toward capturing trade from nearby residents as well as tourist interests.

***Tourist:*** A large portion of the County's total developed commercial land area falls under the

tourist commercial classification. These tourist commercial activities are concentrated in the Williamsburg market area where they represent 71% of the commercially developed land area. Much of this land area, however, is attributable to the several large commercial campgrounds located in the Lightfoot area. Nevertheless, the Bypass Road corridor, with its existing motels, as well as several restaurants, represents the primary tourist commercial area.

There are a few tourist commercial activities concentrated in the Yorktown area as well as several motels along Route 17; however, the latter facilities tend to serve a transient business market rather than a tourist market in most cases.

**Office/Professional/Research:** For the most part business and professional offices are scattered throughout the commercial areas of the County. There are, however, several areas where small clusters or concentrations of these types of activities have located including the Heritage Square, Grafton, and Dare areas and the Route 17/Cook Road triangle.

Several major office/professional centers are located just outside the County's boundaries. These include Oyster Point and Hampton Roads Center in Newport News and Hampton respectively as well as Busch Corporate Center in James City County.

**Water-Oriented:** Water-related activities have historically held a very important position in York County's commercial base. Included under this classification of commercial activities are the marinas located in the Dare, Seaford, Dandy, and Waterview areas as well as several boat-building operations and seafood businesses.

## **Industrial**

The 1,218 acres devoted to industrial land uses represent 2.5% of the County's non-military land area. The great majority of this industrial land area is utilized by the Amoco oil refinery and the Virginia Power generating plant, both located on the Goodwin Neck peninsula. These two operations comprise the major portion of the General Industrial activities in York County. Also included in the General Industrial category for the purposes of this analysis were the numerous junkyards at the southern end of the Route 17 corridor. Primarily, the basis of the categorization as heavy industrial uses was the impact which these activities tend to have on their surroundings in terms of characteristics such as noise, dust, odor, traffic generation, and visual appearance.

Limited Industrial activities are scattered throughout the County and are in many cases located in the midst of commercially-oriented areas. The County has experienced a considerable increase in the amount of limited industrial development in recent years, largely as a result of the efforts of the Industrial Development Authority. Examples of this activity are the Greene, Bethel, and Victory industrial parks.

## **Public/Semi-Public**

Public and semi-public uses consume a total of 1,389 acres, or 2.9% of the non-military land area. Included in the public classification are the County's public school facilities, fire stations, and office buildings, the State operated Victory Center at Yorktown, post offices, and the Commonwealth of Virginia's Emergency Fuel Depot property near Cheatham Annex.

The semi-public classification of land uses consists primarily of churches, however, a large portion of the land area is attributable to the Colonial Coast Girl Scout Council camp in the Skimino area of the County.

## **Military**

Military landholdings account for approximately 21,247 acres, or 31% of the County's gross land area. Included under this classification are the following:

- Bethel Manor military housing complex
- U. S. Coast Guard Reserve Training Center
- Naval Weapons Station
- Naval Fuel Depot
- Cheatham Annex Naval Supply Center
- Camp Peary

As previously noted, this vast amount of military property exerts a major influence on land use and development patterns in York County.

## **Open Space**

For the purposes of this analysis, Open Space has been divided into the following three sub-categories:

***Recreation and Conservation areas:*** Lands classified under this category include the Colonial National Historical Park, York County's Back Creek, Charles E. Brown and New Quarter Parks, the City of Williamsburg's Waller Mill Park, and the extensive holdings of the Newport News and Williamsburg Waterworks (Harwood's Mill, Lee Hall, and Waller Mill watersheds). The 13,956 acres which these uses occupy represent 29% of the County's non-military land area.

***Agriculture:*** Commercially productive agricultural activities account for an estimated 1,458 acres or 3% of the County's non-military land area. The majority of these activities are concentrated in the Lightfoot and Skimino areas. Several other agricultural operations are spread throughout the county; however, none are extensive. In general, agricultural activities in York County contribute more to the perception of a rural atmosphere than they do to the County's economic base.

***Vacant:*** Vacant and undeveloped, privately-controlled land comprises 16,903 acres, or 35% of the County's non-military land area.

These existing land uses and categories are summarized in Table 1.

TABLE 1

1990 EXISTING LAND USE SUMMARY				
	Gross Area <sup>1</sup> (acres)	% Gross Area	% Non- Military Land Area <sup>2</sup>	% Gross Developable <sup>3</sup> Land Area
<b>Residential<sup>4</sup></b>				
Single Family - Detached	10,762	15.5%	22.3%	31.4%
Single Family - Attached	150	.2%	.3%	.5%
Multi-Family	654	1.0%	1.3%	1.9%
<b>Subtotal</b>	<b>11,566</b>	<b>16.7%</b>	<b>23.9%</b>	<b>33.8%</b>
<b>Commercial</b>				
Neighborhood	10	<.01%	<.01%	<.01%
General	685	1.0%	1.4%	2.0%
Tourist	555	.8%	1.1%	1.6%
Office/Professional/Research	379	.5%	.8%	1.1%
Waterfront Oriented	69	.1%	.1%	.2%
<b>Subtotal</b>	<b>1,698</b>	<b>1.9%</b>	<b>3.4%</b>	<b>4.9%</b>
<b>Industrial</b>				
Limited	157	.2%	.3%	.5%
General	1,061	1.5%	2.2%	3.0%
<b>Subtotal</b>	<b>1,218</b>	<b>1.7%</b>	<b>2.5%</b>	<b>3.5%</b>
<b>Public/Semi-Public</b>				
	1,389	2.0%	2.9%	4.0%
<b>Military<sup>5</sup></b>				
	21,247	30.6%	N/A	N/A
<b>Open Space</b>				
Recreation/Conservation <sup>6</sup>	13,956	20.1%	28.9%	N/A
Agriculture	1,458	2.1%	3.0%	4.2%
Vacant	16,903	24.3%	35.0%	49.3%
<b>Subtotal</b>	<b>32,317</b>	<b>46.5%</b>	<b>66.9%</b>	<b>53.5%</b>
<b>TOTAL</b>	<b>69,453</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>
			<b>48,188 acres</b>	<b>34,232 acres</b>

*Handwritten notes:*  
 - A circle around '654' with an arrow pointing to '1.0%' and the text 'Does this include military?'.  
 - An arrow pointing from the '1.0%' row to the '23.9%' subtotal with the text 'if so this is not correct'.

<sup>1</sup> Measured by graphic overlay by the York County Department of Community Development staff. Does not include area of major bodies of water within jurisdictional boundaries.

<sup>2</sup> Non-military land area = gross land minus military landholdings (York County = 48,188 acres).

<sup>3</sup> Gross developable land area = non-military land area minus recreation and conservation lands (York County = 34,232 acres)

<sup>4</sup> Acreage estimates based on assumption that all lots in major subdivisions are built upon.

<sup>5</sup> Includes all military bases.

<sup>6</sup> Includes Colonial National Historical Park, Newport News Waterworks and Park property, and City of Williamsburg waterworks and park property.

<sup>7</sup> May not equal acreage figures shown elsewhere in this Plan due to planimeter error and rounding.

## GOALS/OBJECTIVES/IMPLEMENTATION STRATEGIES

The overall policy statements found in the Introduction to the Comprehensive Plan form the foundation upon which the goals, objectives, and implementation strategies for this element are built. In addition, the other elements of the Comprehensive Plan have also provided guidance in the formulation of this element.

The overall goal of the Land Use element is to enhance and protect the current "rural" character of the County by ensuring that development which does occur is in accordance with the rural character and is consistent with the carrying capacity of the land and the existing and planned utility systems, transportation networks, drainage facilities, community facilities and services, the presence of environmental constraints, and existing development patterns. In addition, the Land Use element is intended to guide and encourage coordinated, adjusted and harmonious development of the County which will, in accordance with present and probable future needs and resources, best promote the health, safety, morals, order, convenience, prosperity and general welfare of the citizens of York County.

### A. Objectives

1. Enhance the well-being of York County citizens and the neighborhoods and the communities within which they live through implementation of the Comprehensive Plan.
2. Encourage land use which contributes to the perception of a "rural" character in the County including: the retention of natural physical features; the retention of forest and woodland areas, both along roadways and within developed areas; the protection of existing agricultural areas; the protection or installation of landscaping and open space in all development; and the protection or enhancement of open space areas at strategic, highly visible locations throughout the County.
3. Provide opportunities for a balanced diversity of land uses within the County arranged in such a manner as to minimize conflicts between various land uses.
4. Recognize the physical characteristics of the County and acknowledge the inherent capacity of the land to host different types of land uses at appropriate densities and intensities.
5. Plan for development of appropriate land use types and densities based on the present or planned availability of adequate public utilities, schools, roads and highways, police and fire protection, recreational facilities, etc.
6. Consider development patterns and plans established in adjoining jurisdictions when making local land use decisions and designations.
7. Preserve "open space" throughout the County such that these areas will become an integral part of the community.
8. Preserve and protect certain lands that are proximate to the shoreline and which have intrinsic value for the protection of water quality in the Chesapeake Bay and its tributaries.

- 9. Promote a desirable visual environment.
- 10. Enhance standards for the preservation and protection of trees.
- ✓ 11. Preserve, protect and enhance cultural, environmental, and historic areas.
- 12. Prevent the expansion of existing development which is not in character with surrounding development.
- 13. Safeguard the tax base and provide opportunities for continued economic stability.
- 14. Encourage public and private coordination of efforts and activities which shape land development in an effort to lower the cost of development and promote sufficient land use while also protecting the rural character of the County.

**B. Implementation Strategies**

- ✓ 1. Develop land use strategies and designations which will provide for a maximum "build-out population" of the County of no more than 80,000 persons.
- ✓ 2. Establish maximum residential densities as follows:

Single-Family

- Low Density 1 dwelling unit per acre
- Medium Density 1.75 dwelling units per acre
- High Density 3.0 dwelling units per acre

Multi-Family

10 dwelling units per acre

- ✓ 3. In evaluating the appropriateness of rezoning and use permit requests, consider, through a fiscal impact analysis process, the anticipated impact of the proposed development on utility, transportation, public facility, school and other systems, as well as the potential for encouraging additional residential development.
- ✓ 4. Guide specific types and densities of development to specific areas of the County through planning, zoning and utility extension policies.
- ✓ 5. Use available tools and techniques to defer all or part of permitted development until such time as adequate public infrastructure is in place to support the development.
- ✓ 6. Use the capital improvement programming process to plan utility and transportation network improvements which will guide industrial/commercial development to areas designated for such development—both newly developing areas or blighted areas in need of revitalization.
- 7. a. ✓ Establish requirements for "greenbelts" (i.e., natural or newly installed landscaped areas) of appropriate widths to preserve trees and rural vistas along the following highways:
  - Victory Boulevard (Route 171) east of Hampton Highway

- Hampton Highway (Route 134)
- Route 132
- Route 199 in Lightfoot
- Denbigh Boulevard (Route 173)
- Fort Eustis Boulevard (Route 105)

- b. The Colonial Parkway is a roadway of rare natural beauty linking historic Yorktown with Colonial Williamsburg and Jamestown. Any development in proximity to this roadway should provide adequate buffers to preserve the vistas from that roadway.

In addition, consideration should be given to adopting various other appropriate measures, including the possibility of "corridor protection" standards as enabled by the Code of Virginia, deemed necessary to protect the scenic vistas along the Colonial Parkway.

- ✓ 8. Use conservation easements to preserve open space and provide significant buffers.
- ✓ 9. Where all or a portion of a new residential development is located within a Resource Management/Protection Overlay District, consider establishing provisions to require the use of cluster development techniques.
- ✓ 10. Encourage "compatibility zones" along the boundaries of neighboring jurisdictions.
- ✓ 11. Encourage the visual enhancement of the County's commercial corridors, and particularly the Route 17 corridor, through the consideration of tools and techniques intended to:
  - preserve and protect existing mature trees;
  - establish new landscaped areas within the right-of-way as well as within existing and new development;
  - maximize building setbacks so as to provide opportunities for incorporation of green areas in highly visible areas and the retention of appropriate amounts of green space in the event of right-of-way expansion;
  - establish appropriate standards to ensure visually attractive signage, display and storage associated with business activity.
  - provide for the underground placement of both new and existing utilities
- ✓ 12. Encourage conversion of existing blighted properties into visually pleasing and environmentally acceptable uses.
- ✓ 13. Extend the landscaping plan prepared by the City of Williamsburg for Second Street into York County.
- ✓ 14. Preserve and protect the historic and architectural character of Yorktown through the adoption of an historic zoning district classification as enabled by the Code of Virginia. Of particular importance is the need to recognize the importance of the Revolutionary War battlefields and acknowledge the importance of the working waterfront to the development of Yorktown.

15. Work with the Peninsula Airport Commission to modify airport activities which adversely impact existing County residential areas.
- ✓ 16. Fully implement a Geographic Information System to assist in effective land use planning.
- ✓ 17. Prepare an annual report which describes and discusses the development activity during the year, including rezonings, use permits, site plans, subdivision, wetlands and land disturbing permits, capital improvements programming and the conformance of this activity with the Comprehensive Plan.

## **FUTURE LAND USE REQUIREMENTS**

In developing the 2010 Land Use Map based on the goals, objectives, and implementation strategies listed above and in other elements of the Comprehensive Plan, a number of factors have been considered in each broad classification of land uses. Included are the appropriate location and extent of the various uses. It is important to note that the 2010 Land Use Map has not been drawn with only today's market or infrastructure conditions in mind. Instead, the 2010 Land Use Map projects land uses which are considered appropriate for the year 2010 and beyond, fully recognizing that neither the market nor the infrastructure necessary to support such a designation may exist today. Consequently, while the map shows the general location and size of various land uses and, to a lesser extent, the special relationships of the uses to each other, the map does not provide information about the appropriate timing of such uses. That information, which will be important in the consideration of zoning classification, is left to the detailed sub-area discussions found elsewhere in this element.

The following paragraphs and tables provide information about the general extent of broad land use designations as shown on the 2010 Land Use Map.

### **Commercial/Industrial Land**

In conjunction with the Industrial Development Authority, the County had taken steps to establish a fiscal balance by ensuring that opportunities are available for new businesses and industries and to retain and expand existing businesses. Some of the parcels originally designated in the 1983 Land Use Plan for commercial and industrial development are no longer suitable due to public ownership, presence of nontidal wetlands, absence of public utilities and other similar changes or constraints. Conversely, several areas of the County are seen as being able to accommodate potentially significant economic development opportunities. This is particularly true since several significant developments located just beyond the County's borders are nearing build-out. Given that the region is continuing to grow, the County is in an excellent position geographically to be a preferred site for new office and business service development. Similarly, new retail and tourist commercial activity is likely to be drawn to the County as tourism and residential growth continue, both within the region and the County itself. Consequently, this element provides an overall increase in the amount of developable acreage for commercial and industrial uses from the amount contained in the 1983 Plan. This is done in recognition of the above factors and in a conscious effort to enhance the County's tax base.

The future development potential of the land designated for commercial uses is shown in Table 2 while the industrial potential is shown in Table 3. Please note that only the acreage which is currently undeveloped (and consequently "developable") is listed by designation. Currently developed acreage is not broken out by designation but is merely summed.

**TABLE 2****COMMERCIAL DEVELOPMENT POTENTIAL**

<b><u>Land Use Map Designations</u></b>	<b><u>Maximum Gross Developable Acreage<sup>1</sup></u></b>
<b><u>Potentially Developable</u></b>	
Neighborhood Commercial	9
General Commercial	748
Tourist Commercial	91
Office/Prof/Research	406
Water-Oriented	11
Economic Opportunity <sup>2</sup>	<u>1,573</u>
Sub-total	2,838
Existing Development	<u>1,319</u>
<b>TOTAL</b>	<b>4,157</b>

<sup>1</sup> "Developable Acreage" includes land areas which may not be developable because of infrastructure deficiencies or environmental constraints.

<sup>2</sup> The "Economic Opportunity" designation includes the potential for certain limited industrial uses, however the entire acreage is included in this table.

TABLE 3

<b>INDUSTRIAL DEVELOPMENT POTENTIAL</b>	
<b>Land Use Map Designations</b>	<b>Maximum Gross Developable Acreage<sup>1</sup></b>
<b><u>Potentially Developable</u></b>	
Limited Industrial	1,238
General Industrial	<u>1,020</u>
Sub-total	2,258
Existing Development	<u>1,596</u>
<b>TOTAL</b>	<b>3,854</b>
<p><sup>1</sup> "Developable Acreage" includes land areas which may not be developable because of infrastructure deficiencies or environmental constraints.</p> <p><sup>2</sup> Please note that the "Economic Opportunity" designation includes the potential for certain limited industrial uses, however the entire acreage is included in Table 2 under Commercial Development Potential.</p>	

**Residential Land**

Residential growth in the County has been predominantly low-medium density (1-2.5 dwelling units per acre) single-family residential. There is still sufficient land to accommodate a wide variety of residential uses, but in order to achieve the maximum build-out population of 80,000 it was necessary to reduce the amount of residentially designated land from the 21,765 acres designated in the 1983 Plan. However, the decline in average household size during the 1980s has also been factored into the strategies for achieving the objective. While the 1983 Land Use Plan estimated household size to be 3.1 persons per dwelling unit, the 1990 Census data showed the household size was actually 2.88 persons per dwelling unit. This has reduced the number of acres which must be removed from the residential designations.

The overall policy guidance which set the build-out population at 80,000 was derived from a number of factors which indicate that the 80,000 level is the most sustainable in terms of services to the citizens, while still maintaining a generally favorable tax rate. This represents a reduction from the 1983 Land Use Plan theoretical saturation population of 135,000. Analyses conducted as part of this Plan update process indicated that the 135,000 person saturation estimate would have been adjusted downward, even if no changes in land use designations or densities were made. This is because many areas of the County have actually been developed at a density significantly lower than the maximums envisioned by the 1983 Plan. Reasons for this include developer preferences and environmental constraints.

In order to maintain a generally favorable tax rate, the cost of roads, schools, and public utilities must be allocated in greater proportion to non-residential development and, accordingly, a goal of achieving an approximate 30 percent to 70 percent ratio of non-residential tax assessments to residential tax assessments has guided the process. This ratio has been determined (see the Economic Development element) to provide the optimum levels of both residential and non-residential activity which will help

to ensure that residential growth is supported by economic development that can share the tax burden for more County services.

In addition, new environmental legislation and regulation is changing the way new development can occur. The needs to manage stormwater runoff, ameliorate impacts to wetlands, and address other environmental concerns are **arun-offated** to modify, reduce or otherwise alter the scale of allowable development. This will ultimately affect the amount and manner of development the County can accommodate and particularly so in areas which are known to be environmentally sensitive—areas which have traditionally been residential in character.

Table 4 identifies the residential development potential under this (1991) element while Table 5 compares the residential development potentials between this element and the 1983 Land Use Plan.

**TABLE 4**

RESIDENTIAL DEVELOPMENT POTENTIAL			
Land Use Map Designations <sup>1</sup>	Maximum Gross Developable Acreage <sup>2</sup>	Maximum Potential Dwelling Units	Maximum Potential Population <sup>3</sup>
<u>Potentially Developable</u>			
Low Density	4,052	4,052 x 2.87	11,669
Medium Density	1,575	2,890 x 2.88	8,324
High Density	1,486	3,980 x 2.86	11,395
Multi-family	213	2,130 x 2.87	6,134
Sub-total	7,326	13,060	37,522
Existing Development	8,249	14,730 <sup>4</sup>	42,422 <sup>4</sup>
<b>TOTAL</b>	<b>15,575</b>	<b>27,790</b>	<b>79,944</b>

<sup>1</sup> Low Density = 1 dwelling unit per acre  
 Medium Density = 1.75 d.u. per acre  
 High Density = 3. d.u. per acre  
 Multi-family = 10 d.u. per acre

<sup>2</sup> "Developable Acreage" includes land areas which may not be developable because of infrastructure deficiencies or environmental constraints.

<sup>3</sup> The "Maximum Potential Population" assumes that all "developable acreage" is developed to the maximum density. This assumption should present a worst case scenario which is likely to be significantly greater than the actual outcome, both because not all the acreage is, in fact, developable and because achieving the maximum density has not been achievable historically.

<sup>4</sup> Source: 1990 U.S. Census

**TABLE 5**

<b>LAND USE COMPARISON</b>				
<b>Land Use Designation</b>	<b>1983 Land Use Plan</b>		<b>1991 Land Use Element</b>	
	<b>Potentially Developable<sup>1</sup> Acreage</b>	<b>Population Potential</b>	<b>Potentially Developable<sup>1</sup> Acreage</b>	<b>Population Potential</b>
Low Density	6,240	19,344	4,052	11,669
Medium Density	4,377	33,920	1,575	8,324
High Density	1,606	27,944	1,486	11,395
Multi-Family	<u>765</u>	<u>18,360</u>	<u>213</u>	<u>6,134</u>
Sub-Total	12,988	99,568	7,326	37,522
Plus: Existing Population		<u>35,463</u> 1980 census		<u>42,422</u> 1990 census
<b>TOTAL</b>		<u>135,031</u>		<u>79,944</u>

<sup>1</sup> "Developable Acreage" includes land area which may not be developable because of infrastructure deficiencies or environmental constraints.

## LAND USE DESIGNATIONS

The following land use designations have been used in developing the Land Use element. Although general in nature, these designations will provide appropriate guidance for the development of the more specific zoning regulations and zoning district locations and boundaries which will actually implement the Comprehensive Plan. It must be clearly recognized that development in accordance with these designations, as they apply to a specific area, may not be appropriate at this time, but only after certain necessary improvements and infrastructure are completed. Since some of these improvements may require public investment, the appropriate timing for development will be closely related to Capital Improvements Programming by the County and State.

### Resource Management/Protection

This designation is intended to recognize and encourage the proper use, management and/or protection of vast amounts of sensitive and unique lands within York County which contribute positively to the economy of the region and the environmental quality of the County and especially the Chesapeake Bay. The designation is intended to encompass those areas which may not be developable under current laws (e.g., wetlands regulation, subdivision regulations), areas whose development may cause detrimental environmental impacts, areas which may present significant obstacles or hazards to indiscriminate development (e.g., steep slopes, floodplains), and areas directly impacted by nonpoint source pollution. Specifically, it is intended to encompass coastal and inland marshes, areas with slopes in excess of 20 percent, and low-lying floodplains.

The Resource Management/Protection designation is intended as a policy statement to indicate the commitment of the citizens of York County to the proper use, management, and protection of its sensitive, unique and irreplaceable resources. This overlay designation is not necessarily intended to preclude development or use of these areas, but rather to explicitly ensure that development, if permitted and attempted, is undertaken with a very deliberate and professionally responsive recognition

of environmental qualities and conditions. While the underlying zoning identifies the particular use permitted, the RM/P recognizes the sensitive nature of these sites and the need to protect them from indiscriminate development.

### **Conservation**

This designation is intended to recognize and ensure the protection of the vast amounts of parklands, watersheds surrounding current or public water supply reservoirs, and similar reserved areas which, for the most part, are in a natural state and, therefore, contribute positively to the perception of a rural atmosphere. The Conservation designation is intended as a policy statement to indicate the County's commitment to the proper management and protection of these sensitive and unique areas. While many of these areas are controlled by the Federal or State government and are not currently subject to local land use regulations, such areas should, in most situations, be placed in the lowest intensity zoning classification in order to ensure their proper management and protection. Every effort should be made to elicit the support and cooperation of the various levels of government in furtherance of these policies and objectives.

### **Military**

This designation is intended to recognize the vast amounts of military property in York County even though such installations are not subject to local land use regulations.

In some cases and particularly so at Cheatham Annex and Camp Peary, these installations also have environmentally sensitive and unique areas which fit the above described Resource Management/Protection designation. Since there is a lack of detailed topographical mapping covering these installations, the Resource Management/Protection designation which has been applied to those areas exhibiting many of the features associated with the Chesapeake Bay Preservation Area is likely not as fully encompassing as it should be. Consequently, such areas should be placed in the lowest intensity zoning classification in order to clearly state the County's interest in ensuring their proper management and protection.

### **Historic Area**

This designation recognizes Yorktown as an historic area without reference to specific land uses. The intent is to recognize the unique historical quality of the town and to encourage future development which is consistent with the historic, residential and commercial land uses already in existence. More detailed conceptual recommendations for land uses and improvements in Yorktown are contained in the Yorktown Master Plan which, although a separate document, is incorporated by reference as an element of the Comprehensive Plan.

### **Single-Family Residential**

The three single-family residential designations are based on density (i.e., number of housing units permitted per acre of land) rather than on lot sizes and are intended to both recognize and continue, as much as possible, the existing range of single-family densities in the County. The development opportunities which are proposed throughout the County are generally based on the perceived carrying capacity of the land which means that development must occur in a manner which fully recognizes existing land use patterns, the availability of utilities and public facilities, the County's ability to meet service demands, the presence of environmental constraints, and various other factors and considerations.

Although each of the three density ranges probably will primarily provide traditional detached single-family housing types, proposals involving clustering of single-family detached housing should be encouraged in order to maximize open space retention, reduce impervious surface, provide efficiency and cost savings in infrastructure construction and, in general, promote a more aesthetically attractive residential environment.

This Plan has defined allowable development density in terms of gross acreage and all of the future population projections are based on this definition. However, since undevelopable areas such as water bodies, wetlands, marshes, major power transmission rights-of-way and other similarly situated areas should be excluded from single-family lots, the use of clustering is preferred to conventional subdivision. This technique will preserve the environmental amenities which make York County a special community and can be accomplished by establishing appropriate lot size criteria for conventional subdivisions while controlling cluster subdivisions primarily through density.

With respect to the establishment of specific residential zoning classifications, it is intended that a range of residential density opportunities be made available. In this regard, the density guidelines established herein should be interpreted with a degree of flexibility when determining the range of lot sizes which are consistent with, and can implement, a particular density designation.

In determining the consistency of zoning classifications with the following described density designations, a degree of flexibility is appropriate with respect to the development of certain small vacant "infill" parcels which are essentially surrounded by existing development having a density in excess of that prescribed. Such "infill development" flexibility should be exercised only in situations where logical and efficient subdivision and provision of public utilities would be difficult in strict accordance with the established density designation. In no case should such an interpretation be made which would circumvent the overall Land Use goals and objectives or allow the extension of inconsistent development densities into essentially undeveloped areas.

- LOW DENSITY:

This designation is intended to provide opportunities for single-family residential development generally having a maximum density of one dwelling unit per acre. Low density development is appropriate in areas where public services and facilities are limited and/or physical or environmental constraints are prevalent.

- MEDIUM DENSITY:

This designation is intended to provide opportunities primarily for single-family residential development generally having a maximum density of 1.75 dwelling units per acre. Medium density development can be expected to generate moderate demands on public services and facilities and should be located in areas where such services will be adequate and any environmental constraints will not present development problems.

- HIGH DENSITY:

This designation is intended to provide opportunities for single-family residential development generally having a maximum density of 3.0 dwelling units per acre. The high density development envisioned by this designation can be expected to generate substantial demands on public services and facilities and should be located with careful consideration given to the availability and adequacy of public services, transportation facilities, and commercial centers.

### **Multi-Family/General Residential**

This designation is intended to recognize and encompass those areas of the County which are particularly suited to accommodate residential development at a maximum density of up to 10 dwelling units per acre. The high density development envisioned by this designation can be expected to generate very intensive demands on public services and facilities and should be located accordingly. This designation is intended to provide opportunities for a variety of multi-family housing types such as garden apartments and townhouses. In addition, it is the intent of this designation to provide opportunities for the establishment of manufactured home parks and subdivisions on a case-by-case basis through use permit provisions or other review techniques deemed appropriate by the Board. Such review procedures should be intended specifically to evaluate the suitability of manufactured home park and subdivision proposals with respect to potential impacts on surrounding development characteristics and potentials.

The primary emphasis of this designation is to provide higher density living arrangements with an orientation toward the rental market, although not necessarily precluding higher density forms of fee simple ownership. It should be recognized that, because of the need to provide safe, sanitary and visually attractive multi-family development, the maximum density envisioned by the designation will probably not be able to be achieved on certain parcels with certain types of development. This should not be considered to be inappropriate; it is merely an acknowledgement that each parcel of land is unique with some parcels more suited, and others less suited, to particular types of development.

### **Neighborhood Commercial**

This designation is intended to provide small, widely scattered development opportunities for various types of commercial activities oriented primarily toward serving the day-to-day needs of residents of nearby areas. The scope of commercial activities permitted should be limited so as to discourage substantial traffic from outside the immediate neighborhood. Because of the limited scope of activities, this designation is appropriate within, or in close proximity to, residential neighborhoods.

### **General Commercial**

This designation is intended to provide opportunities for more than one commercial district which provides retail and service activities oriented primarily toward supplying goods or services for a community or regional market. The scope of commercial activities envisioned by this designation would include uses which are generally characterized by a need for access to arterial highways, and outdoor display or storage of goods or materials. The high intensity activity levels envisioned by this designation dictate that it be located with a full understanding of the potential impacts on adjacent residential and commercial development and traffic and circulation patterns.

### **Tourist Commercial**

This designation recognizes the Williamsburg and Peninsula tourist market potential and is intended to enhance and provide specific opportunities for various types of activities oriented primarily toward serving the needs of tourists. The locational requirements of these activities dictate that they be easily accessible to major transportation corridors and in close proximity to tourist centers.

To capture and protect this economic asset, it will be necessary to establish a specific designation and develop appropriate land use standards. Such standards should ensure that an appropriate range of compatible retail commercial uses and associated amenities are permitted in those areas having an established tourist-oriented development pattern, or unique characteristics which make them

particularly well suited to tourist-oriented activities.

#### **Office/Professional/Research**

This designation is intended to provide opportunities for uses such as business or professional offices, and research, development and training facilities. The research and development activities envisioned for this designation should be of a type that could comply with performance standards designed to ensure their compatibility with all surrounding land uses.

In addition, development regulations designed to implement this designation should give consideration to providing opportunities through the use permit process for certain types of commercial and light industrial activities which would be compatible with the high quality development atmosphere envisioned by the Office/Professional/Research designation.

#### **Economic Opportunity**

This designation is intended to guide a mix of commercial, tourist-related, and limited industrial uses to certain portions of the County that have or are projected to have the access and infrastructure necessary to support both capital and employment intensive uses. Development at these locations is expected to be in keeping with that of the surrounding development and sensitive to the natural environment. In this regard the imposition of open space, landscaping, and buffering requirements which exceed the otherwise acceptable levels may be appropriate, however, no additional development standards should be considered until and unless an evaluation of the economic impacts of such is completed. The employment benefit to the County should be positive and enhance the tax base by increasing the County's fiscal strength. The unique nature of the Economic Opportunity designation excludes uses which may conflict with or detract from the activities proposed.

#### **Water-Oriented Commercial/Industrial**

This designation is intended to recognize and continue to provide opportunities for various types of activities oriented toward, and requiring access to, the water. These types of activities have historically been conducted in such areas as Waterview, Seaford, Dandy, and Dare, and their locational requirements often dictate that they be within or in close proximity to established residential neighborhoods or in areas with limited vehicular accessibility.

Land use standards should ensure that an appropriate range of compatible commercial/industrial activities are permitted and can operate successfully in such areas. Such land use standards should specifically address the circumstances in which various types of water-related uses may be integrated into established residential areas; or conversely, where residential development will be integrated into established commercial/industrial water-related areas.

#### **Limited Industrial**

This designation is intended to provide opportunities for a variety of industrial activities of low to moderate intensity. Industrial activities envisioned for this designation are those whose operations and/or characteristics will have relatively minimal impacts in terms of smoke, noise, vibration, or similar factors. Desirable features of areas encompassed by this designation would include utility availability, highway access, rail service, and favorable soil conditions.

### **General Industrial**

This designation is intended to provide opportunities for a variety of industrial activities whose operations and characteristics may necessarily involve significant levels of odor, noise, vibration, traffic and other conditions which may adversely impact surrounding land uses. Desirable features of areas encompassed by this designation would include full transportation access (highway, rail, water, air), available utilities, and favorable soil conditions.

### **LAND USE DESIGNATIONS - SUB-AREA DESCRIPTIONS**

The character of the County varies from one area to another based on land uses, physical boundaries, environmental conditions and common interests. For planning and descriptive purposes, the County was divided into 36 sub-areas based on these characteristics. Each is described and the specific land use designations for the sub-area are discussed in detail in the following pages.

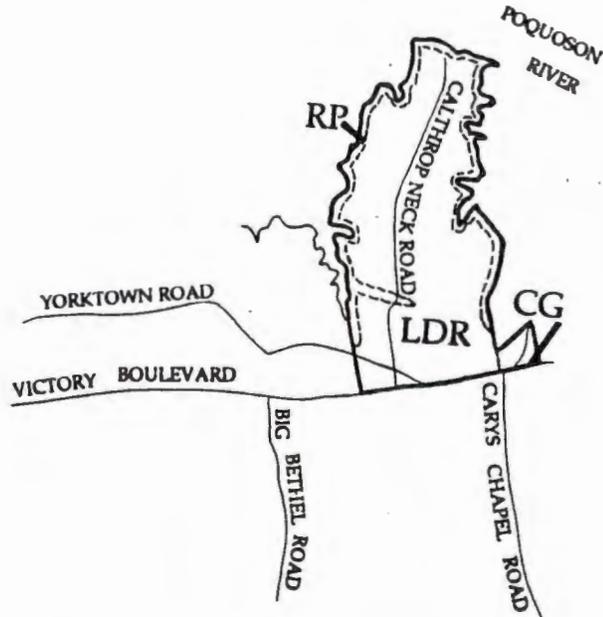
# Land Use Element Sub-Area Index



Land Use - Page 20

MAP LU-2

1. Calthrop Neck



**Location:** The Calthrop Neck area is located in the southeast portion of the County and is a peninsula formed by Lambs Creek, the Poquoson River and Moores Creek. Victory Boulevard (Route 171) is located along the southern boundary while Poquoson is located to the east.

- Profile:** Existing Land Use:
- Large-lot single-family residential development
- Existing Residential Development Density:
- 1 dwelling unit per acre
- Utilities:
- Sewer serving Olde Port Cove, septic systems for remaining area
  - Water available along portions of Calthrop Neck Road
- Environmental Constraints:
- 100-Year Floodplain
  - Hydric and poorly drained soils
  - Wetlands
- Road/Access Conditions:
- Signalization of the intersection of Calthrop Neck Road with Route 171 is needed
- Census Tract: 502.02

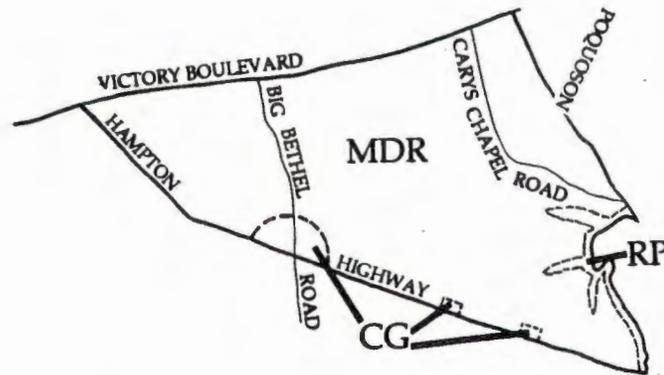
## Land Use Designations:

- Low Density Single-Family Residential
- Resource Management/Protection
- General Commercial

The Calthrop Neck area has developed in a manner consistent with its low density residential designation. Maximum protection of wetlands, waterways and poorly drained soils support the need to keep this area "rural" in character. Much of this area falls within the 100-year floodplain which provides further impetus for maintaining low density development. Victory Boulevard (Route 171) has become the dividing line between the low density residential development to the north and the medium density residential development to the south with residential lots being developed accordingly.

The original 1976 Land Use Plan designated this entire area for low density single-family residential use. This designation was re-affirmed in the 1983 Land Use Plan but subsequently, in 1986, was changed to permit commercial development at the corner of Victory Boulevard and Yorktown Road. It has been five years since the General Commercial designation was established at this intersection; however, the character of this area still remains low density single-family residential with no evidence of commercial development. The absence of commercial activity, the increasingly apparent residential character of the immediate vicinity, the continued expansion of commercial centers along other corridors in York County and in nearby Poquoson, and the steadily worsening traffic congestion along Route 171, caused the commercial designation to be closely scrutinized and eliminated in favor of a Low Density Residential designation. The residential character of this area is well-established and, while vegetative buffers can provide some measure of protection from commercial influences, it is difficult to alter the impact of traffic, noise, and congestion associated with commercial uses. In summary, the Low Density designation best represents the current and the preferred future character of this entire area.

2. Wythe Creek



**Location:** The Wythe Creek area is located at the southern end of the County adjoining Hampton and Poquoson and bounded by two major arterials - Hampton Highway (Route 134) and Victory Boulevard (Route 171).

**Profile:** Existing Land Uses:

- Large and moderate lot size single-family residential development including Running Man, Woodlake Crossing and Edgewood Subdivisions
- Yorkshire Downs—a planned unit development with a combination of single-family detached, townhouse, condominium, and apartment units as well as two undeveloped commercial parcels fronting Route 134 at York Downs Drive
- Heatherlea planned development—single-family detached and townhouses
- Tabb Elementary School

Existing Residential Development Density:

- Single-Family: 2.5-3.7 dwelling units per acre
- Multi-Family: 10.6 dwelling units per acre

Utilities:

- Sewer serving new residential construction; remainder of area on septic systems
- Public water available to majority of area
- Well water users need potable water source

Environmental Constraints:

- 100-year Floodplain
- Hydric and poorly drained soil conditions
- Wetlands

Road/Access Conditions:

- Generally good from Routes 134 and 171. Intersection signalization may be necessary eventually at Route 171 and Cary's Chapel Road

Census Tract: 502.02

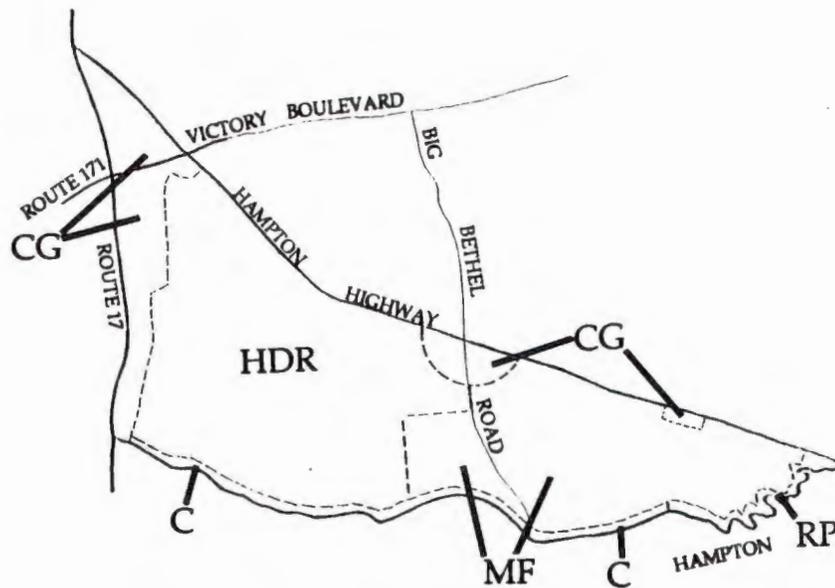
## Land Use Designations:

- Medium Density Single-Family Residential
- General Commercial
- Resource Management/Protection

The Wythe Creek area has experienced significant residential development with the majority of the new subdivisions being constructed within the past 5-7 years. With this growth have come public sewer and public water, but the extensions have often not directly benefitted existing residents, many of whom are experiencing problems with wells and septic systems. The presence of wetlands along Wythe Creek mandates that new development be constructed in an environmentally sensitive manner. The Medium Density Residential designation recognizes and ensures a continuation of the existing residential character.

Commercial development in this area is proposed to be concentrated around the Big Bethel Road/Hampton Highway intersection. This type of nodal commercial development has the advantages of limiting the number of curb cuts and encouraging an economically efficient concentration of uses on commercial sites. Conversely, small and scattered individual parcels hinder internal circulation, can create a "strip" commercial atmosphere, and cause deterioration of roadway capacity. The preferred commercial development within this node includes concentrations of commercial activity such as typically found in shopping centers and small office centers. In recognition of previously permitted commercial activity, two additional small areas are designated for commercial activity—one in Yorkshire Downs and the other directly across from First Avenue. It is the intent of these designations to recognize the existing or approved commercial activities, but not allow any further spread of commercial use along Route 134.

3. Bethel



**Location:** Located at the southern end of the County, the Bethel area borders Big Bethel Reservoir (owned by the U. S. Army) and Newport News and Hampton. George Washington Memorial Highway (Route 17), Hampton Highway (Route 134), and Victory Boulevard (Route 171) comprise the remaining boundaries.

**Profile:** Existing Land Uses:

- Manufactured home developments, apartments and smaller lot single-family development (Tabb Lakes subdivision and Coventry planned development)
- Commercial development along Routes 17 and 134
- Military housing (Bethel Manor - Langley Air Force Base)
- Borrow Pit - being reclaimed
- Elementary Schools: Bethel Manor  
Coventry

Existing Residential Development Density:

- Single-Family: 4-6 dwelling units per acre
- Multi-Family: 10 dwelling units per acre

Utilities:

- Public water and sewer available

Environmental Constraints:

- 100-year Floodplain
- Hydric and poorly drained soil conditions
- Wetlands
- Reservoir (Big Bethel)

Road/Access Conditions:

- Generally good from Routes 17 and 134
- Possible intersection improvements along Route 17 and 134

Census Tract: 502.01

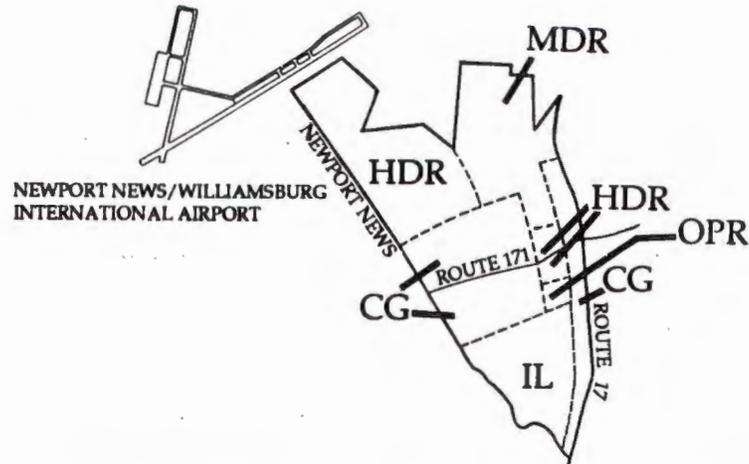
## **Land Use Designations:**

- **High Density Single-Family Residential**
- **Multi-Family Residential**
- **General Commercial**
- **Resource Management/Protection**
- **Conservation**

The area south of Route 134 and west of Big Bethel Road was identified in the 1983 Land Use Plan for High Density Single-Family Residential development and the development in the area reflects that designation. Accordingly, the High Density Single-Family designation remains unchanged. Strip commercial development is still present along the east side of Route 17 where the presence of several junkyards has detracted from the overall appearance of this area. A borrow pit within the Coventry planned development is being reclaimed as a water amenity. Multi-family development is located on the southern side of Hampton Highway (Route 134) and includes the Pines of York and Four Seasons apartment complexes. In addition, the Bethel Manor military housing complex serving Langley Air Force Base is located in this area. These developments are recognized through the Multi-Family Residential designation.

Comments relative to commercial development noted for the Wythe Creek area apply to this area as well. The Plan provides for commercial development to be concentrated around the intersection of Big Bethel Road and Hampton Highway. Existing commercial activities at the intersection of Hampton Highway and First Avenue should not be permitted to spread along the Route 134 road frontage. General Commercial activities will continue to predominate along the Route 17 corridor. The elimination of nonconforming uses, such as are found along Route 17, should be a major objective of the County wherever possible.

4. Brick Kiln Creek



**Location:** The Brick Kiln Creek area is located in the southwest portion of the County and adjoins Newport News. Peninsula Airport Commission property and Harwood's Mill Reservoir are located to the north with George Washington Memorial Highway (Route 17) on the east.

**Profile:** Existing and Proposed Land Uses:

- Commercial/Light Industrial development along Route 17
- Small-lot single-family residential development
- Planned residential development (Villages of Kiln Creek) under construction
- Proposed Commercial/Light industrial development along Route 171 (Villages of Kiln Creek Corporate Center)

Existing Residential Development Density:

- Single-Family: 2.5-6 dwelling units per acre

Utilities:

- Public water and sewer available

Environmental Constraints:

- Hydric and poorly drained soil conditions

Road/Access Conditions:

- Excellent with completion of Victory Boulevard to I-64
- Good access to Route 17

Census Tract: 503.01

**Land Use Designations:**

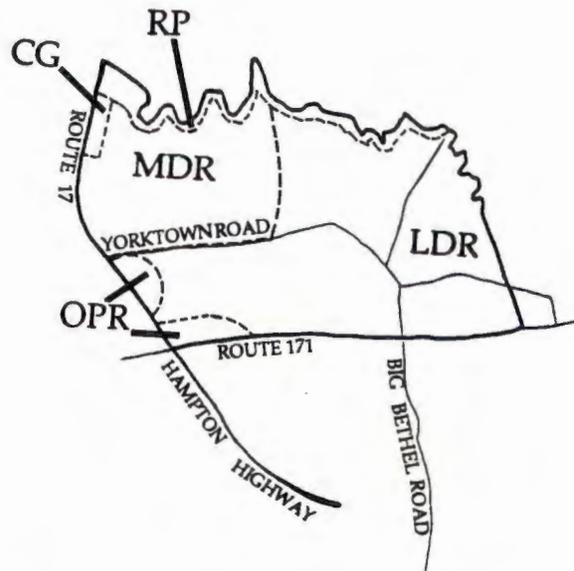
- Medium Density Single-Family Residential
- High Density Single-Family Residential
- Office/Professional/Research
- General Commercial
- Limited Industrial

This area has experienced significant changes with the completion of Victory Boulevard

(Route 171) which provides an east-west link between Newport News and Poquoson. The Villages of Kiln Creek, a planned golf course community proposed to contain 1,378 residential units in York County and 3,300 residential units overall including the Newport News portion as well as large scale commercial development, is under development. The high Density Single-Family designation recognizes the predominant character of the development while a Medium Density designation continues to recognize the character of the Darby-Firby area and the need to limit development density in the area due to access limitations.

Victory Boulevard provides excellent access to Interstate 64 and provides a direct link between Newport News and Poquoson. Commercial and industrial opportunities are an integral part of the Villages of Kiln Creek development. The west side of George Washington Memorial Highway (Route 17) continues to attract commercial and limited industrial development such as the Kiln Creek Center and Bethel Industrial Park. The land use designations are consistent with existing and proposed development for this area. The non-residential portion of this area is identified as an Economic Priority area in the Economic Development element.

5. Tabb



**Location:** Located in the southeastern part of the County, the Tabb area is bounded by the Poquoson River, Moore's Creek, George Washington Memorial Highway (Route 17), Hampton Highway (Route 134), and Victory Boulevard (Route 171).

- Profile:** Existing Land Uses:
- Large to moderate lot size single-family residential development
  - Schools:
    - Tabb Intermediate School
    - Tabb High School
    - Mount Vernon Elementary School
  - Public Safety: Tabb Fire Station
  - Recreation: Rogers A. Smith Landing
  - Offices, services, and retail uses along Routes 17 and 134

Existing Residential Development Density:

- Single-Family: 1-2.5 dwelling units per acre

- Utilities:
- Sewer service available in limited area
  - Water service generally available

- Environmental Constraints:
- 100-year Floodplain
  - Poorly drained soils
  - Wetlands

- Road Access/Conditions:
- Generally good to Routes 134 and 171
  - Yorktown Road is adequate as a residential collector, but not as an arterial

Census Tract: 502.02

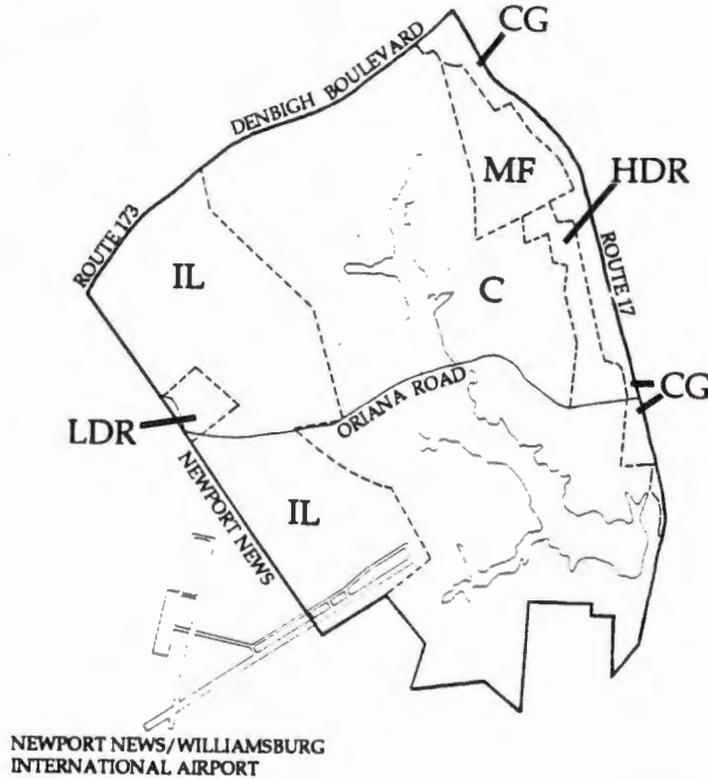
## Land Use Designations:

- Low Density Single-Family Residential
- Medium Density Single-Family Residential
- Office/Professional/Research
- General Commercial
- Resource Management/Protection

The Tabb area has generally developed with low density single-family residential uses over the majority of the area. The proximity of the Poquoson River and the potential adverse water quality impacts of higher density development, as well as the limited carrying capacity of Yorktown Road, combine to warrant a Low Density Residential designation for most of the area north of Yorktown Road. In areas where public utilities are available, medium density development has occurred and is recognized through a Medium Density Residential designation. However, the availability of public utilities alone should not be viewed as justification for density increases in this area.

Commercial development in this area has been limited primarily to low intensity uses such as offices, although a child care center and a furniture store are located along Route 17. The Route 17 frontage containing these uses is designated General Commercial while the areas around the Hampton Highway (Route 134) intersections with Victory Boulevard (Route 171) and Old Yorktown Road (Route 706) are designated for Office/Professional/Research. The primary reason for the Office/Professional/Research designation is that these corners are in a state of transition from residential to non-residential. There are commercial uses across Route 134, yet within these areas and in the surrounding vicinity a large number of residential uses still exist. Accordingly, an Office/Professional/Research designation has been applied along the north side of Route 134 because it is the least intensive commercial designation and, with the buffers required under current regulations, it can provide an acceptable transition between residential and intensive commercial uses in these areas. Further, the Office/Professional/Research designations recognize the incompatibility of establishing and maintaining residential uses in these areas given the high traffic volumes along Routes 171 and 134, and particularly at these major intersections. The Office/Professional/Research designation is intended to apply to properties fronting on the north side of Route 134 and extending along Yorktown Road only as far as the existing or currently approved offices extend. This will ensure the protection of the existing residential character on the opposite side of Yorktown Road.

6. Denbigh Boulevard/Airport



**Location:** This area is bounded by Newport News and George Washington Memorial Highway (Route 17). Newport News-Williamsburg International Airport and the Harwood's Mill Reservoir border the property to the south with Denbigh Boulevard to the north.

- Profile:** Existing and Proposed Land Uses:
- Small-lot single-family residential development
  - Harwood's Mill Reservoir
  - Newport News-Williamsburg International Airport property
  - Future County school site on Grafton Drive

Public Safety - Grafton Fire Station

- Existing Residential Development Density:
- Single-Family: 4-6 dwelling units per acre
  - Single-Family Attached: 8-10 dwelling units per acre (proposed)

- Utilities:
- Public water or sewer service available on Grafton Drive, along Route 17 and portions of Burts Road

- Environmental Constraints:
- Poorly and moderately drained soil

Road/Access Conditions:

- Generally good to Denbigh Boulevard and Route 17
- Oriana Road and Burts Road have limited capacities for additional traffic.

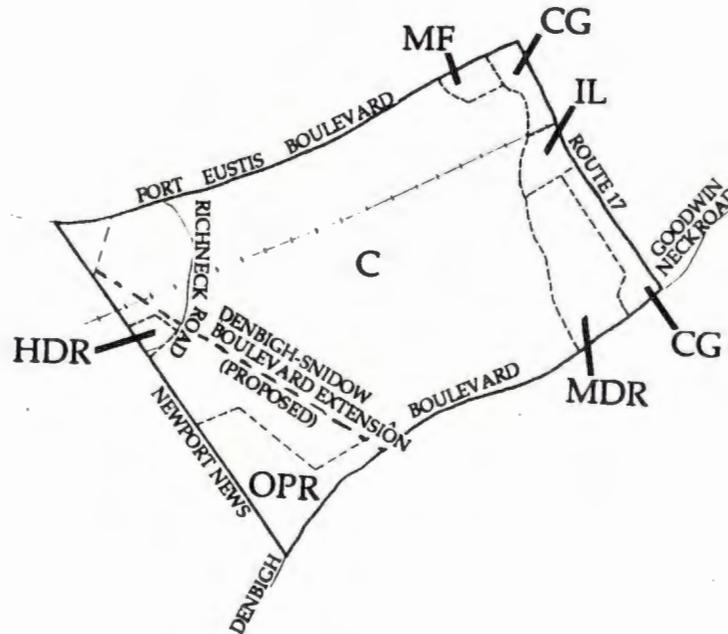
Census Tract: 503.01

**Land Use Designations:**

- Low Density Single-Family Residential
- High Density Single-Family Residential
- Multi-Family General Residential
- General Commercial
- Limited Industrial
- Conservation

A large portion of this area is either owned by Newport News (Waterworks property) or the Peninsula Airport Commission. Noise associated with air traffic has been a continuing concern in this and surrounding areas. A limited number of single-family residences exist along Burts Road with single-family attached (townhome) residential development under construction on Grafton Drive. The emerging multi-family character of the Grafton Drive area, and its appropriateness from a locational and infrastructure standpoint for a continuation of this character, is recognized through a Multi-Family Residential designation. The Burts Road area has been developing with moderately priced single-family housing and it appears that it is appropriate to extend the High Density Single-Family residential in order to afford more opportunities for single-family housing in moderate price ranges. However, such development is dependent on improvements to Burts and Oriana Roads in order to handle the additional traffic and the provision of full public utilities which can adequately serve the new development. The west side of Route 17 has developed in a strip commercial pattern and that pattern continues to be recognized in this Plan. The area bounded by Denbigh Boulevard, Newport News Waterworks property, and the Newport News city line is identified as an Economic Priority Area in the Economic Development element and has been designated for Limited Industrial uses herein.

7. Denbigh Boulevard/Fort Eustis Boulevard



**Location:** Adjoining Newport News, this area is bounded by Denbigh Boulevard, Route 17, Fort Eustis Boulevard, and the Newport News city line.

- Profile:** Existing Land Use:
- Large and moderate lot single-family residential uses
  - Attached single-family development on Fort Eustis Boulevard
  - Retail commercial and services (offices) on Route 17 and Denbigh Boulevard
  - Newport News Waterworks property
  - Railroad spur line to Virginia Power and Amoco refinery sites

- Existing Residential Development Density:
- Single Family: 1-2.5 dwelling units per acre
  - Single-Family Attached: 10 dwelling units per acre

- Utilities:
- Public water and sewer service available along Route 17 and a portion of Fort Eustis Boulevard

- Environmental Constraints:
- Drains toward Harwood's Mill Reservoir
  - Watershed property
  - Poorly and moderately drained soils

**Road/Access Conditions:**

- Generally good along Denbigh Boulevard, Fort Eustis Boulevard and Route 17
- Extension of Snidow Boulevard planned for this area as well as a road connecting Denbigh and Snidow Boulevards

**Census Tract: 503.01**

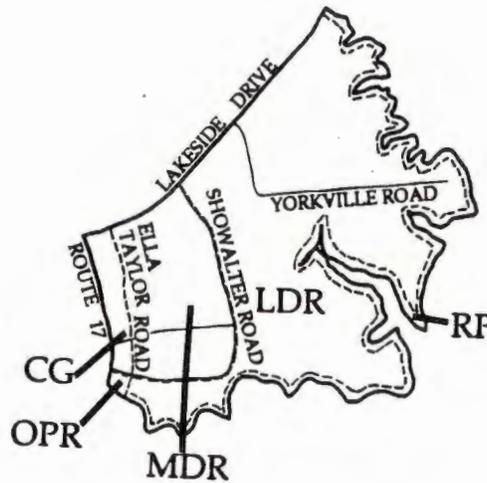
**Land Use Designations:**

- Medium Density Single-Family Residential
- High Density Single-Family Residential
- Office/Professional/Research
- General Commercial
- Limited Industrial
- Conservation

The majority of this area is owned by Newport News and managed as watershed property. It has been designated Conservation consistent with its use. The area is bisected by a rail spur which extends into the Goodwin Neck area and currently serves the Virginia Power plant and Amoco refinery. Large, undeveloped parcels, privately-owned, still remain, especially along Denbigh Boulevard. These parcels are incorporated into an Economic Priority Area as identified in the Economic Development element.

The property designated for Office/Professional/Research uses along the north side of Denbigh Boulevard could be considered an appropriate location for a master-planned type of mixed use development, potentially including a variety of single-family, multi-family, commercial (retail and service), public and semi-public uses. The parcel is sufficiently large to accommodate these uses and, with the prospect of a direct link to Interstate 64, a mixed use development could be appropriate. The option of gaining access to sewer service from Newport News makes the development potential of this parcel somewhat more immediate, yet it is still entirely dependent in terms of timing and intensity on the adequacy of transportation and utility systems.

8. Yorkville/Patricks Creek/Lindsay Landing



**Location:** This area is located in the southeastern portion of the County and is bounded by Route 17, Lakeside Drive, Patricks Creek, Quarter March Creek and the Poquoson River.

- Profile:**
- Existing Land Use:**
- Large to moderate lot size single-family residential development
  - School: Grafton-Bethel Elementary
  - Retail commercial and office uses along Route 17
- Existing Residential Development Density:**
- 1-2.5 dwelling units per acre
- Utilities:**
- Public water generally available; some existing residential areas are experiencing well problems and are in need of public water service
  - Sewer service is available in portions of the area
- Environmental Constraints:**
- 100-year Floodplain
  - Wetlands
  - Poorly to moderately well drained soils
- Road/Access Conditions:**
- Generally acceptable along Lakeside Drive
  - Yorkville Road and Charles Road have limited capacity
  - Route 17 is highly congested during peak hours

**Census Tract:** 503.02

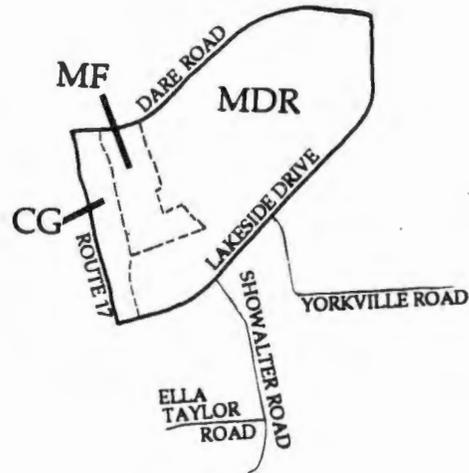
## Land Use Designations:

- Low Density Single-Family Residential
- Medium Density Single-Family Residential
- Office/Professional/Research
- General Commercial
- Resource Management/Protection

Protection of wetlands and the quality of the adjacent waterways has been the overriding factor in maintaining the majority of this area for low density residential development. Public utilities are planned for parts of this area and no further development should occur in the absence of public water and sewer. Medium density residential development has occurred where public utilities are available to serve the area and in proximity to the Route 17 commercial corridor; however, this fact alone should not be used to justify increased density at such time as utilities become available to those areas currently without utilities because even with the availability of utilities, higher density development can still impose significant environmental and water quality impacts as well as increased demands on the transportation network. In addition, concerns about air traffic noise from Newport News-Williamsburg International Airport have been expressed by area residents and must be considered in establishing land use patterns and facility locations.

The commercial area along this portion of Route 17 is almost fully developed with little opportunity for commercial expansion. As the properties are improved or renovated, increasing the amount of open space and landscaping should be a priority.

9. Lakeside/Dare Road



**Location:** This area is located on the east side of Route 17 between Lakeside Drive and Dare Road.

**Profile:** Existing Land Uses:

- Moderate lot size single-family residential development
- Apartments/Townhouses
- Commercial activity on Route 17
- Lafayette Gun Club
- Borrow pits

Existing Residential Development Density:

- Single-Family: 1-2.5 dwelling units per acre
- Multi-Family: 10 dwelling units per acre

Utilities:

- Public water and sewer generally available

Environmental Constraints:

- Poorly to moderately drained soils

Road/Access Conditions:

- Generally good along Route 17, Dare Road, and Lakeside Drive
- During peak travel (a.m. and p.m.) hours, traffic congestion along Route 17 is chronic

Census Tract: 503.02

**Land Use Designations:**

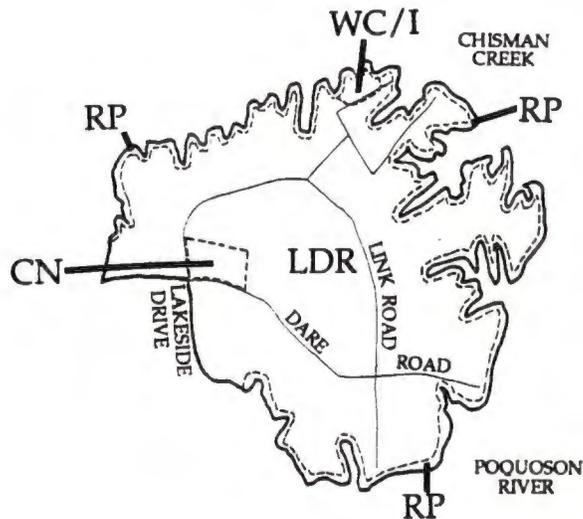
- **Medium Density Single-Family Residential**
- **Multi-Family Residential**
- **General Commercial**

The subdivisions of Brandywine, Lakeside Forest and Winder's Pond have developed consistent with the Medium Density Residential designation. Grafton Station Apartments and York Crossing townhouses provide a transition from the single-family areas to the commercial development (Washington Square Shopping Center) to the west and are recognized by a Multi-Family Residential designation.

The new commercial development which has occurred in this area has been consistent with the designations in the 1983 Land Use Plan. Opportunities for expanded commercial activity are possible as the activity associated with the Washington Square Shopping Center continues to attract new businesses into the area.

Formerly active borrow pits such as Grafton Materials will ultimately need to be reclaimed. However, given the development limitations of such land uses, the zoning of these areas should be within a low intensity/conservation type of classification.

10. Dare



**Location:** The Dare area is located along the eastern side of the County and is generally bounded by the Poquoson River and Chisman Creek.

**Profile:** Existing Land Uses:

- Large-lot single-family residential development
- Neighborhood Commercial
- Water-oriented uses

Existing Residential Development Density:

- 0.5-1 dwelling units per acre

Utilities:

- Water and sewer not currently available

Environmental Constraints:

- 100-year Floodplain
- Poorly drained soils

Road/Access Conditions:

- Generally acceptable along Dare Road, but Link Road will require improvements to accommodate further development

Census Tract: 503.02

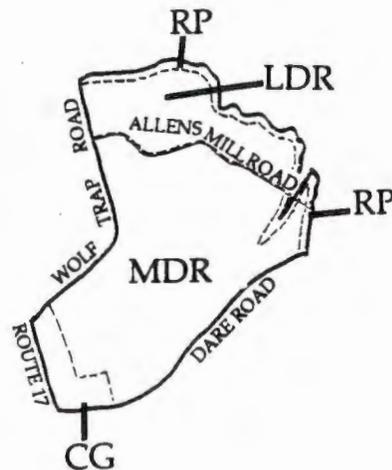
**Land Use Designations:**

- Low Density Single-Family Residential
- Neighborhood Commercial
- Water-Oriented Commercial/Industrial
- Resource Management/Protection

The Low Density Residential designation for the Dare peninsula is maintained in recognition of its existing character, environmental conditions, and the absence of public utilities. This density level also recognizes the impact development could have on adjacent Chisman Creek, Patricks Creek, and the Poquoson River due to increased runoff and non-point source pollutant loadings. Consequently, any development which occurs must be accomplished in an environmentally sensitive manner utilizing public utilities or large lots with sufficient area for individual systems meeting prescribed design criteria. Such development patterns will help to ensure sufficient area for effluent and/or stormwater runoff filtering and cleaning. In addition, the Low Density designation properly recognizes the limited accessibility of many portions of the area. Accordingly, no consideration should be given to density increases in this area simply because utilities become available since higher density development would still be characterized by unacceptable runoff and traffic volumes.

The Plan recognizes, through a Neighborhood Commercial designation, an existing small neighborhood market which provides limited commercial services to the area. Water-oriented commercial activity is an integral part of this community and includes boat storage, maintenance and repair facilities. These have been recognized with the Water Oriented Commercial/Industrial designations where they exist.

11. Allens Mill Road



**Location:** The Allens Mill Road area is bounded by Dare Road, Wolftrap Road, George Washington Memorial Highway (Route 17) and Chisman Creek.

**Profile:**

**Existing Land Uses:**

- Large to medium lot size single-family residential development
- Commercial uses along Route 17
- Nonconforming manufactured home park
- School: Dare Elementary
- School Board Administration offices
- Chisman Creek Park
- Borrow pits

**Existing Residential Development Density:**

- 1-2 dwelling units per acre

**Utilities:**

- Public water available to most portions of area; sewer service is not as widely available.

**Environmental Constraints:**

- 100-year Floodplain
- Wetlands
- Poorly and moderately drained soils

**Road/Access Conditions:**

- Generally acceptable along Dare Road and Wolftrap Road
- Allens Mill Road has limited capacity

**Census Tract: 503.02**

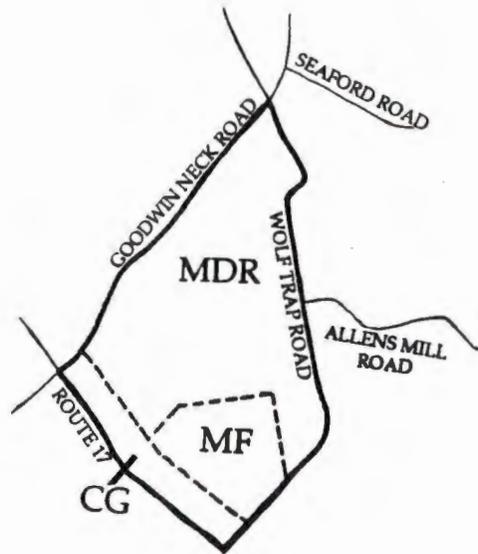
## **Land Use Designations:**

- **Low Density Single-Family Residential**
- **Medium Density Single-Family Residential**
- **General Commercial**
- **Resource Management/Protection**

Low density residential development has occurred in proximity to Chisman Creek. Maintaining this portion of the Allens Mill area in the low density designation recognizes the need to protect this waterway from increases in siltation and stormwater runoff both of which have an adverse impact on water quality and the environment. The remainder of the area has developed in a manner which is consistent with the medium density designation while Route 17 frontage remains available for commercial development.

Several active or former borrow pits exist along Wolftrap Road adjacent to the various residential areas. While not individually recognized through a separate land use designation, these properties will have limited future use and benefit unless properly reclaimed and restored. Appropriate consideration of these properties must be given during any future zoning decisions and their limitations for intensive development must be properly recognized.

12. Acree Acres/Rosewood/Wolftrap



**Location:** This area is located on the east side of George Washington Memorial Highway (Route 17) and is also bounded by Goodwin Neck Road and Wolftrap Road.

**Profile:** Existing Land Use:

- Moderate lot size single-family residential development
- Wolftrap Park
- Former County landfill
- Automotive-related uses/offices
- Churches

Existing Residential Development Density:

- 2 dwelling units per acre

Utilities:

- Public water and sewer available

Environmental Constraints:

- Abandoned fly-ash disposal sites converted to recreational use
- Former County landfill
- Poorly and moderately drained soils

Roads/Access Conditions:

- Easily accessible to Goodwin Neck and Wolftrap Roads

Census Tract: 503.02

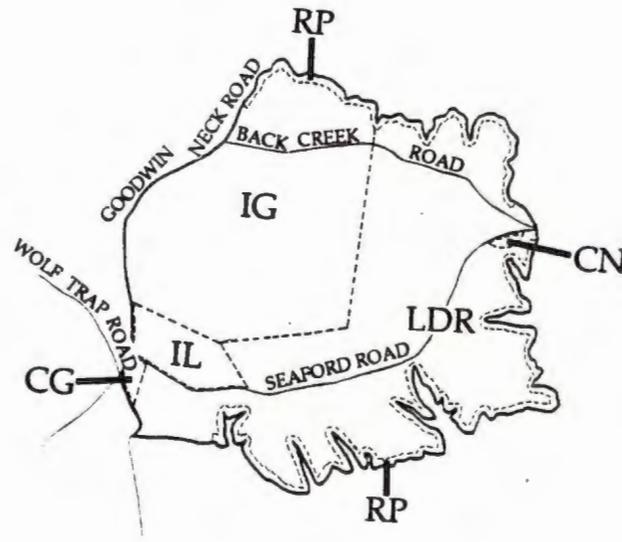
**Land Use Designations:**

- Medium Density Single-Family Residential
- Multi-Family Residential

- **General Commercial**

Single-family development has occurred consistent with the medium density designation which recognizes the availability of public utilities. Undeveloped multi-family designated property is still available for development near the Route 17/Wolftrap Road intersection and, because of the availability of utilities and good access and the surrounding land use patterns, continuation of the multi-family designation is appropriate. Recreational sites and the former County landfill preclude further large scale development in the area. Opportunities exist for commercial development along Route 17 and are recognized through a General Commercial designation. Unlike the sections of Route 17 developed prior to existing regulations, any new commercial development in this area should have greater green space and landscaped areas with an emphasis on tree preservation.

13. Seaford



**Location:** The Seaford area is located between Goodwin Neck Road, Back Creek, and Chisman Creek extending to the intersection of Back Creek Road and Seaford Road.

**Profile:** Existing Land Use:

- Large and medium lot size single-family residential
- Neighborhood commercial uses
- Sewage treatment plant
- School: Seaford Elementary
- Public Safety: Seaford Fire Station

Existing Residential Development Density:

- 1-2.5 dwelling units per acre

Utilities:

- Public water generally available
- Public sewer service available only along Goodwin Neck Road and portions of Seaford Road; sewer extensions planned for existing development in Seaford to address failing septic system problems

Environmental Constraints:

- 100-year Floodplain
- Wetlands

Road/Access Conditions:

- Good access along Goodwin Neck Road; Seaford Road may require improvement

Census Tract: 504.02

## Land Use Designations:

- Low Density Single-Family Residential
- Neighborhood Commercial
- General Commercial
- Limited Industrial
- General Industrial
- Resource Management

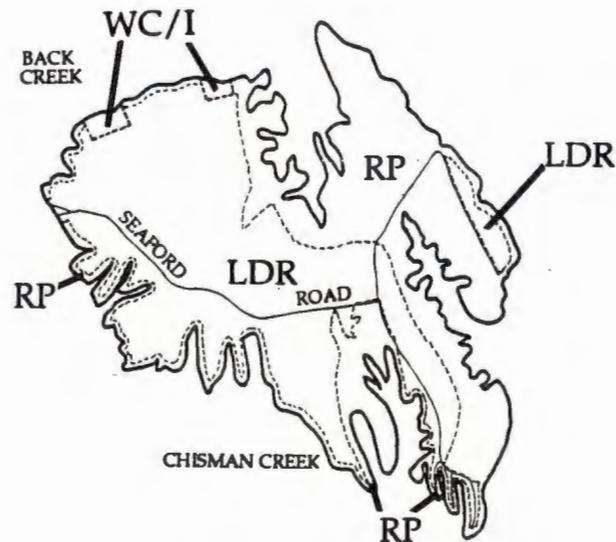
The Seaford area has been designated Low Density Single-Family Residential, with special emphasis on maintaining low to very low density development eastward of the headwaters of Chisman Creek. This designation has been made primarily in recognition of the need to protect Chisman and Back Creeks from further siltation and water quality degradation, which can be attributed, at least in part, to past development patterns and practices. Although several medium density developments do exist in the area, and public water and sewer are available in certain locations, the need to encourage environmental protection is considered to be an overriding issue. Even with the availability of public water and sewer, environmental and infrastructure considerations such as wet soil, proximity to Chisman Creek and its tributaries, distance from emergency services, and poor road access dictate maintaining a Low Density designation.

Property owned by Amoco remains designated for General Industrial uses. However, a permanent conservation easement (100' to 200' in width) along the perimeter of the Amoco property should be strongly encouraged or required at such time as any future expansion occurs. The Limited Industrial area is largely developed with the Coca-Cola distribution center and there is only limited opportunity to expand. The presence of tidal and perhaps nontidal wetlands could be an obstacle to future development in this area.

A small neighborhood store located at the intersection of Seaford and Back Creek Roads provides a neighborhood commercial service to the area and has been recognized as such. Large scale commercial development would not be appropriate and is not encouraged by the Neighborhood Commercial designation.

At the Goodwin Neck Road/Seaford Road intersection, some commercial development can be anticipated, especially upon completion of the proposed extension of Fort Eustis Boulevard to this intersection. Although intensive commercial use is not suggested, some community commercial uses could be appropriate if access and traffic safety issues are properly addressed.

14. York Point/Baytree Beach



**Location:** The York Point/Baytree Beach area is located east of the intersection of Back Creek Road and Seaford Road and is bounded by Back Creek, Chisman Creek and the Chesapeake Bay.

**Profile:**

**Existing Land Uses:**

- Large lot single-family residential development
- Marina, seafood processing

**Existing Residential Development Density:**

- 0.5-1 unit per acre

**Utilities:**

- Public water available; sanitary sewer service not currently available, extensions planned to service existing residences only

**Environmental Constraints:**

- 100-year Flood Plain
- Wetlands
- Poorly drained soils

**Roads/Access Conditions:**

- Generally acceptable along Seaford Road; poor access for truck traffic on Shirley Road

**Census Tract: 504.02**

## Land Use Designations:

- Low Density Single-Family Residential
- Water-Oriented Commercial/Industrial
- Resource Management/Protection

A substantial portion of this area consists of salt marshes and other environmentally fragile areas and, therefore, has been designated Resource Management/Protection in order to encourage its protection from the potentially adverse impacts of indiscriminate development. The designation has been applied to the most environmentally sensitive portions of the area, while the remainder of the area has been designated Low Density Single-Family Residential. A very low intensity development character in both areas is considered essential. Much of this land is very low and, therefore, susceptible to severe wetness and to periodic flooding. The extreme wetness and other unfavorable soil conditions present severe limitations for septic systems and the extension of public sewer into the area is unlikely due to cost factors. However, even if public sewer was available, the Low Density designation is most appropriate in recognition of the area's limited accessibility and the need to provide protection to the adjacent wetlands and waterways from the adverse impacts of increased siltation and pollutant runoff.

Water-dependent uses are located off of Shirley Road and include:

- Seaford Scallop
- Ewell and Freeman Seafood
- Mills Marina
- Calvin Hudgins Welding

These businesses provide the support services for seafood landing and processing, boat fueling and re-supply, and boat repair operations. The Water-Oriented Commercial/Industrial designation remains a strong presence in this area and could be enlarged provided utility service and road access were improved. Better access to seafood businesses in the area should be pursued in order to reduce the conflicts caused by large commercial vehicles using residential streets. A direct access route off of Seaford Road or road improvements to Shirley Road could help or eliminate this problem. The existing state dock at the end of Shirley Road does not appear to provide sufficient public access to water and consideration could be given to establishing a public use facility in this area which would accommodate the public water access needs of the community and provide for other water-related activities/uses.

15. Goodwin Islands



**Location:** The Goodwin Islands are located at the mouth of the York River adjacent to the Chesapeake Bay.

**Profile:** Existing Land Use:  
- Part of the National Estuarine Research Reserve System

**Utilities:**  
- No public water or sewer service available

**Environmental Constraints:**  
- 100-year Floodplain  
- Wetlands  
- Poorly drained soils  
- Severe shoreline erosion

**Road/Access Conditions:**  
- Access is by boat only

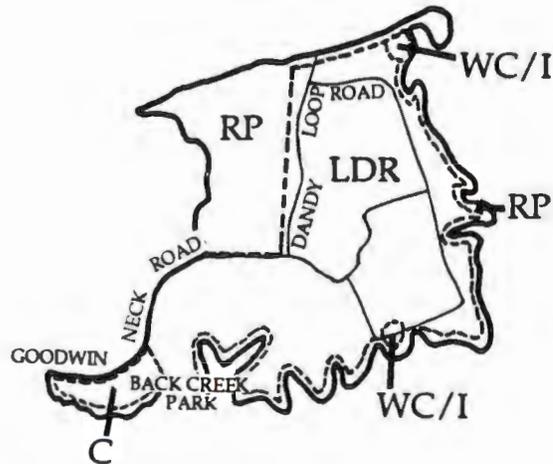
**Census Tract: 504.01**

**Land Use Designation:**

- Conservation

In 1991, the Goodwin Islands became a part of the Chesapeake Bay National Estuarine Research Reserve System for the Commonwealth of Virginia. The Virginia Institute of Marine Science (College of William and Mary) has been designated by the state to manage this island. This reserve will be used by VIMS for coastal research and education.

16. Dandy



**Location:** This area is located at the end of the Goodwin Neck peninsula and is bounded by Back Creek, the York River, and the Amoco/Virginia Power industrial complex.

**Profile:** Existing Land Use:

- Large lot single-family residential development
- Water dependent uses - marinas, boat repair
- Back Creek Park

Existing Residential Development Density:

- 0.5-1 dwelling units per acre

Utilities:

- Public water generally available, no sanitary sewer service

Environment Constraints:

- 100-year Floodplain
- Wetlands
- Poorly drained soils

Road/Access Conditions:

- Acceptable for low density residential traffic

Census Tract: 504.01

**Land Use Designations:**

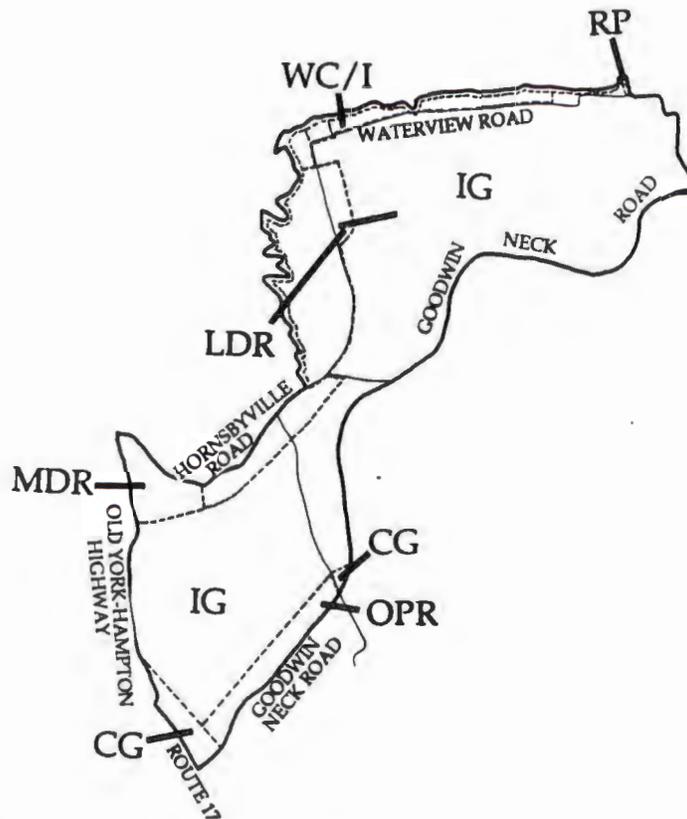
- Low Density Single-Family Residential
- Water-Oriented Commercial/Industrial
- Resource Management/Protection

- Conservation

The majority of the Dandy area is designated Low Density Single-Family Residential in consideration of existing development patterns and in recognition of the development limitations resulting from the extremely wet conditions present over much of the area. Because of the extreme wetness, septic systems are highly susceptible to failure and, therefore, the capability of the land to support additional development is limited. Extension of public sewer into the area would be extremely costly and is not anticipated to occur in the near future. However, even if public sewer were available, the Low Density designation is considered most appropriate in order to protect adjacent wetlands and waterways from the increased stormwater runoff, siltation, and nonpoint source pollution which might be associated with higher density development.

The Water-Oriented Commercial/Industrial designations are established to recognize the existence of several long-standing business operations.

17. Goodwin Neck



**Location:** This area is located east of Route 17 and extends to the York River between Goodwin Neck Road and Hornsbyville and Waterview Roads.

- Profile:** Existing Land Uses:
- Power plant
  - Oil refinery
  - Moderate lot size single-family residential
  - Industrial park
  - Retail commercial
  - County landfill/recycling center
  - Railroad to industrial area
  - County Operations Center

Existing Residential Development Density:

- 1-2 dwelling units per acre

Utilities:

- Public water available; sanitary sewer service available in limited areas

Environmental Constraints:

- Virginia Power structural fill sites
- County Landfill
- Shoreline erosion
- Wetlands

**Road/Access Conditions:**

- Generally acceptable along Goodwin Neck and Waterview Road
- Wolftrap and Hornsbyville Roads need improvement

**Census Tract: 504.01**

**Land Use Designations:**

- Low Density Single-Family Residential
- Medium Density Single-Family Residential
- Office/Professional/Research
- General Commercial
- Water-Oriented Commercial/Industrial
- General Industrial
- Resource Management Protection

A major portion of the Goodwin Neck area has been designated General Industrial in recognition of the existing Amoco and Virginia Power operations. This designation also encompasses lands on either side of the CSX rail corridor from Old York-Hampton Highway to these facilities. Much of this land is currently undeveloped; however, a portion is used for the County landfill and another portion is used for a fly ash structural fill area associated with the ash by-product from Virginia Power's conversion from oil to coal. The availability of rail service, good highway access, public utilities, and large parcels of land all combine to make this area well-suited for general industrial development. With rail service immediately accessible, spur lines could be extended for other industrial purposes. In addition, access to the interior portions of the area would be significantly improved if proposals for the extension of Fort Eustis Boulevard to Goodwin Neck and Seaford Roads materialize. The Economic Development element designates this area an Economic Priority Area.

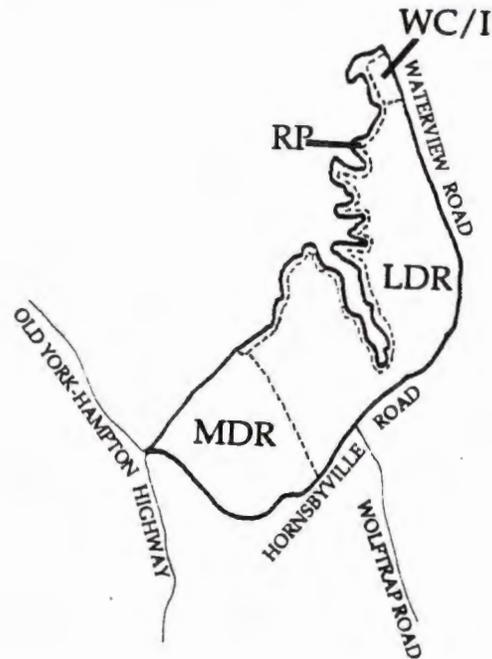
A narrow strip of land on the northern side of Goodwin Neck Road from Route 17 to Wolftrap Road has been designated Office/Professional/Research with the majority currently being developed as the County's Central Operations Center. This designation will provide a buffer between the heavy industrial area to the north and the residential areas on the south side of Goodwin Neck Road. An opportunity for commercial development at the potential Fort Eustis Boulevard/Goodwin Neck Road intersection has been provided; however, traffic circulation and safety considerations must be properly addressed first. The land area between Waterview Road and the York River/Wormley Creek provides an excellent opportunity for water-related uses although shoreline erosion could be a problem and should be addressed satisfactorily in any development proposal.

Since the 1983 Land Use Plan was adopted, limited industrial uses have developed in the Victory Industrial Park off of Old York-Hampton Highway and Goodwin Neck Road. With easy access to Route 17, businesses such as contractors' offices, automotive repair and storage/warehousing opportunities are attracted to this location.

A significant detriment to further commercial/industrial development is the poor condition of Old York-Hampton Highway. The poor alignment and narrow travel lanes of Old York-Hampton Highway are a hazard to motorists and therefore, future improvement of the road is an absolutely necessary prerequisite to expanded commercial/industrial development (and its attendant truck traffic) in the area.

The railroad line that traverses this area brings fuel and materials to the County's two heavy industrial users—Amoco and Virginia Power. Opportunities exist for future industrial and warehousing users to use this rail line as an efficient and cost-saving means of shipping/receiving products. Consequently, the rail alignment must be preserved for various potential future industrial users, all of which would be incompatible with residential development. However, because there is extensive existing residential use of land fronting Hornsbyville Road, the rail line itself, while not ideal, becomes the most reasonable and appropriate dividing line between residential and industrial designations. Where possible, those industrially-designated properties which are currently developed with nonconforming residential uses should be redeveloped in a manner consistent with the intended industrial use. Use of the rail line as the dividing line between residential and industrial uses along Hornsbyville Road is crucial and should not be violated. Allowing residences to encroach on these future industrial sites would only sow the seeds of future citizen discontent with their industrial neighbors.

18. Old Wormley Creek/Hornsbyville/Waterview



**Location:** This area is bounded by Hornsbyville Road, and Waterview Road and Wormley Creek.

**Profile:** Existing Land Uses:

- Large lot single-family residential development
- Marina
- Public boat ramp

Existing Residential Development Density:

- 1-2 dwelling units per acre

Utilities:

- Public water available
- Sewer available in selected area

Environmental Constraints:

- 100-year Floodplain
- Wetlands
- Poorly drained soils

Road/Access Conditions:

- Generally poor
- Hornsbyville Road needs improvement

Census Tract: 504.01

**Land Use Designations:**

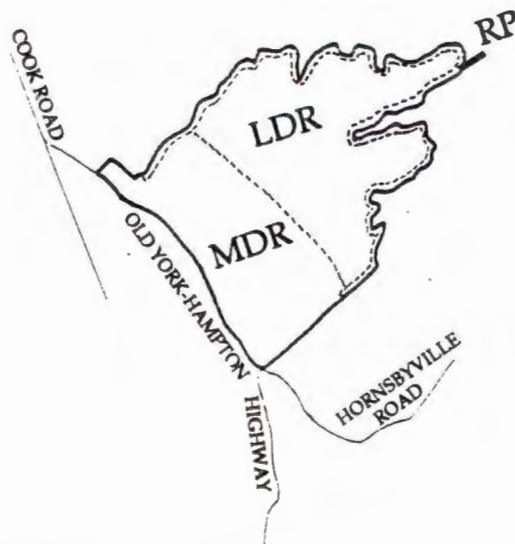
- Low Density Single-Family Residential
- Medium Density Single-Family Residential
- Water-Oriented Commercial/Industrial

- Resource Management/Protection

The majority of this area has been designated Low Density Single-Family Residential primarily to ensure the protection of Wormley Creek from the potentially adverse impacts of increased stormwater runoff and siltation that could be associated with higher density development. The lack of public sewer service, combined with the need to protect the Wormley Creek basin and various other factors including the capacity limitations of Waterview, Old Wormley Creek and Hornsbyville Roads, support the low density development patterns. Medium Density Single-Family development has occurred in areas adjoining Hornsbyville Road and in proximity to public utilities and is appropriately recognized.

An area along Waterview Road at the mouth of Wormley Creek, and the narrow strip of land between Waterview Road and the York River, have been designated for Water-Oriented Commercial/Industrial use. This designation recognizes the existence of a boatyard/marina at the mouth of Wormley Creek.

19. Marlbank



**Location:** The Marlbank area is bounded by Old York-Hampton Highway, Wormley Creek, and property owned by the National Park Service.

**Profile:** Existing Land Uses:  
- Large lot single-family residential development

Existing Residential Development Density:  
- 1-2 dwelling units per acre

Utilities:  
- Public water available  
- Sewer available in limited areas

Environmental Constraints:  
- 100-year Floodplain  
- Wetlands  
- Moderately drained soils

Road/Access Conditions:  
- Generally good except for Old York-Hampton Highway which needs improvement

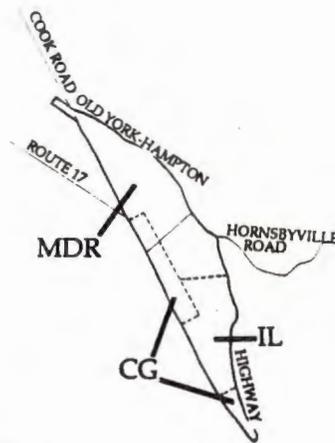
Census Tract: 504.01

**Land Use Designations:**

- Low Density Single-Family Residential
- Medium Density Single-Family Residential
- Resource Management/Protection

The existing character of the Marlbank area continues to be recognized through a Low Density Single-Family Residential designation, as in the 1983 Plan. This designation recognizes existing development densities and the proximity to Wormley Creek. An extensive area on either side of Wormley Creek Drive at the entrance to Marlbank Farm, and the Marl Ravine Road vicinity, has been designated Medium Density Single-Family Residential in recognition of the development patterns occurring because of the availability of public utilities.

20. Harris Grove/Cook Road



**Location:** This area is bounded by Old York-Hampton Highway, Route 17 and a portion of Cook Road.

**Profile:** Existing Land Use:

- Medium lot size, single-family residential development
- Retail and service commercial uses
- County Library

Existing Residential Development Density:

- 2.5 dwelling units per acre

Utilities:

- Public utilities available

Environmental Constraints:

- Poorly drained soils

Road/Access Conditions:

- Generally good along Cook Road and Route 17
- Poor along Old York-Hampton Highway; road improvements needed

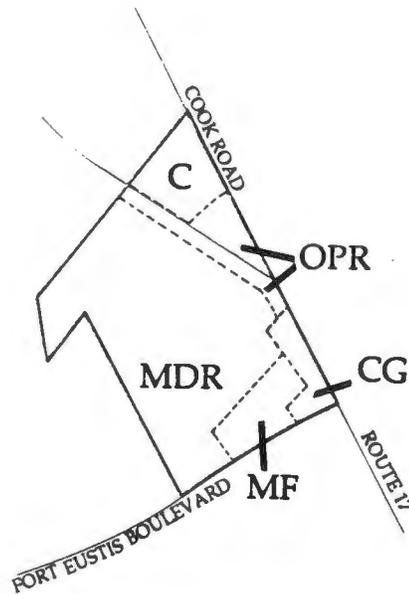
Census Tract: 504.01

**Land Use Designations:**

- Medium Density Single-Family Residential
- General Commercial
- Limited Industrial

Existing development in the Harris Grove area is primarily medium density in character and has been recognized as such. Public water and sewer are available or could be extended into most portions of this area thus facilitating the expansion of the medium density development into adjacent undeveloped areas. Limited Industrial uses are anticipated along the CSX rail spur serving Amoco. Commercial activities along Route 17, while permitted in this area, should be encouraged to pay extra attention to landscaping and site aesthetics, especially to the north of Fort Eustis Boulevard. This is in recognition of the relative proximity of this area to Yorktown.

21. Edgehill



**Location:** The Edgehill area is located in the northwest quadrant of the Route 17/Fort Eustis Boulevard intersection and is bounded on the north by National Park Service property and on the west by Newport News Waterworks property.

**Profile:** Existing Land Use:

- Medium lot size, single-family residential development
- Townhouses/condominiums
- Retail and service commercial uses
- Offices
- School: York High School
- School Vehicle Maintenance Facility

Existing Residential Development Density:

- Single-Family: 2 dwelling units per acre
- Multi-Family: 9-10 dwelling units per acre

Utilities:

- Public water and sewer available

Environmental Constraints:

- Moderately drained soils

Road Access Conditions:

- Generally good throughout area; however, the York-Warwick Drive/Cook Road/Route 17 intersection needs improvement

Census Tract: 503.01

**Land Use Designations:**

- Medium Density Single-Family Residential
- Multi-Family Residential
- Office/Professional/Research
- General Commercial
- Conservation

The Edgehill subdivision has been designated Medium Density Single-Family Residential in recognition of existing development densities and the availability of both public water and sewer service. Further expansion of this residential area is not anticipated since most other surrounding property is controlled by the U. S. Park Service or the Newport News Waterworks. However, some in-fill development will continue to occur as existing lots are built upon.

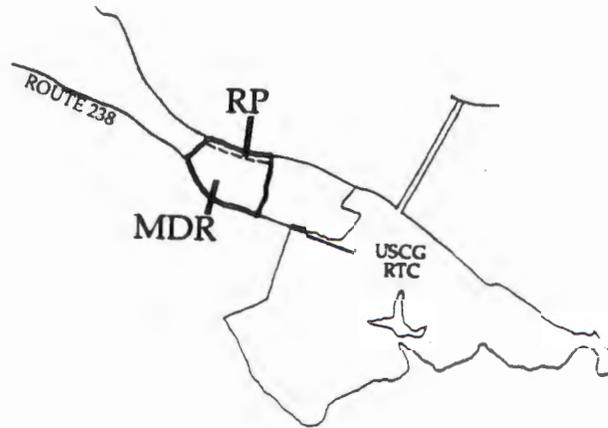
The area containing the Burnt Bridge Run development has been designated for Multi-Family Residential uses in recognition of the existing development and because excellent road access and public utility availability exist.

The Route 17 frontage adjacent to the Edgehill subdivision is designated Office/Professional/Research to protect this residential area from potential negative traffic impacts of intense commercial development such as increased traffic, noise, and nighttime activity.

The triangular area between Cook Road, Route 17 and Falcon Road has been designated Office/Professional/Research in recognition of several existing physicians and attorneys offices. The area is predominantly undeveloped and this designation seeks to encourage the continuation and expansion of the development character already established by these uses and to protect the adjacent residential areas from the potentially adverse effect which more intensive commercial development could create.

General Commercial activity is identified for the Route 17/Fort Eustis Boulevard (Route 105) intersection based on existing use and the desire to promote nodal concentrations of major commercial development at major intersections as opposed to strip development extending the entire length of a roadway.

**22. Moore House**



**Location:** The Moore House area is located on the southwestern side of the York River and is bounded by Colonial National Historical Park property and the U. S. Coast Guard Reserve Training Center.

**Profile:** Existing Land Uses:  
- Small to medium lot size, single-family residential development

Existing Residential Development Density:  
- 2 dwelling units per acre

Utilities:  
- Public water and sewer service available

Environmental Constraints:  
- Steep banks, susceptible to shoreline erosion

Road/Access Conditions:  
- Access along Moore House Road good

Census Tract: 505

**Land Use Designations:**

- Medium Density Single-Family Residential
- Resource Management/Protection Area

The Moore House vicinity has been designated Medium Density Residential, as in the 1983 Land Use Plan, in recognition of the established development patterns. The area is served by both public water and sewer and is almost fully developed. Expansion of this residential area is not anticipated because of the surrounding landholdings of the Park Service and the U. S. Coast Guard Reserve Training Center.

23. Yorktown



**Location:** The Yorktown area is also located along the southwestern shore of the York River and is surrounded by Colonial National Historical Park property.

**Profile:**

**Existing Land Use:**

- County offices and courtrooms
- Colonial National Historical Park Visitors Center
- Victory Center (Jamestown-Yorktown Foundation)
- Single-family residences
- Townhouses
- Commercial activities on waterfront
- Apartments
- Historic Buildings:
  - Grace Episcopal Church
  - Customs House
  - Dudley Diggs House
  - Swan Tavern
  - Session House
  - Nelson House

**Existing Residential Development Density:**

- Variable

**Utilities:**

- Public water and sewer service available

**Environmental Constraints:**

- 100-year Floodplain
- Wetlands
- Beach susceptible to erosion
- Steep slopes

**Road/Access Conditions**

- The closing of Alexander Hamilton Boulevard to Route 17 has significantly reduced cut-through traffic; other streets handle a minimum amount of traffic

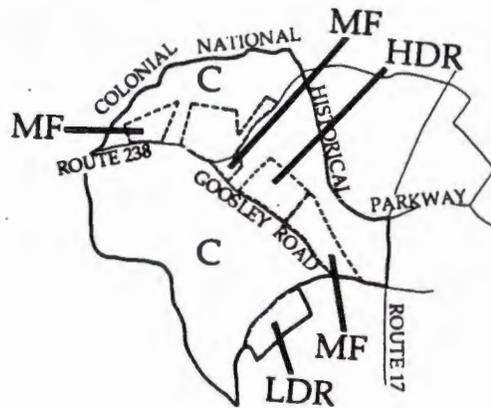
Census Tract: 505

**Land Use Designation:**

- Yorktown Historical Area

Yorktown is designated as an historical village without reference to specific land uses. The intent of this designation is to recognize the unique history of the town and to encourage future development which is consistent with the historic, residential, and commercial land uses already present. The historic buildings of Yorktown are contained in The Virginia Landmarks Register, and some are listed on the National Register of Historic Landmarks. As such, it is essential that special regulations be implemented in order to provide opportunities for a variety of land uses which will contribute to, and complement, the unique character and atmosphere of the village. Such regulations should be designed specifically to recognize the colonial architecture and historic heritage while simultaneously recognizing the current state of the economy. The Yorktown Master Plan, which although a separate document, is incorporated as an element of the Comprehensive Plan by reference and defines various conceptual recommendations for land uses and improvements.

24. Goosley Road/Crawford Road



**Location:** This area is generally bounded by Goosley Road, Route 17, the Colonial Parkway and U. S. Naval Weapons Station property.

**Profile:** Existing Land Uses:

- Small to large lot size single-family residential development
- Multi-family units
- School: Yorktown Intermediate
- Colonial National Historical Park property
- Public Safety: Yorktown Fire Station

Existing Residential Development Density:

- Single-Family: 2-4 dwelling units per acre
- Multi-Family: 10 dwelling units per acre

Utilities:

- Public water and sewer service available

Environmental Constraints:

- Poorly and moderately drained soils

Road/Access Conditions:

- Acceptable along Goosley Road

Census Tract: 505

**Land Use Designations:**

- Low Density Single-Family Residential
- High Density Single-Family Residential
- Multi-Family Residential

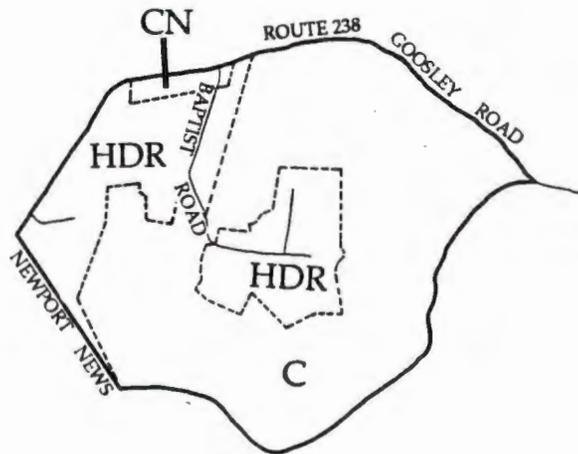
- **Conservation**

The Low Density Single-Family Residential designation has been applied to a small area along Crawford Road near its intersection with Goosley Road in recognition of existing development patterns. This area is completely surrounded by Colonial National Historical Park property and any further development, although not anticipated, should be of a low density character because of severely restrictive soil conditions, absence of utilities, and limited accessibility.

A portion of the privately-owned land areas along Goosley Road has been designated High Density Single-Family Residential in recognition of the existing development character established by the Kings Court subdivision. Most lots in this area have been built upon and opportunities for expansion are limited by the surrounding Colonial National Historical Park property.

The remainder of the privately owned lands in this vicinity have been designated Multi-Family in recognition of the existing Yorktown Square Apartments complex and Rivermeade Apartments.

25. Lackey



**Location:** Adjoining Newport News, the Lackey area is bounded by Goosley Road, Crawford Road and the U. S. Naval Weapons Station.

**Profile:** Existing Land Use:

- Small to medium lot size single-family residential
- Park: Charles E. Brown
- Newport News Waterworks property
- Colonial National Historical Park property

Existing Residential Development Density:

- Variable

Utilities:

- Public water available
- Public sewer to those sections currently not served is being installed

Environmental Constraints:

- Wetlands
- Drains toward Lee Hall Reservoir
- Moderately drained soils

Road/Access Conditions:

- Acceptable along Route 238
- Baptist Road has limited traffic carrying capacity

Census Tract: 505

**Land Use Designations:**

- High Density Single-Family Residential
- Neighborhood Commercial

- Conservation

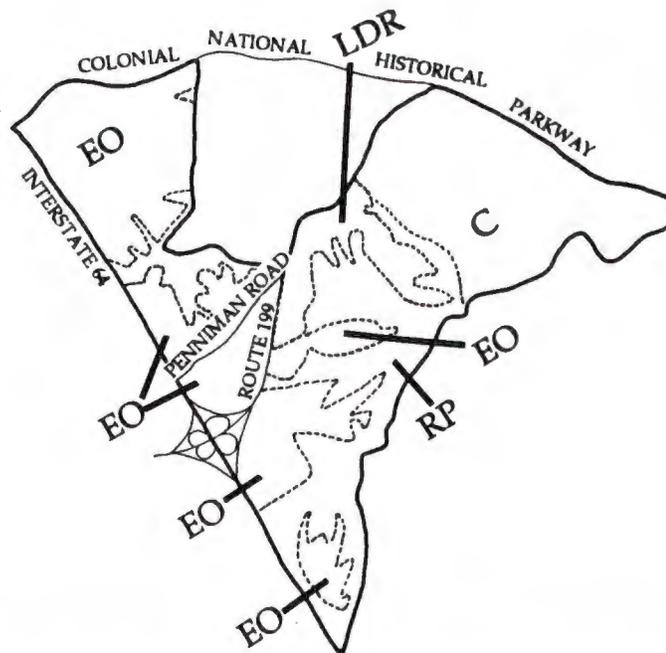
The majority of the privately owned land in the Lackey area has been designated High Density Single-Family Residential in recognition of existing development character. Public water currently serves the area and, because of the high incidence of septic system failures, public sewer is being extended through a County-initiated effort. However, even with the availability of utilities, higher density residential development should be carefully phased in to prevent overburdening existing road networks—particularly Baptist Road.

Under certain circumstances, residential uses other than single-family detached could be appropriate provided they access a primary or equivalent type of road. Single-family attached as well as a variety of multi-family uses could blend with the residential character of the area if proper buffers and open space are incorporated into the site design. Higher intensity residential uses should be considered only through the rezoning process in order to assure proper consideration of the adequacy of infrastructure and compatibility with existing development.

A Neighborhood Commercial designation has been located along a major portion of the Route 238 frontage in Lackey. This designation recognizes the need for various neighborhood-oriented businesses and provides opportunities for commercial development of this nature. Under the appropriate circumstances, community commercial uses such as a shopping center could be appropriate.

The extensive land holdings of the federal government (and National Park Service) and Newport News Waterworks in the Lackey vicinity have been designated Conservation.

26. Whittaker's Mill



**Location:** The Whittaker's Mill area is located east of Interstate 64 and is bounded by the Colonial Parkway and the U. S. Naval Weapons Station.

- Profile:** Existing Land Uses:
- Large lot single-family residential development
  - (Former) State Emergency Fuel Oil Reserve Facility
  - Tourist commercial activities including Water Country USA
  - Large undeveloped parcels

- Existing Residential Development Density:
- 1 dwelling unit per acre

- Utilities:
- Water and sewer service is available to serve certain portions of this area with extensions to the remaining areas possible

- Environmental Constraints:
- Steep slopes
  - Wetlands
  - Moderately drained soils

- Road/Access Conditions:
- Good interstate access via Route 199
  - Grove interchange planned for I-64 between Whittaker's Mill property and Busch properties, however no access to the north side of the interstate from this interchange is currently anticipated.

Census Tract: 507

## Land Use Designations:

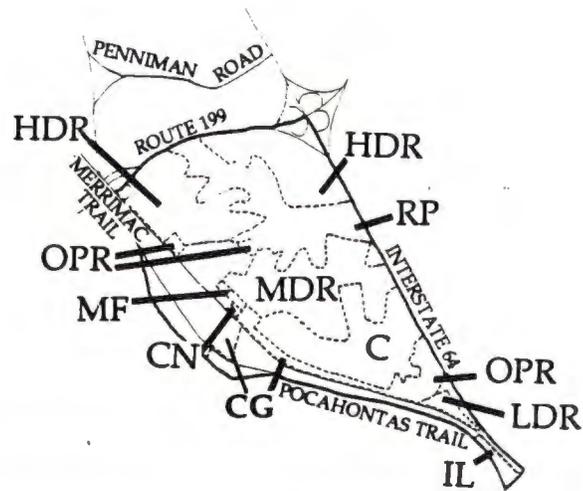
- Low Density Single-Family Residential
- Economic Opportunity
- Resource Management/Protection
- Conservation

The Economic Opportunity designation has been applied to all of the various Whittaker's Mill tracts as well as to a large, undeveloped parcel bounded by the Colonial Parkway, Interstate 64, Jones Pond and Penniman Road. This designation recognizes the proximity to a full interchange of Interstate 64 and the possibilities for extension of public utilities to serve a mix of office, commercial, tourist-related, and light industrial uses. Any development proposals in this area should be subject to design and landscaping standards which will ensure that the scenic vistas and integrity of the Colonial Parkway are protected. Prior to the addition of significant amounts of new development, improvements to Penniman Road and its intersection with Route 199 need to be provided to achieve a level of service adequate to accommodate commercial and industrial traffic generators. The access to the Upriver Crossing of the York River to Gloucester (Alternative 5) may traverse this area and, therefore, any development and roadway improvements should be designed accordingly.

The Springfield Road/Jones Drive area, along Penniman Road between Water Country and the State Emergency Fuel Reserve Facility, contains scattered residential development but lacks public utility services. It continues to be designated for Low Density Single-Family Residential uses.

The Commonwealth of Virginia owns the Fuel Reserve Facility and has assumed responsibility for the environmental clean-up of the site. The U.S. Environmental Protection Agency is overseeing the State's Corrective Action Plan which includes removing toxics stored at the site and eliminating soil contamination caused by leaking fuel tanks. These factors make the Conservation designation appropriate.

27. Carver Gardens/Country Club Acres



**Location:** The Carver Gardens/Country Club Acres area is located west of Interstate 64 between Route 199 and James City County.

**Profile:** Existing Land Uses:

- Small and moderate lot size single-family residential development
- Apartments
- Williamsburg Country Club
- Office and retail commercial uses

Existing Residential Development Density:

- Single-family: 2-4 dwelling units per acre
- Multi-family: 10 dwelling units per acre

Utilities:

- Public water and sewer available

Environmental Constraints:

- Steep slopes
- Moderately well drained soils

Road/Access Conditions:

- Older narrow streets contribute to access problems within Carver Gardens
- Access to Interstate 64 is good
- Improvements to Merrimac Trail proposed
- Grove interchange planned for Interstate 64 between Whittaker's Mill and Busch Gardens properties with access for both Merrimac Trail and Pocahontas Trail

Census Tract: 507

**Land Use Designations:**

- Low Density Single-Family Residential
- Medium Density Single-Family Residential

- High Density Single-Family Residential
- Multi-Family Residential
- Office/Professional/Research
- General Commercial
- Limited Industrial
- Resource Management/Protection
- Conservation

The Carver Gardens subdivision and the undeveloped lands extending northward toward the Route 199/I-64 interchange, have been designated High Density Single-Family Residential in recognition of the established development patterns. The area is currently served by public water and sewer. Country Club Acres has been designated Medium Density Single-Family Residential because of the existing larger lot sizes.

The existing Country Club Apartments complex has been recognized through a Multi-Family Residential designation. However, expansion of the multi-family development at this location is limited by the surrounding single-family residential and commercial land uses.

The Office/Professional/Research designation has been applied to a fairly large area to the east of the Williamsburg Country Club. This designation recognizes the area's convenient accessibility to Interstate 64, the potential for extension of public utilities, and the special marketing appeal and open space and aesthetic benefits associated with the adjacent golf course. In addition, the proposed Grove Interchange and existing powerlines bisect this area making residential use of the property less than ideal, but providing convenient access from the interstate. However, these areas adjacent to the Williamsburg Country Club were designated for multi-family uses by the 1983 Plan. Such uses are not inappropriate, even given the proposed Grove Interchange. The interchange would, however, make office uses potentially more attractive than multi-family uses. Consequently, a mixed-use proposal combining multi-family uses with office/commercial uses, would not be incompatible with the intent of this designation.

The Office/Professional/Research designation has also been applied to the undeveloped property between Carver Gardens, Williamsburg Bluffs, and Country Club Acres which extends back from Route 143 along Parchment Boulevard. Any development of this area will require special sensitivity to the environmental fragility of the slopes and drainageways as well as to the single-family residential neighborhoods located on three sides.

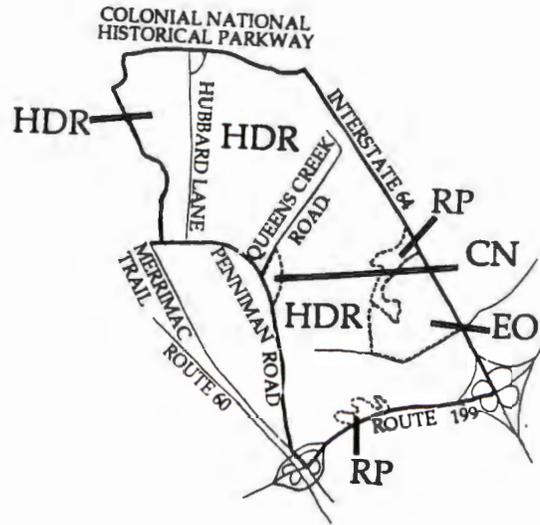
The General Commercial designation has been applied in two locations in this area in recognition of the drawing potential of Busch Gardens as well as the residential development in the area. The designation along Route 60 encompasses the Busch Corporate Center frontage, the Village Shops and the surrounding activities, all of which are heavily dependent on both tourist and resident traffic. While few additional parcels are available for future development, it is felt that this designation will help to ensure a continuation of the established character. Most of the frontage along Route 143 between the Carver Gardens and Country Club Acres subdivisions is also designated General Commercial, primarily in recognition of existing businesses and the commercial potential of properties fronting on Route 143.

The existing commercial development at the intersection of Tam O'Shanter Boulevard and Route 143 has been recognized through a Neighborhood Commercial designation. Because of the proximity of existing residential development, this area should not be

expanded into a major commercial activity center. However, additional neighborhood-oriented commercial activities can be accommodated as market demand dictates.

The small area of land in the Grove community between the CSX right-of-way and Pocahontas Trail continues to be designated for Low-Density Residential development, although it is fully recognized that the existing development is a fairly broad mixture of uses.

28. Penniman Road



**Location:** The Penniman Road area is bounded by Route 199, Penniman Road, the Colonial Parkway and is east of the James-York Plaza Shopping Center.

**Profile:** Existing Land Uses:

- Small and moderate lot size single-family residential development
- Neighborhood Commercial uses
- Warehousing operation
- School: Magruder Elementary
- Public Safety: Bruton Fire Station
- Griffin-Yeates Center (York County Community Services Offices)

Existing Residential Development Density:

- 2-4 dwelling units per acre

Utilities:

- Public water and sewer service available

Environmental Constraints:

- Steep slopes
- Moderately drained soils

Road/Access Conditions:

- Portions of Penniman Road need upgrading to handle industrial traffic and/or increased residential development

Census Tract: 507

## **Land Use Designations:**

- **High Density Single-Family Residential**
- **Neighborhood Commercial**
- **Economic Opportunity**
- **Resource Management/Protection**

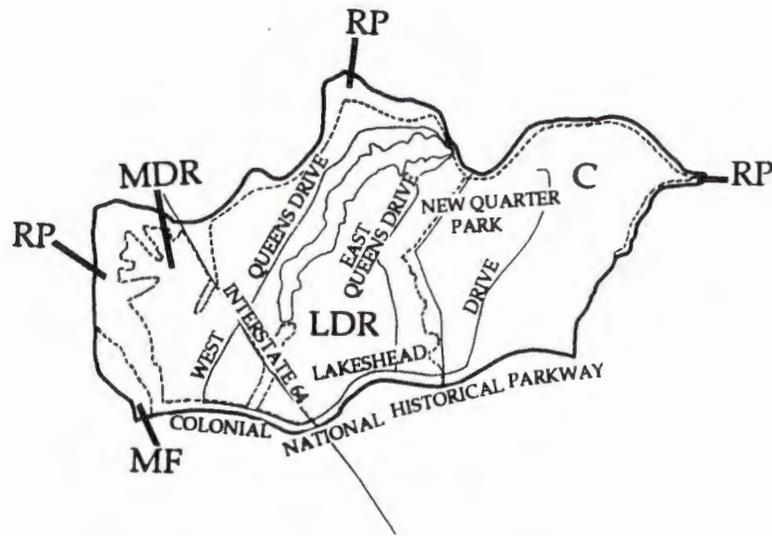
A substantial portion of the Penniman Road vicinity, including the Nelson Park, York Terrace, Charleston Heights, Queenswood, and Springfield Terrace subdivisions, has been designated High Density Single-Family Residential in recognition of the existing development patterns and the potential for expansion of that development character to adjacent in-fill parcels.

The area between Penniman Road and Route 199 has also been designated for High Density Single-Family Residential. There are in-fill opportunities in this area which can best be addressed through the High Density Single-Family residential designation. Similar to the Lackey area, the area contains some large parcels which could be subdivided with the resulting lots being in character with the surrounding area, provided that utility and transportation network considerations are properly addressed.

The Neighborhood Commercial designation at the Penniman Road/Queens Creek Road intersection is in recognition of existing convenience commercial development. The proximity of the existing residential development precludes substantial expansion of this area; however, some additional neighborhood-oriented commercial activities can be accommodated as market demand dictates.

The Whittaker's Mill property located on the north side of Penniman Road has been designated for Economic Opportunity uses and some warehouse/distribution facilities already have been established in this area. Future improvements to Penniman road should be provided prior to full development of the Whittaker's Mill Corporate Center West.

29. Queens Lake/Royal Grant



**Location:** This area is located between Queen Creek, Cheatham Annex, the Colonial Parkway, and the City of Williamsburg.

**Profile:** Existing Land Uses:

- Large and moderate lot size single-family residential lots development
- New Quarter Park
- School: Queens Lake Intermediate

Existing Residential Development Density:

- 1-2 dwelling units per acre

Utilities:

- Public water available
- Sewer service available to Royal Grant area

Environmental Constraints:

- Steep slopes
- Moderate erosion potential
- Moderately drained soils

Roads/Access Conditions:

- Generally good

Census Tract: 507

**Land Use Designations:**

- Low Density Single-Family Residential
- Medium Density Single-Family Residential
- Multi-Family Residential
- Resource Management/Protection
- Conservation

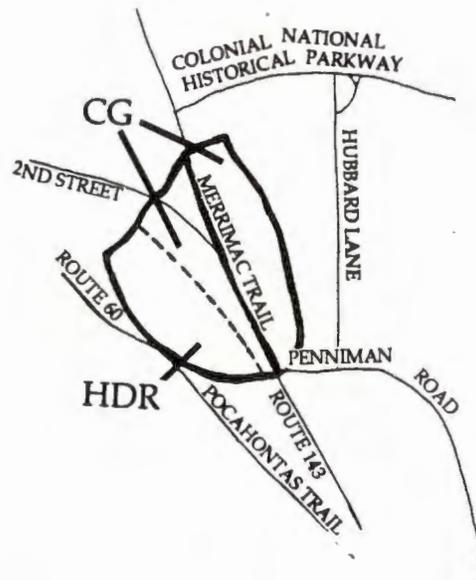
The existing low density character of the Queens Lake subdivision has been recognized through the Low Density Single-Family Residential designation. The majority of lots in this subdivision have been developed and further expansion is limited by surrounding Queen Creek, New Quarter Park and the Colonial Parkway.

Areas along Queen Creek and New Quarter Park, as well as other streams and adjacent steep slopes, have been designated Resource Management/Protection.

The area between Interstate 64 and the Colonial Parkway near Queens Lake has been designated Medium Density Single-Family Residential in recognition of the character of existing development. Public water and sewer are both available in this area and it is conveniently accessible to major activity centers in the Williamsburg area.

One small portion of this area, adjacent to the Williamsburg city limits, has been designated Multi-Family Residential. This area is effectively isolated from other lands in York County by a deep ravine and the Multi-Family Residential designation is consistent with adjacent multi-family developments in Williamsburg.

30. Second Street and Merrimac Trail



**Location:** This area is adjacent to the City of Williamsburg and James City County along Penniman Road and extends eastward to the James-York Plaza Shopping Center.

**Profile:** Existing Land Use:  
- Small lot single-family residential development  
- Retail commercial uses

Existing Residential Development Density:  
- 4 dwelling units per acre

Utilities:  
- Public water and sewer service available

Environmental Constraints:  
- Steep slopes  
- Severe erosion potential

Road/Access Conditions:  
- Both Merrimac Trail and Second Street provide adequate access

Census Tract: 507

**Land Use Designations:**

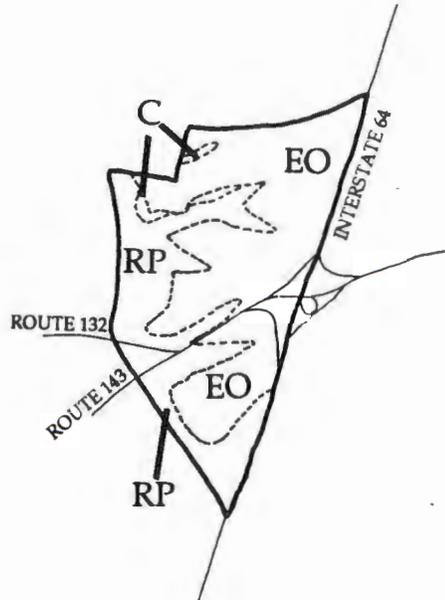
- High Density Single-Family Residential
- General Commercial

As in the 1983 Plan, the existing commercial development along Second Street and Route 143 has been recognized through a General Commercial designation. The area is substantially developed and contains two major shopping complexes, both of which

draw from the entire Williamsburg area. Landscaping improvements have been undertaken along Second Street in the city of Williamsburg and consideration should be given to extending similar improvements into York County.

The Middletowne Farms subdivision remains High Density Single-Family residential in recognition of the smaller lot size and availability of public utilities.

31. Queen Creek



**Location:** Located northeast of Williamsburg, this area is bounded by Interstate 64, Queen Creek, and Waller Mill Reservoir.

**Profile:** Existing Land Uses:  
- School: Bruton High School  
- Large, wooded undeveloped parcels

Existing Residential Development Density: N/A

**Utilities:**  
- Public utilities not currently available to area

**Environmental Constraints:**  
- Portions of area drain toward Waller Mill Reservoir  
- Moderately drained soils  
- Severe erosion potential

**Road/Access Conditions:**  
- Excellent access to Interstate 64

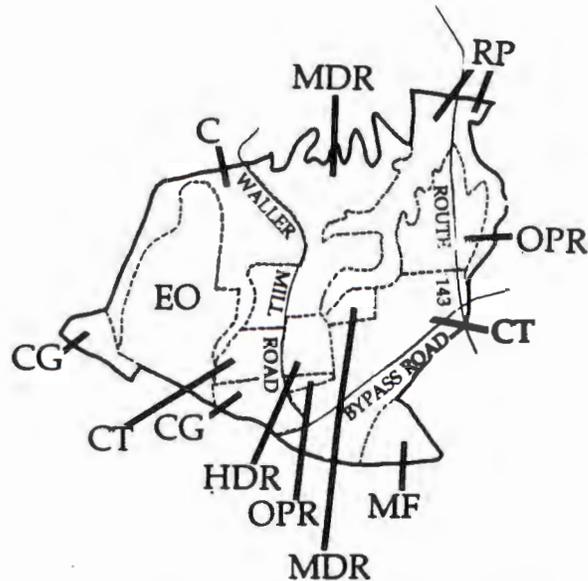
Census Tract: 508

**Land Use Designations:**

- Economic Opportunity
- Resource Management/Protection
- Conservation

The Queen Creek area is composed of largely undeveloped tracts of land adjacent to Queen Creek. Bruton High School is the only development in the area. An abundance of tidal and nontidal wetlands exists in this area requiring that the siting of future development be done in a manner which is consistent with the environmental sensitivity of the area. The Economic Opportunity designation is intended to recognize the excellent accessibility of this area to Interstate 64, making it potentially very attractive for office or corporate park development.

32. Bypass Road



**Location:** The Bypass Road area is located between Queen Creek, Waller Mill Reservoir and Williamsburg.

- Profile:** Existing Land Uses:
- Small and medium lot size single-family residential development
  - Condominiums
  - Retail Commercial
  - Timeshare/Motels
  - School: Waller Mill Elementary

- Existing Residential Development Density:
- Single-family: 2-4 dwelling units per acre
  - Multi-family: 10 dwelling units per acre

- Utilities:
- Public water and sewer service generally available and planned for extension. Water is provided by the City of Williamsburg and future availability is dependent upon the County's agreement with the City to provide water service.

- Environmental Constraints:
- Steep slopes
  - Wetlands
  - Moderately drained soils
  - Watershed drainage area
  - Severe erosion potential

- Road/Access Conditions:
- Extensions of Monticello Avenue and Mooretown Road should provide excellent access to and within the area.

Census Tract: 508

## Land Use Designations:

- Medium Density Single-Family Residential
- High Density Single-Family Residential
- Multi-Family Residential
- Office/Professional/Research
- General Commercial
- Tourist Commercial
- Economic Opportunity
- Resource Management/Protection
- Conservation

The Bypass Road vicinity continues to be designated Tourist Commercial in recognition of its proximity to Colonial Williamsburg and the potential to attract and accommodate additional tourist-oriented commercial development. A specific designation for tourist-related activities ensures a compatible mix of land uses and an increase in the attractiveness and marketability of this area. Bypass Road carries substantial amounts of tourist traffic and the area is easily accessible from all major tourist attractions and thoroughfares. Several tourist facilities currently exist in this corridor and others are in the planning or construction stage. Therefore, this designation should help to solidify the area's development character and ensure a compatible and attractive mix of activities for the future.

As in the 1983 Plan, the existing General Commercial development along Richmond Road adjacent to Williamsburg has been recognized. The Economic Opportunity designation has been added to encompass the area beyond the CSX railroad tracks to the east. Access to this area is currently limited by the railroad tracks, however, the potential extension of Monticello Avenue to connect with an extended Mooretown Road via Kingsgate Parkway offers a solution to this problem at some point in the future.

A major General Commercial node has been established at the Bypass Road-Waller Mill Road intersection based primarily upon its excellent accessibility and existing development. This area has been designated as such in recognition of the potential for further commercial development resulting from the planned extension of Mooretown Road. This is a very accessible location and is suitable for major commercial development as evidenced by the Kingsgate Green Shopping Center at this intersection.

As in the 1983 Plan, the area south of Bypass Road has been designated Multi-Family Residential primarily in recognition of its proximity to Williamsburg activity centers, the availability or potential availability of public utilities, the convenience of access and the existing development pattern. In addition, accessibility to the area will be substantially improved with the planned extension of Monticello Avenue to the Bypass Road/Waller Mill Road intersection.

The Green Springs subdivision has been designated High Density Single-Family Residential primarily in recognition of the established high density development character. A small area abutting this neighborhood is designated Office/Professional/Research and is intended to provide a transition between the commercial development along Bypass Road.

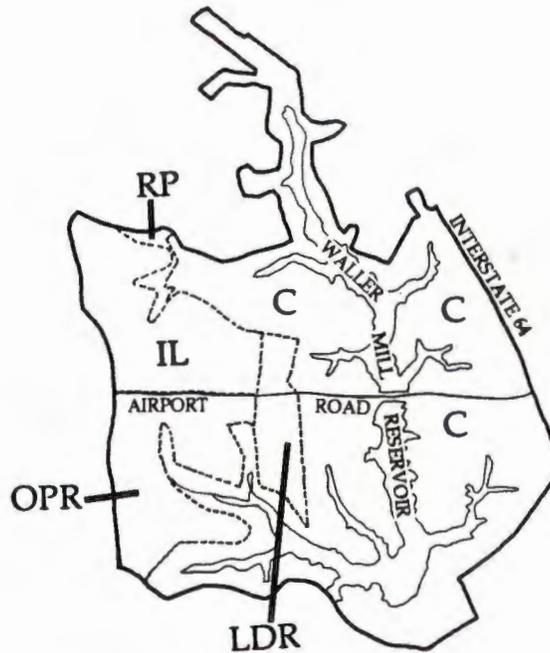
Most of the property fronting on Route 132 between Route 143 and Bypass Road is bounded by two tributaries of Queen Creek and has been designated for Office/Professional/Research uses in recognition of its excellent accessibility to

Interstate 64. However, this property, all of which is currently owned by the Colonial Williamsburg Foundation, was designated for Medium Density Single-Family Residential uses by the 1983 Plan. Consequently, this is an area where, given the right combination of landscaping, buffering, architectural and environmental sensitivity, and general design excellence, it would not be inappropriate to consider a mixed-use type of development.

The remainder of the Bypass Road area has been designated Medium Density Single-Family Residential with the exception of Queen Creek and its tributaries, which are designated Resource Management/Protection. The Medium Density designation, which is consistent with the 1983 Plan, recognizes the availability of public water, the potential availability of public sewer service, and the convenient accessibility of the area from major transportation arteries and Williamsburg activity centers. The rolling terrain and existing woodlands provide excellent potential for a very attractive residential community. Accordingly, planned developments which utilize clustering techniques and maximize open space retention should be encouraged in these areas.

While the Bypass Road area has great potential for a variety of development types, it is important that infrastructure capacities be carefully evaluated in determining the appropriateness of the timing and intensity of that development. For example, certain portions of this area will be developable only upon the construction of transportation system improvements while the entire area is subject to careful review in terms of water supply and sewer capacities.

33. Waller Mill



**Location:** The Waller Mill area is located between Mooretown Road eastward to Interstate 64 and the northern and southern limits of Waller Mill Reservoir.

**Profile:**

**Existing Land Uses:**

- Waller Mill Reservoir (Williamsburg)
- Park: Waller Mill (Williamsburg)
- Large lot size single-family residential development
- Limited industrial uses

**Existing Residential Development Density:**

- 0.5-1 dwelling unit per acre

**Utilities:**

- Limited public water available and no sewer service available

**Environmental Constraints:**

- Steep slopes
- Moderately drained soils
- Watershed drainage area
- Severe erosion potential

**Road/Access Conditions:**

- Road improvements planned for Mooretown Road
- Extension of Mooretown Road planned for connection with Waller Mill Road via Kingsgate Parkway

**Census Tract: 508**

## **Land Use Designations:**

- **Low Density Single-Family Residential**
- **Office/Professional/Research**
- **Limited Industrial**
- **Resource Management/Protection**
- **Conservation**

A portion of the Waller Mill vicinity along Airport Road has been designated Low Density Single-Family Residential in recognition of the existing development patterns. In making this designation, which is consistent with the 1983 Plan, consideration was also given to various other factors including the absence of public utilities, and the proximity of the Waller Mill Reservoir.

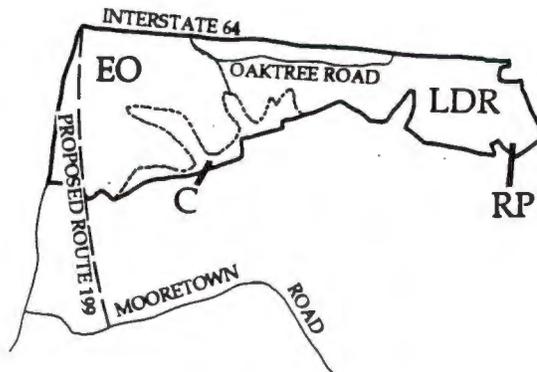
A large area in the vicinity of the Airport/Mooretown Roads intersection has been designated Limited Industrial and Office/Professional/Research. The area is conveniently accessible from Williamsburg and Route 60 via Airport Road and spur lines from the CSX railroad border the western edge of this area. Although several small light industrial activities are currently in the area, it is mostly undeveloped and contains several large parcels which could be attractive to firms with substantial land area requirements.

With improvements to Mooretown Road underway, the traffic safety issues in this area should largely be resolved. However, because of the proximity of Waller Mill Reservoir and the existence of environmental constraints, no further increase in industrial development should be encouraged until public water and sewer service are readily available to this area. However, as with the Bypass Road area, water supply constraints may affect the timing and intensity of development.

With the future extension of Mooretown Road west to Route 199 and east to Waller Mill Road/Monticello Area, office development in this area would have ready access to Williamsburg, as well as good access to Interstate 64 when Route 199 is completed. The Office/Professional/Research designation is a compatible use in proximity to single-family uses and Waller Mill Reservoir.

Waller Mill Reservoir property, owned by the City of Williamsburg, has been designated Conservation consistent with the need to protect drinking water sources.

34. Rochambeau



**Location:** The Rochambeau area is bounded by Interstate 64, Waller Mill Reservoir and Lightfoot Road.

**Profile:** Existing Land Uses:  
- Large lot size single-family residential development  
- Automotive and service uses

Existing Residential Development Density:  
- 0.5-1 dwelling unit per acre

Utilities:  
- No public water or sanitary sewer service available

Environmental Constraints:  
- Steep slopes  
- Wetlands  
- Watershed drainage area  
- Severe erosion potential

Road/Access Conditions:  
- Generally acceptable for low density residential development, however, the completion of Route 199 will truncate Rochambeau at Route 199 and make access somewhat circuitous. The Route 199 design does provide for emergency vehicle access directly from Route 199 onto Rochambeau Drive.

Census Tract: 508

**Land Use Designations:**

- Low Density Single-Family Residential

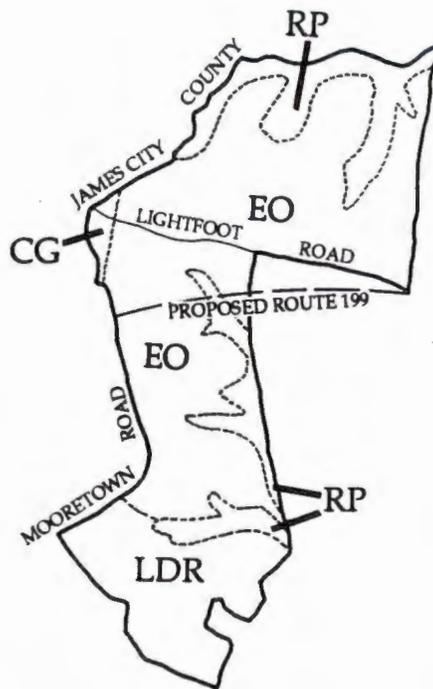
- Economic Opportunity
- Resource Management/Protection
- Conservation

This area, which is served by Rochambeau Drive, from Queen Creek to Lightfoot, is essentially isolated by the City of Williamsburg's Waller Mill Reservoir on the west and by I-64 and Camp Peary on the east. Schenk Estates is the only established subdivision in this area.

Areas surrounding the Waller Mill Reservoir have been designated Conservation in recognition of the need to preserve the reservoir's water quality. In addition, the Resource Management/Protection designation has been applied to the wetlands of Queen Creek and the adjacent steep slopes.

In order to accommodate runoff without environmental or property damage, the remainder of the Rochambeau Drive area south of Oaktree has been designated Low Density Single-Family Residential Road in recognition of the proximity to Waller Mill Reservoir and because neither public water nor sewer service is available in this area. It is recognized that a number of long established commercial uses are present, and while the existence of these activities does not justify a commercial designation along Rochambeau Road, their continuation and expansion are fully consistent with the intent of the designations in this area. An Economic Opportunity area is located north of Oaktree Road and adjacent to Interstate 64 in anticipation of the increased development potential likely to result from the Route 199 extension.

35. Lightfoot



**Location:** The Lightfoot area is located west of Interstate 64 and is bounded by Waller Mill Reservoir, Mooretown Road, James City County, and Interstate 64.

**Profile:**

**Existing Land Uses:**

- Large lot size single-family residential development
- Tourist commercial activities (Camping, Pottery Factory)
- Service commercial activities

**Existing Residential Development Density:**

- Varies

**Utilities:**

- No public water or sewer service currently available
- County has installed two wells which offer potential for interim water supply

**Environmental Constraints:**

- Steep slopes
- Moderately drained soils
- Severe erosion potential

**Road/Access Conditions:**

- Currently poor, however with the construction of Route 199 and the Route 199/Mooretown Road connector and planned improvement to Lightfoot Road in this area, access will improve

**Census Tract: 508**

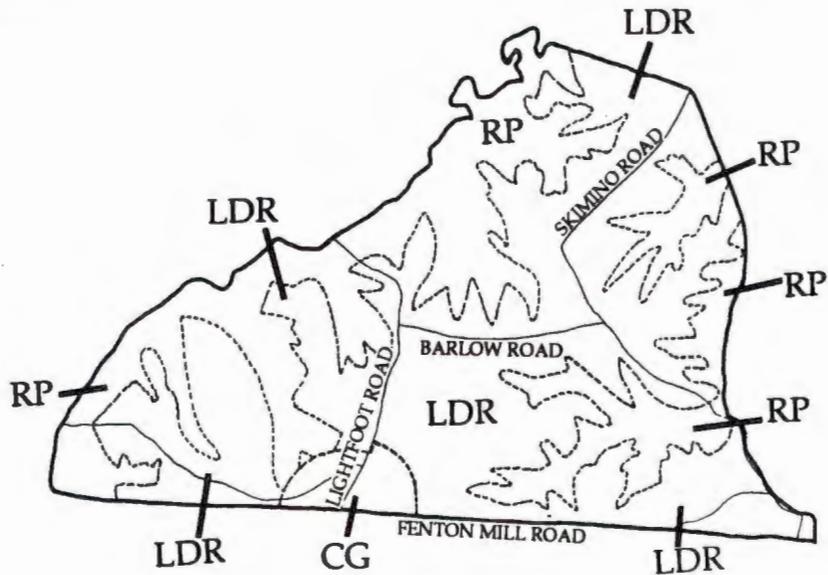
## **Land Use Designations:**

- **Low Density Residential**
- **Economic Opportunity**
- **General Commercial**
- **Resource Management/Protection**

The I-64/Lightfoot Road interchange is essentially undeveloped; however, a substantial amount of traffic either passes by or uses this interchange. Consequently, the area is expected to have significant commercial/industrial development potential. Additionally, the planned extension of Route 199 from this interchange with I-64 to Richmond Road and, ultimately completing the Williamsburg bypass, should make the area one of the primary entrances to Williamsburg and, accordingly, increase the economic development potential. The planned extension of Mooretown Road to an interchange with Route 199, enhances this potential even further.

The Lightfoot Road corridor is undergoing a transition from a sparsely developed rural residential and agricultural area to that of a primary economic opportunity for York County and the Economic Opportunity land use designation is designed to recognize the development potential associated with this transition. There are a relatively few number of large landholdings comprising the bulk of the property in this area. This ownership pattern, combined with the potential extension of public utilities to this area makes the potential for deliberate and coordinated large-scale economic developments possible at some point in the future. The timing of such development will be dependent on effective solutions to utility and other infrastructure needs.

36. Skimino



**Location:** The Skimino area is located east of Interstate 64 and is bounded by James City County and Camp Peary.

**Profile:** Existing Land Uses:

- Large and moderate size single-family lots
- Office uses
- Fire station
- Camp Skimino (Girl Scout Camp)

Existing Residential Development Density:

- 0.5-1 dwelling unit per acre

Utilities:

- Public water available (County owned wells). No sewer service available

Environmental Constraints:

- Steep slopes
- Moderately drained soils
- Severe erosion potential

Road/Access Conditions:

- Only rural roads serve area
- Good access to Interstate 64

Census Tract: 508

**Land Use Designations:**

- Low Density Single-Family Residential

- General Commercial
- Resource Management/Protection

The Skimino area is one of the most rural areas of York County. Major subdivisions in the area include Old Quaker Estates, Skimino Hills, Banbury Cross, Scimmino Farms, and Skimino Ranches. It is recognized that along Fenton Mill Road a number of limited industrial uses have been established. However, the expansion of these uses to adjacent properties would not be in keeping with the rural residential character of the remainder of this area.

Numerous creeks and streams flow through this area and the adjacent steep slopes represent significant constraints to development. As in the 1983 Plan, the steep slopes of Skimino Creek and Carters Creek have been designated Resource Management/ Protection to provide a policy statement that development, if attempted in these areas, should be carefully designed to avoid erosion, rapid stormwater runoff, flooding, and other environmental problems.

The Skimino area, including Skimino Ranches, Scimmino Farms, Old Quaker Estates, and the area along Fenton Mill Road, has been designated Low Density Single-Family Residential because of the severe topography, lack of utilities, generally poor road conditions, and other associated factors which tend to limit development capacity. It is not anticipated that public sewer service will be extended into these areas.

The portion of this area fronting on both sides of Lightfoot Road (Route 646) between Interstate 64 and Skimino Fire Station has been designated for Commercial development in recognition of its excellent access, topography, and configuration.

Lightfoot Road north of Interstate 64 is the collector roadway for the entire Skimino residential area of York County and James City County. As such, it is intended that commercial development on Lightfoot Road north of Interstate 64 be community-oriented. Such development should be a coordinated concentration of retail service uses designed in a manner which would provide appropriate buffering for adjacent residentially-designated properties, and be of a scale in keeping with the character of the immediately surrounding development. Any commercial development in this area, however, should be deferred until public water and sewer are available.

Commercial development oriented toward a regional or tourist market is inappropriate for this area. It is intended that convenience stores, service stations, fast food restaurants, and other similar establishments having relatively high traffic impacts and the potential for 24-hour and late-night operation be excluded from this area, unless such uses are part of a concentrated community-oriented commercial grouping developed under a single development plan.

To the extent possible, all commercial development in the area should be oriented to and front on Lightfoot Road rather than Fenton Mill Road which should remain a residential and residential-collector roadway.

TABLE 6

LAND USE EVALUATION CHECKLIST

Factors Considered in Making Land Use Designations

	1. Calthrop Neck	2. Wythe Creek	3. Bethel	4. Brick Kiln Creek	5. Tabb	6. Denbigh Blvd./Airport
Consistent with Existing Land Use Plan Designation	•	•	•		•	•
Consistent with Existing Zoning	•	•	•		•	•
Recognize Existing Densities	•	•	•		•	
Minimize/Eliminate Conflicts With Adjacent Land Uses				•		
No Public Water						•
No Public Sewer	•					•
Potential Public Water/Sewer	•				•	
Limitations for Septic System	•	•				•
Susceptibility to Severe Wetness/Drainage Problems	•	•	•	•	•	•
Excessive Slope (20% or more)						
Protect Wetlands/Flood Hazard Areas	•	•	•		•	•
Protect Watershed			•	•		•
Protect Historical Significance/Natural Resources			•		•	•
Protect Shoreline and Chesapeake Bay Tributaries	•	•	•		•	
Poor Road/Access Conditions					•	
Good Road/Access Conditions	•	•	•	•	•	
Potential Future Highway Improvements						
Recognize Availability of Railroad						
Increase Housing Opportunities			•	•		
Ensure Specific Types of Commercial			•	•		
Ensure Specific Types of Industrial				•		
Recognize Potential Market/Demand			•	•		
Recognize Military or Park Service Property			•			

TABLE 6 (continued)

LAND USE EVALUATION CHECKLIST

Factors Considered in Making Land Use Designations

	7. Denbigh Blvd./Ft. Eustis Blvd.	8. Yorkville/Patrick's Creek	9. Lakeside/Dare Road	10. Dare	11. Allens Mill Road	12. Acree Acres/Rosewood
Consistent with Existing Land Use Plan Designation		•	•	•	•	•
Consistent with Existing Zoning		•	•	•	•	•
Recognize Existing Densities		•	•	•	•	•
Minimize/Eliminate Conflicts With Adjacent Land Uses			•			
No Public Water	•			•	•	
No Public Sewer	•			•	•	
Potential Public Water/Sewer						
Limitations for Septic System	•	•		•	•	
Susceptibility to Severe Wetness/Drainage Problems	•	•	•	•	•	•
Excessive Slope (20% or more)						
Protect Wetlands/Flood Hazard Areas	•	•		•	•	
Protect Watershed						
Protect Historical Significance/Natural Resources	•	•				
Protect Shoreline and Chesapeake Bay Tributaries		•		•	•	
Poor Road/Access Conditions				•		
Good Road/Access Conditions						•
Potential Future Highway Improvements						
Recognize Availability of Railroad						
Increase Housing Opportunities						
Ensure Specific Types of Commercial						
Ensure Specific Types of Industrial						
Recognize Potential Market/Demand						
Recognize Military or Park Service Property						

TABLE 6 (continued)

LAND USE EVALUATION CHECKLIST

Factors Considered in Making  
Land Use Designations

	13. Seaford	14. York Point	15. Goodwin Island	16. Dandy	17. Goodwin Neck	18. Hornsbyville/Waterview
Consistent with Existing Land Use Plan Designation		•	•	•	•	•
Consistent with Existing Zoning	•	•	•	•	•	•
Recognize Existing Densities		•	•	•	•	•
Minimize/Eliminate Conflicts With Adjacent Land Uses	•				•	
No Public Water		•	•			
No Public Sewer		•	•	•		•
Potential Public Water/Sewer	•					•
Limitations for Septic System	•	•	•	•		
Susceptibility to Severe Wetness/Drainage Problems	•	•	•	•		
Excessive Slope (20% or more)						
Protect Wetlands/Flood Hazard Areas	•	•	•	•	•	•
Protect Watershed						
Protect Historical Significance/Natural Resources		•	•			
Protect Shoreline and Chesapeake Bay Tributaries	•	•	•	•	•	•
Poor Road/Access Conditions			•		•	•
Good Road/Access Conditions						
Potential Future Highway Improvements						
Recognize Availability of Railroad					•	
Increase Housing Opportunities						
Ensure Specific Types of Commercial						
Ensure Specific Types of Industrial					•	
Recognize Potential Market/Demand						
Recognize Military or Park Service Property						

TABLE 6 (continued)

LAND USE EVALUATION CHECKLIST

Factors Considered in Making Land Use Designations

	19. Marlbank	20. Harris Grove/Cook Road	21. Edgehill	22. Moore House	23. Yorktown	24. Goosley Rd./Colonial Pkwy.
Consistent with Existing Land Use Plan Designation	•	•	•	•	•	•
Consistent with Existing Zoning	•	•	•	•	•	•
Recognize Existing Densities	•	•	•	•	•	•
Minimize/Eliminate Conflicts With Adjacent Land Uses		•	•		•	
No Public Water		•				
No Public Sewer	•	•		•		•
Potential Public Water/Sewer	•	•				•
Limitations for Septic System						
Susceptibility to Severe Wetness/Drainage Problems						
Excessive Slope (20% or more)	•			•	•	
Protect Wetlands/Flood Hazard Areas	•				•	•
Protect Watershed			•			•
Protect Historical Significance/Natural Resources					•	
Protect Shoreline and Chesapeake Bay Tributaries	•			•	•	
Poor Road/Access Conditions		•				
Good Road/Access Conditions						
Potential Future Highway Improvements		•				
Recognize Availability of Railroad		•				
Increase Housing Opportunities						•
Ensure Specific Types of Commercial		•			•	
Ensure Specific Types of Industrial						
Recognize Potential Market/Demand					•	
Recognize Military or Park Service Property					•	

TABLE 6 (continued)

LAND USE EVALUATION CHECKLIST

Factors Considered in Making  
Land Use Designations

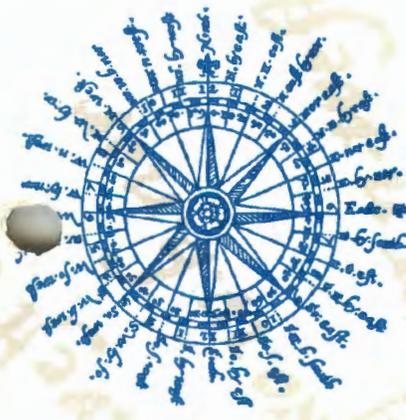
	25. Lackey	26. Whittaker's Mill	27. Carver Gardens/Country Club	28. Penniman Road	29. Queen's Lake /Royal Grant	30. 2nd St./Merrimac Trail
Consistent with Existing Land Use Plan Designation	•	•	•	•	•	•
Consistent with Existing Zoning	•	•		•	•	•
Recognize Existing Densities	•		•	•	•	
Minimize/Eliminate Conflicts With Adjacent Land Uses		•				
No Public Water						
No Public Sewer	•	•			•	
Potential Public Water/Sewer	•	•				
Limitations for Septic System						
Susceptibility to Severe Wetness/Drainage Problems					•	•
Excessive Slope (20% or more)		•	•		•	
Protect Wetlands/Flood Hazard Areas		•				
Protect Watershed	•					
Protect Historical Significance/Natural Resources		•			•	•
Protect Shoreline and Chesapeake Bay Tributaries		•				
Poor Road/Access Conditions	•		•	•		
Good Road/Access Conditions		•				
Potential Future Highway Improvements		•	•			
Recognize Availability of Railroad				•		
Increase Housing Opportunities	•		•	•		
Ensure Specific Types of Commercial	•	•	•			•
Ensure Specific Types of Industrial						
Recognize Potential Market/Demand	•	•				
Recognize Military or Park Service Property	•					

TABLE 6 (continued)

LAND USE EVALUATION CHECKLIST

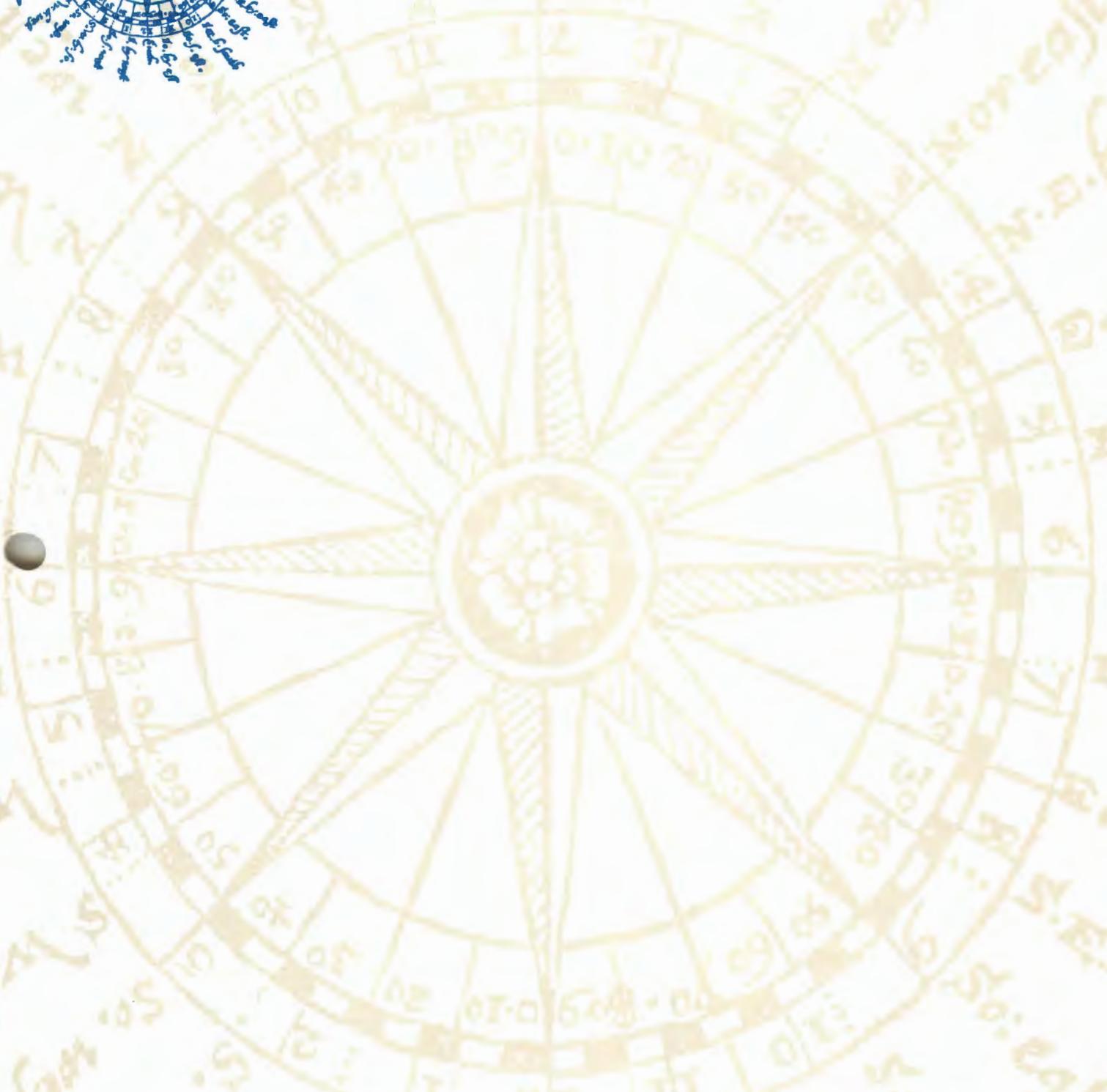
Factors Considered in Making Land Use Designations

	31. Queens Creek	32. Bypass Road	33. Waller Mill	34. Rochambeau	35. Lightfoot	36. Skimino
Consistent with Existing Land Use Plan Designation		•	•	•		•
Consistent with Existing Zoning		•	•	•		•
Recognize Existing Densities		•	•	•		•
Minimize/Eliminate Conflicts With Adjacent Land Uses					•	
No Public Water			•	•	•	•
No Public Sewer			•	•	•	•
Potential Public Water/Sewer	•		•		•	
Limitations for Septic System						
Susceptibility to Severe Wetness/Drainage Problems						
Excessive Slope (20% or more)		•	•	•	•	•
Protect Wetlands/Flood Hazard Areas	•	•				
Protect Watershed	•	•	•	•	•	
Protect Historical Significance/Natural Resources						
Protect Shoreline and Chesapeake Bay Tributaries	•	•				•
Poor Road/Access Conditions		•	•		•	
Good Road/Access Conditions	•	•				
Potential Future Highway Improvements		•	•		•	
Recognize Availability of Railroad		•				
Increase Housing Opportunities						
Ensure Specific Types of Commercial	•	•			•	
Ensure Specific Types of Industrial			•			
Recognize Potential Market/Demand	•	•			•	
Recognize Military or Park Service Property						



# *Charting the Course to 2010*

Preserving the Past, Ensuring the Future



# Transportation

# TRANSPORTATION ELEMENT

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# TRANSPORTATION

## INTRODUCTION

Transportation planning, although often acknowledged without comment by the public and planners alike, is generally most apparent when not done correctly or, more often, when needs outstrip resources. Such occurrences are frequently met with calls for more spending on transportation on the one hand and for increased privatization on the other. Precisely because transportation planning and its relationship to land use are a critical part of the overall planning process, it is important to recognize the many reasons for local involvement in transportation planning:

- Transportation is a land use. It shapes and molds the community. Roads and intersections not only use a great deal of land, they attract development. New roads can channel business away from old routes affecting existing businesses. Highways and rail lines form physical barriers to development and tend to separate communities as well as create traffic choke points where they intersect.
- Transportation impacts the environment. Automobiles are a major source of air pollution in the region. The large impervious surfaces dedicated to roadways affect water quality through pollutant laden run-off having velocities which can cause erosion. The noise of automobiles, trucks, trains and airplanes has been and continues to be of great concern.
- Transportation affects the County's economic base. Access and visibility are two of the most critical factors in commercial and industrial location choices. Employees, customers, raw materials, equipment, supplies, and merchandise must all be able to easily, economically, and safely reach the location while finished goods must be exported at reasonable cost. An inadequate or overburdened transportation system will deter economic development.
- Transportation is affected by indirect external factors. The automobile is the largest consumer of petroleum in a country where half or more of its oil is imported. The simultaneous need for more fuel efficient transportation and fewer and cleaner emissions from vehicles clearly points in the direction of finding alternatives, not only to the internal combustion engine, but also to the automobile itself.

Transportation should be viewed as a vast collection of facilities and machines which enhance human mobility. While roads and highways continue to be the largest single component of the transportation system, transportation planning also encompasses, and therefore must coordinate among, many different modes of transportation--air, bus, rail, water, transit, bicycle and walking as well as the automobile. Road crossings of rail and water often create choke-points in the transportation network and define the capacity of the road system. In the long-run then, the points and places where transportation modes meet may become the most important aspect of transportation planning.

Many, if not all, travel patterns cross the sometimes artificial boundaries of the communities within Hampton Roads. Therefore, it is essential that the transportation network in York County be effectively and efficiently linked with that of surrounding jurisdictions. Because of this linkage, effective solutions to today's transportation problems and the development of appropriate transportation plans for the future require a regional approach. In this regard, continuation of the regional network and modelling effort of the Planning District Commission is crucial, not only to the region as a whole, but to each of its member communities.

In developing this plan, a number of factors were considered and assumptions made. It is important to recognize these up-front.

- New technology will improve the fuel efficiency and reduce the exhaust pollution of airplanes, automobiles, buses, and trucks.
- Vehicles powered by alternative fuels will not attain the travel ranges of today's automobiles during the 20-year planning period.
- At-the-pump fuel prices will likely increase at a rate faster than general inflation. A significant proportion of this increase will result from higher tax rates which may or may not be used to capitalize transportation improvements.
- Communications advances combined with higher costs will continue to reduce business travel.
- Technological advances will continue to diminish the noise impacts of airplanes.
- Federal and state funding for transportation system improvements will diminish. The current relationship between the County and the Virginia Department of Transportation wherein VDOT owns and maintains all the public roads in the County will change as the County is forced to accept increasing responsibility for financing and maintaining local roads.
- New technology will automate and therefore speed the process of toll collection allowing the capacity of toll facilities to approximate that of similar non-toll facilities and making the concept of private toll roads and bridges more feasible.

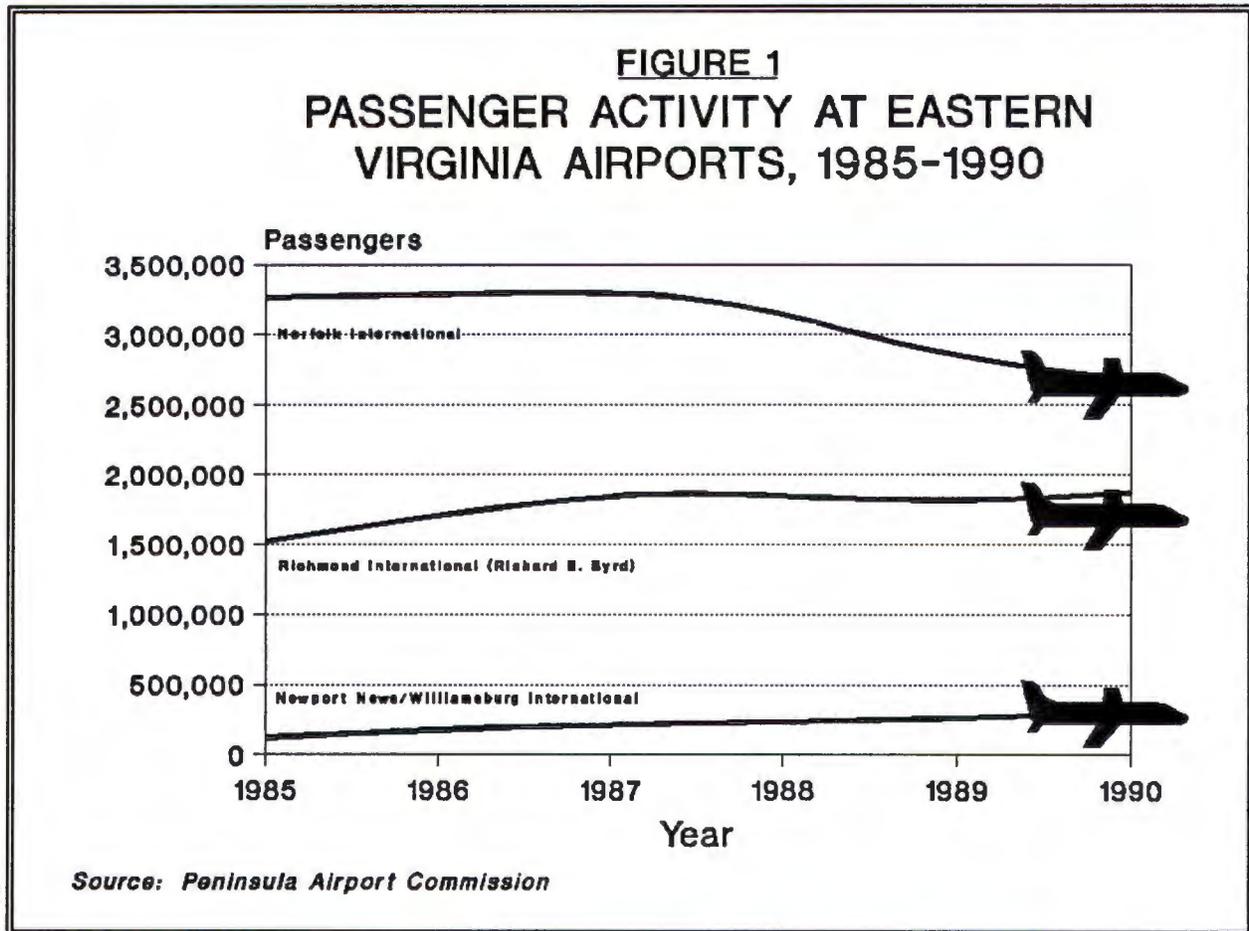
## **EXISTING CONDITIONS**

### **Introduction**

Although the 1983 Land Use Plan contained a number of transportation-related objectives and implementation strategies, the most recent Transportation Plan was adopted in April 1979. It should be noted that the 1979 Transportation Plan contained absolutely no mention of any type of transportation facility other than roads, hence its title of Major Thoroughfare Plan. The 1983 Land Use Plan, although very briefly discussing water, rail, and air modes, made no reference to bicycles, walking, or transit modes. It is perhaps illustrative to note that fewer than 35% of the road improvements contained in the 1979 Transportation Plan have been implemented and, if those projects which were already either under construction or in the final stages of planning at the time of the plan's adoption are removed, the percentage drops precipitously. This is natural and stems from several factors including the long lead-time for planning and engineering, the high cost of land acquisition and construction, the vast number of competing projects and the simple fact that needs and priorities change.

## Air

York County is served by three commercial airports, none of them world-class facilities. Newport News/Williamsburg (formerly Patrick Henry) International Airport which straddles the County boundary with Newport News, is the closest, but has, by far, the least passenger air traffic. Norfolk International and Richmond International have ten and seven times the passenger air travel respectively and are each approximately one-hour from most parts of the County, depending on traffic and the time of day. Figure 1 shows these passenger air travel trends graphically.



Newport News/Williamsburg International Airport has recently embarked upon a \$14 million passenger terminal expansion in hopes of capturing an even larger share of the air travel market. However, as can be seen in Figure 1, the eastern Virginia air travel market has actually been shrinking for the past several years even in spite of unprecedented high growth rates within the region. The air passenger market in eastern Virginia in 1990 showed a decrease by 50,000 passengers under 1985 and a more than one-half million passenger drop under the 1987 peak.

The Peninsula Airport Commission's adopted 1979 Master Plan for Newport News/Williamsburg Airport depicts extension of Runway 2-20 across Oriana Road and construction of a third runway parallel to Runway 2-20 to accommodate the needs for general aviation. Implementation of the adopted Master Plan would provide the following runway configuration:

<u>Runway</u>	<u>Existing Dimensions</u>	<u>Planned Dimensions</u>
2L-20R	6,525' x 150'	8,000' x 150'
7-25	8,003' x 150'	8,003' x 150'
2R-20L	N/A	3,800' x 75'

(See Diagram 1)

The Airport Influence Areas as shown on Maps T-1 and T-2, indicate that the planned configuration contained in the adopted Master Plan, would not increase the noise impact on populated residential portions of the County and to Grafton-Bethel School which is in direct alignment with Runway 7-25. In fact, because of the weather, wind, and alignment advantages of using Runway 2-20 rather than 7-25, the configuration might reduce the impact by reducing the frequency of occurrences. The more significant noise impacts are, instead, directed upon the uninhabited Newport News Waterworks property containing the watershed for Harwoods Mill Reservoir.

Recently, however, the Peninsula Airport Commission has been discussing the potential for the airport expansion to take a different direction. Rather than construction of a general aviation runway parallel to Runway 2-20, it is suggested that a runway parallel to runway 7-25 be constructed resulting in the following configuration:

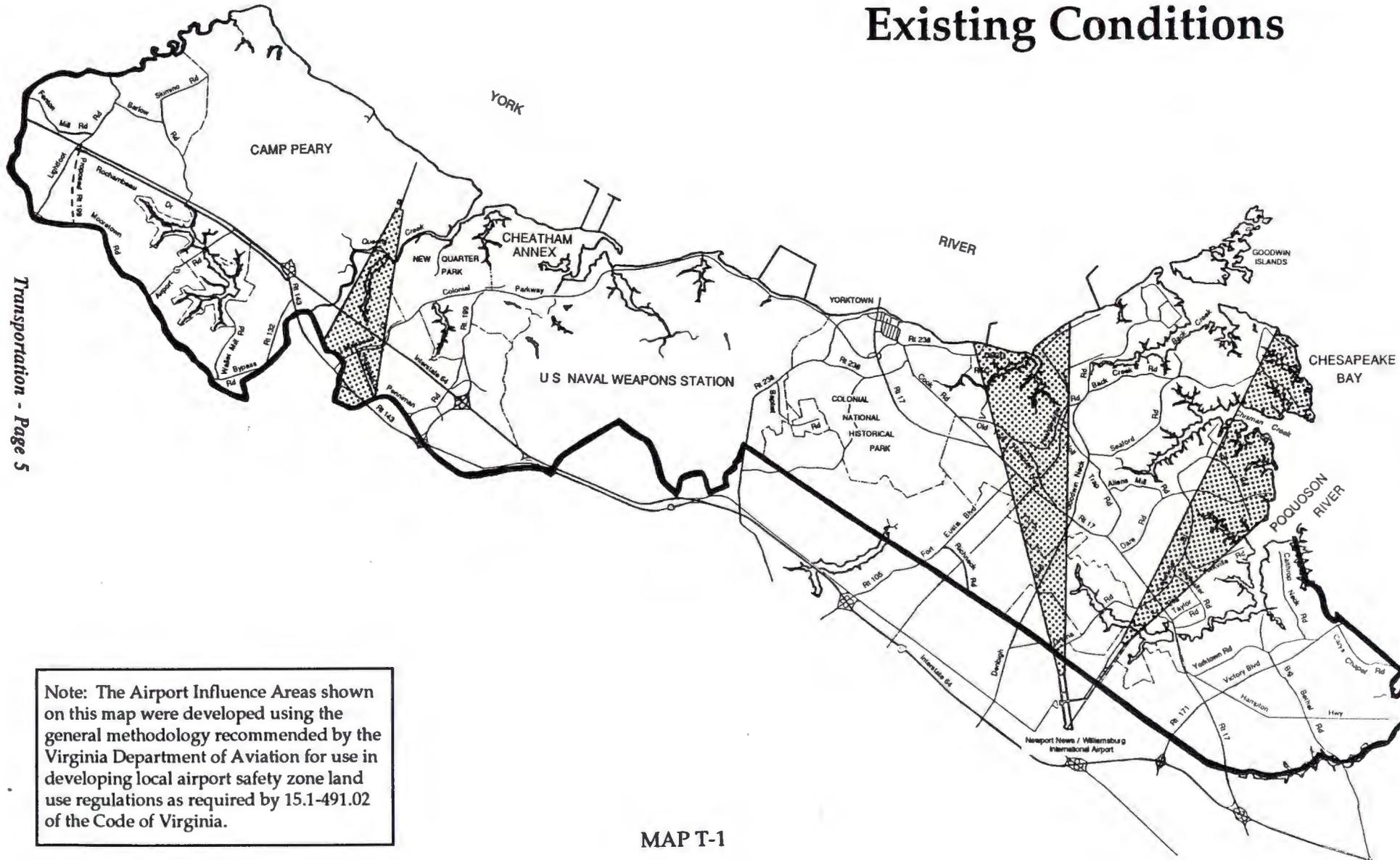
<u>Runway</u>	<u>Existing Dimensions</u>	<u>Planned Dimensions</u>
2-20	6,525' x 150'	10,025' x 150'
7R-25L	8,003' x 150'	10,000' x 150'
7L-25R	N/A	6,500' x 150'

(See Diagram 2)

The purpose of such a configuration is to be able to sustain simultaneous commercial aircraft take-off and landing operations, effectively more than doubling the flight operation capacity of the airport and perhaps placing Newport News/Williamsburg International Airport into contention to become a regional hub for an airline. Unfortunately, as shown in Map T-3, such a configuration would extend the aircraft influence over existing populated areas of York County, including placing another County school, Dare Elementary, within the noise impact area for the airport's flight path. However, it must be noted that the noise aspects of airport influence areas may be reduced in future years as various noise abatement technologies are developed and utilized, both at airports and on the planes themselves.

The various Chambers of Commerce in eastern Virginia, together with the Richmond Regional and Hampton Roads Planning District Commissions, have recently undertaken a feasibility study to determine what the potential is for constructing a huge world-class airport somewhere in the region to meet the air travel needs of the 21st Century. Such a facility, sometimes referred to as a "Superport," would be of a scale similar to that of Dallas-Ft. Worth Airport or the new facility under construction outside of Denver. The three existing airports could continue to serve as feeder facilities and short-hop destinations within the framework of the Superport proposal. Although the Superport proposal is in its infancy and cannot be fully addressed in the context of this Plan, it is clear that the availability of a regional airport in the future could dramatically impact both the need for and the type of expansion appropriate at Newport News/Williamsburg International Airport.

# Airport Influence Areas Existing Conditions

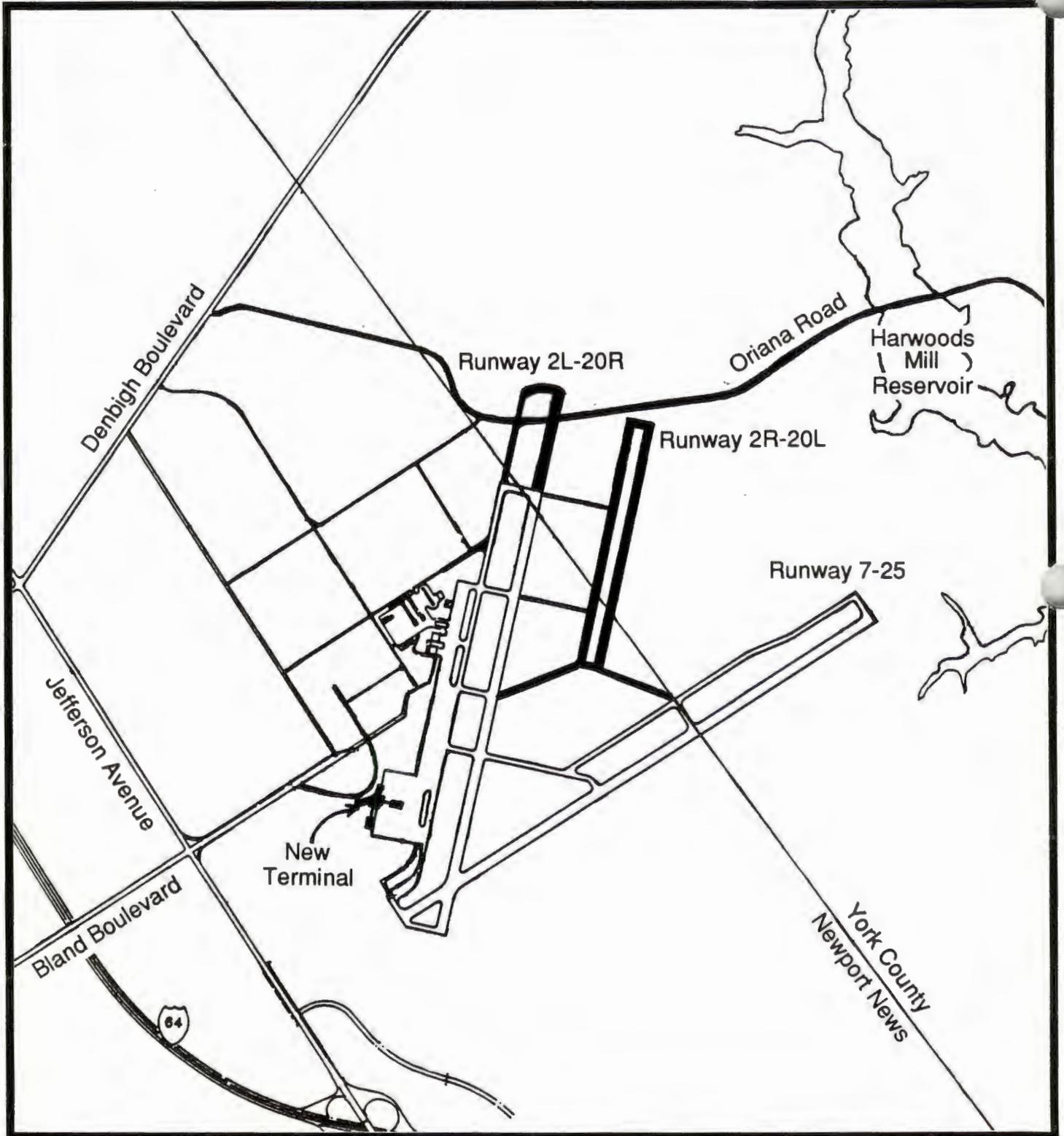


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Note: The Airport Influence Areas shown on this map were developed using the general methodology recommended by the Virginia Department of Aviation for use in developing local airport safety zone land use regulations as required by 15.1-491.02 of the Code of Virginia.

MAP T-1

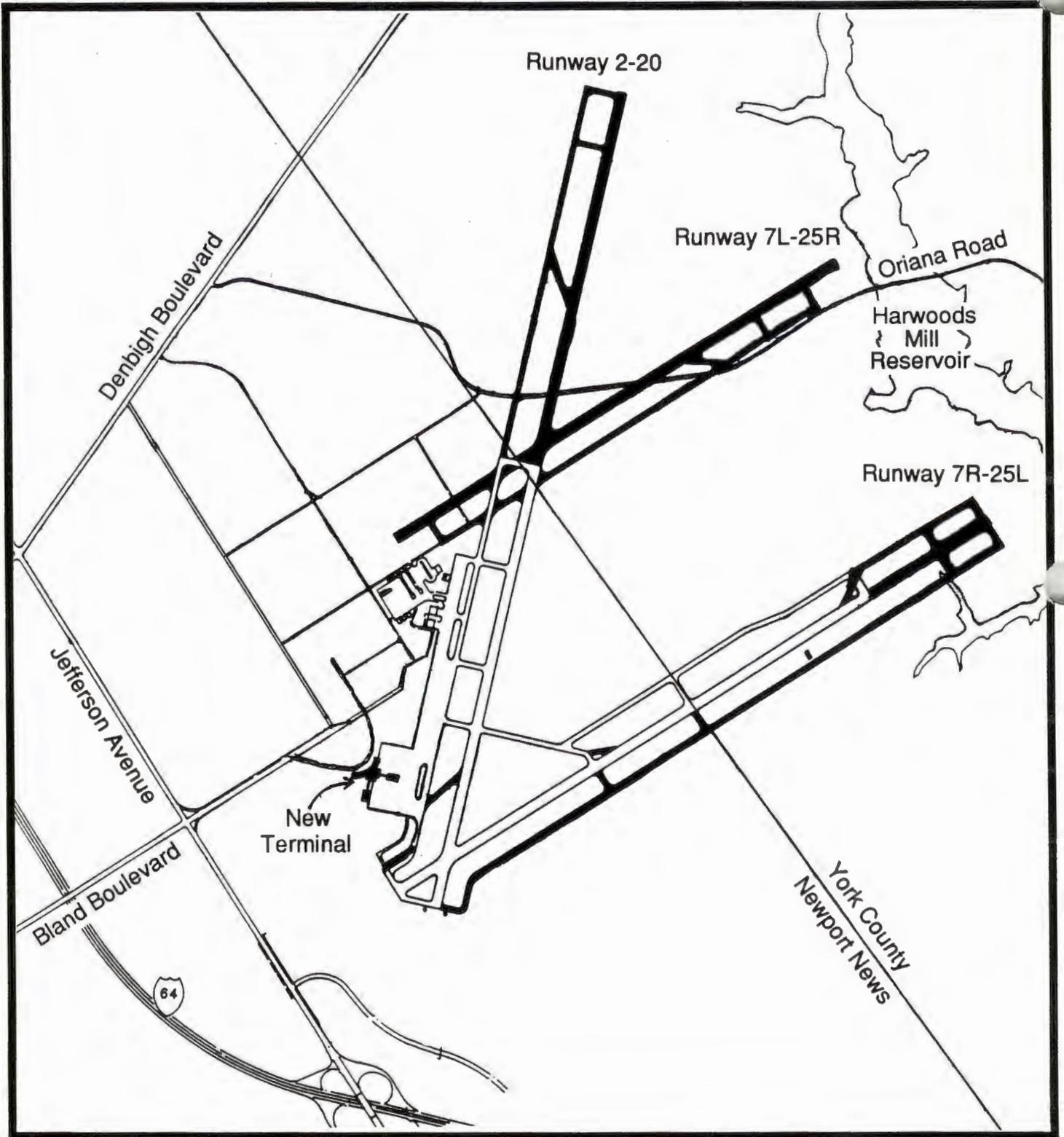
# Diagram T-1 Airport Layout Plan 1979 Master Plan



-  Existing Facility
-  Proposed Facility



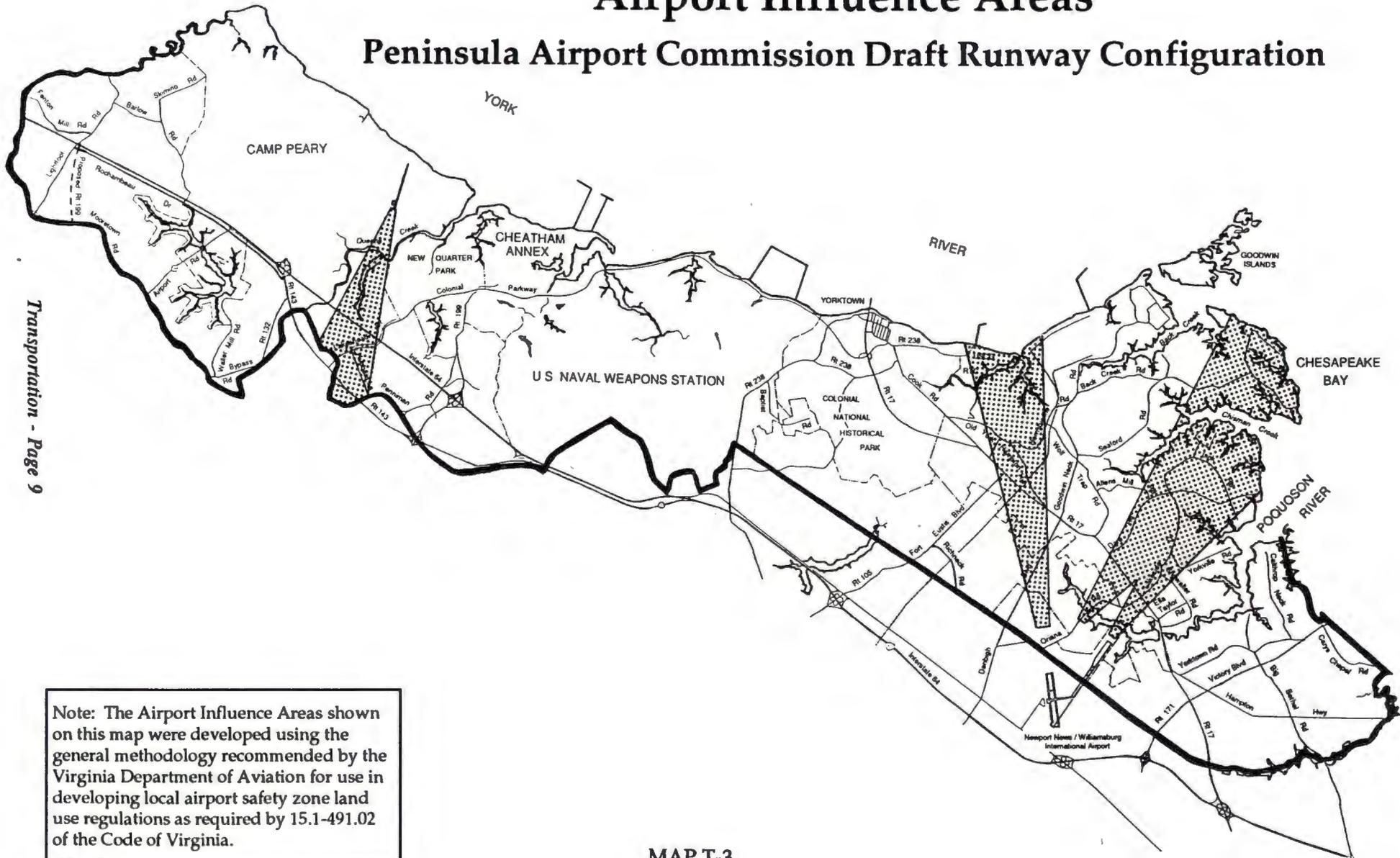
# Diagram T-2 Airport Layout Plan 1991 Proposed Plan



-  Existing Facility
-  Proposed Facility

# Airport Influence Areas

## Peninsula Airport Commission Draft Runway Configuration

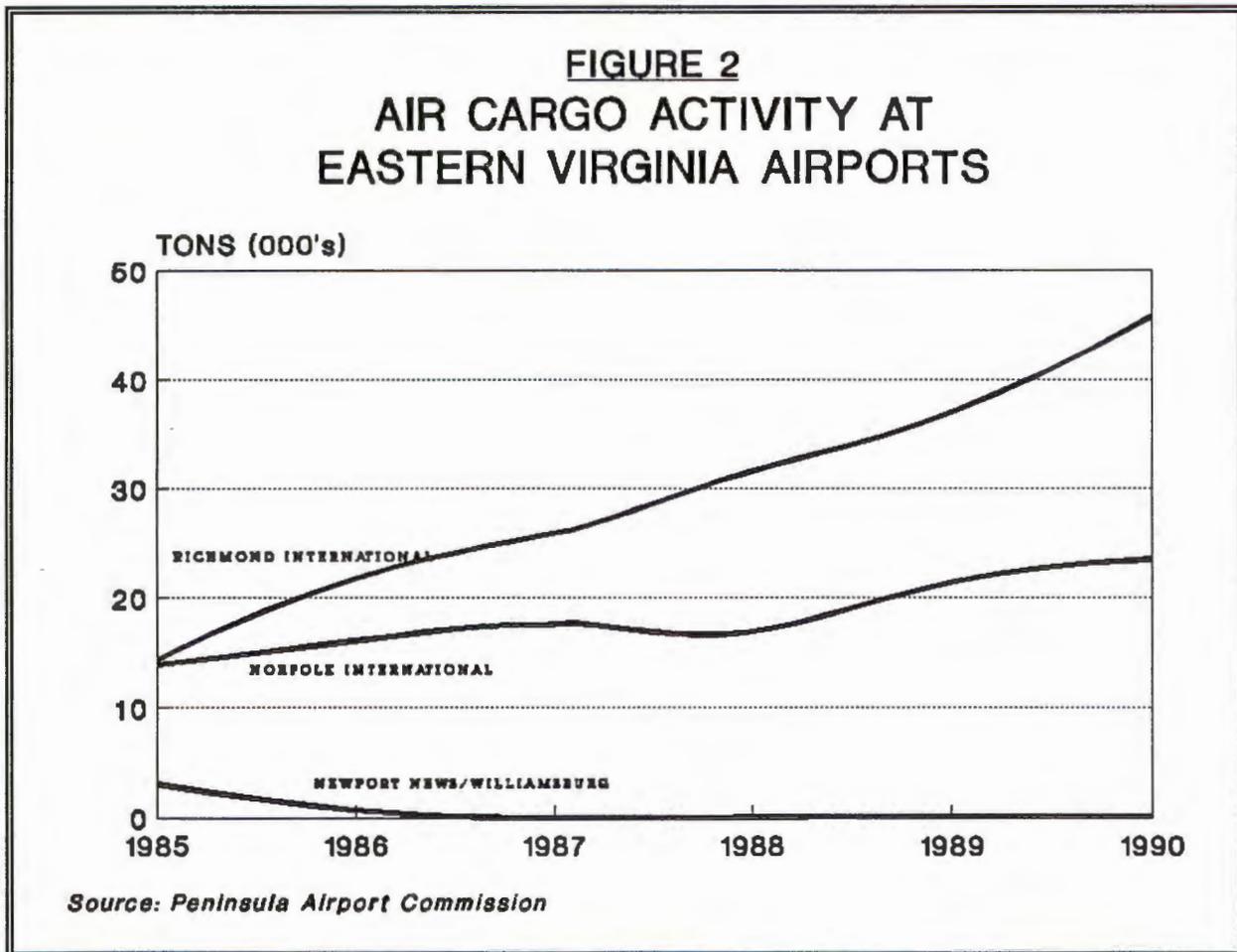


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Note: The Airport Influence Areas shown on this map were developed using the general methodology recommended by the Virginia Department of Aviation for use in developing local airport safety zone land use regulations as required by 15.1-491.02 of the Code of Virginia.

MAP T-3

In addition to passenger service and general aviation, commercial airports also provide air cargo services, primarily for business, although increasingly for individual consumers as well. Air freight shipments handled at eastern Virginia airports have more than doubled since 1985; however, as shown in Figure 2, the tonnage shipped through Newport News/Williamsburg International Airport is insignificant. This is certainly at least partially related to the lack of a dedicated cargo shipper at Newport News/Williamsburg between 1986 and 1991. An air cargo shipper (National Air Express) began handling freight at the airport in April 1991 shipping 6.5 tons in its first month. The terminal expansion project mentioned earlier includes installing cargo handling facilities in the current passenger terminal which may draw additional air freight companies to the airport. Should this occur, air cargo activity at Newport News/Williamsburg International Airport will certainly increase, but the extent cannot be determined.



Finally, there are four other airport facilities which are located in or impact upon York County. The Langley Air Force Base and NASA/Langley facility in Hampton serve military air operations as well as some research and operational flights associated with NASA. Airfields at Camp Peary and the Yorktown Naval Weapons Station (helicopters and VTOL aircraft only) similarly serve military and national security related purposes. The Williamsburg-Jamestown Airport bounded by Route 199, College Creek, and Lake Powell Road in James City County serves some of the general aviation needs of the Williamsburg area. The airport has a single runway, 3,215' x 65' on bearings 13-31, and full heliport services. A new terminal building was completed in 1990 as a part of a planned expansion of ground facilities and services, the master plan for which was approved by James City County in 1986.

## Bikeways

The use of bicycles in York County could be an important component of the total transportation system. The recent increase in bicycle travel is due, in part, to a recognition of its many potential benefits. These benefits include energy conservation, reduced noise and air pollution, traffic reduction, health and fitness improvement, as well as other personal and economic incentives. Increasingly, bicycle use has become a viable means of transportation in addition to being a recreational activity. A recent study by the University of Virginia Center for Public Service estimates that ten percent of Virginia's population use bicycles to commute to work or school, at least on an occasional basis. York County, due to its mild weather, relatively flat terrain, and tourist attractions offers ideal opportunities for bicycling.

There are three recognized classes of bikeways:



Class I are bike paths or trails which are constructed physically separate from roadways. They may either be developed in a separate right-of-way, apart from roads and streets, or as a path within the road right-of-way, but physically separated and protected from motor vehicle traffic. Such facilities should be considered along roadways with high traffic volumes and speeds or through scenic areas where motorized traffic would be inappropriate.

Class II are bike lanes adjacent to traffic lanes and are generally delineated by pavement markings. This class of bikeways provides a moderate degree of safety and requires the road right-of-way to be sufficiently wide to accommodate travel lanes for both motor vehicles and bicycles. Even so, Class II facilities are considerably less costly than separate paths and can frequently be constructed in conjunction with highway widening projects. Paved shoulders are often sufficient for this purpose. Class II facilities should be used wherever possible along roads having moderate traffic volumes and speeds or where there are unusual roadway geometrics which might contribute to safety deficiencies.



Class III are shared roadways with "Bike Route" signage only. The signage serves as both directional signage for bicycle traffic and warning/reminder signs for the drivers of motor vehicles that they should expect bicyclists along the roadway. Class III facilities are most desirable on roads with low traffic volumes, adequate sight distances, and residential speeds; however, because they are the least costly and easiest to implement, Class III bikeways can be used as an initial step in providing bike facilities.

Currently, there are two recognized bikeways in the County--the Colonial Parkway comprises part of the TransAmerica Bicycle Trail (Interstate Bicycle Route 76) and Route 132 contains a Class II bikeway.

The Virginia Department of Transportation will construct bikeways as a part of road improvement projects, provided there is a bikeway plan. The VDOT policy requires financial participation by the County equal to one-half of the construction cost, but all the right-of-way and engineering costs are borne by VDOT.

## **Bikeways**

The use of bicycles in York County could be an important component of the total transportation system. The recent increase in bicycle travel is due, in part, to a recognition of its many potential benefits. These benefits include energy conservation, reduced noise and air pollution, traffic reduction, health and fitness improvement, as well as other personal and economic incentives. Increasingly, bicycle use has become a viable means of transportation in addition to being a recreational activity. A recent study by the University of Virginia Center for Public Service estimates that ten percent of Virginia's population uses bicycles to commute to work or school, at least on an occasional basis. York County, due to its mild weather, relatively flat terrain, and tourist attractions offers ideal opportunities for bicycling.

There are three recognized classes of bikeways which have been used in developing bicycle plans in the region:

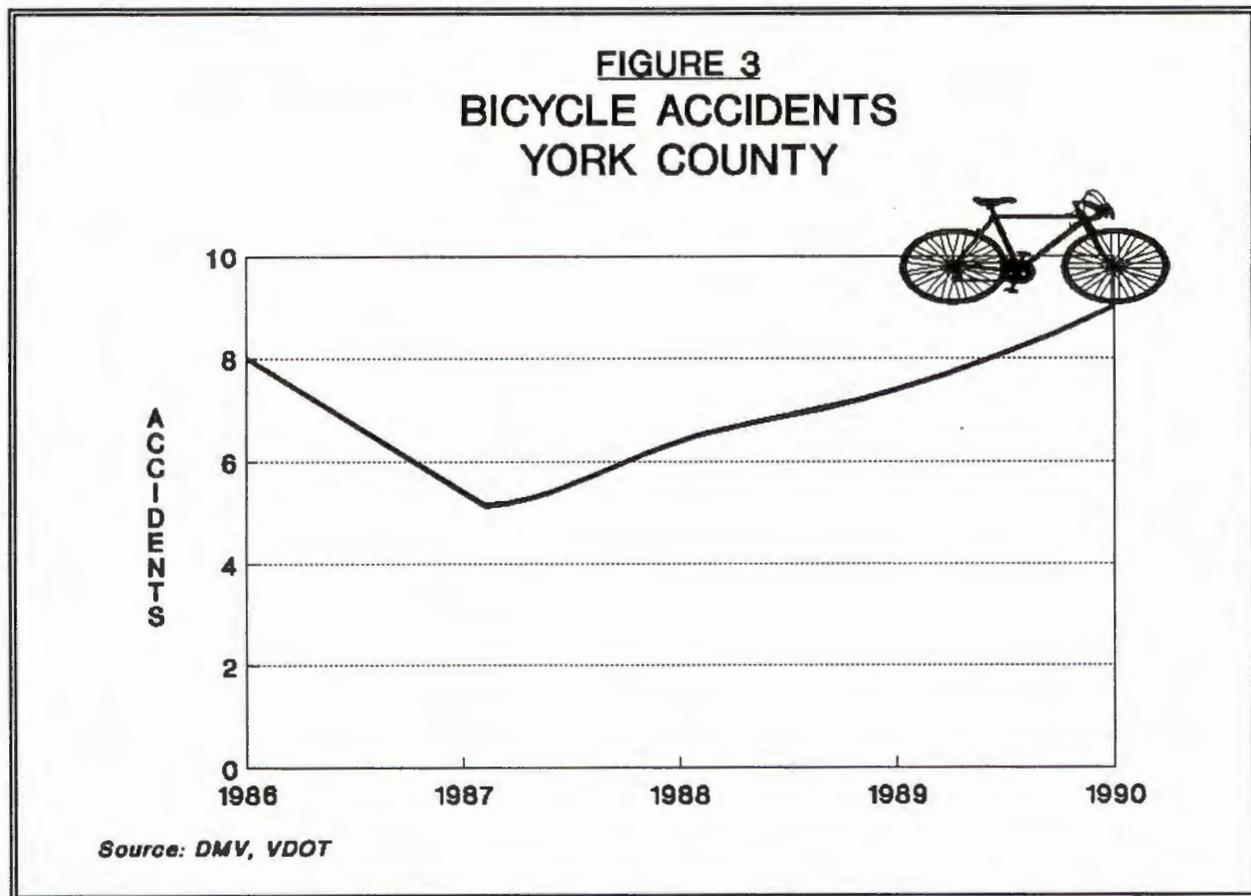
**Class I** bikeways are bike paths or trails which are constructed physically separate from roadways. They may either be developed in a separate right-of-way, apart from roads and streets, or as a path within the road right-of-way, but physically separated and protected from motor vehicle traffic. Such facilities should be considered along roadways with high traffic volumes and speeds, across bridges and causeways or through scenic areas where motorized traffic would be inappropriate. Class I bikeways also include "rails-to-trails" conversions and a number of types of multi-use trails. While providing an environment relatively protected from conflicts with vehicles, Class I bikeways occasionally suffer from lack of maintenance and frequently draw other users (joggers, rollerbladers, walkers, etc.) who can interfere with bicycle use. Furthermore, the relative remoteness of some Class I facilities can present some personal safety concerns. These potential disadvantages should be carefully considered when making decisions with respect to siting such facilities. Please note that it is intended that where Class I bikeways parallel roadways, the cyclist has the option of using either facility.

**Class II** bikeways are bike lanes adjacent to traffic lanes and are generally delineated by pavement markings. This class of bikeways provides a moderate degree of safety and requires the road right-of-way to be sufficiently wide to accommodate travel lanes for both motor vehicles and bicycles. Even so, Class II facilities are considerably less costly than separate paths and can frequently be constructed in conjunction with highway widening projects. Paved shoulders four to five feet in width are often sufficient for this purpose. Class II facilities should be used wherever possible especially along roads having moderate traffic volumes and speeds and where there are unusual roadway geometrics which might contribute to safety deficiencies. Even where a Class I bikeway generally parallels a road, it may be appropriate to consider constructing shoulder lanes for bicycles.

**Class III** bikeways are shared roadways with "Bike Route" signage only. The signage serves as both directional signage for bicycle traffic and warning/reminder signs for the drivers of motor vehicles that they should expect bicyclists along the roadway. In the long term, Class III facilities are only appropriate on roads with very low traffic volumes, adequate sight distances, and residential speeds; however, because they are the least costly and easiest to implement, Class III bikeways can be used as an initial step in providing bike facilities. It is anticipated and intended that Class III bikeways shown on bicycle transportation plans will be upgraded to Class II facilities at such time as the roadway is improved. Additionally, roads designated as Class III bikeways may need more active and frequent maintenance, particularly of the roadway edges.

As shown in the following figures, there is a substantial cost difference between the three bikeway classes:

As can be seen in Figure 3 on the following page, the number of reported accidents involving bicycles has been very low. However, it is important to note that all of the reported accidents resulted in injuries to the cyclists, some very serious. In all likelihood, the actual number of accidents involving bicyclists is much higher, but because no serious injury occurs or there is only limited damage no report is made.



A frequent distinction in bicycle routing is between commuter and recreational bikeways. Commuter facilities serve short (less than 5 miles) home-based work and shopping trips. These trips often occur along the same corridors most congested by automobile traffic. Consequently, commuter bikeways must provide not only appropriate access, but also a high level of protection for the bicycle rider who is primarily concerned with efficiency and safety. This can be accomplished either by the use of Class I bikeways along the major route or by identifying and marking an alternative or parallel route which is less congested by automobiles. Recreational bikeways tend to serve longer trips in less populated/congested areas. Ideally, these bikeways should also connect residential and recreational areas. Of course, both commuter and recreational facilities should be connected and integrated to form a comprehensive bikeway system.

In developing a Bikeway Plan (MapT-4) for the County, the advice and recommendations of bicycle enthusiasts were sought, especially that of the Peninsula Bicycling Association. The cost of signage for bicycle routes (in 1991 dollars) ranges from approximately \$10 to \$18 per sign.

Class	Per Mile Costs	
	Construction <sup>1</sup>	Annual Maintenance
I	\$169,100	\$1,260
II	72,800	960
III	2,609	720

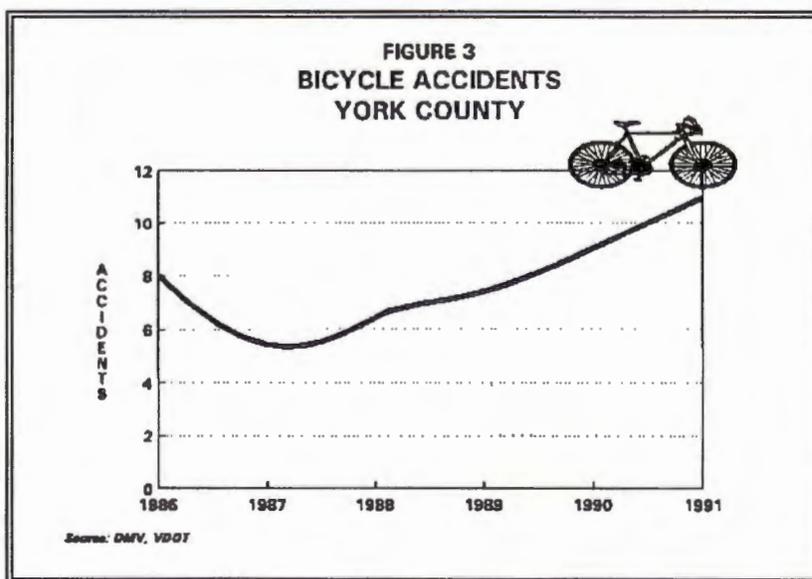
<sup>1</sup>Cost estimates exclude right-of-way and environmental mitigation and assume that no prior work has been done (i.e., the worst-case scenario).

Source: City of Charlottesville

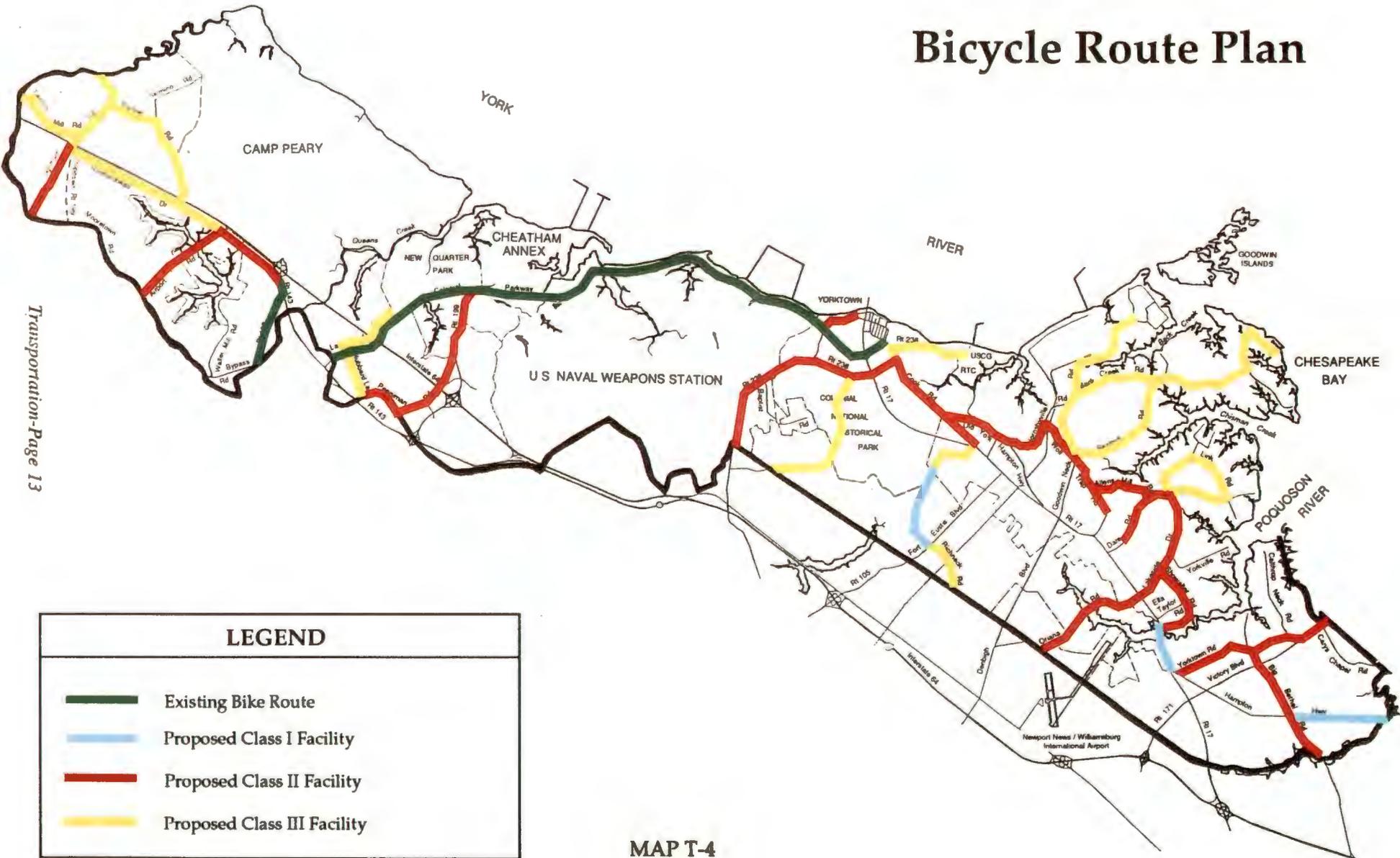
Please note that the three-class system of bikeways is being slowly replaced with other terminology based primarily on the skill level of the cyclists likely to use the facility. Nevertheless, because it will remain a useful way to distinguish between the types of bikeways in terms of function and general design, the three-class typology has been perpetuated here. It is recognized that different design sections are necessary on streets with curb and gutter as opposed to those with shoulders and swales and where on-street parking is permitted.

Currently, there are two recognized bikeways in the County—the Colonial Parkway comprises part of the TransAmerica Bicycle Trail (Interstate Bicycle Route 76) and Route 132 contains a Class II bikeway, also part of Bicycle Route 76. In addition, Bypass Road contains a Class I bikeway along its southern side. Although not recognized solely as bikeways, both Coventry and the Villages of Kiln Creek have multi-use trails which serve cyclists. Yorkshire Downs and Colony Pines will also have such multi-use facilities when fully developed. All of these developments are in the southern portion of the County.

The Virginia Department of Transportation will construct bikeways as a part of road improvement projects, provided there is a bikeway plan. As a result of the federal Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA), the VDOT policy requires very little financial participation by the County as all the right-of-way and engineering costs are borne by VDOT and approximately 80% of the construction costs are eligible for federal funding. When done as a part of a road project, VDOT covers the remaining 20% with state funds. When done as a separate project, local funds are sometimes necessary if on the VDOT right-of-way. If the bikeway is not to be on VDOT right-of-way, more local money is usually required.



# Bicycle Route Plan



MAP T-4

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As can be seen in Figure 3, the number of reported accidents involving bicycles has been very low. However, it is important to note that all of the reported accidents resulted in injuries to the cyclists, some very serious, with at least two fatalities. Also the number of reported accidents has been increasing. In all likelihood, the actual number of accidents involving bicyclists is much higher, but because no serious injury occurs or there is only limited damage, no report is made.

A frequent distinction in bicycle routing is between commuter and recreational bikeways. While this distinction is less and less relevant, some discussion is appropriate. Commuter facilities serve short (typically less than 5 miles) home-based work and shopping trips. These trips often occur along the same corridors most congested by automobile traffic. Consequently, commuter bikeways frequently must provide not only appropriate access, but also a high level of protection for the bicycle rider who is primarily concerned with efficiency and safety. This can be accomplished either by the use of Class I bikeways along the major route or by identifying and marking an alternative or parallel Class II route which is less congested by automobiles. Recreational bikeways are sometimes thought to be those which serve longer trips in less populated/congested areas and during off-peak hours. This distinction ignores the whole gamut of other transportation functions potentially served by bicycles. Consequently, it appears to be more accurate to draw a distinction between the bicycle facility as a transportation route versus a recreational route. In this typology, virtually any kind of linear routing has the potential to serve a transportation purpose, that is conveying an individual between an origin and a destination. To the extent that the available range of origins and destinations correspond to those desired by individuals, the facility will be relatively more valuable to serve a transportation purpose. Circular routes, where the origin and destination are coterminous, appear to serve a recreational purpose almost exclusively. Furthermore, while any transportation route can be used for recreational cycling, the converse is not the case. The bikeway plan contained in this element focuses on bicycle facilities which can be used for transportation purposes in support of modal choice. Recreational facilities are not addressed in this element, but the needs for such facilities should be considered in developing parks and recreation plans as well as in the review of larger residential developments and planned communities. It is especially important that bikeways connect residential, commercial, recreational, and cultural areas, particularly community facilities such as schools, libraries, and athletic/play fields. In any case, all bicycle facilities should be connected and integrated to form a comprehensive bikeway system.

In developing a Bikeway Plan, the advice and recommendations of bicycle enthusiasts were sought, especially that of the Peninsula Bicycling Association. It was also recognized that a regional approach was most appropriate since bikeway, like roads, should not abruptly end at jurisdictional boundary lines. The Regional Issues Committee comprised of representatives of Williamsburg, James City County and York County undertook to coordinate the development of a regional bicycle transportation plan. A series of public meetings occurred in November 1992 and again in March 1993 to solicit input from both citizens and bicycle enthusiasts. The resultant Regional Bikeway Plan (Map T-4 enclosed separately) reflects all of the comments received at these meetings and in surveys completed and returned to the Regional Issues Committee. In total, more than 200 citizens had some involvement in the development of this plan. In York County, the Regional Bikeway Plan provides the following bikeway system:

Class	Mileage	% of Total
I	16.7	18.7
II	53.2	59.5
III	21.8	21.8
<b>TOTAL</b>	<b>89.4</b>	<b>100%</b>

## Mass Transit

York County is currently served by a multiplicity of transportation services, only one of which, James City County Transit (JCCT), is a traditional transit operator. Except for the Penniman Road/James-York Plaza area served by JCCT, there is no public transportation service generally available in the County. As shown in Figure 4 below, most of the transportation services are provided by agencies to their clients or to special populations such as the elderly or handicapped.

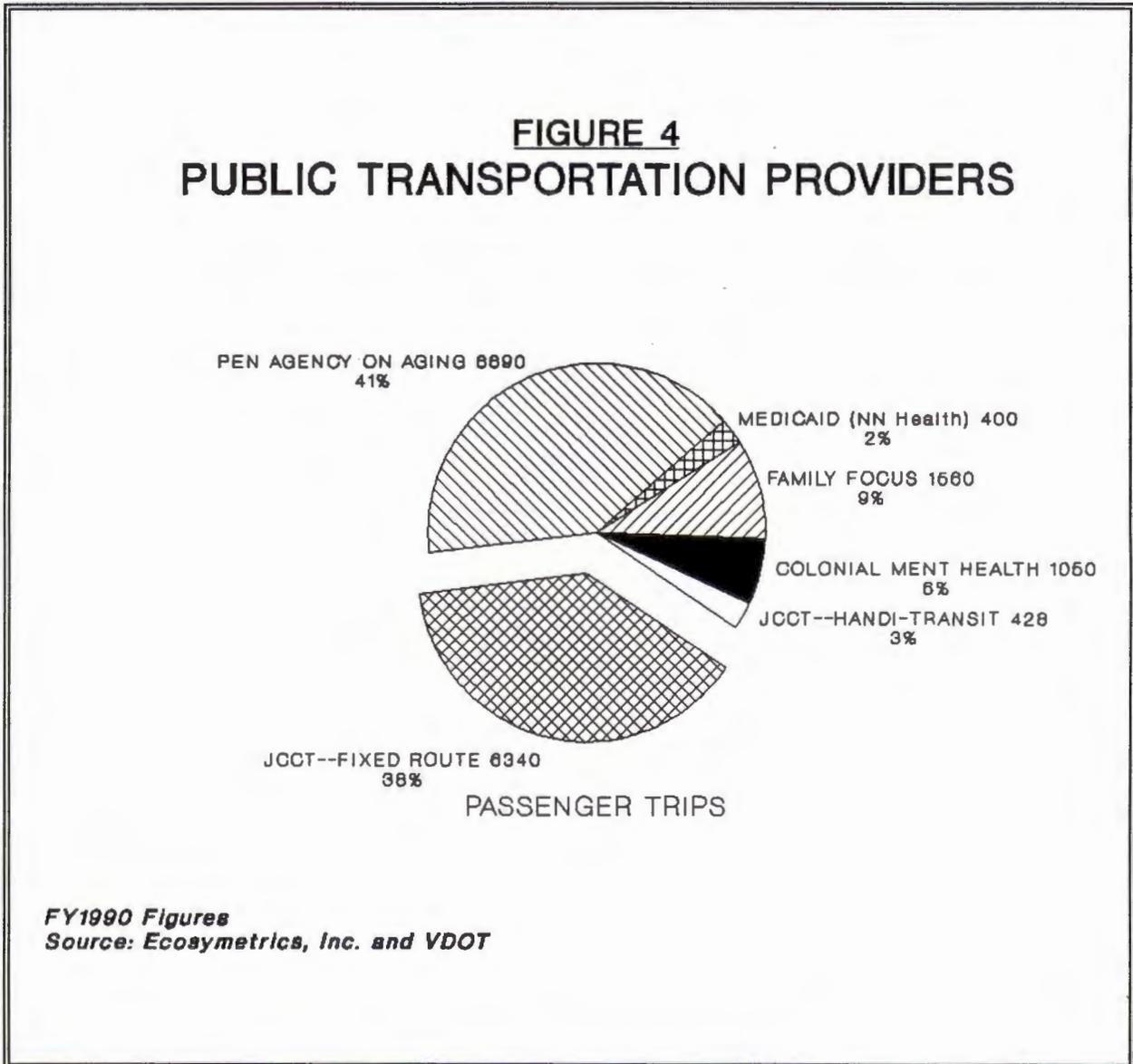
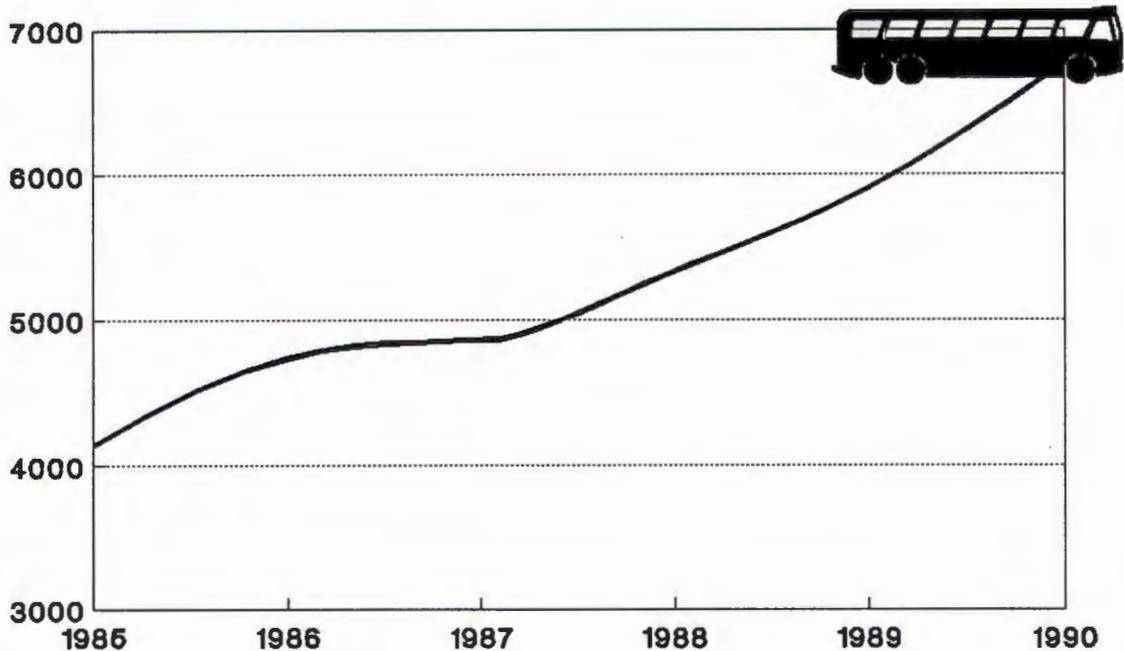


Figure 4, also shows that the largest single provider of transportation services in the County is James City County Transit. The JCCT service area in York County is geographically small, however the ridership is relatively large and has been growing over the past five years. These ridership trends are shown graphically in Figure 5.

**FIGURE 5**  
**YORK COUNTY RIDERSHIP**  
**ON JAMES CITY COUNTY TRANSIT**



*Source: James City County Transit*

A public transportation study is currently being performed for the County in conjunction with the Virginia Department of Transportation. That study, through extensive analysis of socio-demographic information (elderly, low income, handicapped, and transportation deficient populations) has identified three areas of York County with a high need for public transportation services:

1. Penniman Road
2. Lackey
3. Harris Grove

The Penniman Road area is already served by JCCT, but neither of the other two areas have regularly scheduled public transportation services available. The type of service needed, according to the study, would provide regularly scheduled service for employment, shopping, medical treatment, and personal services. Such transportation would require subsidization by the public sector, at least partly because the people with the greatest need tend also to be the ones who have the least ability to pay. If fixed-route transit services are developed, it will be important to ensure that there is a linkage to either JCCT or Pentran and preferably to both. Another form of public transportation service which might be

attractive is the express service to a single employer or a group of clustered employers. A number of such vehicles traverse the County daily between the Middle Peninsula and Newport News Shipbuilding. Similarly, Water County USA participates with Busch Gardens in contracted (from Pentran) express service from Newport News to their facility during the summer months. Pentran ran four express bus routes into York County during the late 1970s and the ridership was good. These employment-only services generally require very little operational subsidy by either the employer or the public sector because of their limited scope and high occupancy rates. Because of the dispersed low-density residential development in York County, employment-based services would require relatively few centralized gathering points where riders can legally and safely park their cars to board the public conveyance. This type of "Park & Ride" area can be easily and inexpensively facilitated if there are underutilized parking lots in appropriate locations. If a separate facility is necessary, it is critical to ensure that it is well lighted and easily accessed.

Many communities, while not opting to subsidize the operation of a transit system or an express service, have constructed appropriately located commuter parking lots and encourage ride sharing. There are two commuter parking lots in York County--at the intersection of Lightfoot Road with Rochambeau Drive and under the Coleman Bridge--both of which are owned by VDOT. JCCT and Pentran both provide computerized ride matching programs although neither is particularly well publicized. Experience nationally has shown that ride sharing programs are most successful when employers provide incentives (either positive or negative) for their employees to participate.

Another transportation service available in York County is taxi service. More than 15 cab companies serve the Peninsula and most will deliver fares to York County addresses. However, the rates are often far higher than in Newport News and Hampton (where most of the cab companies are based) because "return fares" are seldom available and, consequently, the rates reflect the costs of both the outbound and the inbound trip. Similarly, cab companies willing to pick-up fares in York County generally charge for the round trip between Hampton or Newport News in addition to the actual trip. While this pricing policy is an easily understood business practice, it has the effect of making the costs of taxi service far less affordable to those who need to rely on it the most.

In addition to the resident-oriented services discussed above, the visitor market presents significant opportunities for creative transportation solutions. Annual visitation at Colonial Williamsburg has averaged slightly more than one million. At 300,000, annual visitation to Yorktown is less than one-third that of Colonial Williamsburg. Lack of appropriate transportation may play a role in this attendance drop-off. Further, considerable discussion is occurring relative to promoting Yorktown as a port-of-call for both small cruise ships and private vessels. Visitors who arrive at Yorktown by water will need ground transportation services to reach the remainder of the Historic Triangle and, unless such services are available, it is likely that few boats will call. A market study performed as a part of the Yorktown revitalization effort has indicated that a Transportation Center within a relatively short walking distance of the Yorktown Waterfront containing parking and convenience facilities to support tour bus, shuttle bus, and limousine services may be appropriate to consider. Such a facility should be linked to any people-mover trolley system which may be developed to convey visitors in and around Yorktown.



## Railways

York County is located to the northeast of the CSX (formerly C & O) main-line between Richmond and the coal port facilities of Newport News. This track generally runs along the spine of the Peninsula and provides both passenger and freight service.

### **Passenger Rail Transportation**

The Amtrak "Colonial" provides daily service between Newport News and Boston and has consistently been among the best performers within the Amtrak system. With scheduled stops at Newport News and Williamsburg and flag service at Lee Hall, citizens throughout the County have access to the Amtrak transportation network in relatively close proximity to the residences. The schedule for the "Colonial" at the three stations is shown below:

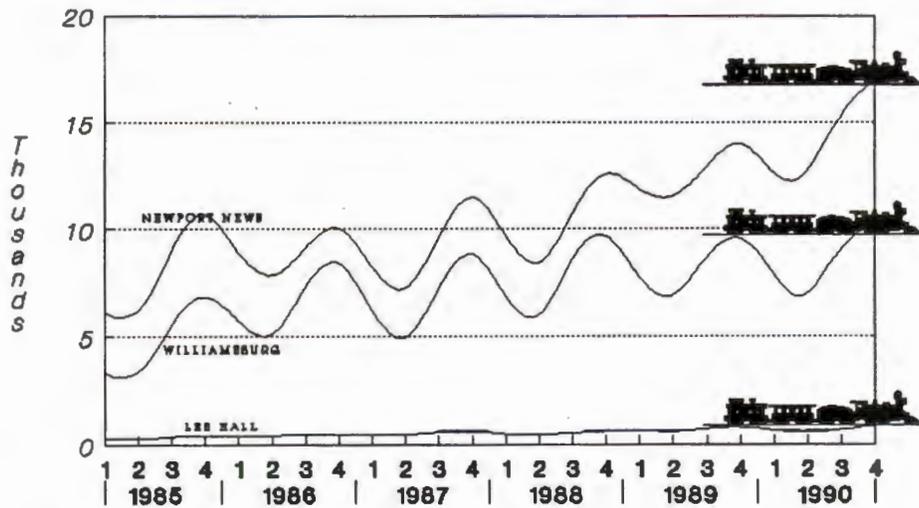
	<u>Northbound (departure)</u>	<u>Southbound (arrival)</u>
Williamsburg	8:13 am (M-Sat) 3:30 pm (Sun)	7:23 pm (Daily)
Lee Hall	8:02 am (M-Sat) 3:22 pm (Sun)	7:33 pm (Daily)
Newport News	7:50 am (M-Sat) 3:10 pm (Sun)	8:05 pm (Daily)

Such a schedule is not conducive to meeting commuter needs, but primarily serves tourists, college students, and military personnel according to Amtrak survey data. This is borne out by Figure 6 which shows the cyclical nature of Amtrak passenger activity with peaks in the July-September period and troughs in the January-March quarter.

The annualized data shown in Figure 7 clearly show the upward trend in passenger activity at all three stations, although the Lee Hall flag stop has by far the least.

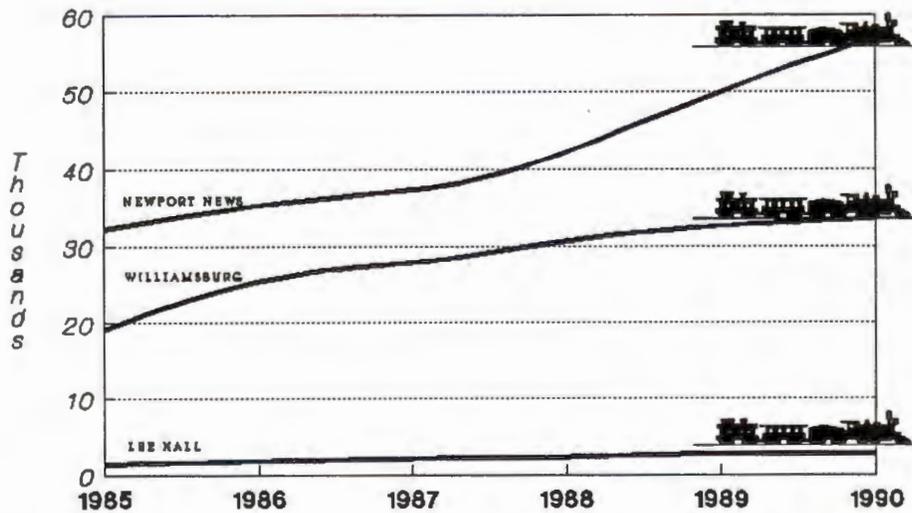
Taken together, the data suggest that there may be opportunities to expand rail passenger service, especially for short-haul (Richmond-Newport News) service. A proposal has been made by Amtrak to the Department of Transportation for a second daily "Colonial" run. With a second train, visitors would be able to make day trips to the Peninsula from Richmond and Washington, and it has been suggested that additional stops at the Williamsburg Pottery and Busch Gardens could be viable. Because it would have to be subsidized initially, a second "Colonial" will likely be a long time in coming given the current fiscal concerns being faced by governmental bodies at all levels. This should not, however, preclude regional consideration of some form of short-haul service using the existing tracks and integrating the public and private sectors.

**FIGURE 6**  
**RAIL PASSENGER ACTIVITY**  
*Peninsula Stations*



Source: Amtrak

**FIGURE 7**  
**ANNUAL RAIL PASSENGER ACTIVITY**  
*Peninsula Stations*



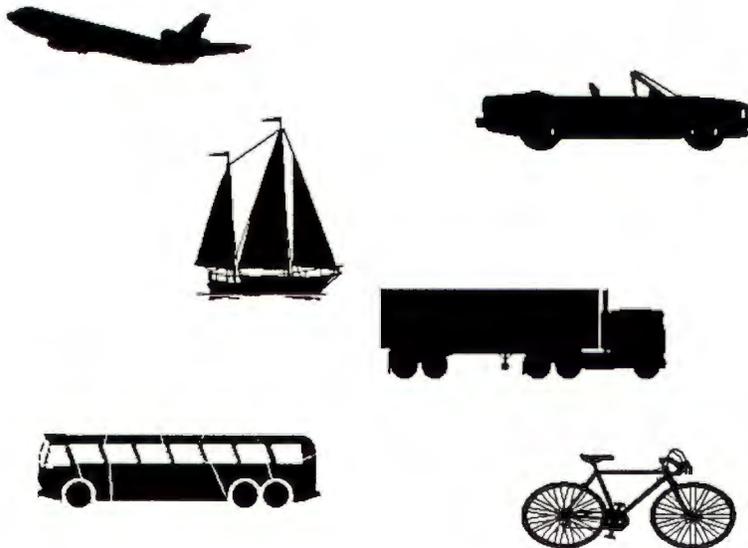
Source: Amtrak

## Rail Freight Transportation

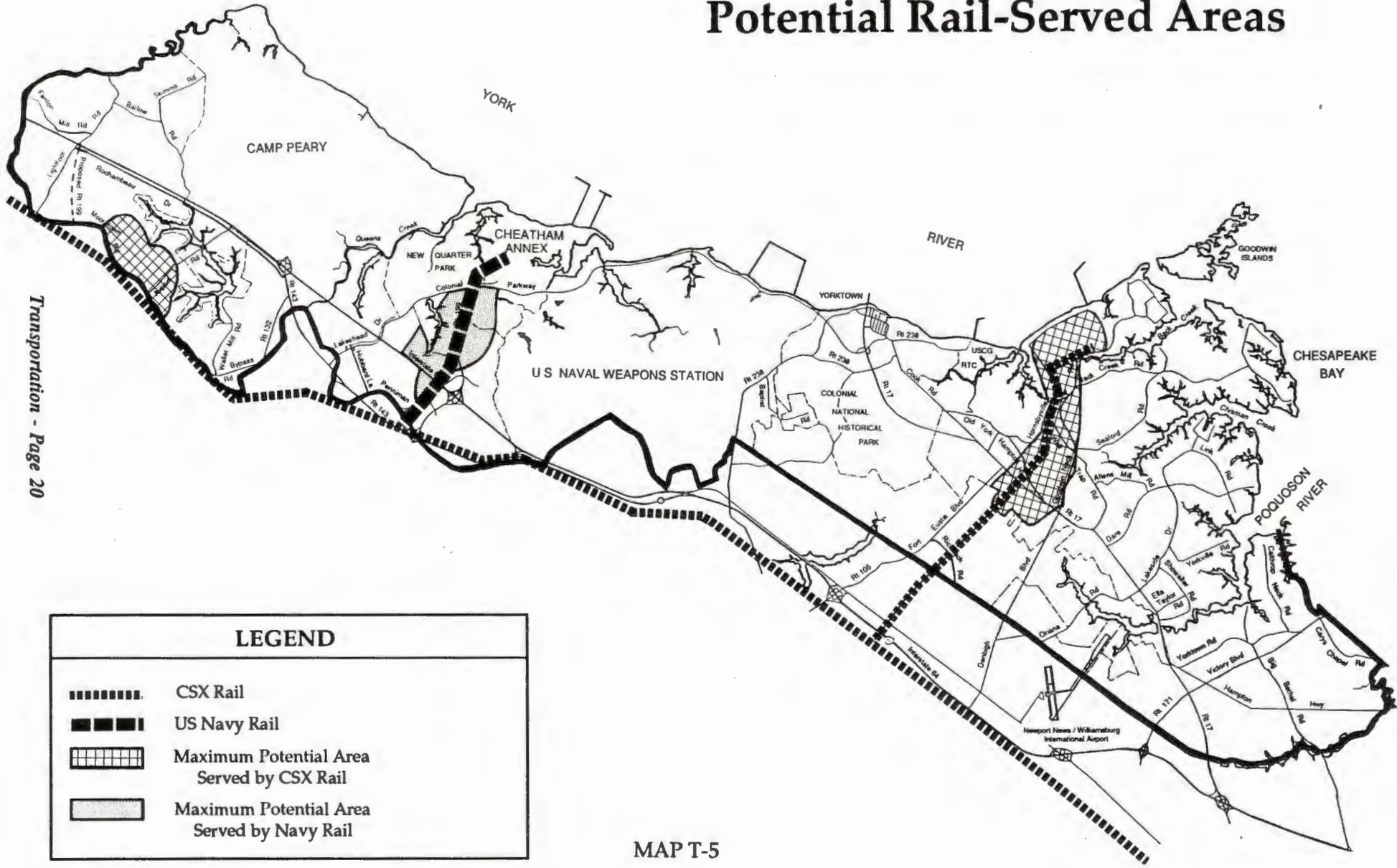
The movement of freight along the CSX line is important to both the economy and the transportation network. The primary activity along this main-line route is the hauling of coal to the coal terminals in Newport News. Six to eight coal trains a day traverse the CSX line, including the coal used at the Virginia Power Yorktown Power Station. Virginia Power and Amoco are the major private rail freight users, but C. A. Barrs Contracting, Custom Concrete, Leslie Fleet Service, and Reynolds Recycling all use rail service. The Yorktown Naval Weapons Station also utilizes rail freight.

As shown on Map T-5, the existing CSX main-line, together with the Amoco spur provide opportunities to locate rail-served industry, most notably in the Mooretown Road vicinity and in the Goodwin Neck/Seaford area, however, existing development patterns and concerns about soil structure and wetlands may allow for only limited industrial expansion--far less than Map T-5 seems to indicate. Conversely, the Whitakers Mill industrial area could be opened to potential rail service if a joint use arrangement can be reached with the U. S. Navy regarding the Cheatham Annex spur. This facility has not been regularly used for a number of years and would likely need to be extensively repaired and upgraded to serve the heavy freight needs of warehousing and industrial users. However, the availability of rail service could provide market niche opportunities which are currently unavailable, particularly if passenger service is expanded.

While expanded service does provide a variety of potential opportunities, it is also not without potential problems. The three problems which should be cause for some discussion are noise, impact on the other transportation modes, and competition between freight traffic and passenger rail traffic for the same main-line track. In all three cases, effective scheduling is the primary answer, together with close monitoring of the at-grade rail/road crossings in the County to ensure both safety and reduction of delays to automobile traffic.



# Potential Rail-Served Areas



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LEGEND	
	CSX Rail
	US Navy Rail
	Maximum Potential Area Served by CSX Rail
	Maximum Potential Area Served by Navy Rail

MAP T-5

## Roadways

Roadways are the threads which hold together the fabric of York County. Largely because of a topography which is typified by a large number of peninsulas and inlets in the southeastern part of the County and pronounced ridgelines which fall off into relatively steep ravines in the northwestern portion of the County, combined with a generally linear alignment along the banks of the York River, the roadway network has developed with a relatively large number of collector roads feeding a relatively few arterial roads. These roadway functional classifications are shown on Map T-6. While there is a relationship between roadway classification and the state road system designation, unfortunately there is not always a perfect correlation. Nevertheless, with that caveat in mind, it is not inappropriate to consider the following general relationships between the functional classification and the state road system:

TABLE 1

<u>Functional Classification</u>	<u>State Road System</u>
Freeway	Interstate Highways
Arterial	Primary System (roads with a route number less than 600)
Collector	Older Secondary System (roads with a route number in the 600's and 700's)
Subdivision Street	Newer Secondary System (roads with a route number of 800 or greater)

It is often also possible to think of such roads in terms of their traffic volumes, with the most traffic generally found on freeways and the least on subdivision or access streets. As traffic volumes increase, the level and degree of roadway design must also increase. Frequently, this means building roads with more and wider lanes, better shoulders, access controls, and increased speed limits. All of these things can increase both the safety and capacity of the roadway.

Roadway safety is measured by accidents. The measure used by both the Virginia Department of Transportation (VDOT) and the Virginia Department of Motor Vehicles (DMV) is the accident rate per 100 million vehicle miles of travel. As shown in Figures 8 and 9, accident rates are lowest on the Interstate System and highest on the Secondary System with the Primary System slightly less than the Secondary System. Fatality rates follow a generally similar pattern; however, the correlation and direction have a far greater degree of variance. It is important to note that both accident rates and fatality rates appear to have had a general downward trend during the 1980s.

# Roadway Classifications



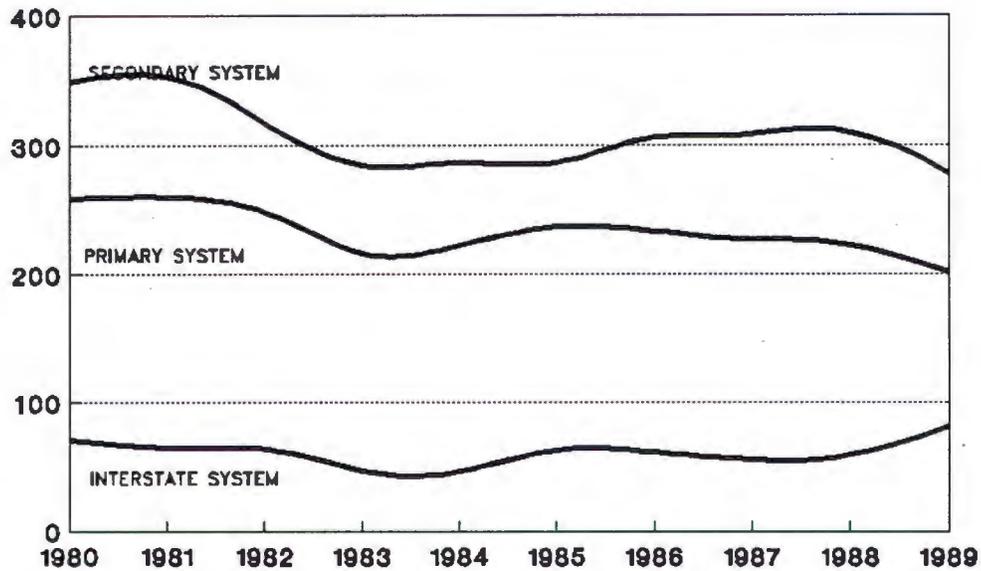
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LEGEND	
	Freeway
	Arterial
	Collector

Source: Virginia Department of Transportation

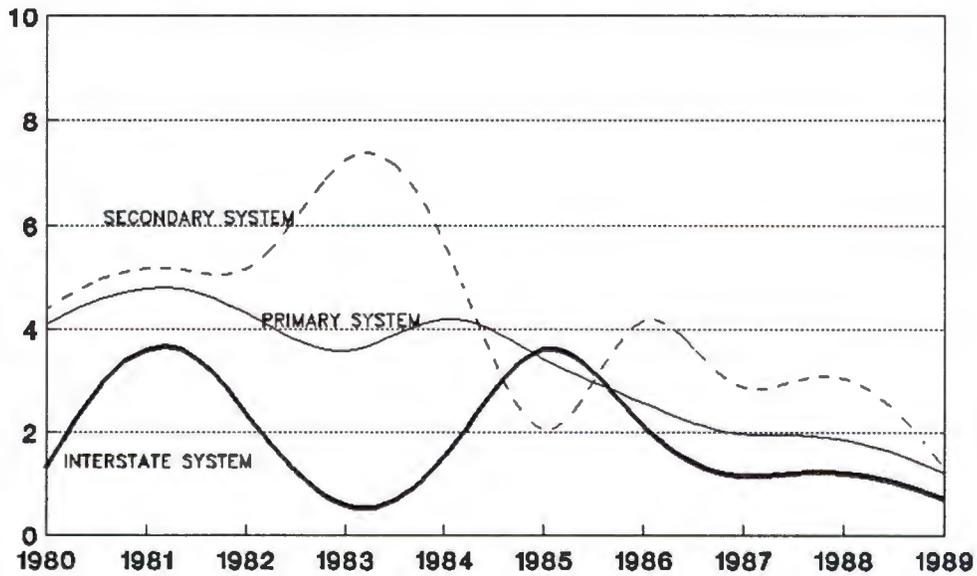
MAP T-6

**FIGURE 8**  
**ACCIDENT RATES BY SYSTEM**  
*Per 100 Million Vehicle Miles of Travel*



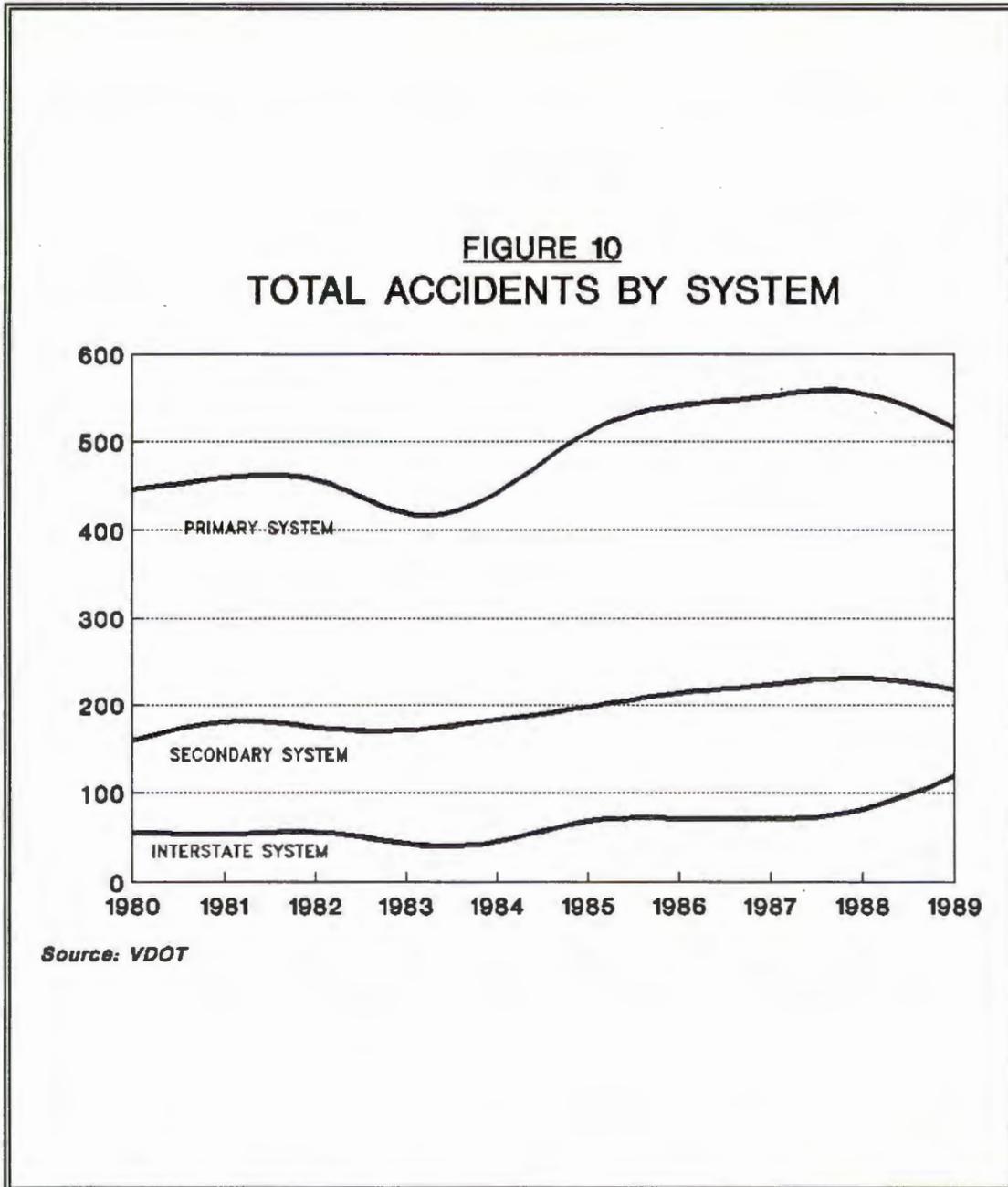
Source: VDOT

**FIGURE 9**  
**FATALITY RATES BY SYSTEM**  
*Per 100 Million Vehicle Miles of Travel*



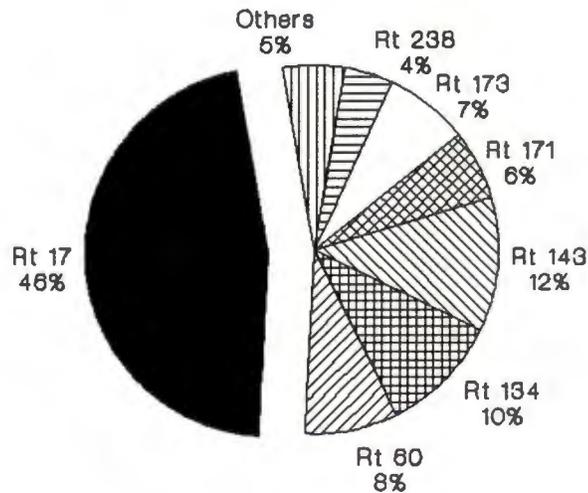
Source: VDOT

While accident and fatality rates are generally regarded as the best measure of roadway safety because they control for widely varying traffic volumes, it is important to note that, by far, the most accidents are occurring on Primary System roadways. This is shown graphically in Figure 10.



The largest percentage of the Primary System accidents occurs on Route 17. Figure 11 shows the numbers and percentages of accidents attributable to each of the Primary System roadways for the Year 1989. Analysis of previous years yields the same general trend.

**FIGURE 11**  
**PRIMARY SYSTEM ACCIDENTS**  
*1989 Distribution by Route*

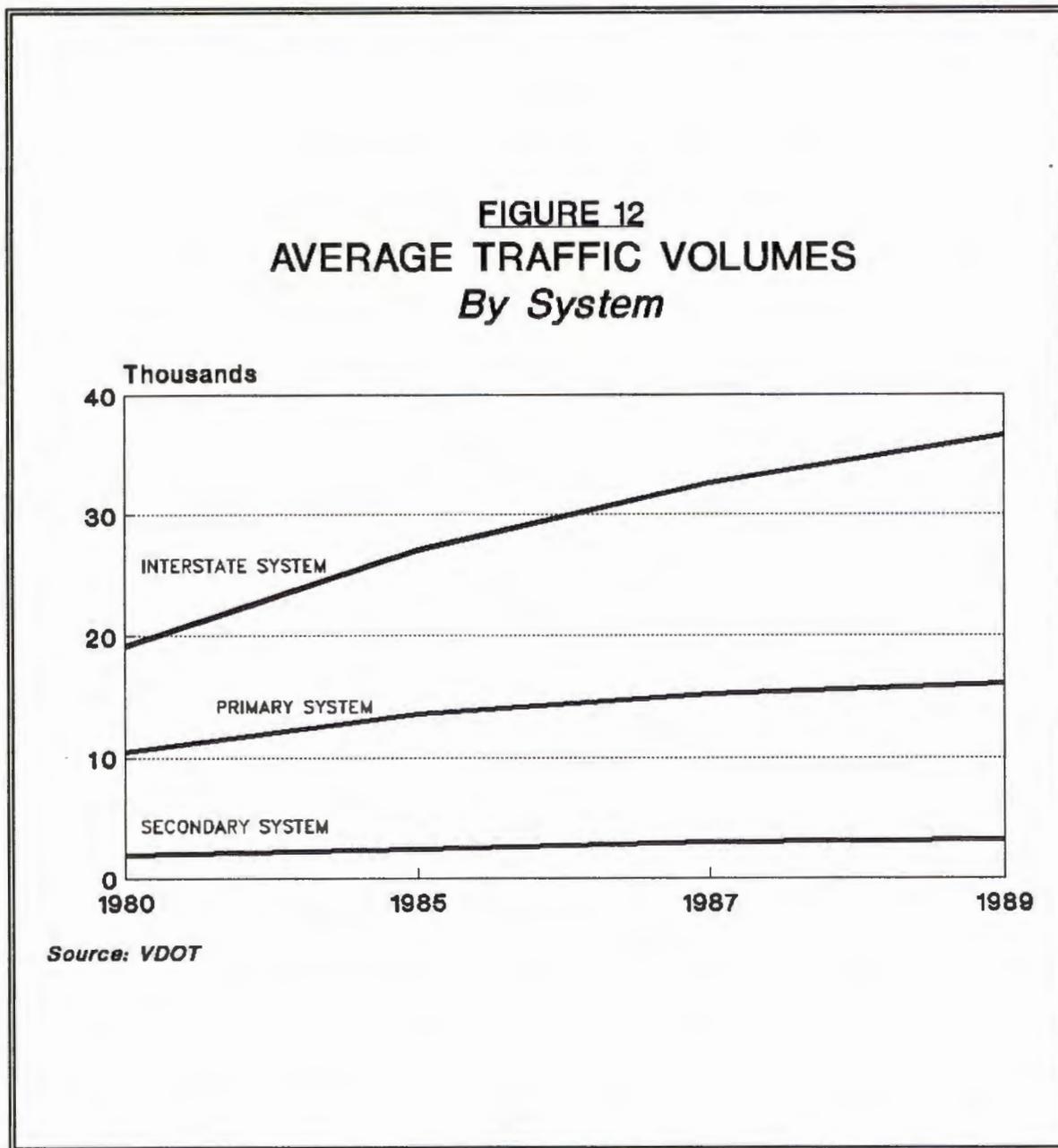


**Source: VDOT**

The safety aspects of the roadway network are the primary considerations of the York County Transportation Safety Commission. The Commission is composed of both County staff and citizens who have an interest in transportation safety. The Commission develops and recommends to the Board of Supervisors, a Transportation Safety Plan on a biennial basis. Additionally, the Commission tracks and analyzes accidents to locate potential hazardous locations which can then be emphasized--either through publicity, selective enforcement, by application for VDOT spot safety improvement funds, or some combination.

Roadway capacity is derived from a mathematical relationship between roadway geometrics (lane width, horizontal and vertical curvature, shoulder type and width, etc.) surface treatment, access type and spacing, intersection location and type of control (stop sign, yield sign, traffic signal, etc.), and the general characteristics of travel (peak hours, number of heavy vehicles in the traffic stream, the number and percentage of left turns at intersections, etc.). All else being equal, the capacity of a roadway is defined by its conflict points which include access driveways and intersections--the fewer the conflict points, the greater the capacity of the roadway.

As illustrated by Figure 12, average traffic volumes on most roads in the County have risen over the past decade with the greatest growth occurring on the Interstate system. This is a result of residential and commercial growth which took place during the 1980s within both the County and the region.



Each new home, business and industry generates traffic and places travel demands on the roadway network.

The following is a general guide to the trip generation by land use type and development type.

**TABLE 2**

<u>Land Use</u>	<u>Development</u>	<u>Average Weekday Trip End Generation</u>
<i>RESIDENTIAL</i>	Single-Family Home	10.1 TE/Dwelling Unit
	Townhome	6.9 TE/Dwelling Unit
	Apartment	5.7 TE/Dwelling Unit
	Mobile Home Park	5.4 TE/Dwelling Unit
	Retirement Community	3.3 TE/Dwelling Unit
<i>COMMERCIAL</i>	Neighborhood Shopping Center	94.9 TE/1000 ft <sup>2</sup> GFA
	Community Shopping Center	31.5 TE/1000 ft <sup>2</sup> GFA
	Retail Store (free standing)	48 TE/1000 ft <sup>2</sup> GFA
	Motel	10.1 TE/Guest Room
	Restaurant--Sit Down	95.6 TE/1000 ft <sup>2</sup> GFA
	Restaurant--Fast Food	632.1 TE/1000 ft <sup>2</sup> GFA
	Convenience Store	887.1 TE/1000 ft <sup>2</sup> GFA
	Service Station	133 TE/pump
Car Wash	108 TE/wash stall	
<i>OFFICE</i>	Office Building	15 TE/1000 ft <sup>2</sup> GFA
	Medical Office	41 TE/Doctor
	Bank	291.1 TE/1000 ft GFA
<i>INDUSTRIAL</i>	Industrial Park	7.1 TE/1000 ft <sup>2</sup> GFA
	Warehouse	4.9 TE/1000 ft <sup>2</sup> GFA
	Research & Development	3.9 TE/1000 ft <sup>2</sup> GFA
<i>RECREATIONAL</i>	Golf Course	816 TE/Golf Course
	Bowling Alley	33 TE/Lane
	Marina	4.8 TE/Berth
	Tennis Center	27 TE/Court
	Handball/Racquetball	105 TE/Court

**Source: Institute of Transportation Engineers**

As shown above, certain uses have a far greater potential to generate traffic than others and virtually any use, if large enough, can generate significant traffic. For this reason, the County, in 1989, adopted traffic impact analysis requirements for all development proposals which would have a significant impact.

The accepted measure for determining to what extent major roadway improvements are, or will become, necessary is the ratio between traffic volume and roadway capacity. When traffic volumes exceed 100% of roadway capacity, there are unacceptable travel delays along the roadway and often side streets as well. These delays increase air pollution, waste energy, and cause driver frustration

which often manifests itself in attempts to find short cuts, usually along roads which are inappropriate for through traffic. In any case, congestion has negative impacts on overall roadway network safety. The higher the volume/capacity ratio, the greater the need for making road improvements. Maps T-7 and T-8 graphically depict the roads which have or will have potential volume/capacity deficiencies.

Traffic volumes and roadway capacities for selected roadway segments together with both existing (1990) and projected (2010) volume/capacity ratios are provided below in Table 3. These calculations, like those in Map T-8 assume no capacity improvements to the facilities occur.

**TABLE 3**

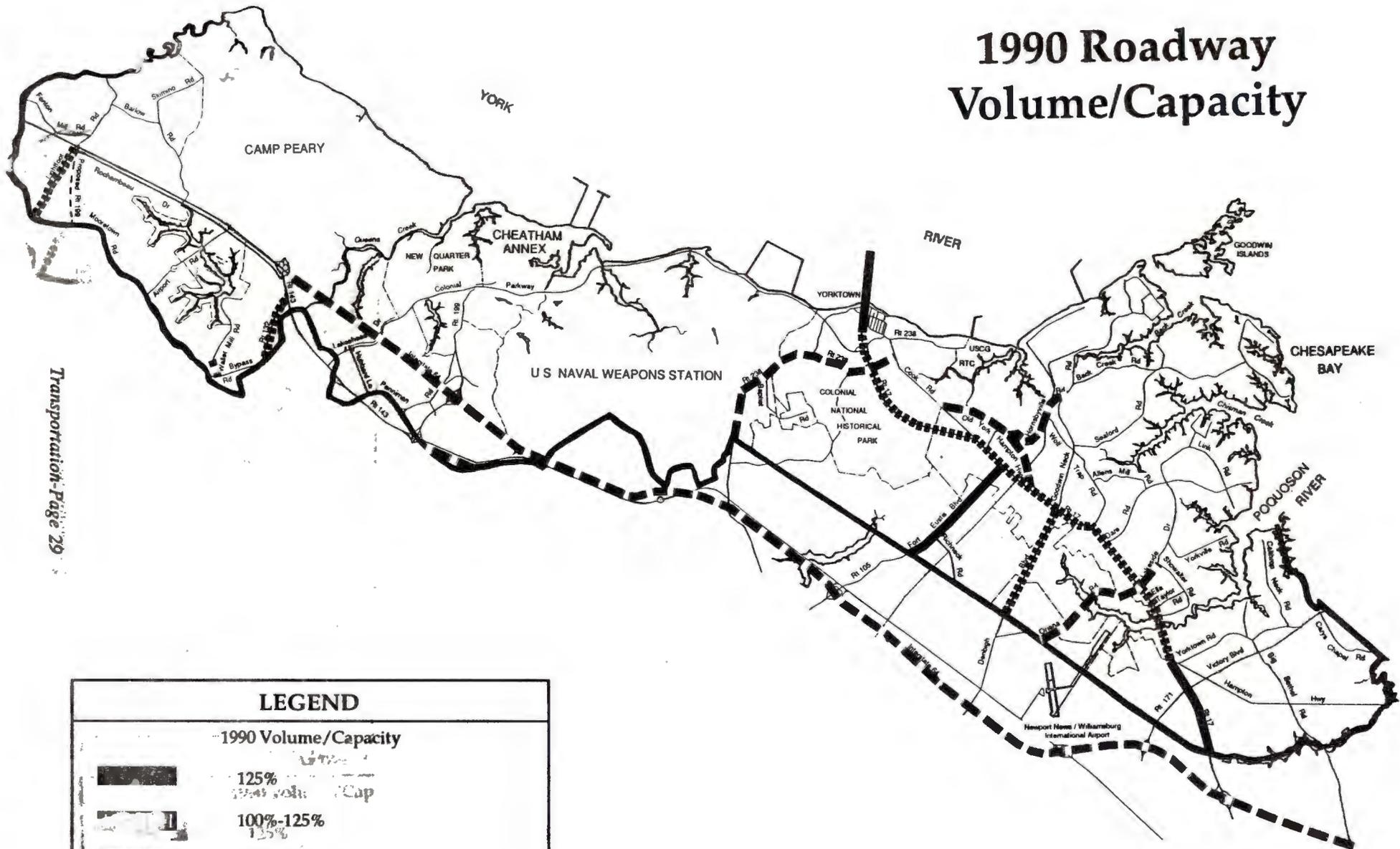
<b>Roadway</b>	<b>Volume</b>		<b>1990 Capacity<sup>1</sup></b>	<b>Volume/Capacity</b>	
	<b>1990</b>	<b>2010<sup>1</sup></b>		<b>1990</b>	<b>2010</b>
Coleman Bridge	33,380	27,000 <sup>2</sup>	12,000	2.78	2.25
		50,900 <sup>3</sup>	12,000		4.24
Route 17	37,890	56,600	30,600	1.24	1.85
Ft. Eustis Blvd.	11,700	17,400	9,300	1.26	1.87
Victory Blvd.	8,900	33,500	15,300	0.58	2.19
Denbigh Blvd.	10,335	19,000	9,300	1.11	2.04
I-64	41,375	94,000	47,100	0.88	2.00
Big Bethel Rd. (South of Hampton Hwy.)	9,400	16,000	8,600	1.09	1.86
Mooretown Rd.	2,612	7,700	4,500	0.58	1.71
Oriana Rd.	6,821	11,200	5,300	1.29	2.11
Lakeside Dr. (west of Showalter)	10,900	14,400	6,900	1.58	2.09
Cooks Rd.	5,493	7,200	8,000	0.69	0.90
Carys Chapel Rd.	2,250	4,100	6,300	0.40	0.65

Source: VDOT unless otherwise noted  
Notes:<sup>1</sup> Source: Hampton Roads Planning District Commission  
<sup>2</sup> Assumes that Upriver Crossing (Alternative 5) is constructed  
<sup>3</sup> Assumes that Upriver Crossing is not constructed

Taken together, safety deficiencies and capacity deficiencies are strong indicators of the need to provide road improvements. The type and extent of improvement required varies from case-to-case and must be situationally analyzed. Improvements can be classified in four basic types:

- New Facilities
- Spot Improvements
- New Through Lanes
- TSM Measures

# 1990 Roadway Volume/Capacity

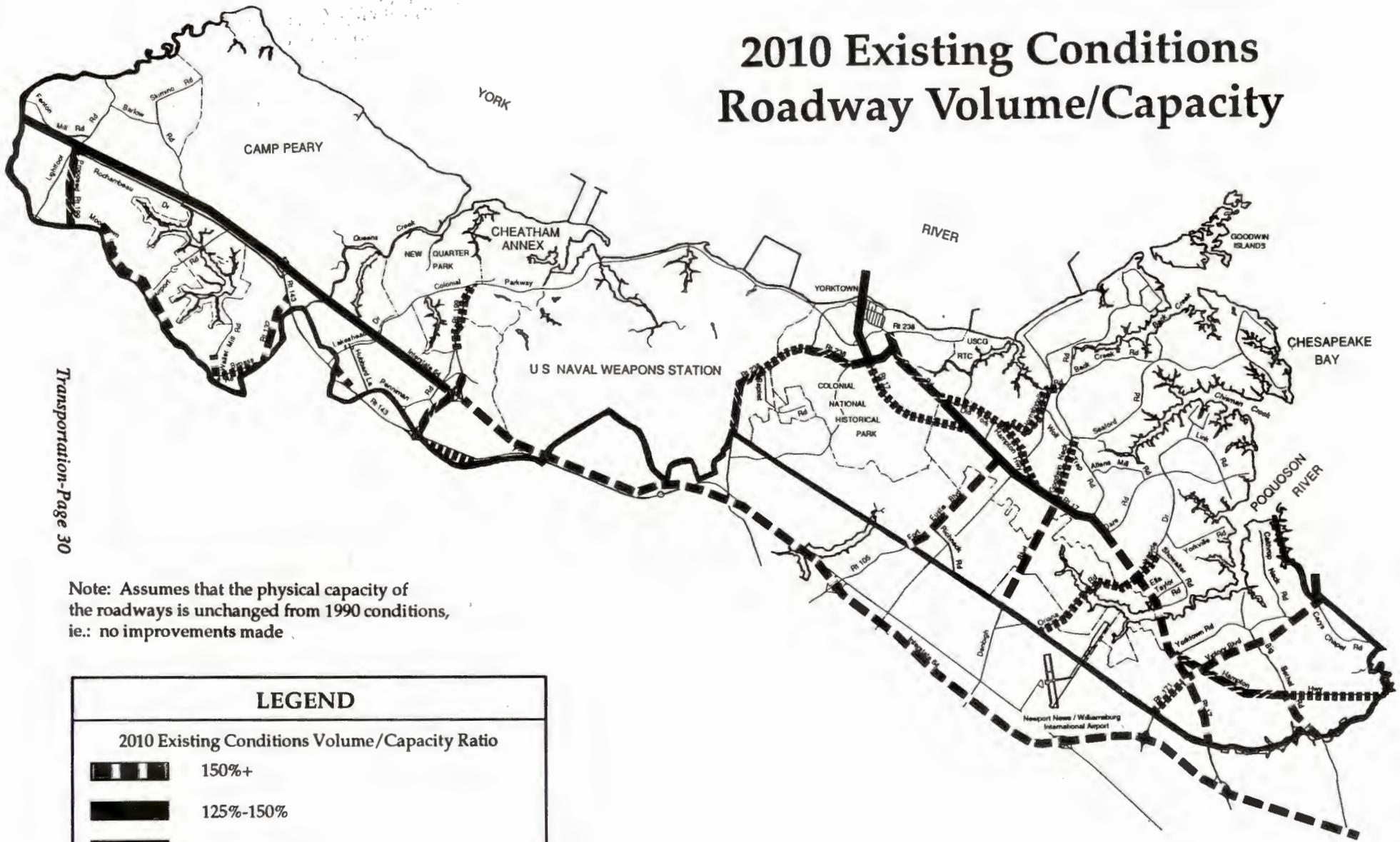


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LEGEND	
1990 Volume/Capacity	
	125% or more
	100%-125%
	75%-100%
Source: VDOT, HRPDC, and YCCD Dept	

MAP T-7

# 2010 Existing Conditions Roadway Volume/Capacity



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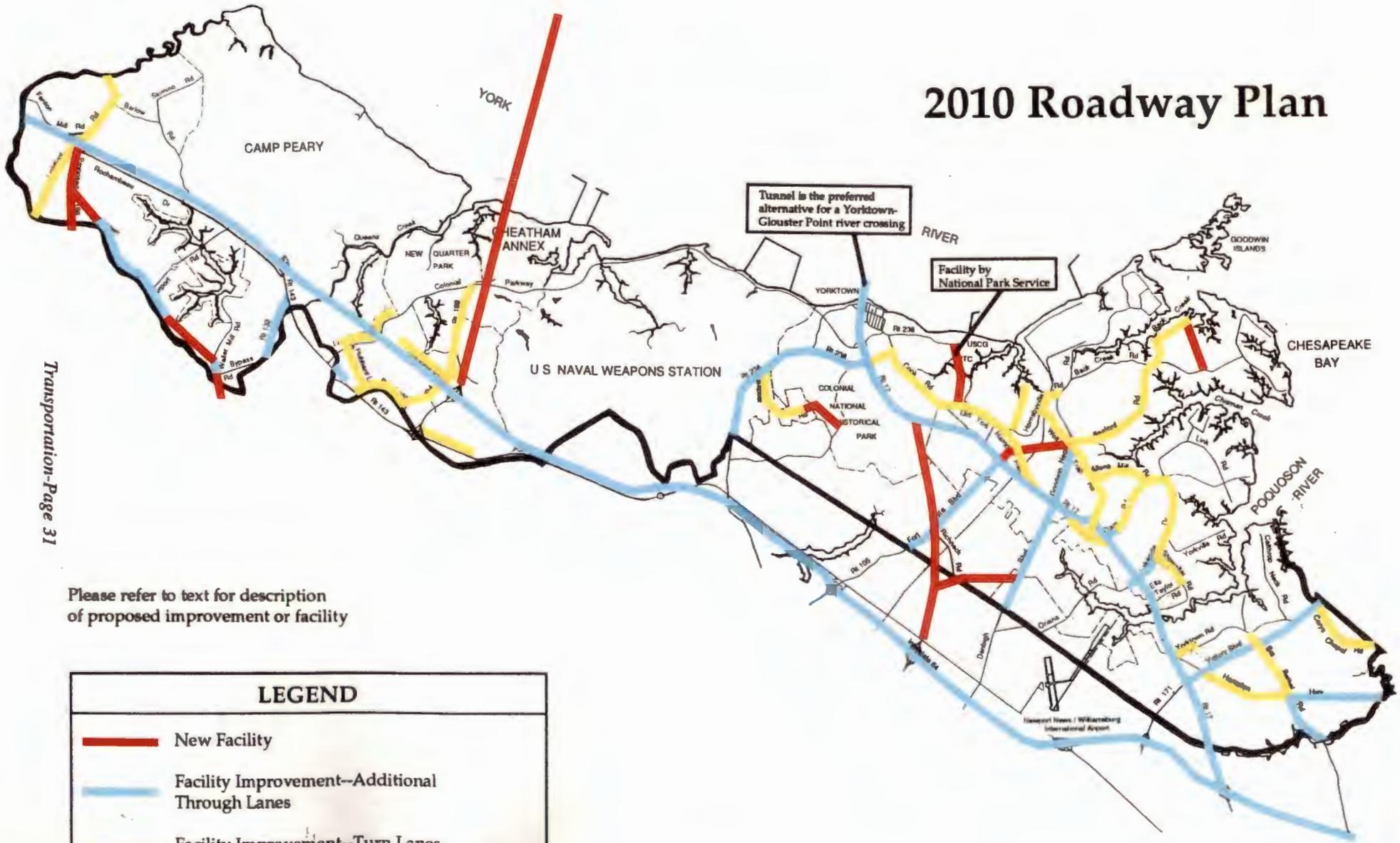
Note: Assumes that the physical capacity of the roadways is unchanged from 1990 conditions, ie.: no improvements made

LEGEND	
2010 Existing Conditions Volume/Capacity Ratio	
	150%+
	125%-150%
	100%-125%
	75%-100%

Source: VDOT, HRPDC, and YCCD

MAP T-8

# 2010 Roadway Plan



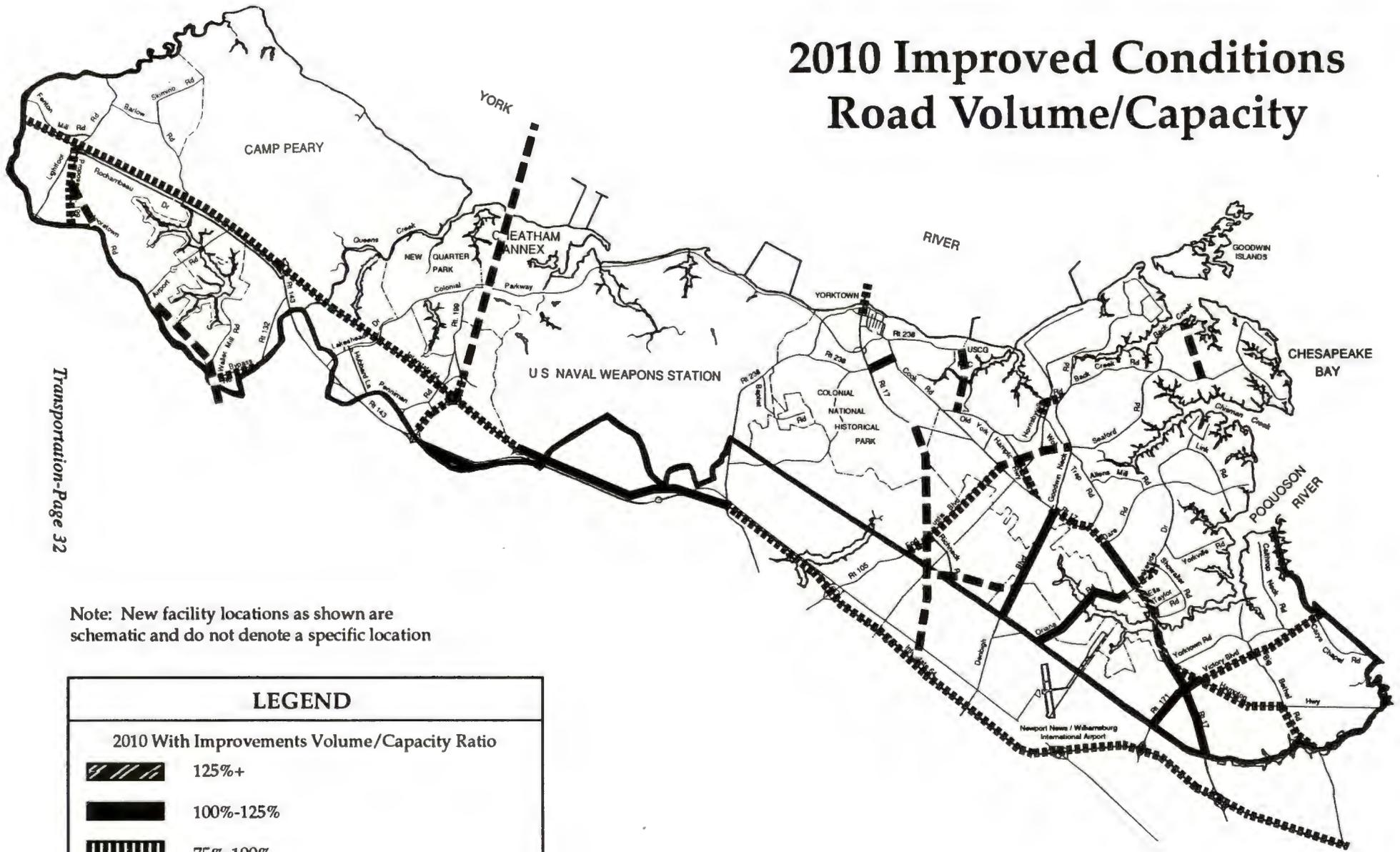
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Please refer to text for description of proposed improvement or facility

LEGEND	
	New Facility
	Facility Improvement--Additional Through Lanes
	Facility Improvement--Turn Lanes, Intersection Enhancements, Straighten, Remove Crown, No Additional Through Lanes

MAP T-9

# 2010 Improved Conditions Road Volume/Capacity



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Note: New facility locations as shown are schematic and do not denote a specific location

LEGEND	
2010 With Improvements Volume/Capacity Ratio	
	125%+
	100%-125%
	75%-100%
	New Facility
Source: VDOT, HRPDC, and YCCD	

MAP T-10

TABLE 4 - PRIMARY AND INTERSTATE ROAD SYSTEMS

RT.#	NAME	AVERAGE DAILY VEHICLE TRIPS						TOTAL ACCIDENTS						LENGTH (MI)	ACCIDENT RATES (per 100 M miles)			SERVICE CAPACITY	2010 VOLUME CAPACITY		PAVED WIDTH DEFICIT	WTD SCORE	RELATIVE PRIORITY A=High	
		1980	1985	1986	1987	1988	1989	1980	1985	1986	1987	1988	1989		1980	1985	1989		1990	2010				
INTERSTATE SYSTEM																								
1-64	JCCo - Rt. 143	19,270	24,335	25,470	28,350	30,940	32,600	24	26	26	26	25	49	5.41	63	54	39	47,100	64,500	0.69	1.37	0	216	C
	Rt. 143 - Rt. 199	18,405	26,925	28,850	32,200	33,905	35,820	17	38	26	32	24	50	3.88	65	100	47	47,100	65,000	0.76	1.38	0	226	C
	Rt. 199 - NN	19,870	29,895	33,515	37,275	39,250	41,375	13	11	19	13	24	20	1.98	91	51	80	47,100	94,000	0.88	2.00	0	314	A
PRIMARY SYSTEM																								
17	GEORGE WASH MEM HWY																							
	Coleman Bridge	16,220	31,790	29,145	31,680	32,320	33,380	22	24	18	14	24	25	0.80	465	259	246	12,000	27,000	2.78	2.25	0	565	A
	Bridge - Rt. 704	14,730	22,795	22,325	22,980	23,450	24,240	39	48	46	44	38	33	3.35	317	172	128	28,000	29,000	0.87	1.04	0	222	C
	Rt. 704 - Rt. 173	18,160	25,680	26,285	27,980	28,450	29,340	40	58	50	60	45	55	1.97	306	314	213	28,000	31,000	1.05	1.11	0	269	B
	Rt. 173 - Rt. 134	24,080	30,390	33,560	36,100	36,770	37,890	87	103	129	131	145	123	3.45	287	269	304	30,600	56,600	1.24	1.85	0	385	A
	Rt. 134 - NN	26,475	33,555	36,490	37,130	37,900	39,120	34	32	37	24	29	27	1.84	191	142	110	25,400	47,000	1.54	1.85	0	367	A
60	BYPASS RD	11,565	15,325	16,305	17,540	17,850	18,425	8	18	22	19	13	16	1.12	169	287	173	30,600	27,000	0.60	0.88	0	192	C
60	POCAHONTAS TR	13,590	19,100	20,670	22,680	23,110	23,850	35	37	35	32	42	25	2.53	279	210	191	30,600	31,000	0.78	1.01	0	227	B
105	FT. EUSTIS BLVD	5,960	8,655	10,215	11,160	11,340	11,700	7	6	9	6	10	12	2.36	136	80	99	9,300	17,400	1.26	1.87	0	338	A
132	ROUTE 132	4,310	6,100	6,710	7,015	7,385	7,535	0	3	3	3	4	5	1.16	0	116	125	7,500	12,500	1.00	1.67	0	298	B
134	HAMPTON HIGHWAY	12,885	13,970	15,480	16,645	16,955	17,490	23	50	62	77	69	54	4.01	122	245	270	25,400	24,500	0.69	0.96	0	233	B
143	MERRIMAC TR																							
	JCCo - Rt. 199	10,660	7,585	8,310	8,925	9,095	9,375	15	18	14	11	18	19	2.50	154	260	210	39,500	26,000	0.24	0.66	6	202	C
	Rt. 641 - Colonial Pkwy	18,640	19,200	20,875	21,760	22,225	22,940	21	29	19	21	29	19	0.76	406	544	456	43,800	27,000	0.52	0.62	0	228	B
	Wmsbg - 164	8,000	10,090	11,295	12,415	13,105	13,420	8	14	15	17	28	23	0.82	334	464	697	40,000	23,000	0.34	0.58	0	321	B
162	SECOND ST	15,515	17,040	18,295	17,770	18,150	18,680	2	2	4	2	3	1	0.17	208	189	259	41,600	25,400	0.45	0.61	0	171	C
171	VICTORY BLVD (Yorktown Rd)	5,225	7,100	7,765	8,455	8,625	8,900	40	39	25	31	27	31	2.85	736	528	292	15,300	33,500	0.58	2.19	0	350	A
173	DENBIGH BLVD	7,845	9,315	10,365	9,845	10,005	10,335	6	11	24	27	21	20	2.18	96	148	255	9,300	19,000	1.11	2.04	0	379	A
173	GOODWIN NECK RD	3,865	5,020	5,395	5,485	5,585	5,750	17	17	17	7	13	18	4.38	275	212	141	8,000	8,500	0.72	1.06	0	213	C
199	ROUTE 199																							
	Rt. 143 - 164	9,745	14,940	16,335	17,480	17,810	18,320	3	8	4	3	7	7	1.03	82	142	102	43,800	35,000	0.42	0.80	0	147	C
	164 - Rt. 641	1,805	3,035	3,315	3,780	3,860	3,960	1	5	2	7	3	3	1.01	150	447	206	43,800	31,100	0.09	0.71	0	131	C
238	OLD WILLIAMSBURG RD	6,055	5,480	5,710	5,760	5,870	6,045	25	16	21	17	16	22	3.26	347	245	222	8,000	9,500	0.76	1.19	0	250	B
238	GOOSLEY RD																							
	Rt. 1020 - Rt. 17	2,840	3,527	3,788	4,049	4,942	5,834	4	1	3	2	1	0	1.28	301	61	37	8,000	10,000	0.73	1.25	4	247	B
	Rt. 17 - Rt. 704	510	380	413	368	446	523	1	2	1	0	1	0	0.51	1,053	2,827	1,027	4,500	5,000	0.12	1.11	6	522	A
238	MOORE HOUSE RD	2,375	2,790	2,850	2,850	2,920	3,010	14	4	0	4	5	0	1.35	1,196	291	337	8,600	3,500	0.35	0.41	2	180	C
NEW FACILITIES																								
1-64	GROVE INTERCHANGE													0.50				47,100	20,000	0.42	0	1,078	C	
105	FT. EUSTIS BLVD EXTENSION													1.50				18,600	10,600	0.57	0	1,795	B	
199	ROUTE 199 (Lightfoot)	N/A												1.50	N/A	N/A	N/A	43,800	43,100	N/A	0.98	0	2,165	B
	YORK RIVER BRIDGE (Alt. 5)													4.20				43,800	23,900	0.55	0	3,008	A	
	SNIDOW-RT. 17 CONNECTOR													1.52				25,400	22,600	0.89	0	2,159	B	
	MONTICELLO AVE EXTENSION													0.14				20,400	20,000	0.98	0	1,201	C	

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Sources: Data--VDOT & HRPDC; Analysis--York County Community Development

TABLE 5 - SECONDARY ROAD SYSTEM

RT.#	NAME	AVERAGE DAILY VEHICLE TRIPS				TOTAL ACCIDENTS			LENGTH (MI)	ACCIDENT RATES (per 100 M miles)		SERVICE CAPACITY	2010 AADT	VOLUME CAPACITY		PAVED WIDTH	PAVED WIDTH DEFICIT	WTD SCORE	RELATIVE PRIORITY A-High
		1980	1985	1987	1989	1985	1987	1989		1985	1989			1990	2010				
600	BIG BETHEL ROAD																		
	Hampton to Rt. 134	6,505	7,269	7,554	9,400	1	4	4	1.10	34	106	8,600	16,000	1.09	1.86	24	0	316	A
	Rt. 134 to Rt. 171	2,880	2,914	5,635	5,628	2	5	3	1.37	137	107	8,000	5,700	0.70	0.71	22	0	171	B
	Rt. 171 to Rt. 706	1,786	2,335	2,754	2,748	0	0	0	0.34	0	0	8,000	2,900	0.34	0.36	22	0	71	C
603	MOORETOWN ROAD																		
	Dead End to Rt. 645	700	975	619	799	0	0	0	0.73	0	0	3,200	7,700	0.25	2.41	14	8	346	A
	Rt. 645 to Old Taylor Rd	835	1,534	1,544	2,612	2	2	5	1.29	277	407	4,300	7,700	0.58	1.71	16	6	380	A
	Old Taylor Rd to Rt. 646	864	840	1,112	1,174	3	0	1	2.55	384	92	4,300	2,600	0.26	0.58	16	6	191	B
604	BARLOW ROAD	800	918	964	1,045	2	3	2	2.58	231	203	6,300	5,000	0.17	0.79	20	0	149	C
606	CALTHROP NECK ROAD																		
	Rt. 171 to Rt. 706	1,545	1,780	1,894	2,520	0	1	0	0.06	0	0	7,500	3,600	0.34	0.48	24	0	82	C
	Rt. 706 to Dead End	1,545	1,665	1,428	1,560	1	5	3	1.54	107	342	6,900	2,500	0.23	0.36	22	0	125	C
614	SHOWALTER ROAD																		
	Rt. 17 to Rt. 751	711	1,781	1,603	1,374	1	3	1	0.79	195	252	5,300	3,000	0.26	0.57	18	0	141	C
	Rt. 751 to Rt. 620	1,340	2,330	2,036	2,695	4	3	1	0.69	682	147	5,300	7,900	0.51	1.49	18	0	281	B
620	ORIANA ROAD																		
	NN line to Rt. 709	3,325	5,285	6,059	6,112	7	9	12	2.19	166	246	5,300	10,900	1.15	2.06	18	6	436	A
	Rt. 709 to Rt. 17	4,875	5,970	6,738	6,821	3	1	7	0.37	372	760	5,300	11,200	1.29	2.11	18	6	608	A
620	LAKESIDE DRIVE																		
	Rt. 17 to Rt. 614	9,785	10,845	10,275	10,900	6	15	10	0.51	297	493	6,900	15,000	1.58	2.17	22	2	536	A
	Rt. 614 to Rt. 621	3,875	6,400	6,250	6,969	2	2	6	1.50	57	157	6,900	10,000	1.01	1.45	22	2	297	A
620	RAILWAY ROAD	1,316	1,539	3,250	3,512	1	0	0	0.30	593	0	6,300	3,700	0.56	0.59	20	0	164	B
620	LINK ROAD	1,175	1,323	1,832	1,958	0	1	1	1.62	0	86	5,300		0.37	0.00	18	0	96	C
621	GRAFTON DRIVE	695	757	766	791	3	4	3	0.74	1,467	1,404	5,300	4,460	0.15	0.84	18	0	569	A
621	DARE ROAD																		
	Rt. 17 to Railway Rd	3,015	3,460	3,779	4,360	3	4	2	1.61	148	78	6,300	5,100	0.69	0.81	20	0	175	B
	Railway Rd to Link Rd	1,775	2,028	2,809	2,907	1	2	1	1.06	127	89	6,300	3,700	0.46	0.59	20	0	130	C
	Link Rd to Dead End	210	445	485	522	1	0	0	0.50	1,231	0	4,500	550	0.12	0.12	16	6	84	C
622	SEAFORD ROAD																		
	Rt. 173 to Rt. 1299	6,090	6,710	6,940	7,467	7	1	5	1.13	253	162	7,200	11,900	1.04	1.65	20	4	357	A
	Rt. 1299 to Rt. 718	4,565	5,010	5,194	5,631	5	5	3	1.17	234	125	7,200	7,800	0.78	1.08	20	0	227	B
	Rt. 718 to Rt. 712	1,990	2,678	2,767	2,812	2	1	0	1.56	131	0	6,300	3,300	0.45	0.52	20	0	108	C
626	SHIRLEY ROAD	450	605	685	711	0	0	0	0.41	0	0	3,200	750	0.22	0.23	14	8	126	C
630	WOLFTRAP ROAD																		
	Rt. 17 to Rt. 173	3,540	4,656	4,718	4,870	6	5	5	1.53	231	184	6,300	8,700	0.77	1.38	20	0	265	B
	Rt. 173 to Rt. 718	545	837	1,229	1,378	1	1	2	0.88	372	452	4,800	1,400	0.29	0.29	18	0	164	B
631	WATERVIEW ROAD	1,280	1,755	2,125	1,449	2	2	1	2.15	145	88	6,300	1,800	0.23	0.29	20	0	78	C
632	OLD WORMLEY CREEK ROAD	365	464	586	810	0	0	0	1.00	0	0	1,800	1,800	0.45	1.00	12	10	245	B
634	OLD YORK-HAMPTON HIGHWAY																		
	Rt. 17 to Rt. 718	545	842	896	984	4	2	3	1.31	994	638	3,200	2,600	0.31	0.81	16	6	422	A
	Rt. 718 to Rt. 693	2,475	2,775	2,914	3,112	0	0	3	0.44	0	600	4,000	6,000	0.78	1.50	16	6	420	A
	Rt. 693 to Rt. 704	1,170	1,180	998	810	1	2	3	0.78	298	1,301	3,200	1,000	0.25	0.31	16	6	436	A

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Sources: Data--VDOT & HRPDC; Analysis--York County Community Development

TABLE 5 – SECONDARY ROAD SYSTEM

RT.#	NAME	AVERAGE DAILY VEHICLE TRIPS				TOTAL ACCIDENTS			LENGTH (MI)	ACCIDENT RATES (per 100 M miles)		SERVICE CAPACITY	2010 AADT	VOLUME CAPACITY		PAVED WIDTH	PAVED WIDTH DEFICIT	WTD SCORE	RELATIVE PRIORITY A-High
		1980	1985	1987	1989	1985	1987	1989		1985	1989			1990	2010				
641	PENNIMAN ROAD																		
	Rt. 143 to Rt. 642	6,164	5,519	5,795	6,171	1	1	2	0.56	89	159	6,300	10,100	0.98	1.60	40	0	292	A
	Rt. 642 to Rt. 199	1,280	1,582	1,661	1,825	1	2	3	1.95	89	231	4,500	3,350	0.41	0.74	20	0	161	B
	Rt. 199 to Colonial Pkwy	2,310	2,967	3,624	3,902	0	1	0	1.36	0	0	4,800	3,400	0.81	0.71	20	0	152	C
645	AIRPORT ROAD	2,115	3,013	4,163	4,670	10	7	1	2.00	455	29	4,800	5,200	0.97	1.08	19	0	248	B
646	LIGHTFOOT ROAD																		
	Rt. 60 to I-64	3,465	6,850	8,166	8,181	6	6	10	1.45	166	231	5,300	7,100	1.54	1.34	18	6	401	A
	I-64 to JCC line	1,653	2,714	2,877	2,853	3	3	6	1.63	186	353	4,500	5,250	0.63	1.17	16	6	314	A
655	ALLENS MILL ROAD	505	1,018	985	1,425	4	3	1	1.20	897	160	3,200	2,000	0.45	0.63	14	8	288	A
658	YORKVILLE ROAD	2,025	1,845	2,097	2,110	1	1	1	1.40	106	93	5,300	3,000	0.40	0.57	18	0	121	C
659	DOGWOOD DRIVE	80	110	76	58	0	0	0	0.60	0	0	1,800	290	0.03	0.16	12	10	119	C
660	BAPTIST ROAD	785	1,097	980	1,011	2	1	1	1.75	285	155	4,200	3,000	0.24	0.71	16	6	205	B
675	MANSION ROAD	1,575	116	86	94	0	0	0	0.54	0	0	4,200	500	0.02	0.12	16	6	74	C
678	HARROD LANE	1,575	2,198	2,217	2,281	5	4	1	0.40	1,558	300	4,200	2,000	0.54	0.48	16	6	342	A
704	COOK ROAD	4,095	4,998	5,086	5,493	10	16	10	2.36	232	211	8,000	7,200	0.69	0.90	22	0	213	B
706	YORKTOWN ROAD																		
	Rt. 134 to Rt. 600	NA	NA	4,281	4,635	NA	3	3	1.42	NA	125	6,900	5,800	0.67	0.84	22	0	172	B
	Rt. 600 to Rt. 606	NA	NA	3,369	4,220	NA	1	1	0.69	NA	94	6,900	4,300	0.61	0.62	22	0	139	C
709	BURTS ROAD	175	230	269	292	2	1	0	0.87	2,738	0	4,500	800	0.06	0.18	16	6	84	C
713	WALLER MILL ROAD	1,487	1,500	1,944	2,409	1	1	2	1.78	103	128	8,000	10,700	0.30	1.34	36	0	194	B
716	HUBBARD LANE	2,995	4,252	4,514	3,921	7	5	2	0.76	593	184	5,300	5,500	0.74	1.04	35	0	258	B
718	BATTLE ROAD	940	1,325	2,219	2,657	1	0	0	0.38	544	0	5,300	4,400	0.50	0.83	18	0	178	B
718	HORNSBYVILLE ROAD																		
	Rt. 634 to Rt. 630	1,755	2,495	1,995	2,042	4	6	5	1.01	435	664	4,800	2,800	0.43	0.58	18	0	295	A
	Rt. 630 to Rt. 173	1,125	1,679	1,870	1,955	2	3	1	0.61	535	230	4,800	1,600	0.41	0.33	18	0	157	C
718	BACK CREEK ROAD																		
	Rt. 173 to Rt. 622	1,220	1,453	1,627	1,647	2	1	3	1.59	237	314	6,300	2,250	0.26	0.36	20	0	134	C
	Rt. 622 to Rt. 626	925	1,270	1,422	1,468	0	0	1	0.42	0	444	4,300	1,500	0.34	0.35	18	0	143	C
751	ELLA TAYLOR ROAD	1,300	2,002	1,835	2,005	0	0	0	0.57	0	0	4,800	5,000	0.42	1.04	18	0	146	C
782	CARYS CHAPEL ROAD																		
	Rt. 171 to Rt. 675	2,415	2,045	2,801	2,520	1	0	0	0.80	167	0	6,300	4,100	0.40	0.65	20	0	119	C
	Rt. 675 to Poquoson line	1,240	1,918	2,170	2,032	1	0	1	0.70	204	193	6,300	4,000	0.32	0.63	20	0	145	C
782	EAST YORKTOWN ROAD	1,980	3,185	3,514	3,324	0	0	0	0.29	0	0	6,300	8,000	0.53	1.27	20	0	180	B
792	OLD LAKESIDE DRIVE	740	830	693	748	1	0	0	0.66	500	0	4,200		0.18	0.00	16	6	99	C
1254	FALCON ROAD	445	435	541	616	0	0	0	0.39	0	0	6,300		0.10	0.00	20	0	22	C
1314	LAKESHEAD DRIVE	2,555	2,498	2,679	2,978	1	3	4	1.18	93	312	4,900	4,050	0.61	0.83	18	0	203	B
F-137	ROCHAMBEAU DRIVE	1,987	2,327	2,409	3,124	6	11	10	5.41	131	162	8,000	5,500	0.39	0.69	22	0	146	C

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Sources: Data--VDOT & HRPDC; Analysis--York County Community Development

TABLE 5 - SECONDARY ROAD SYSTEM

RT.#	NAME	AVERAGE DAILY VEHICLE TRIPS				TOTAL ACCIDENTS			LENGTH (MI)	ACCIDENT RATES (per 100 M miles)		SERVICE CAPACITY	2010 AADT	VOLUME CAPACITY		PAVED WIDTH	PAVED WIDTH DEFICIT	WTD SCORE	RELATIVE PRIORITY Average
		1980	1985	1987	1989	1985	1987	1989		1985	1989			1990	2010				
		NEW FACILITIES								NEW FACILITIES									
603	MOORETOWN/199 CONNECTOR								1.14			15,000	9,700	0.65	48		485	A	
603	MOORETOWN EXTENSION								1.23		15,000	7,700	0.52	48		385	A		
	SNIDOW-DENBIGH CONNECTOR			N/A			N/A		1.52	N/A	N/A	15,000	9,000	N/A	60	N/A	400	A	
F-138	WHITAKERS MILL BOULEVARD								1.16		7,500	5,000	0.77	40		290	B		
660	BAPTIST ROAD EXTENSION								0.97		5,300	2,000	0.38	22		100	C		
	SHIRLEY ROAD ALTERNATIVE								1.00		7,500	1,500	0.20	24		75	C		

Sources: Data--VDOT & HRPDC; Analysis--York County Community Development

New facilities remove traffic from existing roadways; new lanes add capacity and enhance safety; spot improvements include turn lanes, improved roadway geometrics, signals, pavement dividers or markings, and other physical improvements short of adding through lanes; while TSM (Transportation System Management) measures usually focus on peak hour demand reductions by encouraging alternative travel modes or off-peak travel times.

The Year 2010 regional roadway network (PATS 2010) was developed using a computerized travel demand model which allowed many different roadway scenarios to be tested and evaluated relative to each other. The resultant recommendations were adopted on April 30, 1991, and form the basis for the proposed improvements to York County roadways as shown on Map T-9. Map T-10 depicts the Year 2010 volume/capacity ratios which would result from construction of those improvements.

York County's roadways will remain the principal transportation conduits for the foreseeable future. However, there will likely not be the financial wherewithal to provide capacity increases at the same rate as growth occurs. Consequently, extra care and attention are required to preserve the existing capacity levels of the County's roadway network by avoiding actions which degrade that capacity wherever possible. At the same time maintaining or enhancing roadway safety is an equally critical element. Balancing these needs will become increasingly difficult as non-local resources for roadbuilding diminish.

So that capacity and safety improvements can be considered together, a rational mathematical model has been developed to provide guidance as to the appropriate assignment of relative priorities to various road improvements. A summarized version of this model is shown in the accompanying two tables; however, it must be clearly noted that the model does not, nor can it, consider intangible and nonquantifiable items such as community sentiment, site-specific access needs, political preferences, or special circumstances. The methodology establishes three levels of relative priority based on how the needs compare with each other. The intent of the model is to provide one more piece of information to decision-makers to assist in establishing roadway improvement and funding priorities. Table 4 (Primary and Interstate Road Systems) and Table 5 (Secondary Road System) are included herein, not to prioritize specific road improvements, but to provide additional and detailed information about the roadway segments modelled.

**PROPOSED  
AMENDMENTS TO THE  
WALKWAYS CHAPTER OF  
THE TRANSPORTATION  
ELEMENT, YORK  
COUNTY  
COMPREHENSIVE PLAN**



**August 3, 1995**



*Certified by the York County Planning Commission  
May 9, 1995*

*Revised by the York County Board of Supervisors  
July 26, 1995*

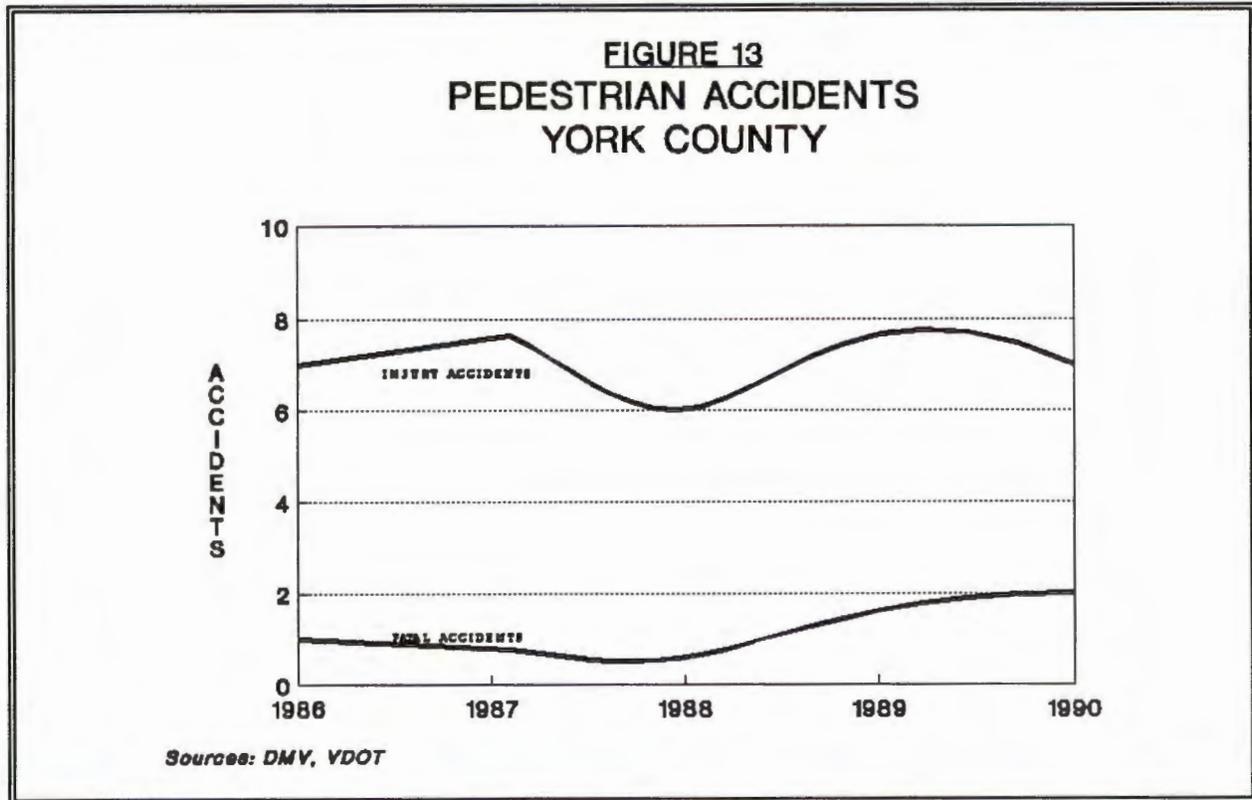
## FIGURES, TABLES AND MAPS continued

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## Walkways

In a number of very obvious cases, York County can be defined as the place where the sidewalk ends. Richmond Road and Second Street provide the most startling examples that sidewalk construction has not been a priority in York County as sidewalks quite literally end at the Williamsburg-York County line.

As with bicyclists, the number of pedestrian-vehicle accidents has been remarkably low; however, all such accidents have resulted in injury or death to the pedestrian. This is shown graphically in Figure 13.



Well-designed, constructed, and lighted pedestrian walkways increase pedestrian safety and, in so doing, invite pedestrian use. Consequently, in tourist and commercial areas, good sidewalks can provide economic advantages by encouraging consumers to patronize nearby establishments rather than getting in their cars when, as likely as not, they will drive farther and perhaps to a business not located in the County.

Ideally, pedestrian walkways should be provided within and between residential neighborhoods and nearby recreational areas, community facilities, and commercial establishments. In this manner, people may be induced to walk between these destinations rather than using an automobile. Walking as a recreational and fitness activity has been growing in popularity over the past decade and, by linking pedestrian facilities together into a coordinated walkway system, this recreational and fitness aspect of walking can also be accommodated.

Walkway construction in conjunction with road improvement projects will be considered by VDOT when such facilities are contained in a sidewalk plan adopted by the locality. The costs are added into the project cost in such situations.

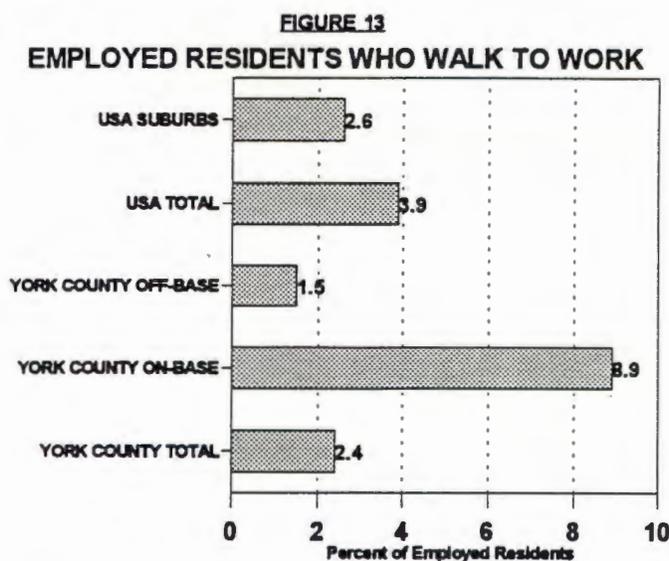
## Walkways

Walking is the most basic and yet probably the most overlooked mode of transportation in our society. Encouraged by an increasingly dispersed land use pattern, Americans are more dependent than ever before on their automobiles, even for short trips. According to the Nationwide Personal Transportation Survey (NPTS) conducted in 1990, 7.2% of all trips are made by foot. This represents a decline in pedestrian activity since the 1983 NPTS, which found that 8.5% of all trips were by foot.

The only statistical measure of pedestrian activity in York County appears in the Journey-to-Work statistics reported by the U.S. Census Bureau. According to the 1990 census, 2.4% of the employed residents in the County walk to work (see Figure 13). Almost half of these, however, both live and work on military bases, where walking to work tends to be more convenient. Among the off-base population, 1.5% of workers commute by foot. Nationally, by comparison, 3.9% of the employed residents walk to work, according to the 1990 census. Compared with other suburban areas, however, York County is fairly typical. For cities and counties located within metropolitan areas but outside of the central cities, the proportion of people who commute by foot is 2.6%, slightly above the York County total.

In a number of very obvious cases, York County can be defined as the place where the sidewalk ends. Merrimac Trail, Richmond Road, and Second Street provide the most startling examples that sidewalk construction has not been a priority in York County as sidewalks quite literally end at the Williamsburg-York County line.

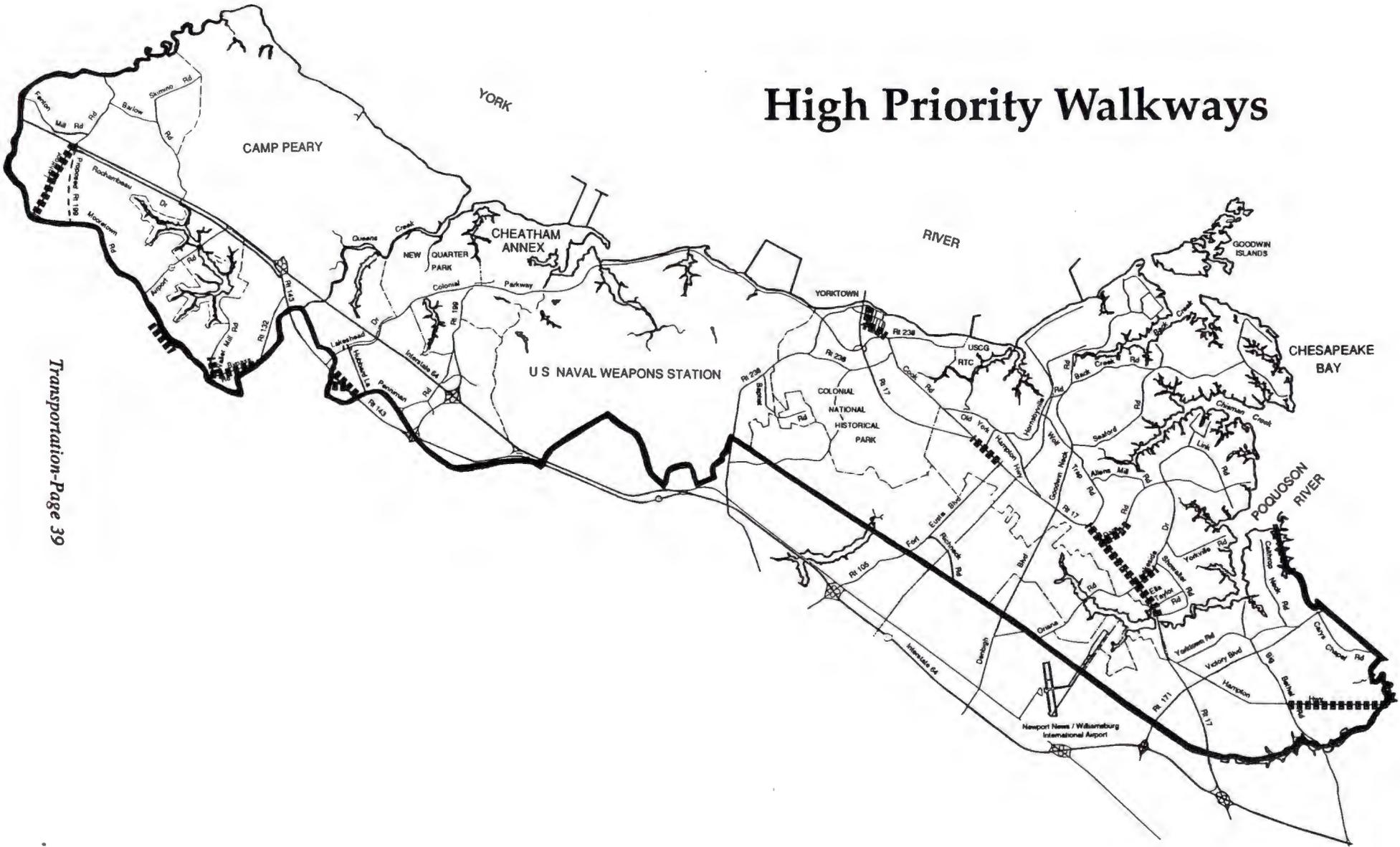
As with bicyclists, the number of pedestrian-vehicle accidents has been remarkably low; however, all such accidents have resulted in injury or death to the pedestrian. This is shown graphically in Figure 13:



Safety is the primary reason that sidewalks are needed. The lack of sidewalks in the County encourages the unsafe mixing of pedestrian and vehicular traffic, which is particularly dangerous in a locality like York County, where there are many heavily-traveled narrow roads lacking adequate shoulders. In the past ten years, eight pedestrians have been killed and 62 injured on the streets of York County. The benefits of sidewalks are not limited to public safety, however. By encouraging people to make short trips by foot rather than by car, sidewalks help reduce traffic congestion and the air pollution it causes. Strategically located sidewalks can also help promote County business and tourism. Well-designed, constructed, and lighted pedestrian walkways increase pedestrian safety and, in so doing, invite pedestrian use. Consequently, in tourist and commercial areas, good sidewalks can provide economic advantages by encouraging consumers to patronize nearby establishments rather than getting in their cars when, as likely as not, they will drive farther and perhaps to a business not located in the County. Finally, by encouraging people to walk for purposes of not just transportation but recreation, sidewalks can enhance the public health as well as the public safety.

The Institute of Transportation Engineers (ITE) recommends that sidewalks be provided "along suburban streets used for pedestrian travel to parks, schools, shopping areas and transit stops." Specifically, the ITE recommends sidewalks along both sides of all streets in commercial and industrial areas and along at least one side of all streets in residential areas where the development density exceeds one housing unit

# High Priority Walkways



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MAP T-11

per acre. These guidelines are instructive, but local sidewalk standards should be tailored to local conditions. In some cases, the demand for sidewalks is as evident as the well-trodden paths along County roads, but unfortunately the need is not always so obvious. Land use, both present and future, is the basic criterion for determining sidewalk needs. Ideally, pedestrian walkways should be provided within and between residential neighborhoods and nearby recreational areas, community facilities, and commercial establishments. In this manner, people may be induced to walk between these destinations rather than using an automobile. It should also be noted that although sidewalks along the roadway will likely meet the bulk of the County's walkway needs, there may be other areas where walkways are needed to link residential and commercial areas. One example of such a facility is the concrete stairway leading from the end of Church Street in Yorktown down to the Yorktown waterfront and nearby commercial development. ~~Walking as a recreational and fitness activity has been growing in popularity over the past decade and, by linking pedestrian facilities together into a coordinated walkway system, this recreational and fitness aspect of walking can also be accommodated.~~

In addition, there are certain target areas in the County where the need for sidewalks is indicated by a relatively high rate of pedestrian commuting and/or a low rate of automobile ownership. One such area is Lackey, where 27% of employed residents walk to work. The Penniman Road/Hubbard Lane area and the Greensprings/Waller Mill Road/Bypass Road area, both in the upper County, are also sidewalk target areas.

Using these criteria, the York County Transportation Safety Commission has ~~developed~~ recommended a sidewalk plan that identifies current and planned roads in the County where sidewalks are or will be needed. The proposed sidewalk network encompasses 33 miles of roadway, with sidewalks funded through a variety of public and private sources. The roadways along which sidewalks are proposed, which are shown on Map T-11, are divided into the following three broad categories based on the proposed funding mechanism:

**Category A** includes roads where an improvement is planned, based on the County's annual six-year adopted road plans. The priority given to each sidewalk in this category will depend on the prioritization of road construction and improvement projects. Walkway construction in conjunction with road improvement projects will be considered by VDOT when such facilities are contained in a sidewalk plan adopted by the locality. The costs are added into the project cost in such situations, with the County share ranging between 20% and 50%, depending on the project and the funding method.

**Category B** includes largely undeveloped roads in commercial areas where sidewalks will be needed in the future as development occurs. Sidewalks in this category will be coordinated by the County but paid for by developers wishing to build on property along these roads. Sidewalk priority will be dictated by the timing of development.

**Category C** includes roadways where there is currently a demonstrated need for sidewalks but where neither roadway improvement nor significant new development is likely to occur in the foreseeable future. In these situations, it will be up to the County or affected landowners, if they so desire, to pay for sidewalks, possibly with assistance from federal funding sources for which pedestrian facilities are eligible.

These categories are used for long-range planning purposes only and should not be viewed as static. Over time, proposed sidewalk corridors may shift between and within categories as road improvement needs and priorities change and as new development occurs. It should also be noted that these are only proposed sidewalk corridors and that detailed site-specific engineering and analysis, which are beyond the scope of this plan, will determine the feasibility and cost-effectiveness of each project.

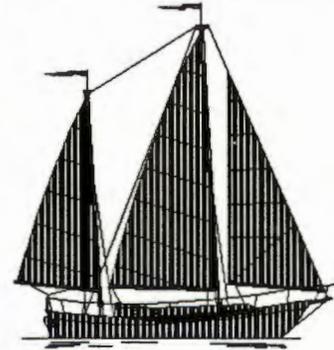
Establishing specific sidewalk design standards is beyond the scope of this plan. Moreover, standards will differ for different projects based on roadway classification, site constraints, right-of-way availability, and

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*traffic volumes. However, it is anticipated that a sidewalk width of four to six feet set back from the curb or the edge of the pavement by one to five feet are generally appropriate guidelines. These dimensions are consistent with standards published in 1992 by the Institute of Transportation Engineers. Sidewalk design should also incorporate marked crosswalks (6-8 feet in width) to enable pedestrians to cross the roadway safely. Finally, sidewalks may need to be lighted in areas with high levels of nighttime pedestrian activity.*

## Waterways

The many waterways in and around York County are used by residents and businesses for a variety of purposes including seafood harvesting, recreation, and passive enjoyment. However, only the York River itself serves as a transportation artery in the sense of this plan element. Three primary types of cargo are transported by water along the York River--crude oil and refined petroleum products to and from Amoco; military supplies to and from the U. S. Navy installations along the river, primarily the Yorktown Weapons Station; and both raw materials and finished paper products to and from the Chesapeake Corporation at West Point. There has also been some limited barging of sand and gravel.



In addition to cargo transport along the river, Yorktown currently serves as a port-of-call for one small passenger cruise ship line and has had two other cruise ship lines call in the recent past. An investor group is in the final stages of developing a lunch and dinner cruise operation based at the Post Office Wharf in Yorktown. As a part of the Yorktown revitalization effort, other water-related uses and attractions are being considered.

It is the scenic vistas and value of the York River that contribute to the ambiance of Yorktown and, indeed the entire County. With a relatively few exceptions, most notably the Virginia Power Yorktown Power Plant facility, the Naval Weapons Station piers, and the Coleman Bridge, river views are relatively unspoiled by large-scale or industrial waterfront types of uses. The Colonial Parkway serves as the main tourist route to and from Yorktown and the maintenance and improvement of the scenic values along its route is critical to preserving the mass appeal of this roadway.

Increased maritime traffic on the York River west of Yorktown will likely cause an increase in automobile traffic delays on Route 17 at the Coleman Bridge because of the need to open the bridge more frequently. While some of this delay can be partially ameliorated through good scheduling, nighttime hours are not usually deemed acceptable by ship captains and river pilots for the movement of larger vessels through a bridge opening. Consequently, the additional openings will most likely be daytime openings. Given the projected increase in traffic crossing the Coleman Bridge, it is reasonably safe to conclude that there will be few desirable time periods within which to open the bridge.

As use of the waterways increases, the likelihood of a serious accident, spill, or other serious waterborne emergency increases. Primary emergency response for water-borne disasters and hazardous materials spill lies with the U. S. Coast Guard. Nevertheless, there may be things that the County can or should do to prepare for such an eventuality. For example, boat fires can be particularly difficult to control or extinguish and providing additional fire flows in the vicinity of piers may be advantageous. Planning now for emergency preparedness continues to be a cornerstone of the County's General Emergency Response Plan. Incorporating the unusual needs and specific demands of handling waterborne emergencies could be a prudent addition to the existing plan.



## GOALS/OBJECTIVES/IMPLEMENTATION STRATEGIES

The overall goal of the Transportation element of the Comprehensive Plan is to create and promote a transportation network that ensures the safe, efficient, convenient, and cost effective movement of people and goods within the County, between neighboring jurisdictions, and throughout the region. This network should be consistent and compatible with the environmental and economic development goals and objectives of the County. In working to achieve this goal, it is important for the County to continue to participate in regional transportation planning efforts.

The development of Transportation objectives and related implementation strategies is the result of a comprehensive citizen and staff review and analysis process. This process examined the broad range of the County's transportation requirements, by individual category, both from a collective overview and for compatibility with other key planning components. The primary categories considered and their corresponding objectives and implementation strategies are outlined, by alphabetical order, in the ensuing sections.

### I. AIR

The location and current development of the Newport News-Williamsburg International (NNWI) Airport and its inherent impact on the County's economy and environment are the overriding issues for the citizens of York County and form the basis for the following Air related objectives and implementation initiatives:

#### A. Objectives

1. Support the deliberate and coordinated modernization, growth, and development of Newport News-Williamsburg International Airport, but only in such a manner as to minimize the noise impacts and safety concerns on existing County residents.
2. Encourage the long-term planning and development of a major regional airport facility (superport concept).

#### B. Implementation Strategies

1. Investigate the feasibility of securing voting representation on the Peninsula Airport Commission. It is critical that the future of the airport be guided in such a manner as to minimize the airport's negative impacts on the County while maximizing the positive aspects of its location. The best way to accomplish this is through mutual trust and cooperation between the County and the Airport Commission.
2. Establish an airport advisory committee to coordinate the County's position on all air/airport related issues and plans.
3. Investigate the feasibility of establishing a high-speed rail link between the County and Richmond International Airport to serve both air passenger and air cargo needs.
4. Consider, as a part of a future regional superport, utilizing the terminal facility at Newport News/Williamsburg Airport as a satellite terminal for the regional facility including serving as an embarkation point for a high-speed rail link to the regional superport.

## **II. BIKEWAYS**

The increasing popularity of bicycling as a recreational activity and an alternative mode of transportation requires development of a bikeway network to support safe bicycle transportation both within the County and between neighboring localities. Objectives and implementation strategies applicable to this transportation functional element include the following:

### **A. Objectives**

1. Develop a bikeway network and programs facilitating safe bicycle transportation within York County and between York County and neighboring localities.
2. Integrate bikeway development into the Primary and Secondary Road Plans when funding is available.
3. Encourage the provision of bikeways and bicycle facilities, including bike racks, in multi-family residential developments and commercial shopping centers.

### **B. Implementation Strategies**

1. Regularly update the county-wide bicycle route plan contained in this Plan. (See Map T-4).
2. Install signage for and publicize inter- and intra-County bike routes.
3. Develop neighborhood and/or community bicycle networks to safely connect residential areas with nearby commercial and public-use areas.
4. Incorporate provisions within current development regulations and ordinances to require bikeway and bicycle-access planning and the construction of appropriate bicycle facilities, including consideration of security and safety, for multi-family residential and commercial developments.
5. Require routine consideration of bikeway construction as part of road construction or reconstruction/ widening projects.
6. Establish bicycle registration and an annual safety inspection program as a service to residents in cooperation with bicycle retailers, bicycle enthusiast organizations, and the County.
7. Provide bicycle law and safety education as a part of the elementary school curriculum. As a part of this effort, the feasibility of establishing bicycle rider training ranges, perhaps at schools or fire stations, should be analyzed.

## **III. MASS TRANSIT**

The primary focus of this functional area is the development and promotion of viable transportation services and facilities to (1) accommodate the employment needs of the service sector; (2) reduce passenger car loads on densely traveled corridors; (3) provide economical and convenient movement for senior citizens, handicapped, and other special populations and (4) support tourist activities. Startup and sustainment of these activities require long-term support to determine their efficacy and to change public attitude toward mass transit systems. Objectives and implementation strategies include the following:

## **A. Objectives**

1. Promote the development of public transportation services and facilities to accommodate the needs of employment and service sectors in the County.
2. Promote the development and subsequent utilization of mass transit to serve heavily traveled and densely populated corridors in the County in order to reduce passenger car loads on such corridors.
- ✓ 3. Develop parking and convenience facilities to support tour bus traffic and shuttle bus services to and within tourist and convention areas.
- ✓ 4. Encourage economical transportation services for senior citizens, handicapped residents, and other special populations.

## **B. Implementation Strategies**

- ✓ 1. Jointly develop with adjacent jurisdictions "Park & Ride" programs and transfer sites using existing underutilized parking areas.
- ✓ 2. Establish, in conjunction with an existing transit provider, at least one work destination or fixed route as a pilot program for a minimum three year period.
- ✓ 3. Establish an incentive system (perhaps in concert with major employers) and a public awareness program for "Park & Ride" use, car pooling, van pooling, etc.
- ✓ 4. Investigate the feasibility of establishing a high-speed rail link between the County and Richmond International Airport to serve both air passenger and air cargo needs.
- ✓ 5. Initiate cooperative (private/public) funding ventures to support tour bus services between Yorktown and other visitor oriented areas and attractions in Hampton Roads. The first priority should be to support regular tour bus services within the Historic Triangle.

## **IV. RAILWAYS**

The proximity of mainline passenger rail to and the existence of heavy rail linkages within the County merit their exploitation. Appropriate development of these modes of transportation can serve increasing mid- and long-distance commuting requirements and promote potential industrial and warehousing opportunities within the County. Objectives and implementation strategies relating to railways in the County include:

### **A. Objectives**

- ✓ 1. Encourage an expansion of rail passenger services to and throughout the Peninsula commensurate with demand.
- ✓ 2. Exploit, upgrade and extend existing rail linkages in York County to promote industrial and warehousing uses.
- ✓ 3. Explore, in concert with the Federal Government, the joint modernization and use of the Cheatham Annex spur.

## **B. Implementation Strategies**

1. Regionally develop expanded passenger rail services throughout the Peninsula commensurate with demand. This includes consideration of schedules, frequency, facilities, and rolling stock.
- ✓ 2. Perform preliminary engineering including cost estimates, for the construction of rail spurs which would serve potential industrial, recycling, and warehousing locations adjacent to existing or logical extensions of rail lines in the County. These would be used to assist in the marketing of York County to potential economic development clients requiring rail served sites.
3. Determine, in concert with the U.S. Navy, the feasibility of modernizing and using the Cheatham Annex spur line to serve privately held industrial property adjacent to it. If determined feasible, preliminary engineering for such modernization should be performed.

## **V. ROADWAYS**

The primary transportation mode for the movement of people and goods will remain the established roadway network. The County's linear geography and nodal population concentrations create the need to maintain major traffic conduits through or adjacent to residential and commercial centers. Accordingly, the primary foci of this functional component of the transportation plan are (1) the reduction of existing or anticipated congestion on major traffic arteries, (2) increasing the efficiency of the roadway network, (3) improving the safety of vehicular travel, (4) integrating roadways with other forms of transportation and (5) protecting the environment, including the preservation or restoration of the County's natural and historical resources. Objectives and implementation strategies in this functional category encompass a wide range of interrelated activities, but are tempered by the County's current dependence on VDOT funding and priorities. In this vein, however, it is fully anticipated that the state will begin to shift more and more of the total transportation burden to localities. Consequently, the County must begin to plan to pay for some road improvements with local revenues.

### **A. Objectives**

1. Develop facilities and strategies to reduce traffic congestion on Route 17 at critical times.
- ✓ 2. Annually establish priorities and standards for the improvement and expansion of existing roadways through the CIP and VDOT Six-Year Plan process.
- ✓ 3. Develop roadway network plans to support existing and emerging residential, commercial, and industrial development patterns.
- ✓ 4. Limit the numbers and types of direct driveway access to the roadway network.
- ✓ 5. Encourage residential development patterns which provide direct driveway access from individual units to local streets and not to collector and arterial roadways.
6. Promote the interconnection of subdivision street systems to allow local movement without the necessity of utilizing collector and arterial roads and to

aid in the provision of services to the lots within the subdivisions.

7. Promote the beautification of roadways in the County, especially commercial and tourist corridors.
8. Install street lighting along heavily traveled corridors, at critical intersections, within medium and high density residential areas, in office and industrial parks, and at other appropriate locations in the County.
9. Promote roadway safety.
10. Ensure that roadway development is sensitive to environmental and cultural resources.
11. Develop and enhance capabilities to respond to vehicular accidents, especially those involving hazardous materials, on roadways within the County.
12. Coordinate and cooperate with neighboring jurisdictions in planning and developing roadway systems.
13. Establish standards for limited access roadways within the County.
14. Designate appropriate roadway corridors for the establishment or maintenance of greenbelts and scenic easements.

## **B. Implementation Strategies**

1. Develop a methodology for prioritizing improvement and expansion of existing roadways and the construction of new roads. Factors to be considered include current and future traffic volumes, roadway capacity, accident rates, roadway geometry, and economic development potential. Maintain, through the established Six-Year Plan process, a current general roadway project priority listing. The road projects shown on Map T-9 and listed below should be incorporated as funding availability and other priorities dictate:

### Interstate System

- a. I-64—widen to 8 lanes between Route 199 and I-664
- b. I-64—widen to 6 lanes between Route 33 (West Point) and Route 199
- c. I-64—Grove Interchange

### Primary System

- a. Route 17 (George Washington Memorial Highway)—widen to 6 lanes divided between Newport News city line and Alexander Hamilton Boulevard.
- b. Route 17 (George Washington Memorial Highway)— provide 4 lanes on a new or upgraded crossing of the York River in the vicinity of Yorktown. A tunnel is considered to be the optimum choice.
- c. Route 60 (Pocahontas Trail)—widen to 4-lane divided in vicinity of

Grove.

- d. Route 105 (Ft. Eustis Blvd.)—widen to 4-lane divided section between Newport News city line and Route 17.
- e. Route 105 (Ft. Eustis Blvd.)—extend 4-lane divided section on a new location between Route 17 and Route 173 at Seaford Road.
- f. Route 132—widen to 4 lanes divided (and maintain bicycle lanes) between Bypass Road and Route 143.
- g. Route 134 (Hampton Highway)—widen to 6 lanes divided between Big Bethel Road and the Hampton city line.
- h. Route 143 (Merrimac Trail)—construct a center turn lane between Armstrong Drive and Tam-O-Shanter Boulevard.
- i. Route 143 (Merrimac Trail)—widen to 4 lanes divided between Second Street and the Williamsburg city line.
- j. Route 171 (Victory Blvd.)—widen to 6 lanes divided between Route 17 and Big Bethel Road.
- k. Route 171 (Victory Blvd.)—widen to 4 lanes divided between Big Bethel Road and the Poquoson city line.
- l. Route 173 (Denbigh Blvd.)—widen to 4 lanes divided between the Newport News city line and Route 17.
- m. Route 173 (Goodwin Neck Road)—widen to 4 lanes divided between Route 17 and Seaford Road.
- n. Route 199—extend a 4-lane divided section on a new location between I-64 and Route 60 including an interchange with relocated Mooretown Road/Pottery Road.
- o. Route 238 (Yorktown Road)—widen to 4 lanes divided between the Newport News city line and Goosley Road.
- p. Route 238 (Goosley Road)—widen to 4 lanes divided between Yorktown Road and Route 17.
- q. Route 238 (Goosley Road)—widen to 2 full lanes (24-foot pavement section) between Route 17 and Cook Road.
- r. Route 238—relocate Route 238 to a new location between Washington Road at the U. S. Coast Guard RTC and Old-York Hampton Highway at Falcon Road and traversing the boundary of the Colonial National Historical Park. Moore House Road between Cook Road and Washington Road would become a part of the National Park Service tour road system. (Construction of this facility would be the responsibility of the National Park Service and is included at their request).

- s. York River Crossing—extend a new 4-lane limited-access bridge across the York River from the Route 199/Old York Road intersection to Gloucester County (potential public or private toll-facility).
- t. Snidow Boulevard Extension—extend a 4-lane divided limited-access roadway on a new location between Route 17 in the vicinity of York High School and the Newport News city line.
- u. Monticello Avenue Extension—extend a 4-lane divided bridge and approaches between Richmond Road in the City of Williamsburg over the CSX rail right-of-way to the intersection of Waller Mill and Bypass Roads.

**Secondary System**

- a. Route 600 (Big Bethel Road)—widen to 4 lanes between Hampton Highway and the Hampton city line and improve to two 12-foot lanes with paved shoulders between Hampton Highway and Yorktown Road.
- b. Route 603 (Mooretown Road)—
  - (1) provide a 4-lane road with center turn lane on a new location between the Route 199/Pottery Road interchange and existing Mooretown Road in the vicinity of Old Taylor Road. This roadway should be initially constructed as a 2-lane road with the full understanding that development in the Lightfoot area will be expected to contribute to construction of the ultimate section.
  - (2) provide a 4-lane road with a center turn lane on a new location between the existing terminus of Kingsgate Parkway and Mooretown Road east of Airport Road. This roadway should be initially constructed as a 2-lane road with the full understanding that development in the Lightfoot area will be expected to contribute to construction of the ultimate section.
  - (3) widen existing Mooretown Road between the two new locations to 4 lanes with turn lanes as necessary and appropriate. Developer participation should be required.
- c. Route 614 (Showalter Road)—improve pavement section and shoulders.
- d. Route 620 (Lakeside Drive)—
  - (1) widen to 4 lanes with turn lanes between Showalter Road and Route 17.
  - (2) improve pavement section and shoulders on remainder of road.
- e. Route 620 (Link Road)—spot improvements to pavement section and shoulders.

- f. **Route 620 (Oriana Road)—**
  - (1) **widen to 4 lanes from Burts Road to Route 17.**
  - (2) **improve pavement section (12-foot lanes) and shoulders between Burts Road and Newport News city line.**
- g. **Route 620 (Railway Road)—spot improvements to pavement section and shoulders.**
- h. **Route 621 (Dare Road)—**
  - (1) **widen to 4 lanes between Constitution Drive and Route 17.**
  - (2) **improve pavement section and shoulders and add turn lanes between Constitution Drive and Lakeside Drive.**
- i. **Route 621 (Grafton Drive)—improve pavement section (12-foot lanes), shoulders, drainage, and intersections with Route 17 (both) and Amory Lane.**
- j. **Route 622 (Seaford Road)—improve pavement section and shoulders and add turn lanes between Goodwin Neck Road and Back Creek Road (second intersection).**
- k. **Route 626 (Shirley Road)—improve pavement section (12-foot lanes) and shoulders to accommodate the relatively high percentage of truck traffic. An alternative roadway alignment leading directly from Seaford Road to the current terminus of Shirley Road would be the preferred alternative if potential environmental issues (wetlands) can be overcome.**
- l. **Route 630 (Amory Lane)—improve pavement section and shoulders to accommodate school-oriented traffic for the Grafton Drive School Site.**
- m. **Route 630 (Wolftrap Road)**
  - (1) **improve pavement section and shoulders and add turn lanes between Route 17 and Goodwin Neck Road. In addition, improve the Wolftrap Road/Goodwin Neck Road intersection.**
  - (2) **improve pavement section (12-foot lanes), railway crossing and shoulders between Hornsbyville Road and the Route 105 Extension.**
- n. **Route 632 (Old Wormley Creek Road)—improve pavement section and shoulders.**
- o. **Route 634 (Old York-Hampton Highway)—improve pavement section, drainage, and shoulders and add turn lanes. In addition, reconfigure the intersection with Hornsbyville Road.**
- p. **Route 640 (Old York Road)—widen to 4 lanes and realign between Penniman Road and Route 199.**

- q. Route 641 (Penniman Road)—
  - (1) widen and realign between intersection with Route 199 and existing new section at Liberty Warehouse.
  - (2) spot improvements to pavement section and shoulders and add turn lanes between Merrimac Trail and Oak Drive
  - (3) improve pavement section drainage, shoulders between Oak Drive and Interstate 64.
  - (4) improve pavement section, shoulders and curvature between Route 199 and the Colonial Parkway.
- r. Route 645 (Airport Road)—improve pavement section between Rochambeau Drive and Waller Mill Park and add turn lanes at the entrance to the Park.
- s. Route 646 (Lightfoot Road)—
  - (1) improve pavement section, shoulders, and drainage and add turn lanes between Richmond Road and Interstate 64.
  - (2) improve pavement section, alignment, geometrics, and shoulders between I-64 and James City County line.
- t. Route 655 (Allens Mill Road)—improve alignment, pavement section, shoulders, and drainage.
- u. Route 660 (Baptist Road)—
  - (1) improve alignment, drainage and pavement section between Old Williamsburg Road and current road terminus.
  - (2) extend a 2-lane road on a new location from current terminus to Crawford Road. Exact location and alignment subject to negotiation with the NPS.
- v. Route 704 (Cook Road)—improve pavement section and sight distance and add turn lanes between Goosley Road and Old York-Hampton Highway.
- w. Route 706 (Yorktown Road)—provide spot intersection and drainage improvements.
- x. Route 709 (Burts Road)—improve intersections with Route 17 and Oriana Road.
- y. Route 713 (Waller Mill Road)—widen to 4 lanes with turn lanes between Bypass Road and Kingsgate Parkway.
- z. Route 716 (Hubbard Lane)—improve pavement section and shoulders between Edale Avenue and the James-York Plaza entrance road and between Percussion Road and the Colonial Parkway.

- aa. Route 716 (West Queens Drive)—improve pavement section and shoulders between the Colonial Parkway and Huntingdon Road.
- bb. Route 718 (Back Creek Road)—improve pavement section (12-foot lanes), drainage, shoulders, and intersection alignment between Seaford Road and Shirley Road.
- cc. Route 718 (Battle Road)—improve intersections with Route 17 and Old York-Hampton Highway.
- dd. Route 718 (Hornsbyville Road)—
  - (1) improve intersection with Old York-Hampton Highway.
  - (2) improve pavement section, alignment, shoulders, and railroad crossing between Wolfrap Road and Goodwin Neck Road.
- ee. Route 751 (Ella Taylor Road)—improve intersections with Showalter Road and Route 17.
- ff. Route 792 (Old Lakeside Drive)—improve pavement surface and geometrics.
- gg. Route 1123 (Tam-O-Shanter Boulevard)—improve intersection with Merrimac Trail.
- hh. Route 1203 (York-Warwick Drive)—improve intersection with Route 17.
- ii. Route 1249 (Siege Lane)—improve intersection with Route 17.
- jj. Route 1314 (Lakeshead Drive)—improve pavement section and shoulders between West Queens Drive and New Quarter Park.
- kk. Route F137 (Rochambeau Drive)—spot improvements to pavement section, shoulders, sight distance and intersections between Merrimac Trail and Lightfoot Road.
- ll. Route F138 (Winchester Road)—reconstruct as a 4-lane boulevard-type of roadway with turn lanes from Penniman Road to end. It is expected that this improvement will be required of the developers of property which will be served by the facility.
- mm. County wide—improve railroad crossings, pavement markings (including the use of recessed markers on higher volume secondary roads), and signage.

- 2. Employ facilities and strategies that maximize the application of current and emerging technologies to reduce congestion on Route 17 and other major traffic arteries at critical times. For example, the use of full computer synchronization of traffic signal strings, time and volume based turn prohibitions, and remote sensing of accidents and breakdowns are all worthy of consideration.

3. Update the County's development regulations and ordinances to include requirements that:
  - a. Limit the number and types of direct access points, especially commercial entrances, to major roadways.
  - b. Where feasible, provide direct driveway access only to local streets versus collector or arterial roads.
  - c. Interconnect subdivision streets between compatible land uses to allow movement without use of collector and arterial roads provided that such interconnection can be done safely.
  - d. Set standards for limited access roadways within the County.
4. Require that traffic issues and concerns be fully addressed as a part of all new development. In this regard, some form of traffic study should be performed for all development proposals. The level of detail and analysis required should be in direct proportion to the anticipated volume of traffic generated by the development.
- ✓ 5. Participate in revenue-sharing matching-fund programs offered by VDOT to the maximum extent fiscally feasible in order to accelerate road construction and improvement projects.
- ✓ 6. Install or require installation of street lighting along heavily traveled corridors, at critical intersections, within medium and high density residential areas, in office and industrial parks and at other appropriate locations in the County.
7. Develop roadway beautification plans for major commercial and tourist corridors in the County. These plans should consider such things as landscaping, lighting, underground utilities, storm drainage, signage, and other similar items. Once developed and approved, such plans should be implemented through annual appropriations in the CIP.
- ✓ 8. Incorporate into the County's development review process provisions to require that roadway plans be analyzed with specific focus on the preservation and/or restoration of environmental, aesthetic and cultural resources to include the establishment and maintenance of greenbelts and scenic easements, planting of street trees, and landscaping of roadway frontages and medians. In this regard, the provision of buffers containing dense vegetation and trees between residential communities and major roadways should be required as the preferred alternative to structural noise barriers.
- ✓ 9. Develop specific plans for the transportation of hazardous materials within and through the County.
- ✓ 10. Continue to provide County-funded law enforcement positions which are used in traffic law enforcement operations.
- ✓ 11. Continue to support and promote transportation safety through the York County Transportation Safety Commission.

## VI. WALKWAYS

The increase in residential and commercial developments coupled with the absence of an adequate walkway network creates a significant safety hazard for pedestrian travel in the County. Current and projected growth trends necessitate the implementation of initiatives to ensure the provision of safe pedestrian linkages in high traffic areas. In the Williamsburg area, both the City of Williamsburg and James City County have aggressively pursued sidewalk development along tourist routes while York County has ignored this need. Specific action is required in the following areas:

### A. Objectives

- ✓ 1. Require pedestrian linkages between residential areas (primarily those areas with concentrations of either children or senior citizens) and schools, shopping areas, and recreational, cultural, and/or governmental facilities.
2. Provide aesthetically appealing sidewalks throughout commercial areas, especially tourist-oriented commercial areas.
3. Complete existing walkway systems in cooperation with adjoining jurisdictions.
4. Encourage walkways throughout medium and high density residential development.

### B. Implementation Strategies

1. Ensure that the development regulations and ordinances require the installation of pedestrian linkages between residential areas (primarily those areas with concentrations of children and/or senior citizens) and schools, shopping areas, and recreational, cultural and/or government facilities.
- ✓ 2. Develop and adopt a sidewalk plan and prioritization. Such a plan should include specific locations and designs both for retrofitting already developed areas as well as for new development. The High Priority Walkways shown on Map T-11 should be the initial elements of such a plan.
- ✓ 3. Complete existing walkway systems in conjunction with adjoining jurisdictions and provide aesthetically appealing sidewalks in commercial and tourist-oriented areas.
- ✓ 4. Require walkways in new medium and high density residential development.
5. Develop a walking tour of Yorktown incorporating both the historic area and the waterfront. Construct, as necessary, pedestrian facilities to support this walking tour and publish a walking guide to the village incorporating maps and historical information about the buildings and sites along the way.
- ✓ 6. Include, as appropriate, sidewalk construction as a part of roadway construction or improvement projects.

## VII. WATERWAYS

Increasing concern for the sensitivity of the County's waterways and the importance of the Chesapeake Bay Preservation legislation requires the application of specific waterway-related initiatives. Additionally, the County's major historical site, Yorktown, together with its access via the

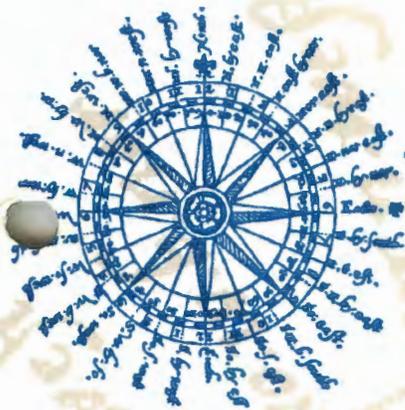
Colonial Parkway, both of which are located along the banks of the York River, provides a focal point for water-borne tourism. Consequently, the use of the waterways in and around York County must be predicated on maintaining the attractiveness and pristine values of the York County waterfront while encouraging those activities which enhance these characteristics. The following initiatives focus on these key areas:

**A. Objectives**

- ✓ 1. Restrict deepwater ports to existing available facilities and do not encourage expansion of industrially-related deepwater activities.
- ✓ 2. Develop, in conjunction with the U. S. Coast Guard, other governmental entities and agencies, and private industry, a comprehensive emergency response plan for water-borne disasters and oil and hazardous material spills and incorporate such a plan into the County's overall emergency plan.
- ✓ 3. Promote Yorktown as both an origination point and a port-of-call for small passenger cruise ship operations.

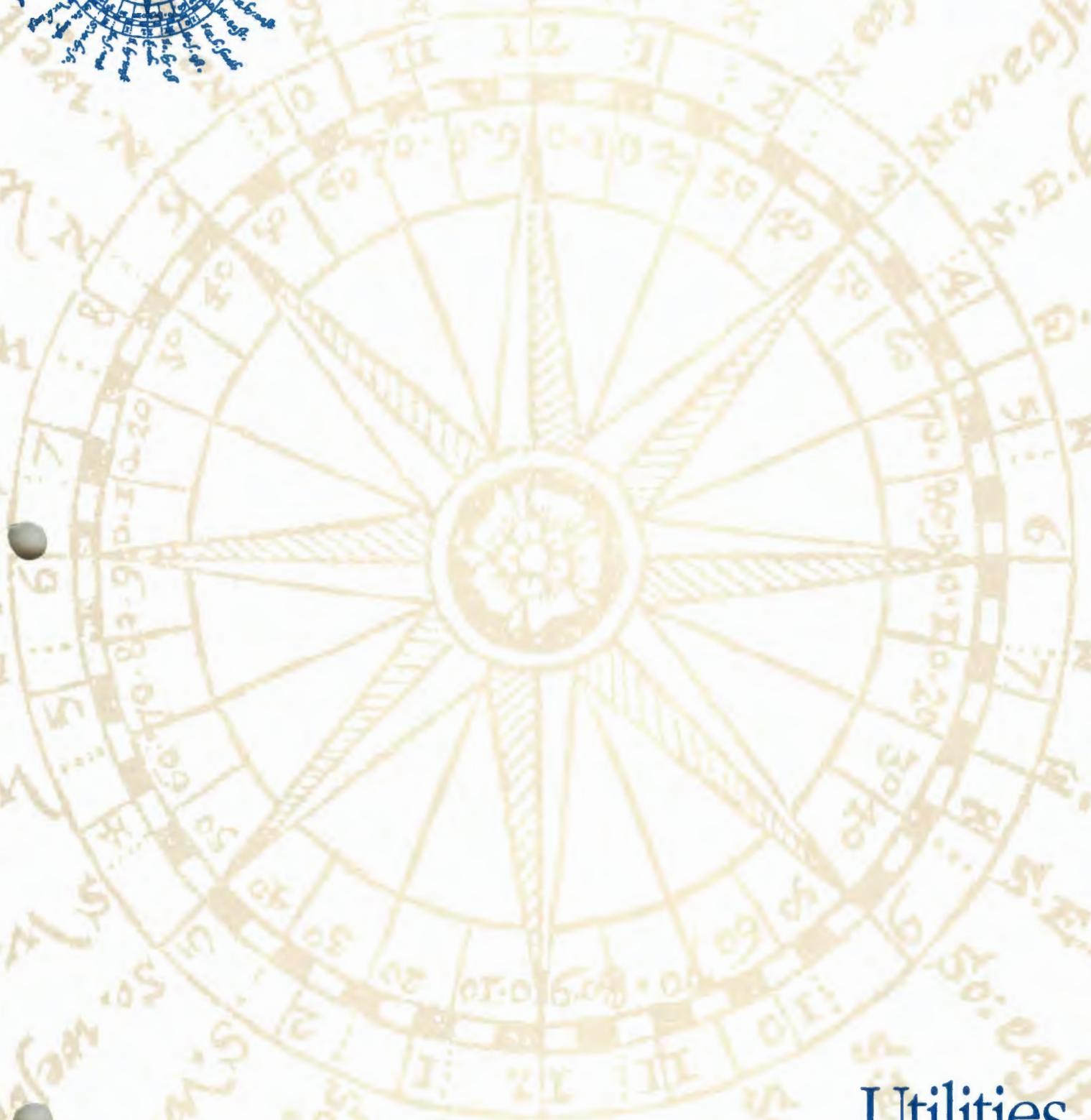
**B. Implementation Strategies**

1. The attractiveness of York County for both residential living and economic development is due, in part, to the many unspoiled vistas and views of the water. Industrial waterfront activities are incompatible with this aesthetic appeal and therefore, industrial type (i.e., cargo handling) deepwater ports should be restricted to existing facilities and expansion of industrially-related deepwater activities should not be encouraged.
- ✓ 2. Develop, in conjunction with the U. S. Coast Guard, other governmental entities and agencies, and private industry, a comprehensive emergency preparedness and response plan for water-borne disasters and oil and hazardous material spills and incorporate such a plan into the County's overall emergency plan.
- ✓ 3. Capitalize on Yorktown's historical significance and location to promote Yorktown as both an origination point and port-of-call for small passenger cruise ship operations.
4. Exploit the opportunities available to revitalize the Yorktown waterfront and strengthen the relationship between Yorktown and the York River. Lunch and dinner cruises, a fresh seafood market/pier, transient boat dockage, reconstructed Eighteenth Century port facilities, and public access to the water are all worthy of consideration.
- ✓ 5. Investigate the feasibility of developing a plan for meeting dredging needs for both recreational and commercial watercraft, including locating appropriate spoils sites.



# *Charting the Course to 2010*

Preserving the Past, Ensuring the Future



Utilities

# UTILITIES ELEMENT

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# UTILITIES

## INTRODUCTION

Utilities planning is frequently considered by both the public and the decision-makers to be little more than a question of engineering and finance—can it be done and how much will it cost? All too often, quality-of-life types of questions about whether or not a utility project should be done are not considered until after the fact. It is important to recognize, however, that utility policies significantly affect the character of a community.

- Development, particularly development at a greater intensity than previously found, frequently follows the sewer line, both in timing and in physical location.
- Aboveground utilities contribute to visual blight in urban and suburban environments.
- Utility easements form barriers to development and can divide communities.
- Utility locations can have environmental and human health consequences.
- Utilities add value to land and, depending on the type of uses envisioned, make development possible.
- There is a multiplicity of utility providers of which local government is but one. Coordination and control of utility location and installation standards are difficult at best.

In developing the Utilities element of the Comprehensive Plan, extensive public input was solicited and a citizen committee approach utilized. At the same time, the County embarked upon the first County extensions of water and sewer since 1981 and the first to be wholly paid for with local funds. The proposed extensions and the underlying policy for them also received considerable public comment. These two efforts, although occurring simultaneously, have been conducted independent of each other.

Much of the kind of background data and detail which would normally be part of a Comprehensive Plan element is simply not available for utilities. This results from a number of causes, including the fragmented provision of public water by numerous suppliers and private wells. In addition, many regulated utilities keep their records not on the basis of local jurisdictional boundaries but based on their internal service areas which cross local governmental unit lines. Consequently, the traditional planning process based on analysis of past trends combined with future projections is not possible. However, given the regional nature of utility provision, the traditional approach is perhaps less critical.

# EXISTING CONDITIONS

## Introduction

York County has never developed and adopted a Utilities element to its Comprehensive Plan. The 1983 Land Use Plan devotes two and one-half pages to a general description of water and sewer availability. Various engineering and/or needs studies have been performed for both water and sewer; however, no overall planning document has been prepared.

## Regulated Utilities

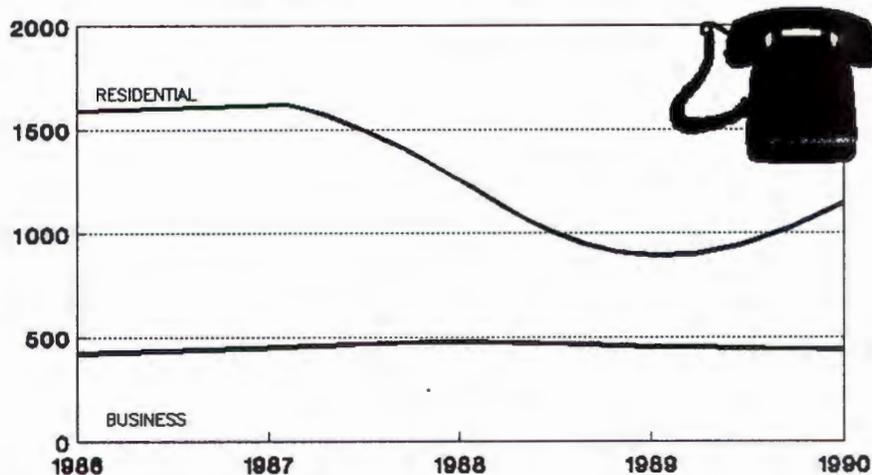
The principal County concern with respect to regulated and similar types of utilities is aesthetic. Many County citizens view aboveground wires as a visually blighting influence. Indeed, the general appearance of a number of urban environments has been dramatically altered—and improved—by removing the overhead utilities and placing them underground. The closest example of this is the one-mile stretch of Richmond Road between Ironbound and New Hope Roads in the City of Williamsburg. Since the aboveground utilities remain in place on both ends of this segment, the difference in appearance can be easily seen. This project was completed in 1989 at a cost of \$1 million.

In York County, the use of underground wiring has been required since 1985 for all new development. Previously it had been required of certain higher density types of development. While the locations of aboveground utilities will not increase, neither will they decrease without direct County intervention and cost-sharing. Further, while the pole-line locations may not increase, the number of wires strung along such poles has and likely will continue to do so.

Underground placement of utilities has not been without problems. All too frequently, there has been little coordination between the various public and private utility companies, resulting in utility placements which either overlap each other or are placed outside of the utility easement. Many times, utility providers desire their own easements, each of which is then cleared, resulting in a wide expanse of clearing, generally along roadways. The Virginia Department of Transportation compounds the problem by generally excluding utility placements under the roadway. Taken together, such placements reduce landscaping options and often preclude the preservation or establishment of street trees. This is shown graphically in Diagrams U-1 and U-2. In addition, the costs of installing underground electrical wiring are approximately three times greater than for aboveground service. This is directly related to the cost of the cable. Underground electric cable is far better insulated and shielded than aboveground cable, and thus, more expensive. Aboveground and underground telephone and CATV cables are virtually identical, therefore there is less of a cost differential between the two methods of installation.

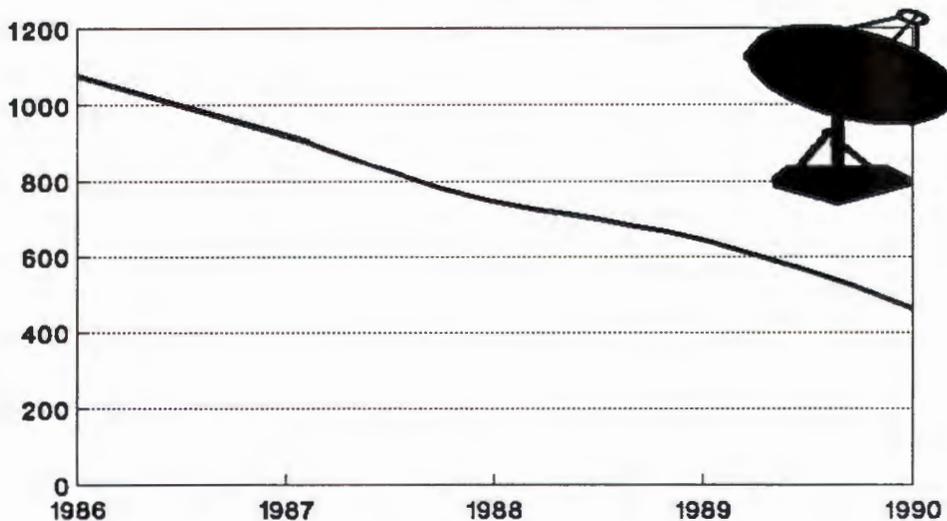
The trends for net annual changes in service for telephone and cable television subscribers in York County are shown in Figures 1 and 2. It is important to note that what is shown is the net increase in subscribers and even where the growth rate has declined, the total number of subscribers in the County continues to increase.

**FIGURE 1**  
**TELEPHONE SERVICE**  
*Net Annual Change in Service*



*Note: These figures are based on the number of additional subscriber lines*  
*Source: C&P Telephone*

**FIGURE 2**  
**CABLE TV SERVICE**  
*Net Annual Change in Service*

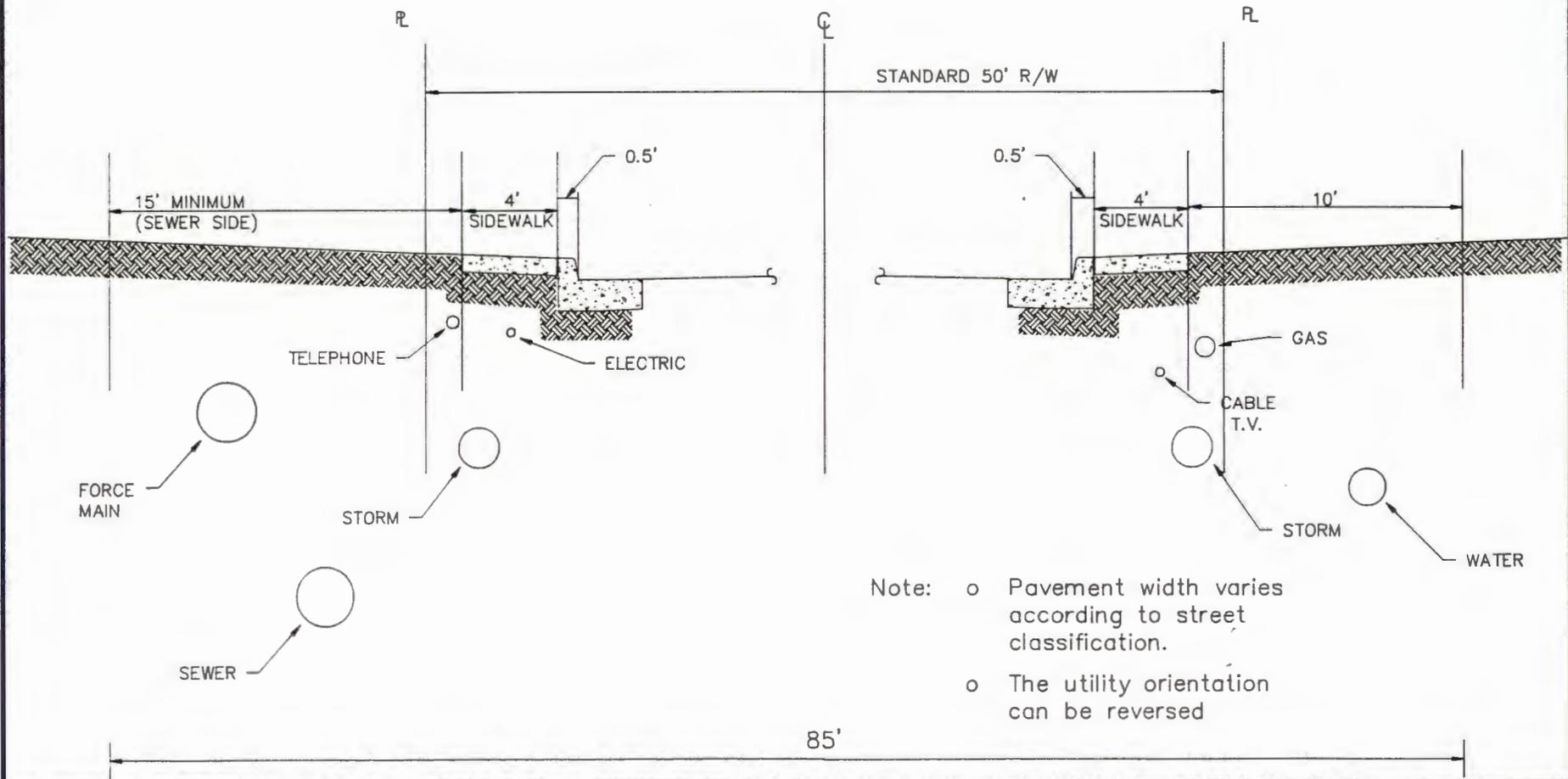


*Note: These figures are based on the number of additional subscribers.*  
*Source: Continental Cablevision*

Similar information about electric and gas services in York County is apparently unavailable because of the way Virginia Power and Virginia Natural Gas keep their records.

UTILITIES SHOWN  
 Gas, Electric, Cable,  
 Water, Sewer, & Storm

Utilities - Page 4

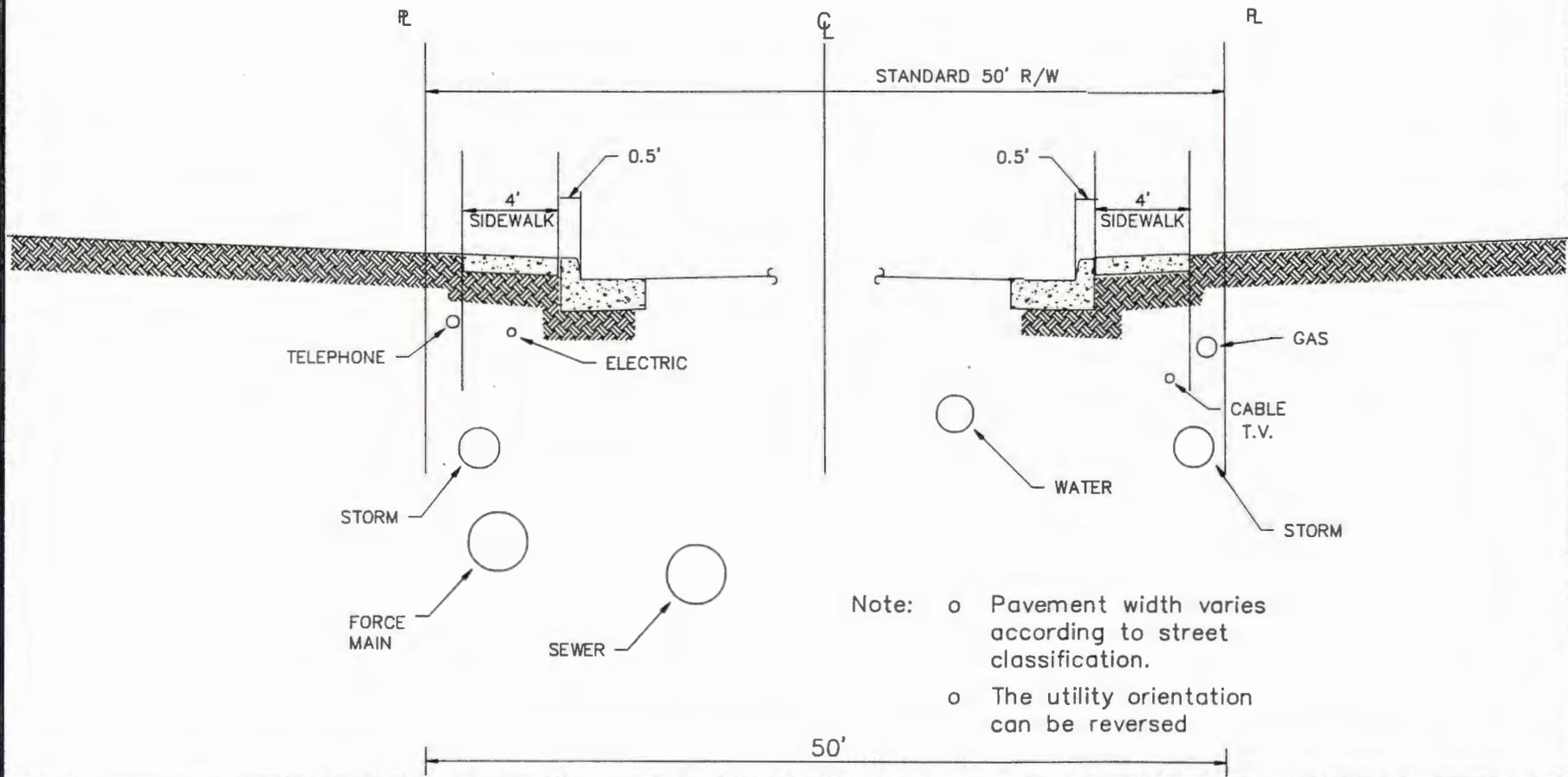


Note: ○ Pavement width varies according to street classification.  
 ○ The utility orientation can be reversed

ROADWAY/UTILITY PLACEMENT RELATIONSHIP – NO UTILITES UNDER PAVEMENT AND NO SHARED EASEMENTS

DIAGRAM U-1

UTILITIES SHOWN  
Gas, Electric, Cable,  
Water, Sewer, & Storm



- Note:
- o Pavement width varies according to street classification.
  - o The utility orientation can be reversed

ROADWAY/UTILITY PLACEMENT RELATIONSHIP - WATER & SEWER UNDER PAVEMENT AND ALL OTHER UTILITIES WITHIN ROAD RIGHT-OF-WAY

## Sewer

The primary issues with respect to sewer are environmental and fiscal. As shown by Map U-1, the vast majority of the County is comprised of soils which have one or more significant limitations for septic systems. This is not to say that some type of septic system cannot be made to work across all of the land indicated, but it does indicate that additional costs and maintenance requirements should be anticipated. This pattern clearly points to a need to maintain a relatively low development intensity on undeveloped lands where sewer is unavailable.

Map U-2 shows those developed areas of the County where, according to the Health Department, septic failures have occurred with a high enough frequency to be considered an area-wide problem as opposed to an isolated incident. These areas are primarily residential. Only one area overlaps an economic development priority area and in that area, sewer is available. It is important to note, however, that, for there to be a pattern of failures, the land must have already been developed. From both an environmental and a human health standpoint, developed areas with known septic failures have traditionally been given the highest priority for sewer service.

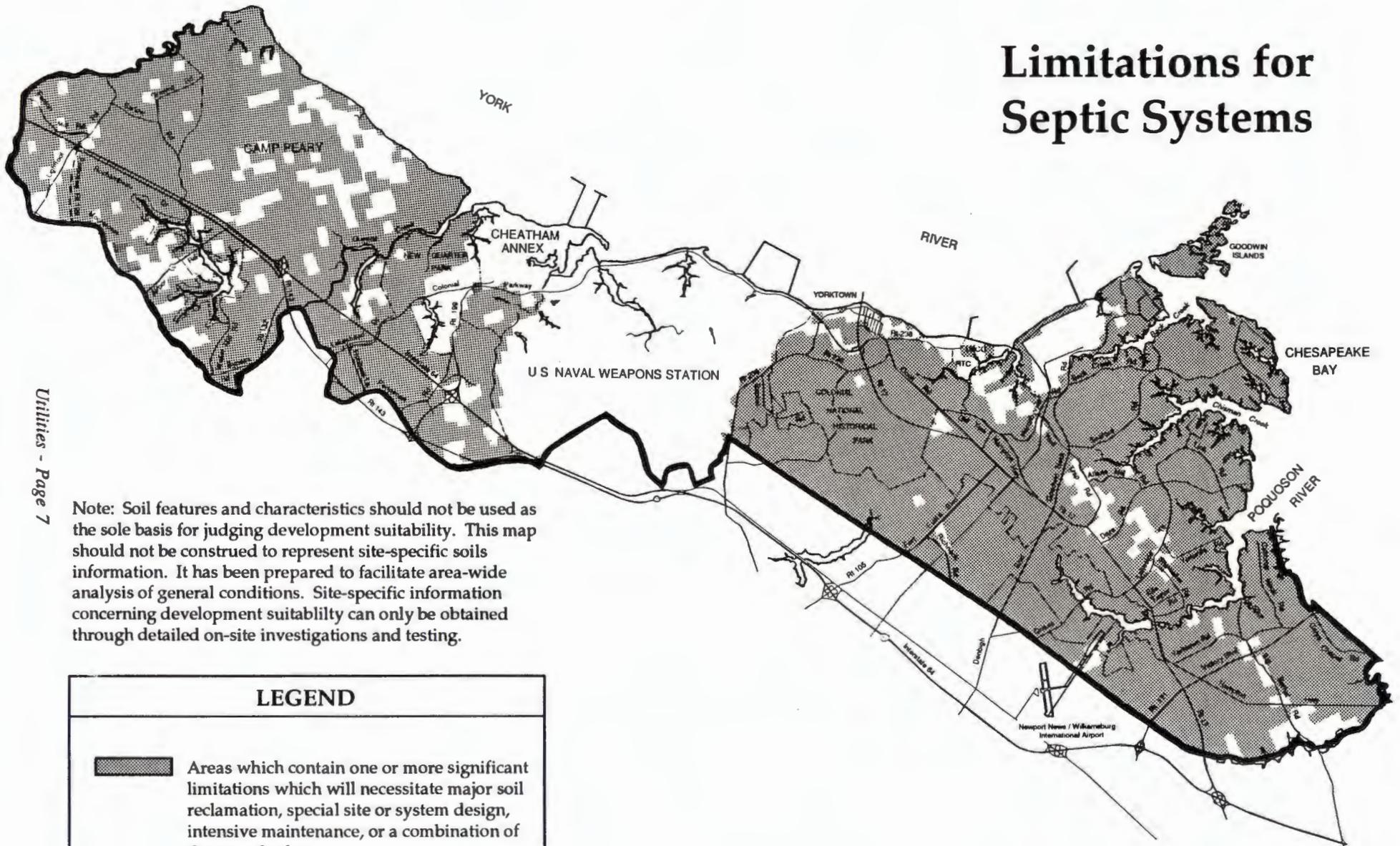
Map U-3 shows where sewer is currently available in the County.

From an operational standpoint, the County is divided into two Sanitary Districts. Sanitary District 1 includes the portion of the County east of Williamsburg and west of the Naval Weapons Station. Sanitary District 2 encompasses the County south of the Naval Weapons Station. Both Sanitary Districts are operated by the County. York County uses the Sanitary District as its basic utility organizational unit while other localities use service authorities or operating departments. Each organizational technique has certain advantages and disadvantages, all of which may need further analysis by the County in the future. In the long-run, however, all three techniques provide the same service to their customers so the question is primarily an internal organizational one.

York County's role in public sewerage is to collect wastewater from the source and transmit it to the Hampton Roads Sanitation District (HRSD) system. HRSD is a regional authority which provides state-of-the-art wastewater treatment facilities, one of which, the York River Treatment Plant, is located on Back Creek Road in Seaford. The York River Treatment Plant comprises 51 acres and is currently configured to provide tertiary treatment for up to 15 million gallons per day (MGD), expandable to 30 MGD. The plant's outfall is into the York River at the Virginia Power Yorktown Power Plant. While sewage from Sanitary District 2 (as well as that from Poquoson and much of Hampton) is treated at the York River Treatment Plant, most of the wastewater from the Williamsburg area of the County is treated at the Williamsburg Treatment Plant located in Grove with an outfall to the James River. The Williamsburg facility has been undergoing a major expansion to increase both its capacity and treatment quality. The York River and Williamsburg facilities are interconnected with each other and with the other two HRSD treatment plants on the Peninsula.

As shown in Figure 3, the amount of wastewater treated at the York River Treatment Plan has not grown tremendously since 1985, but the annual average has increased by about 2 MGD. Some of the growth and most of the peaks and valleys have resulted from load shifting within the HRSD system, while the rest reflects new development and new connections. According to HRSD, the March peaks which occurred in 1985-1989 were caused by stormwater infiltration, a problem which is being solved by replacement of manholes and covers. Even with the increases, however, less than two-thirds of the existing 15 MGD capacity is being utilized. Figure 4 shows the projected flows from York County to the two HRSD facilities serving the County. It appears that there is sufficient treatment capacity to handle all of the projected wastewater generated by York County development through the life of this plan, especially since the York River Plant is designed to be quickly and relatively inexpensively doubled in capacity.

# Limitations for Septic Systems



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Note: Soil features and characteristics should not be used as the sole basis for judging development suitability. This map should not be construed to represent site-specific soils information. It has been prepared to facilitate area-wide analysis of general conditions. Site-specific information concerning development suitability can only be obtained through detailed on-site investigations and testing.

## LEGEND

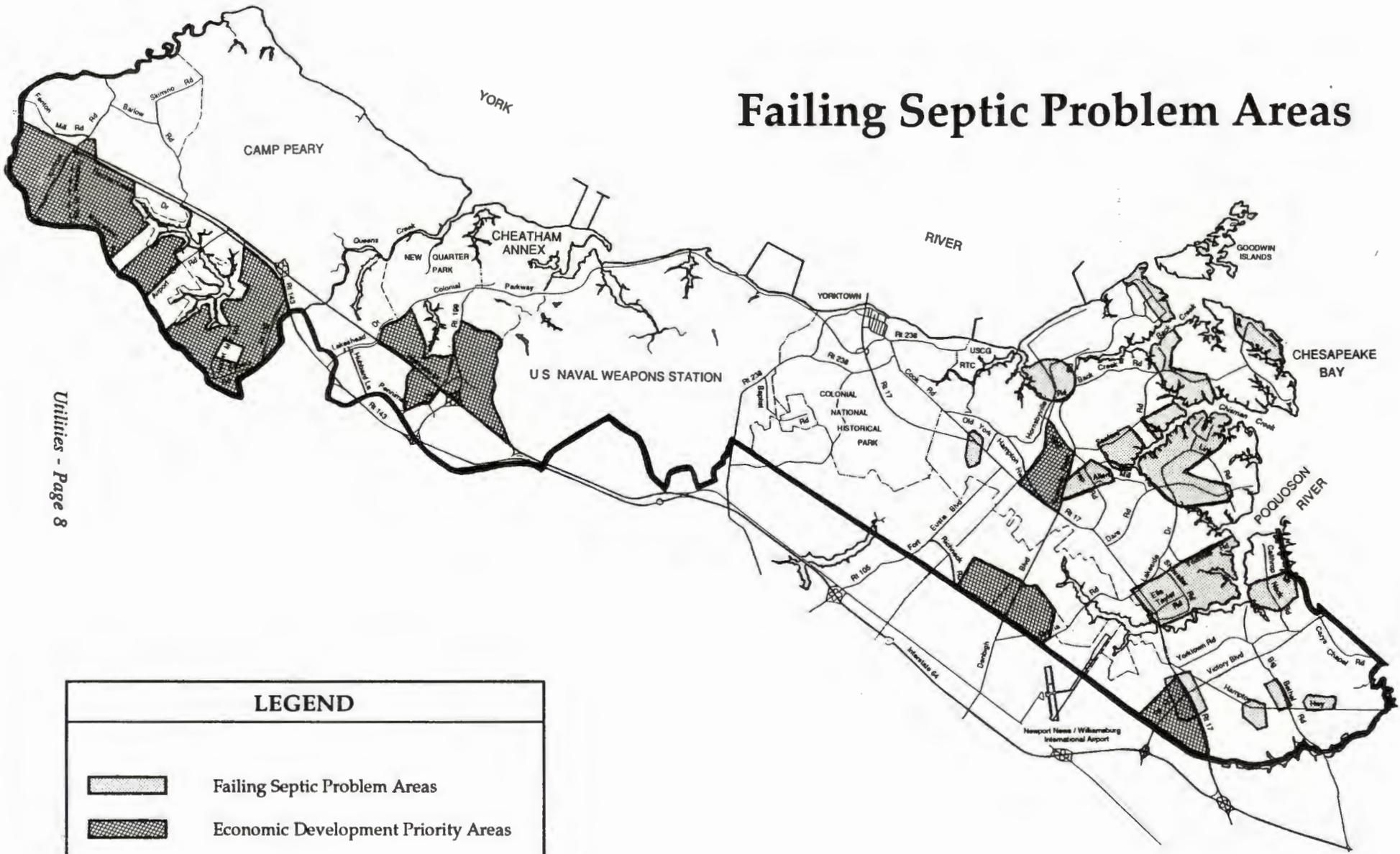


Areas which contain one or more significant limitations which will necessitate major soil reclamation, special site or system design, intensive maintenance, or a combination of these methods.

Source: U.S. Department of Agriculture,  
Soil Conservation Service

MAP U-1

# Failing Septic Problem Areas



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## LEGEND



Failing Septic Problem Areas

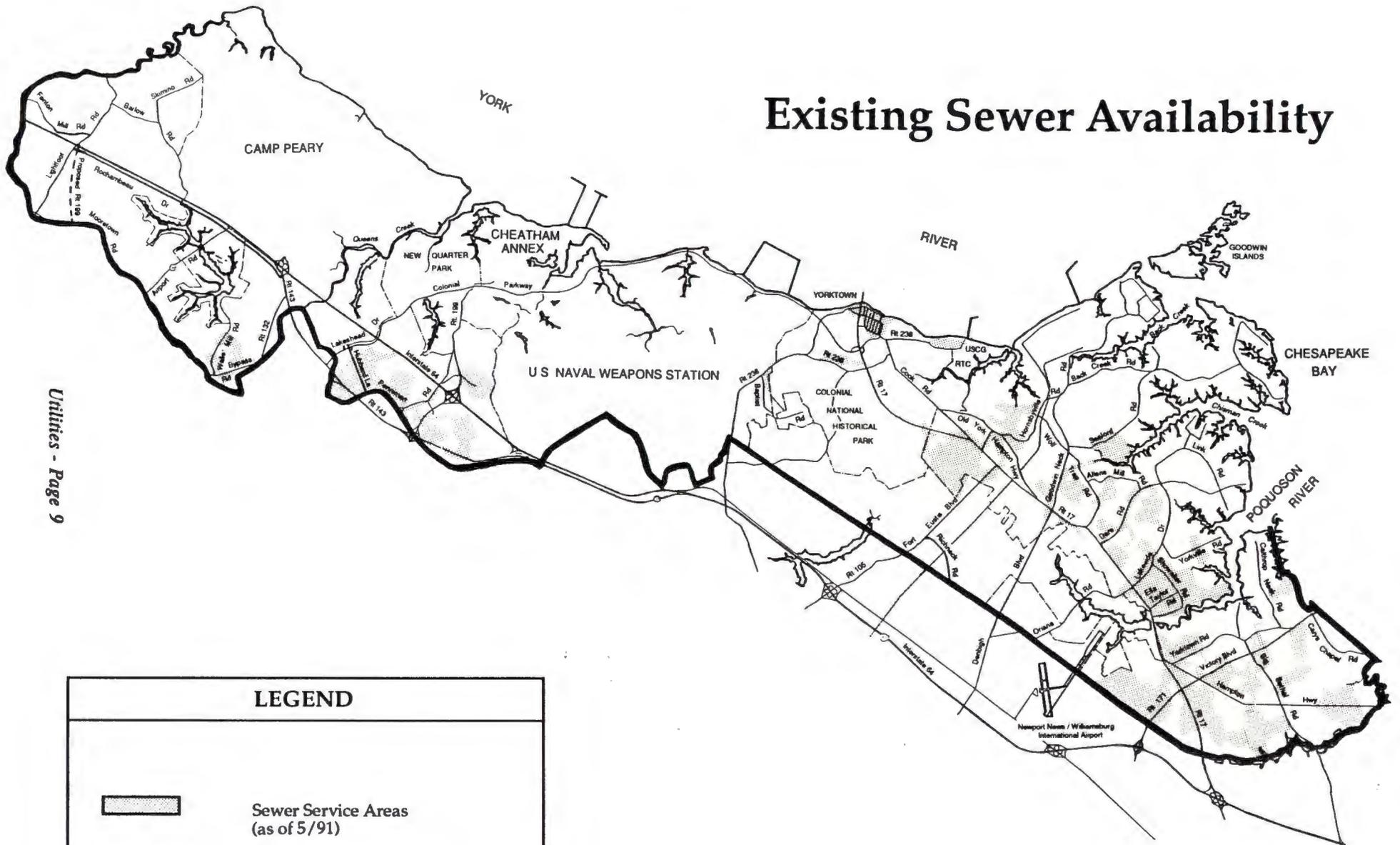


Economic Development Priority Areas

Source: York County Department of Environmental Services

MAP U-2

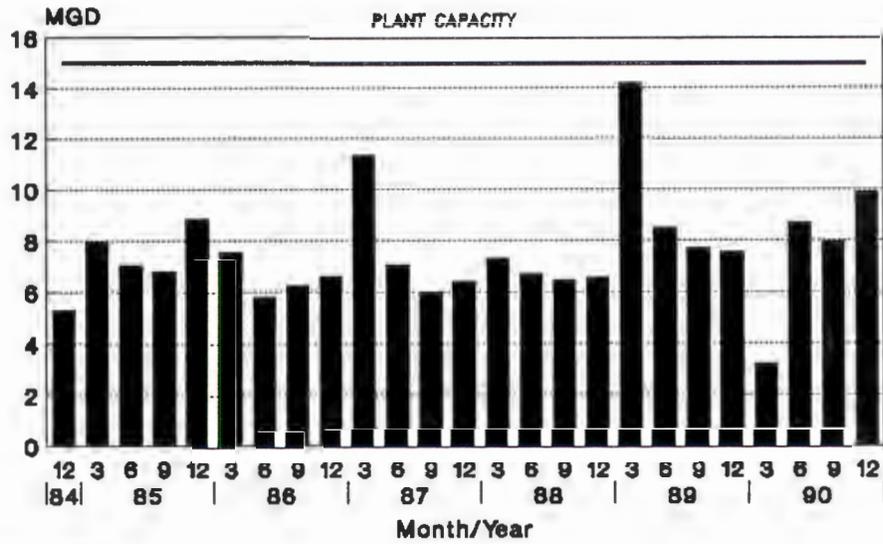
# Existing Sewer Availability



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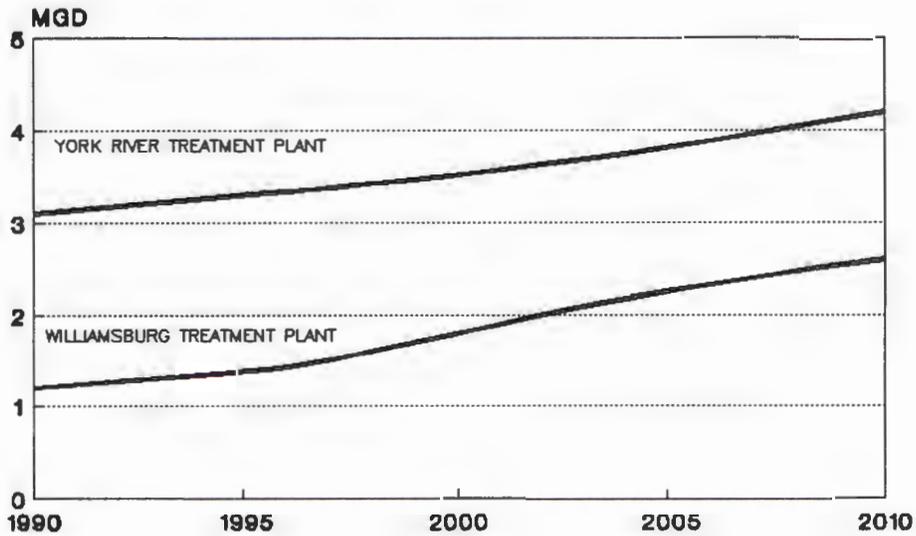
MAP U-3

**FIGURE 3**  
**WASTEWATER TREATED**  
*York River Treatment Plant*



Source: HRSD

**FIGURE 4**  
**WASTEWATER TREATMENT REQUIREMENTS**  
*Estimates of Future York County Demand*



Source: HRSD

**TABLE 3**

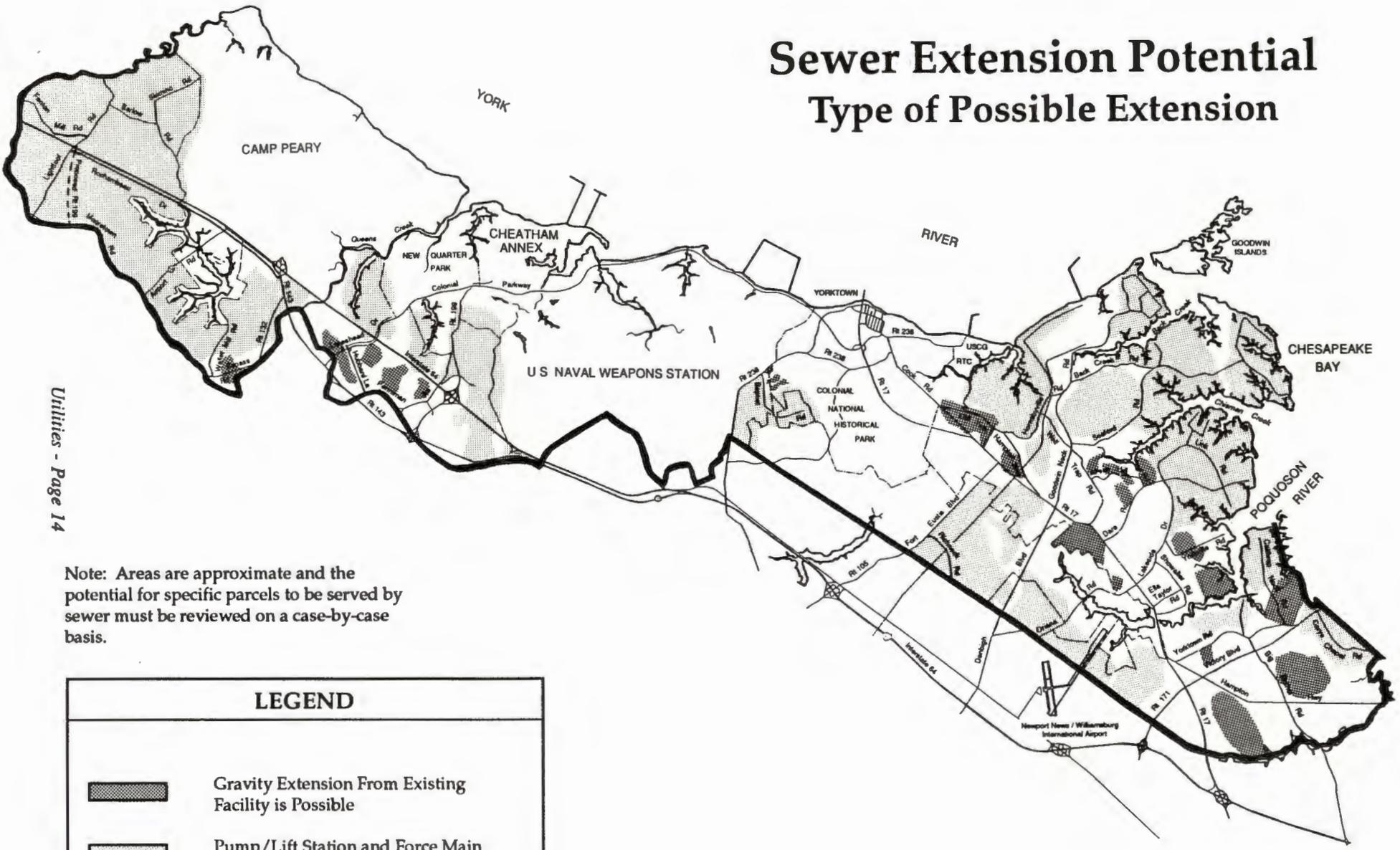
<b>SEWER EXTENSION RATING SCALE</b>		<b>MAXIMUM POINTS AVAILABLE</b>
<b>FACTOR</b>		
<b>1. HEALTH HAZARD FACTOR</b>		<b>30</b>
	20-30 Numerous to sporadic system failures reported	
	10-19 High potential for septic system failure	
	0-9 Little or no problems	
<b>2. GROUNDWATER CONTAMINATION FACTOR</b>		<b>30</b>
	20-30 Known or evidence of contamination in the past for one or more dwellings	
	10-19 High groundwater table (potential high risk for contamination)	
	0-9 Moderate risk of groundwater contamination	
<b>3. THREAT TO CHESAPEAKE BAY OR TRIBUTARIES</b>		<b>15</b>
	10-15 Property fronts on major waterway (creek, river, or bay)	
	5-9 Property is within 200 feet of tributary	
	0-4 Property is adjacent to major drainageway or drainage ditch	
<b>4. ACCESSIBILITY TO MUNICIPAL SERVICE FACTOR</b>		<b>15</b>
	15 Gravity sewer available within 500 feet	
	10-14 Gravity sewer available within 2000 feet	
	5-9 Municipal sewer service within one mile	
	0-4 Municipal sewer service more than a mile away	
<b>5. GROWTH FACTOR</b>		<b>10</b>
	5-10 Surrounding area developed	
	0-4 Most of the area undeveloped (thus potential for extension by development)	
	<b>TOTAL</b>	<b>100</b>

This system was not intended to address economic priorities, but instead is focused on serving existing residential areas. The level and degree of County participation in extending the sewer to economic priority areas will continue to be reviewed and determined on a case-by-case basis by the Board with no predetermined commitments or limitations. It should be noted that the preliminary cost estimates for many of these projects exceed \$1 million.

**Map U-4** shows graphically those approximate areas where a simple gravity sewer system extension into an existing pump station will be required versus those areas where sewer service will require new pump stations and force mains. Construction of pump stations and force mains is expensive and often requires the use of very deep gravity mains to overcome the lack of topographic relief in the County. Since the installation of such a system can be prohibitively expensive for already developed areas, it may be appropriate to consider the use of alternative types of systems such as the vacuum system being proposed to serve a part of Seaford. Such alternatives may be doubly effective at cost savings—first, by reducing the capital costs involved and second, by avoiding the pressures of additional development because a vacuum system’s capacity can be limited to the existing demands. The capital cost savings are somewhat offset over the life of a system because a vacuum system has significantly higher operating and maintenance costs than either conventional gravity lines or force mains.

# Sewer Extension Potential

## Type of Possible Extension



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Note: Areas are approximate and the potential for specific parcels to be served by sewer must be reviewed on a case-by-case basis.

LEGEND	
	Gravity Extension From Existing Facility is Possible
	Pump/Lift Station and Force Main Required
Source: York County Department of Environmental Services	

MAP U-4

Although treatment capacity is apparently not a problem and, in any event, is the responsibility of HRSD, wastewater collection remains a County concern. As shown below, there are somewhat fewer than 6,000 sewer connections in the County, the vast majority being in the lower County.

**TABLE 1**

<b>SEWER CONNECTIONS</b>		
	<u>1989</u>	<u>1990</u>
Sanitary District #1*	332	345
Sanitary District #2	<u>4,935</u>	<u>5,403</u>
<b>TOTAL</b>	<b>5,267</b>	<b>5,648</b>

Source: HRSD  
 \*The figures for Sanitary District 1 include York County connections in the Williamsburg area which are outside of the boundaries of Sanitary District 1.

These figures cannot be directly translated into households since in the case of all multi-family and some single-family attached residential developments, the entire project has but a single connection to HRSD. The Department of Environmental Services estimates that approximately 70% of the households in York County have public sewer available to them. The connections in Table 1 also include non-residential connections.

**TABLE 2**

<b>YORK COUNTY SEWER STUDY AREAS</b>	
<u>Existing Residential Development</u>	<u>Economic Priorities</u>
Allens Mill Road	Brick Kiln Creek/Route 17
Back Creek Road	Denbigh Boulevard
Barcroft Road	Lightfoot
Burts Road	Mooretown Road
Calthrop Neck Road	Route 132/143
Cary's Chapel Road	Whittaker's Mill
Dandy	Wolf Trap Road
Darby-Firby	
Dare	
Dare Heights	
Falcon Drive/Cannon Road/Whites Road	
Green Springs	
Hornsbyville Road/Wolf Trap Road	
Lackey (Project under way)	
Marlbank	
Mill Cove	
Oak/Dogwood Lane	
Old Lakeside/Patricks Creek	
Piney Point Area	
Old Wormley Creek Road	
Queens Lake	
Schenk Estates	
Seaford	
Springfield Terrace	
Tabb Terrace	
Tide Mill Road	
Waterview	
York Point/Bay Tree Beach	

Source: York County Department of Environmental Services  
 The residential listing is based on an analysis of where developer participation is unlikely. The economic priorities are as listed in the Economic Development element.

The large areas shown on Map U-3 as not having existing sewer available are slightly misleading, but only to the extent that a large amount of that area is as yet undeveloped. With that caveat, it is apparent that certain developed portions of the County ultimately need to be served by public sewer. This is not to say, however, that the entire County should be served by public sewer during the 20 year forecast of this element. Instead, it appears to be a far more reasonable approach to establish a primary service area and concentrate County efforts at providing a public sewer and other suburban services within that area. Given the pattern of septic failures, the existing service provision, and various environmental factors, it appears that the primary service area ought to include the entire County south of Queen Creek plus the remaining portions of the County west of Interstate 64. The study areas contained in Table 2 are within this primary service area of the County and plans should be developed to provide public sewer to them by the year 2010. Please note that the listing is in alphabetical order and does not indicate any prioritization.

The York County Board of Supervisors has committed to investigating the installation of sanitary sewer in Green Springs, Mill Cove, the majority of Seaford (utilizing a vacuum sewer system), and Tabb Terrace. The voters of the County approved a food and beverage tax in 1990, half of which was pledged by the Board of Supervisors to pay a portion of sewer and water projects in developed portions of the County.

In undeveloped areas of the County, the developer of a project is expected to extend sewer service to that development and then dedicate the system to the County. In many instances, the County has required that the developer-installed system be "oversized" so as to handle not only the flows from the subject development, but also anticipated flows from adjacent and surrounding undeveloped properties. This has led to concerns that such a policy hastens further development in the area while contributing to increased operation and maintenance costs for oversized pumps and lines. Given that oversizing may cause inappropriate or ill-timed growth pressures, it may be appropriate to establish a policy restricting the use of oversizing to economic development areas or within all or a designated portion of the primary service area. In any event, more detailed analysis of the "oversizing" issue is necessary.

In 1990, the York County Board of Supervisors reviewed and adopted a set of criteria to be utilized in project selection for sewer which is to be extended at public expense to existing development. The system contains five different criteria, each of which is assigned a relative weight through a point system as shown on Table 3. In addition, the Board of Supervisors noted its intent to consider, on a case-by-case basis, the cost of each extension project in relation to the number of people to be served.

Another alternative to the high cost of conventional sewers in some areas could be the individual grinder pump with private force main. Some adjacent localities, particularly James City County, are even willing to accept the maintenance responsibility for such systems with a single up-front payment by either the developer or the first owner. Both residential and non-residential development can be served by grinder pump systems which can, in turn, reduce the cost of sewer main installation by reducing the depth at which it must be installed.

Sewer extensions are long lead-time projects requiring large capital investments. The sheer magnitude of cost dictates a deliberate and well-planned phase-in of sewer projects. In the meanwhile, and for a longer time in some areas of the County, most notably areas outside the primary service area, septic systems will continue to be utilized to treat wastewater. As previously mentioned, however, much of the County has one or more soil limitations for septic systems, thus conventional septic systems may not be entirely effective. York County is not unique in having large land areas with limitations for conventional septic systems and, as a result, evaluation of alternatives has occurred, not only in Virginia, but nationally. Various types of new technologies have been applied to septic system design including the following:

***Mound System:*** *Mound systems are designed to add treatment zone space above ground level. Many variations of mounds are possible in terms of design, shape, and size. Problems with mounds tend to occur at the point of contact with natural soils and thus each site needs a mound design and installation suited to the specific situation. Mounds must be carefully installed and maintained to function properly. Though each mound can occupy a sizable area, greater density is often possible with mounds than with conventional systems in limited soils. Because they are above ground, repair of mound systems is relatively easy.*

***Low-Pressure Distribution System:*** *These systems involve pumping effluent through small diameter pipe to accomplish more efficient use of the entire drainfield. Low-pressure systems can be installed closer to the surface than conventional systems, increasing the separation distance to the water table. The area required for a low-pressure system is less than for a conventional septic drainfield and therefore the required reserve area can be less. These systems must be maintained annually to function well. A variation on this system is the pressurized manifold system using larger diameter conventional drainfield pipe.*

***At-Grade Systems:*** *These are pressurized systems installed at ground level and covered with sand. They may include very long distribution lines and can be used on slopes. Vegetation on the surface helps with effluent uptake and treatment in these systems and surface installation maximizes use of existing soils for separation distance. The Health Department has not approved the use of such systems in Virginia.*

***Recirculating Sand Filters:*** *This is a moderately expensive but effective alternative. It provides greater pretreatment of effluent which can then be discharged into an absorption field. Recirculating sand filters provide excellent nitrogen reduction, perform consistently better than package treatment plants, and are particularly well suited for small cluster developments where the very high operating and maintenance costs can be spread.*

***Constructed Wetlands:*** *This can be an inexpensive, odor free, visually attractive alternative, best suited to small subdivisions and communities, but being used on individual lots in some states. Constructed wetlands function best if double septic tanks are used prior to discharge into the wetlands. Since they have little or no nitrogen removal capacity, they may, therefore, need to have recirculating sand filter pretreatment units to deal with nitrogen.*

Each of these new technology systems costs more than a conventional system in both original installation and annual operation and maintenance. If nitrogen is not a concern, the use of constructed wetlands can have a per unit cost which approaches the costs of a conventional septic system; however, this does not include the land values of the acreage given over to the wetlands.

The comparative costs of these systems were developed by the Virginia Department of Health and are shown in Table 4.

**TABLE 4**

<b>SEPTIC SYSTEM DESIGNS</b>			
<b>Technology</b>	<b>Approximate Per Unit Installation Cost</b>	<b>Installation Complexity</b>	<b>Approximate Per Unit Operation and Maintenance Costs</b>
Conventional Septic System	\$3,000	Low	\$20 Per Year
Conventional Septic System With Pump	\$4,000	Medium	\$50 Per Year
Conventional Septic System With Double Tank	\$3,600	Low	\$20 Per Year
Mound	\$9,000	High	\$70 Per Year
Low Pressure Distribution	\$6,000	Medium	\$120 Per Year
At-Grade With Pump	\$4,500	Medium	\$70 Per Year
Recirculating Sand Filter	\$4,500	Medium	\$160 Per Year
Constructed Wetlands	\$3,000*	Low	\$20* Per Year

\* Assumes that additional nitrogen removal is unnecessary.  
 Source: Virginia Department of Health

The County and the Health Department have traditionally tried to avoid permitting systems which have either a high installation complexity or significant maintenance requirements. The rationale for this policy has been that the operator (i.e., homeowner, businessman, or other landowner) is not likely to know or care about the complexities of the system and will not be able to determine when it is not functioning properly. This raises obvious environmental concerns.

Another alternative method of handling wastewater is the individual sewage treatment facility, often referred to as a *package plant*. Package plants are miniature versions of sewage treatment plants which discharge directly into a waterway and as such, each installation currently requires a permit from

the State Water Control Board. There is, however, some discussion about transferring this responsibility to the Health Department. Package plants are far less expensive than extending public sewer to remote areas and they can be sized to handle a single-family home or a small subdivision. They are modular, so for larger development, a second, third, or more plants can be installed. Package plants are unmanned and provide only primary treatment of effluent which consists almost solely of settling out of the solids. This compares unfavorably with the HRSD plants which have primary, secondary, and some tertiary treatment. At the discharge from the HRSD York River Treatment Plant, the effluent theoretically could be consumed as drinking water. The same definitely cannot be said of the effluent from package plants. Finally, the complexity and technology of the system are beyond the capabilities of most homeowners or community association officers. Such individuals likely would not be able to identify that a problem exists, thereby raising the possibility for serious environmental degradation. For this reason, compounded by a concern that such facilities would be used to develop otherwise undevelopable land, the County has declined to authorize their use. Public comment received during the development of this plan element appears to indicate support for continuing this policy.

### **Stormwater Management**

The way in which stormwater management is being viewed has changed dramatically over the past decade. Past practices tended to focus on achieving the fastest possible removal of stormwater from a site after a rainfall through either closed or ditch systems. This focus largely ignored the possible effects of downstream flooding while the County's flat topography promoted deep and potentially unsafe ditches. However, where rapid discharge of accumulated stormwater from individual sites does not occur, shallow pools ideal for mosquito breeding remain. The quantitative aspects of drainage are only one side of the coin, however. More and more attention is being focused on the qualitative aspects of stormwater runoff as well, particularly as it impacts the Chesapeake Bay and its tributaries.

Stormwater management systems must fulfill three basic objectives:

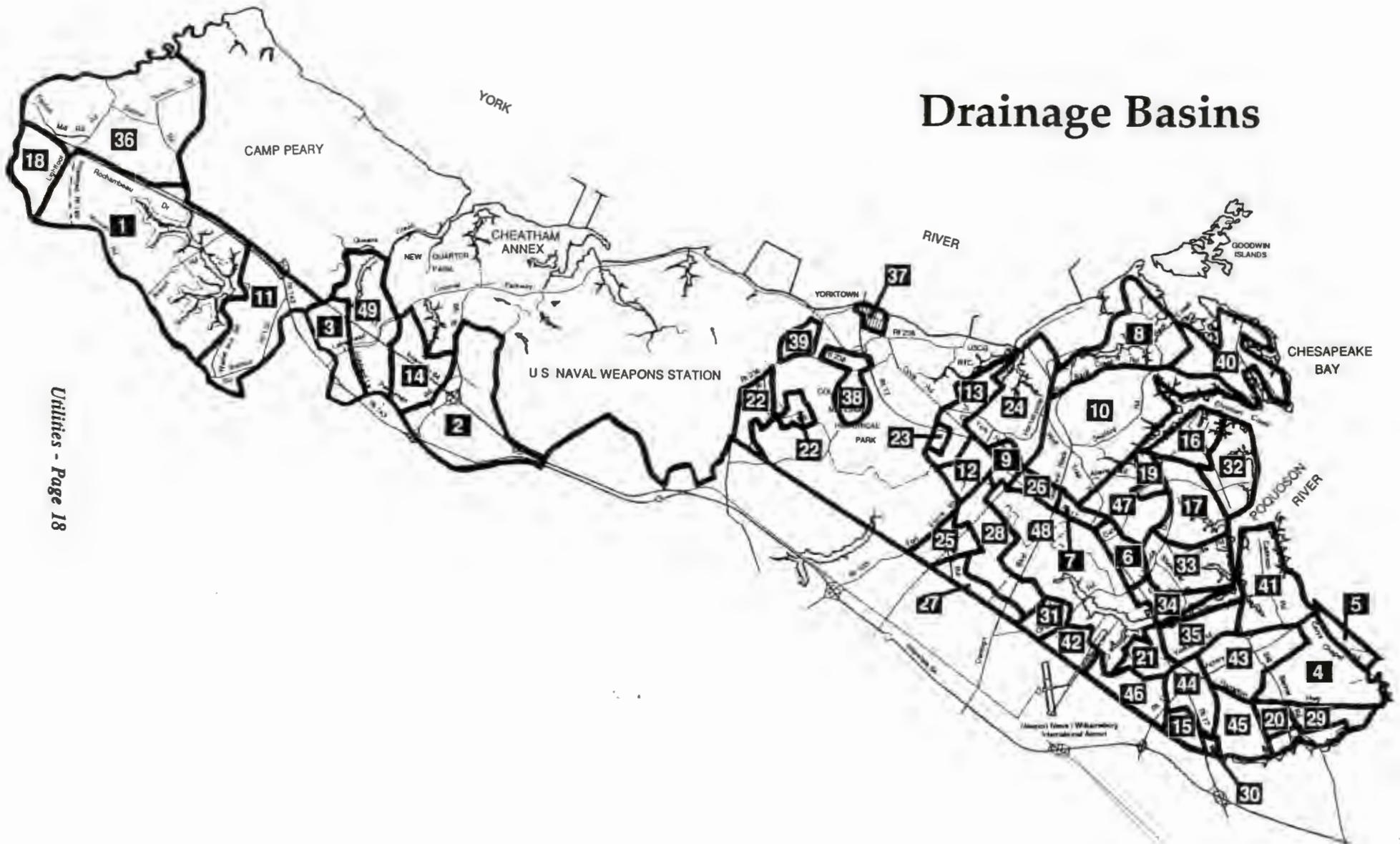
1. They must prevent significant loss of life and property due to runoff from any foreseeable rainfall event.
2. They must provide an acceptable degree of convenient access to property during and following frequent rainfall events.
3. They must release water which is as free from sediment and normal water-borne pollutants as is possible.

All three of these objectives must be accommodated in the initial design process. It is both very difficult and expensive to try to retrofit systems which failed to accommodate one or more of the objectives.

It is critical to recognize that site specific stormwater management systems are not restricted in their design or impact to the immediate tract of land which they serve. Each is a part of a basin-wide drainage system and must, at a minimum, accommodate stormwater flowing into the tract from upstream sources and mitigate the impacts of the outflow on downstream properties. Consequently, the total basin-wide drainage impact is largely the cumulative impact of the various on-site drainage systems. Since each of the drainage basins in the County has slightly different soil, slope, vegetation, and development conditions, each one must be individually analyzed to develop a unique basin-wide stormwater strategy.

The non-federal land in York County is composed of 10 major drainage basins which have been broken into 49 sub-basins. These are shown on Map U-5 and described in Table 5.

# Drainage Basins



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MAP U-5

**TABLE 5**

<b>YORK COUNTY DRAINAGE BASINS</b>		
<b>Basins</b>	<b>York County Acres Drained</b>	<b>Percentage of County</b>
A. Wythe Creek	3,263	7.1
B. Poquoson River	10,495	22.9
C. Newport News Line	502	1.1
D. Back Creek/Chisman Creek	6,201	13.5
E. Wormley Creek	1,896	4.1
F. Yorktown/Lackey/Beaverdam Creek	1,822	3.9
G. Felgates Creek	7,341	16.1
H. King Creek	1,927	4.2
I. Queen Creek	8,628	18.8
J. Skimino Creek	3,697	8.1
<b>TOTAL</b>	<b>45,772</b>	<b>100</b>

**Source: York County Master Drainage Plan**  
Basin C drains to James River, all others to York River.

The County has recently begun developing a comprehensive Stormwater Management Plan. This effort is being accomplished by County staff and is scheduled for completion in May 1994. The various drainage sub-basins are being studied and drainage solutions designed in their entirety one at a time such that the entire plan will be phased in over the three year development period. The first six sub-basins to be developed are shown in Table 6.

**TABLE 6**

<b>Sub-Basin #</b>	<b>Name</b>
8	Back Creek (Basin D)
5	Cary's Chapel (Basin A)
10	Chisman Creek North (Basin D)
3	Upper Queen Creek (Basin J)
2	Whitemen Swamp/Upper King Creek (Basin H)
4	Wythe Creek Farms (Basin A)

For each sub-basin, the hydrology will be computer-modeled and alternative solutions developed and analyzed. The optimum solution in terms of cost and effectiveness will be selected and a basin improvement plan prepared. As each basin's plan is prepared and approved, implementation within that basin can occur.

Like other utility issues, however, stormwater management should be subjected to more than an engineering analysis of drainage. Because any solutions are likely to be both expensive and have a long lead time, it is appropriate to incorporate drainage issues into discussions relative to the carrying capacity of the land for the purpose of setting development intensity levels. Furthermore, stormwater management should be considered in making determinations about the appropriate timing of development. For example, in certain areas, it may be necessary to defer development until a basin-wide solution is available, rather than accept the use of temporary management facilities. Conversely, the cost of these basin-wide solutions may stimulate calls for greater intensity of development in order to spread the costs among more users. Consequently, it will be important that such things as timing and the desired community character be factored into the Comprehensive Stormwater Management Plan along with engineering and finance to produce a truly optimum solution for each sub-basin. The 1991 Session of the Virginia General Assembly authorized localities to establish stormwater management utilities to be operated on par with the more traditional water and sewer utilities. Another part of the comprehensive Stormwater Management Plan will be to analyze fully how best to implement a Stormwater Management utility in York County.

## Water

Water supply and service to York County addresses come from a multiplicity of providers including the Newport News, Williamsburg, and James City County systems; private water companies; military water systems; individual wells; and the County itself. This causes both confusion and a lack of standardization within the County. The areas of the County currently served by a public or community water system are shown on Map U-6. Much of the developed area within the portion of the County south of the Naval Weapons Station is served by public water, all of it supplied by Newport News Waterworks. The portion of the County in the Williamsburg area served by public or community water is comprised of four municipal systems and two private water companies. The two private water companies purchase drinking water from municipal suppliers and resell it to their customers. According to estimates prepared by the Department of Environmental Services, approximately 90% of the households and businesses in York County are served by either public water or a privately owned community water system. Tables 7 and 8 show the current relationships between the various suppliers, the fee structures, and system deficiencies as of June 1991:

**TABLE 7****YORK COUNTY WATER RATE COMPARISONS**

<u>Supplier/Area</u>	<u>Water Rates</u>
<b>Newport News Waterworks</b>	<b>\$1.43/100 ft<sup>2</sup> equivalent to \$1.91/1000 gal</b>
<b>York County</b>	
Banbury Cross/Skimino	\$1.75/1000 gal
Hubbards Lane, Queenswood, Royal Grant, Queens Lake Section WG (water from Williamsburg)	\$1.75/1000 gal
Springfield Terrace (water from Newport News)	\$1.75/1000 gal
<b>Williamsburg</b>	
Bypass Road, Green Springs, Middletown Farms/Second Street	\$1.55/1000 gal
Bruton High School/Camp Peary	\$1.00/1000 gal
<b>James City Service Authority</b>	
Mooretown Road/Ewell Industrial Park	\$2.30/1000 gal
<b>Sydnor Hydrodynamics</b>	
Queens Lake (water from Williamsburg)	\$2.80/1000 gal
Nelson Park, York Terrace (water from Newport News)	\$2.80/1000 gal
Charleston Heights (water from Newport News)	\$3.20/1000 gal
Parkway Estates (water from Williamsburg)	\$3.50/1000 gal
Carver Gardens (water from Newport News)	\$2.60/1000 gal
<b>York Public Utilities (private company serving Carver Gardens--water from Newport News)</b>	<b>\$2.50/1000 gal</b>
<b>Source: York County Environmental Services Newport News Waterworks</b>	

The private water companies claim that the divergence in water rates shown in Table 7 is misleading because public suppliers charge for facility construction and debt service as an initial charge (meter fee) or as a separate dedicated charge or both, while the private companies have to amortize these capital costs into the water rate itself. For example, the following initial connection fees are collected by the public suppliers:

York County	\$ 400.00
James City County	\$1,700.00
Newport News	\$1,323.00
Williamsburg	\$ 400.00



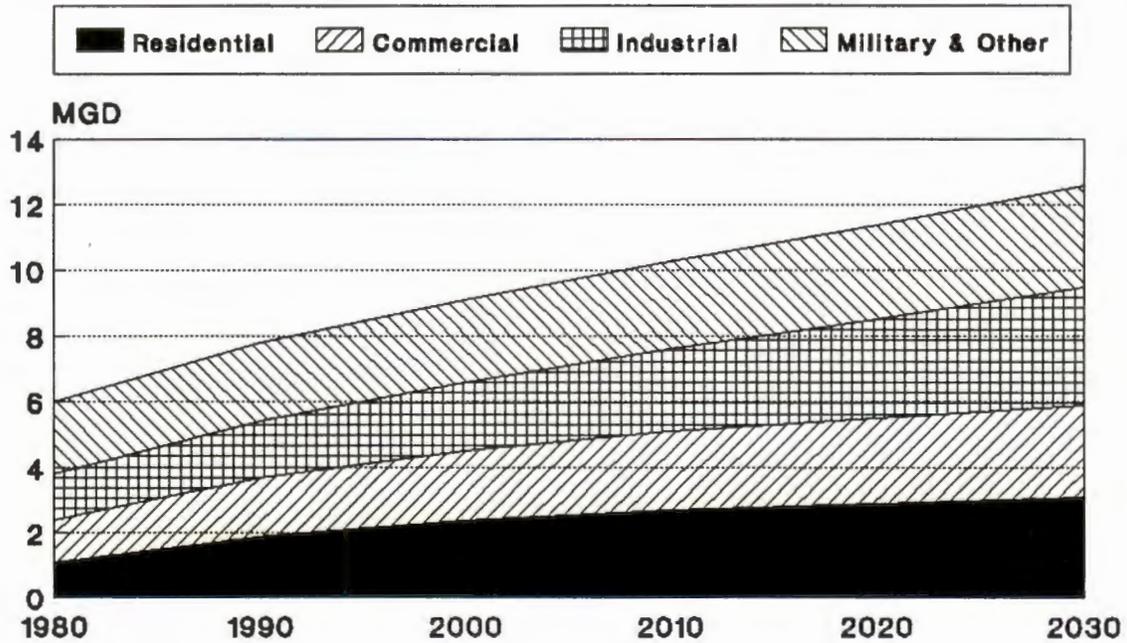
**TABLE 8**

PUBLIC WATER SYSTEM DEFICIENCIES			
	ESTIMATED % OF 1990 COUNTY PUBLIC WATER USE	DEFICIENCIES	
		DISTRIBUTION SYSTEM	SYSTEM STORAGE
City of Newport News • Non Military	74.6	Fire flow deficiencies in Yorktown and other locations.	Currently VDH deficient in York County.
• Military	12.2		
City of Williamsburg • Camp Peary	1.6	_____	_____
• Bypass Road	2.5		
Sydnor Hydrodynamics • Charleston Heights/Nelson Park/York Terrace	1.7	Sub-standard piping, no fire protection.	Currently fire flow deficient.
• Queens Lake/Parkway Estates	1.8	Fire flow deficiencies currently in Queens Lake and Parkway Estates.	_____
• Carver Gardens	0.2	Sub-standard piping, no fire protection.	Currently fire flow deficient.
York County • Skimino Hills/Banbury Cross	0.8	Currently adequate for existing system. Future expansion will require larger distribution piping.	Currently fire flow deficient: VDH deficiencies expected in 1995.
Springfield Terrace	0.3	Sub-standard piping, limited fire protection.	Currently fire flow deficient.
Stouts Mobile Home Park	0.1	Extremely small piping, no fire protection.	Currently VHD and fire flow deficient.
Magruder Mobile Home Park	0.2	Extremely small piping, no fire protection.	Currently VHD and fire flow deficient.
York Public Utilities (private) • Carver Gardens	0.4	Sub-standard piping, no fire protection.	Currently fire flow deficient.
Cheatham Annex	3.6	_____	Currently VDH and fire flow deficient.

Source: York County Department of Environmental Services.

While the costs and designs of water distribution systems are important considerations, the single most critical concern with respect to expanding water service is the acquisition and development of a long-term supply of raw water. As shown in Figure 5, the County water demand is projected to approximately double between 1980 and 2030. Because of the very long lead times required to permit and construct water supply enhancements, a 40-to-50 year planning window is used for such projects; hence the use of projections to the Year 2030. There are only two practical and acceptable methods of raw water supply enhancement available—groundwater or surface water—or combinations of the two. Use of groundwater entails drilling wells to tap one of the aquifers which exist under the County while the development of surface water resources requires either impoundments (reservoirs) or instream withdrawals. A third method, recycling "used " water, while perhaps technologically feasible, has such psychological barriers as to render it currently an impractical alternative.

**FIGURE 5**  
**WATER DEMAND PROJECTIONS**  
*By User Class in York County*



*Source: Raw Water Study Group*

The County has approached this need from two directions. At the regional level, the County is one of the original participants in the Raw Water Study Group (RWSG) formed in September 1988. At the local level, the County acquired two production-capable wells in the Lightfoot area in March and June 1990.

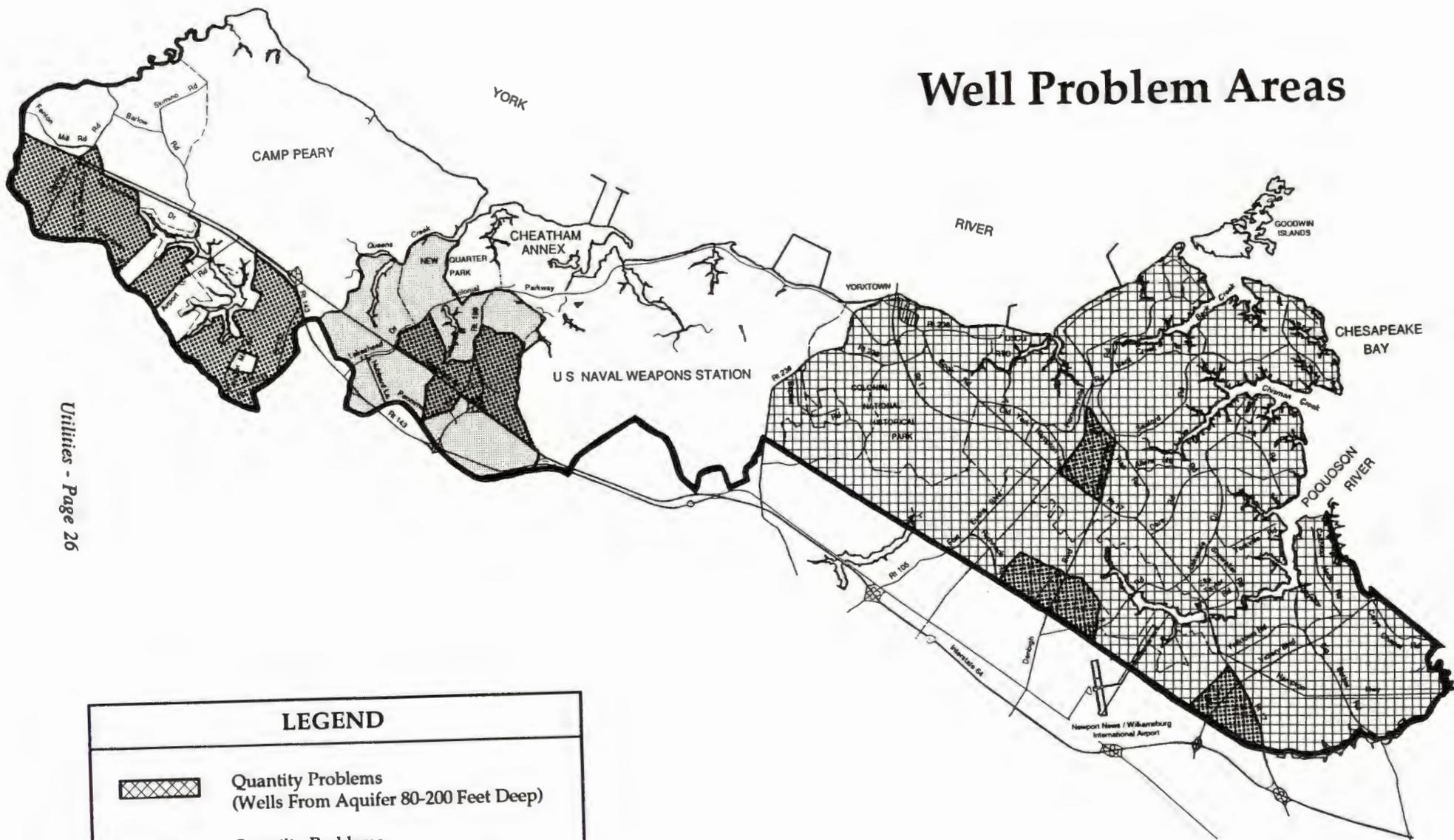
The RWSG has concluded that the Peninsula region (Hampton, Newport News, Poquoson, Williamsburg and York County) faces a water supply shortage by the Year 2000. As the region grows, so too will the water shortfall, creating a need for new water supplies totalling an additional safe yield of at least 35 MGD by the Year 2030. This represents an increase of approximately 60% over the existing 61 MGD safe yield capacity. Meeting this demand will require both short-term and long-term strategies because of the extended lead-time required to secure environmental approvals from various regulatory agencies. In the near-term, increased ground water withdrawals can meet most or all of the projected shortfall, but in the long-term, it appears that both additional reservoir impoundment and instream withdrawals will be required. The cost for the long-term solutions(s) has not been estimated, but the preliminary Environmental Impact Statement alone will cost at least \$1.5 million and take nearly 3 years to complete. Cost factors alone strongly suggest a regional approach. Furthermore, the statements of both the U. S. Army Corps of Engineers and the U. S. Environmental Protection Agency that no new impoundments will be approved unless they serve regional needs, reinforce this approach. Further, within York County, only the Skimino Creek basin holds significant promise as a potential new reservoir. Given that Skimino Creek is located in relatively close proximity to the Ware Creek Reservoir site and its development as a reservoir would, like the Ware Creek project, also involve the destruction of a significantly large amount of wetlands, it is unlikely that authorization to impound Skimino Creek would be granted in today's regulatory environment. There is some possibility that either the Waller Mill or Jones Pond reservoirs could be expanded; however, it is unlikely that either of these actions alone would provide sufficient additional water supply to meet the County's future needs.

The existing County wells serving Skimino and Banbury Cross, together with the two production wells in Lightfoot, once linked together in accordance with Virginia Department of Health requirements and in conjunction with a 1 million gallon elevated storage tank, can provide a safe yield of 0.7 MGD in the Lightfoot Road corridor. The estimated cost of developing this system is \$2.5 million. The wells tap into an aquifer which has degraded both quantitatively and qualitatively over time and, while continued degradation is expected, it is not expected to degrade to such levels as would cause health concerns during the life of this plan. All other aquifers available as a source of supply would require desalination before human consumption. The development of groundwater resources will provide near-term water supplies, but this resource should be viewed as a temporary measure. Nevertheless, the distribution, storage, and pressurization systems which would be constructed as a part of developing the County wells in Skimino/Lightfoot would be used in any water system. Consequently, there is almost no investment loss from pursuing the groundwater option first, and a permanent solution later. Even the wells themselves would provide an important emergency back-up water supply in the ultimate configuration.

Just as there are potential problems looming for municipal groundwater utilization, so too are there problems for private wells. **Map U-7** shows those areas of the County where either quantitative or qualitative problems have been documented for private wells. Also shown are the economic development priority areas which will require public water service before they can be developed.

While raw water supplies, at least in the long-term, will require a regional solution, the public water distribution system is a local concern. The large expanse of unserved area shown on **Map U-6** may be somewhat misleading. As was the case with sewer, undeveloped areas and military/federal facilities (which take care of themselves) perhaps give an appearance of overstating the problem. However, because of expected degradation of water quantities and qualities and also due to the need to provide adequate fire protection to all properties, the entire County should ultimately be served by public water including areas listed in **Table 9**.

# Well Problem Areas



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LEGEND	
	Quantity Problems (Wells From Aquifer 80-200 Feet Deep)
	Quantity Problems (Wells From Aquifer 100-400 Feet Deep)
	Economic Development Priority Areas

MAP U-7

TABLE 9

YORK COUNTY WATER EXTENSION STUDY AREAS

Existing Residential Development

Bay Tree Beach Road  
Brook Lane/Riverside Drive/Marine Circle  
Charles Road/Patricks Creek Road/  
Old Lakeside  
Dare  
Hansford Lane (Seaford)  
Kentucky Farms  
Lewis/Clark  
Lightfoot  
Mansion Road  
Mooretown Road  
Old Quaker Estates  
Old Wormley Creek Road (end including  
Branch Lane)  
Old York-Hampton Highway/Sulik Road  
Quartermarsh Drive  
Rochambeau Drive/Oaktree  
Schenk Estates  
Skimino Farms  
W. Woodland Drive, Jonadab Road  
Whites Road  
Yorkville Road

Economic Priorities

Denbigh Boulevard  
Lightfoot  
Mooretown Road  
Route 132/143

Existing Systems Where Upgrades Are Required

Carver Gardens  
Charleston Heights/Nelson Park  
Parkway Estates  
Queens Lake  
York Terrace

*Source: York County Department of Environmental Services*

*Note: The residential developments are an alphabetical listing of those areas where analysis has determined that developer participation is unlikely. The economic priorities are as listed in the Economic Development element.*

The York County Board of Supervisors has committed to the installation of public water in the following areas, provided the citizens of these areas indicate a desire to participate: Brook Lane/Riverside, Mansion Road, Whites Road, and Woodland/Jonadab. The Board has pledged that half of the revenue from the food and beverage tax approved in 1990 will be used to help offset the costs of water and sewer projects to serve existing development.

In undeveloped areas of the County, the developer of property is normally required to extend public water to the development and then dedicate the system to the County or Newport News Waterworks at no cost to the taxpayer. Without public water being available, the minimum lot size, regardless of the zoning district, is at least one acre, and may be larger. Consequently, the extension of public water past undeveloped acreage can stimulate development, thus the need to carefully plan and consider water extensions.

The York County Board of Supervisors reviewed and adopted a set of criteria to be utilized in project selection for water lines to be extended to existing residential development at public expense. The system contains five different criteria, each of which, as shown below, is assigned a relative weight through a point system. In addition, the Board of Supervisors noted its intent to consider, on a case-by-case basis, the cost of each extension project in relation to the number of people served.

**TABLE 10**

<b>WATER EXTENSION RATING SCALE</b>		
<u>FACTOR</u>		<u>MAXIMUM POINTS AVAILABLE</u>
<b>1. CONTAMINATION FACTOR</b>		<b>40</b>
35-40	Contaminant levels do not meet drinking water standards for one or more dwellings	
30-34	Contaminant levels above recommended levels (but not health hazard)	
20-29	Water is offensive to user (color and/or odor problem)	
10-19	Water levels drop significantly (from historical records)	
0-19	Water quality has been deteriorating over time	
<b>2. FIRE PROTECTION/ADEQUATE PRESSURE FACTOR</b>		<b>20</b>
0-20	Inadequate fire protection due to poor water pressure or distance to a fire hydrant (hydrant available within 1/2 mile receives low rating - hydrant more than 5 miles receives high rating)	
<b>3. FIRE HAZARD FACTOR (CLOSENESS OF STRUCTURES)*</b>		<b>15</b>
15	Existing structures are within 30 feet of each other	
5-9	Existing structures are within 100 feet of each other	
0-4	Existing structures are over 100 feet from each other	
	* Based on ISO standards for flow requirements	
<b>4. EXISTING UTILITIES FACTOR</b>		<b>15</b>
15	Public waterline available within 500 feet	
10-14	Public waterline available within 2000 feet	
5-10	Public waterline available within one mile	
0-4	Public waterline more than a mile away	
<b>5. GROWTH FACTOR</b>		<b>10</b>
5-10	Surrounding area developed to somewhat developed	
0-4	Most of the area undeveloped (thus potential for extension by development)	
	<b>TOTAL</b>	<b>100</b>

This system, like that for sewer extensions, is not intended to be used in rating economic priorities, but merely existing residential development needs. The level and extent of County participation in providing water to economic development priority areas will continue to be addressed by the Board on a case-by-case basis with no predetermined limitations or commitments.

While it may be the goal to ultimately serve the entire County with public water, it appears that some portions of the County will be relying on individual wells for some time to come. This results from the sheer magnitude of extensions required to serve the County and the relatively sparse development in some areas which makes extensions prohibitively costly on a per unit basis. Great care must be taken to ensure that wells are appropriately separated from potential sources of contamination. This separation, as shown in Table 11 below, sometimes requires the use of fairly large distances.

**TABLE 11**

<b>WELL/CONTAMINATION SEPARATION DISTANCES</b>	
<b><u>Source of Potential Contamination</u></b>	<b><u>Minimum Separation Distance from Well Site (feet)</u></b>
Waste lagoons	300
Cesspools	300
Silo pits	150
Livestock and poultry yards	150
Privies	100
Manure piles	100
Septic tanks/drainlines	100
Gravity sewer	50

Sources: USDA/VDH

These distances clearly demonstrate the need to limit the use of drinking water wells to areas with very low development intensity. In this regard, it is important to remember that since groundwater is a finite resource which is interconnected, withdrawals and contamination can potentially impact all well users over a large area. It is critical, therefore, that appropriate standards be adhered to with respect to the number and locations of private wells. This includes not only potable water wells, but also wells which provide water for irrigation and other non-consumptive activities.

Water service to the area north of Queen Creek presents the greatest challenge to the County. It has been estimated by the Department of Environmental Services that there is a need for as much as 3.5 MGD in this area by 2030, 1 MGD in Lightfoot alone. As previously discussed, there does not appear to be any realistic potential to develop a County-owned reservoir, nor can groundwater be used for the long-term. The County-owned wells in Lightfoot can, however, be developed in the short-term while the region works together to solve the mutual long-term water supply needs. Any distribution and storage system developed as a part of a well-oriented water supply system would also serve to distribute and store water once connected to the regional supply. Consequently, it appears that, since the bulk of the \$2.5 million cost is in the distribution lines, storage tank and fire hydrants, nothing would be lost if the County were to develop its wells in advance of a regional water supplier being found to serve the area. In any event, it appears that there are a number of options available to serve this area.

## **GOALS/OBJECTIVES/IMPLEMENTATION STRATEGIES**

The overall goal of the Utilities element of the Comprehensive Plan is to provide utility services to appropriate locations and in a manner which serves community needs conveniently, efficiently, and economically. Public utilities planning should be a primary factor in guiding residential, commercial, and industrial development into appropriate areas.

The development of Utilities objectives and related implementation strategies is the result of a comprehensive citizen and staff review and analysis process. This process examined individual areas of the County's utility planning and their collective relationship with other Comprehensive Planning initiatives. The primary categories considered and their related objectives and implementation strategies are outlined, in alphabetical order, in the ensuing sections.

### **I. OVERALL**

#### **A. Objectives**

1. Ensure that the extension, site selection and timing of public utilities services, whether publicly or privately funded, is accomplished in accordance with current and anticipated needs.
2. Guide the expansion of utilities services into undeveloped areas in such a manner as to ensure long-term financial viability (including operating, maintenance, and debt service costs) and to prevent future service shortfalls.
3. Plan public utilities in recognition that service to designated areas of the County should be deferred because of environmental constraints, high costs and/or planned low density development. The capacity of the designated areas to support well and septic systems while maintaining acceptable health levels must be considered as well as the potential for creating development densities and intensities which are inconsistent with the Comprehensive Plan.
4. Use public utilities planning to guide development into appropriate areas.

### **II. REGULATED UTILITIES**

The significant differences in the location and manner of installation of various regulated utilities (i.e., electric, telephone, gas, CATV) require the establishment of standards for future installations. In addition, modernization of the existing utility network by replacing aboveground with underground utilities must also be prioritized. The objectives and implementation strategies that follow also focus on the environmental, economic, and aesthetic considerations associated with utility installations.

#### **A. Objectives**

- ✓ 1. Continue and strengthen requirements that all utilities be placed underground in new development.
- ✓ 2. Work with utility companies to remove price differentials between aboveground and underground utility placement.
- ✓ 3. Establish utility placement criteria which minimize the amount of tree clearing

required for utility installation and maintenance.

4. Encourage the replacement of aboveground utilities with underground utilities, especially along scenic roads and roadway corridors which access tourist areas.

## **B. Implementation Strategies**

1. Require underground installation of all utilities in new residential, commercial and selected industrial development.
2. Pursue the reduction of price differentials between aboveground and underground utility placement.
3. Pursue enabling legislation to include the costs of replacing aboveground utilities with underground utilities in concert with VDOT road projects.
4. Ensure that the zoning and various utilities ordinances incorporate utility placement criteria which minimize the tree clearing requirements for utility installation and maintenance. Additionally, tree replacement within temporary construction easements should be required.
5. Designate priorities for the replacement of aboveground utilities with underground utilities with a primary focus on scenic roadways and tourist and commercial access corridors. These priorities should be funded by annual appropriations through the County Capital Improvement Program.
6. Develop and implement landscaping and screening standards and requirements for various utility placements and structures including transformers, meters, antennae, and other similar aboveground structures. Such landscaping, while not necessarily hiding or completely screening these structures, should be utilized to soften the visual impact.
7. Support the development of state-of-the-art telecommunications facilities in the County to serve both the educational and professional/commercial communities. The County's development ordinances should provide appropriate opportunities for such facilities in the County, but in such locations as to ensure maximum connectivity without sacrificing aesthetic objectives.

## **III. SEWER**

Failing septic systems, environmental constraints, Chesapeake Bay Act considerations, rising costs, the needs of economic development, and initiatives to reduce gross development density are key elements that directly affect the development of specific sewer implementation strategies. Resolving existing health problems while preventing future health problems must continue to be the highest priority for sewer system expansion. In addition, the prevention of future service shortfalls may require deferral or restriction of development until adequate sewer and other public facilities/capacity are available. Objectives and implementation strategies applicable to this category of the Utilities element include the following:

### **A. Objectives**

1. Prohibit development of any new privately-owned sewage treatment systems (package plants) and alternative septic systems such as sand mounds.

2. Establish specific minimum maintenance intervals for septic systems.
- ✓ 3. Develop a priority system based on established criteria for the extension of public sewer.
4. Consider alternatives to conventional gravity line sewer systems which can serve existing development while not promoting expanded development.
5. Evaluate the consequences of building fewer, but bigger, pump stations in an effort to minimize maintenance costs as opposed to requiring developers to build systems only large enough to serve their developments and, thereby, not opening large adjacent areas for development.
6. Require all new development, except very low density residential, to be connected to public sewer.

## **B. Implementation Strategies**

- ✓ 1. Amend Chapter 18 (Sewers and Sewage Disposal) of the County Code to prohibit development of any new privately-owned sewage treatment systems (package plants) and alternative septic systems such as sand mounds; and to establish specific minimum maintenance intervals for septic systems.
2. Develop and regularly update a priority system for the installation or extension of public sewer. The criteria for such system should include, at a minimum, the following: health considerations, fiscal constraints, potential development densities with and without installation/extension, economic development opportunities, and environmental constraints.
3. Employ alternatives to conventional gravity line sewer systems (e.g. - vacuum system) in order to serve existing development. These alternative methods should only be used to correct existing health problems, not for expansion of development.
4. Conduct an overall economic evaluation of the total public service consequences of the County's current policy of building fewer, but larger capacity, pump stations to serve specific areas and minimize maintenance costs.
- ✓ 5. Amend the zoning and subdivision ordinances to require that all new commercial, industrial, and multi-family development and all newly platted single-family residential lots, except very low density residential (1 unit per 2+ acres), be connected to public sewer.
6. Evaluate the various operational/organizational alternatives for utility service delivery including service authorities, sanitary districts and operating departments.
- ✓ 7. Use all available tools and techniques to defer all or part of permitted development while such time as adequate public infrastructure is in place to support the development.
8. Consider extending sewer to the following areas of the County during the first

phase of a coordinated sewer construction/extension program:

- a. Green Springs
  - b. Mill Cove
  - c. Seaford (portion using vacuum system)
  - d. Tabb Terrace
9. Establish level tap fees for new or extended sewer lines which fully recover their capital costs (including principal, interest, and administrative costs). However, alternatives to full cost recovery tap fees should be investigated and utilized, where appropriate, for sewer extensions to existing development or where the potential economic development benefits so warrant.
  10. Amend the appropriate development ordinances to require a minimum separation between septic drainlines and the seasonal high water table. The required separation should be the minimum necessary, based on the best available information, to ensure that groundwater resources are not contaminated by septic effluents.

#### **IV. STORMWATER MANAGEMENT**

The increased levels of impervious surface created by the significant growth in commercial and residential development coupled with the environmental sensitivity of the Chesapeake Bay, its tributaries, and surrounding wetlands dictates an absolute requirement for development of stringent stormwater management practices. The objectives and implementation strategies for this portion of the Utilities element include the following initiatives:

##### **A. Objectives**

- ✓ 1. Provide opportunities for varying land use densities and intensities in recognition of the capability of storm drainage systems to effectively remove storm water runoff from developed areas without danger to persons, property or the environment.
- ✓ 2. Require underground storm water management systems and curb and gutter in new medium and high density residential developments and in all new commercial subdivisions.
3. Develop and adopt standards to establish a maximum allowable depth for roadside ditches where curb and gutter is not required.
- ✓ 4. Establish special stormwater runoff control techniques for all new development to prevent any increase in runoff borne sediment, pollutant, or toxic loadings.
5. Develop a County-wide stormwater management system.

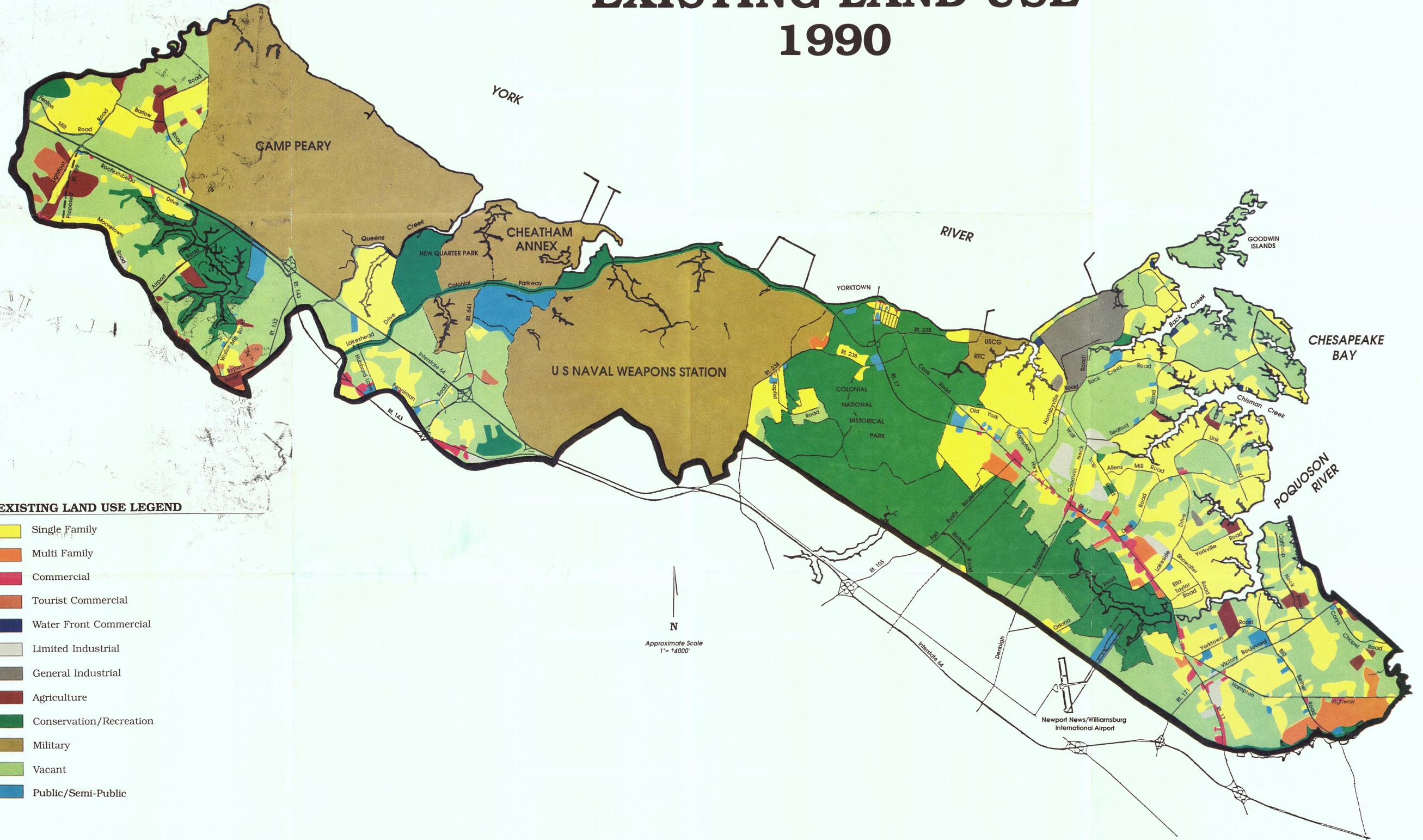
##### **B. Implementation Strategies**

1. Ensure that the County's development ordinances require storm drainage systems that effectively remove stormwater runoff from developed areas without danger to persons, property or the environment.
2. Review, and if necessary, amend the County development ordinances to

support the development.

10. Consider extending water to the following areas of the County during the first phase of a coordinated water construction/extension program:
  - a. Brook Lane/Riverside Drive
  - b. Mansion Road
  - c. Whites Road
  - d. Woodland Drive/Jonadab Road
  
11. Establish level meter fees for new or extended water lines which fully recover their capital costs (including principal, interest, and administrative costs). However, alternatives to full cost recovery meter fees should be investigated and utilized, where appropriate, for water extensions to existing development or where the potential economic development benefits so warrant.

# EXISTING LAND USE 1990



### EXISTING LAND USE LEGEND

- Single Family
- Multi Family
- Commercial
- Tourist Commercial
- Water Front Commercial
- Limited Industrial
- General Industrial
- Agriculture
- Conservation/Recreation
- Military
- Vacant
- Public/Semi-Public

N  
Approximate Scale  
1" = 1400'

# 2010 LAND USE MAP



### 2010 LAND USE MAP LEGEND

- Low Density Residential
- Medium Density Residential
- High Density Residential
- Multi Family/General Residential
- Neighborhood Commercial
- General Commercial
- Tourist Commercial
- Water-Oriented Commercial/Industrial
- Limited Industrial
- General Industrial
- Office/Professional/Research
- Resource Management/Protection
- Conservation
- Military
- Economic Opportunity

N  
 Approximate Scale  
 1" = 1400'

— Future Roadways  
 - - - Greenbelt Roadways

# THE COUNTY OF YORK COMPREHENSIVE PLAN

Adopted December 5, 1991

The Comprehensive Plan enables a community to protect and work toward a desirable future land use pattern which will be efficient and economical in terms of provision of public services. At the same time, the Comprehensive Plan will help to preserve and protect property values and the particular characteristics or resources that contribute to the character of the community. There are various means available to implement the Plan, the primary ones being zoning and subdivision regulations and capital improvements budgeting.

The comprehensive planning process is not intended to chart a rigid course which the County is expected to adhere to for years. This would be neither possible, nor desirable since community conditions and attitudes are continuously changing. It is for this reason that the Code of Virginia requires that comprehensive plans be reviewed at least every five years. Likewise, it is because of these changing conditions and attitudes that the County's Comprehensive Plan, including a revised Land Use Element, was prepared and approved by the Board of Supervisors on December 5, 1991. This publication provides pertinent excerpts from that Element.

## OVERALL GOAL

Enhance and protect the current "rural" character of the County and ensure that development which does occur is in accordance with the "rural" character and is consistent with the carrying capacity of the land and existing and planned utility systems, transportation networks, drainage facilities, community facilities and services, the presence of environmental constraints, and existing development patterns.

## LAND USE DESIGNATIONS

The following land use designations have been used in developing the Land Use Element. Although general in nature, these designations will provide appropriate guidance for the development of the more specific zoning regulations and zoning district locations and boundaries which will actually implement the Comprehensive Plan.

### RESOURCE MANAGEMENT/PROTECTION

This designation is intended to recognize and encourage the proper use, management and/or protection of vast amounts of sensitive and unique lands within York County which contribute positively to the economy of the region and the environmental quality of the County and especially the Chesapeake Bay. The designation is intended to encompass those areas which may not be developable under current laws (e.g., wetlands regulations, subdivision regulations), areas whose development may cause detrimental environmental impacts, areas which may present significant obstacles or hazards to indiscriminate development (e.g., steep slopes, floodplains), and areas directly impacted by nonpoint source pollution. Specifically, it is intended to encompass coastal and inland marshes, areas with slopes in excess of 20 percent, and low-lying floodplains.

The Resource Management/Protection designation is intended as a policy statement to indicate the commitment of the citizens of York County to the proper use, management, and protection of its sensitive, unique and irreplaceable resources. This overlay designation is not necessarily intended to preclude development or use of these areas, but rather to explicitly ensure that development, if permitted and attempted, is undertaken with a very deliberate and professionally responsive recognition of environmental qualities and conditions. While the underlying zoning identifies the particular use permitted, the RM/P recognizes the sensitive nature of these sites and the need to protect them from indiscriminate development.

### CONSERVATION

This designation is intended to recognize and ensure the protection of the vast amounts of parklands, watersheds surrounding current or public water supply reservoirs, and similar reserved areas which, for the most part, are in a natural state and, therefore, contribute positively to the perception of a rural atmosphere. The Conservation designation is intended as a policy statement to indicate the County's commitment to the proper management and protection of these sensitive and unique areas. While many of these areas are controlled by the Federal or State government and are not currently subject to local land use regulations, such areas should, in most situations, be placed in the lowest intensity zoning classification in order to ensure their proper management and protection. Every effort should be made to elicit the support and cooperation of the various levels of government in furtherance of these policies and objectives.

### MILITARY

This designation is intended to recognize the vast amounts of military property in York County even though such installations are not subject to local land use regulations.

In some cases, and particularly so at Cheatham Annex and Camp Peary, these installations also have environmentally sensitive and unique areas which fit the above described Resource Management/Protection designation. Since there is a lack of detailed topographical mapping covering these installations, the Resource Management/Protection designation which has been applied to those areas exhibiting many of the features associated with the Chesapeake Bay Preservation Area is likely not as fully encompassing as it should be. Consequently, such areas should be placed in the lowest intensity zoning classification in order to clearly state the County's interest in ensuring their proper management and protection.

### HISTORIC AREA

This designation recognizes Yorktown as an historic area without reference to specific land uses. The intent is to recognize the unique historical quality of the town and to encourage future development which is consistent with the historic, residential and commercial land uses already in existence. It is the intent of this designation for Yorktown that a more detailed small area plan (master plan) be developed and ultimately adopted and incorporated into the Comprehensive Plan.

### SINGLE-FAMILY RESIDENTIAL

The three single-family residential designations are based on density (i.e., number of housing units permitted per acre of land) rather than on lot sizes and are intended to both recognize and continue, as much as possible, the existing range of single-family densities in the County. The development opportunities which are proposed throughout the County are generally based on the perceived carrying capacity of the land which means that development must occur in a manner which fully recognizes existing land use patterns, the availability of utilities and public facilities, the County's ability to meet service demands, the presence of environmental constraints, and various other factors and considerations.

Although each of the three density ranges probably will primarily provide traditional detached single-family housing types, proposals involving clustering of single-family detached housing should be encouraged in order to maximize open space retention, reduce impervious surface, provide efficiency and cost savings in infrastructure construction and, in general, promote a more aesthetically attractive residential environment.

This Plan has defined allowable development density in terms of gross acreage and all of the future population projections are based on this definition. However, since undevelopable areas such as water bodies, wetlands, marshes, major power transmission rights-of-way and other similarly situated areas should be excluded from single-family lots, the use of clustering is preferred to conventional subdivision. This technique will preserve the environmental amenities which make York County a special community and can be accomplished by establishing appropriate lot size criteria for conventional subdivisions while controlling cluster subdivisions primarily through density.

With respect to the establishment of specific residential zoning classifications, it is intended that a range of residential density opportunities be made available. In this regard, the density guidelines established herein should be interpreted with a degree of flexibility when determining the range of lot sizes which are consistent with, and can implement, a particular density designation.

In determining the consistency of zoning classifications with the following described density designations, a degree of flexibility is appropriate with respect to the development of certain small vacant "infill" parcels which are essentially surrounded by existing development having a density in excess of that prescribed. Such "infill development" flexibility should be exercised only in situations where logical and efficient subdivision and provision of public utilities would be difficult in strict accordance with the established density designation. In no case should such an interpretation be made which would circumvent the overall Land Use goals and objectives or allow the extension of inconsistent development densities into essentially undeveloped areas.

#### • LOW DENSITY:

This designation is intended to provide opportunities for single-family residential development generally having a maximum density of one dwelling unit per acre. Low density development is appropriate in areas where public services and facilities are limited and/or physical or environmental constraints are prevalent.

#### • MEDIUM DENSITY:

This designation is intended to provide opportunities primarily for single-family residential development generally having a maximum density of 1.75 dwelling units per acre. Medium density development can be expected to generate moderate demands on public services and facilities and should be located in areas where such services will be adequate and any environmental constraints will not present development problems.

#### • HIGH DENSITY:

This designation is intended to provide opportunities for single-family residential development generally having a maximum density of 3.0 dwelling units per acre. The high density development envisioned by this designation can be expected to generate substantial demands on public services and facilities and should be located with careful consideration given to the availability and adequacy of public services, transportation facilities, and commercial centers.

### MULTI-FAMILY GENERAL RESIDENTIAL

This designation is intended to recognize and encompass those areas of the County which are particularly suited to accommodate residential development at a maximum density of up to 10 dwelling units per acre. The high density development envisioned by this designation can be expected to generate very intensive demands on public services and facilities and should be located accordingly. This designation is intended to provide opportunities for a variety of multi-family housing types such as garden apartments and townhouses. In addition, it is the intent of this designation to provide opportunities for the establishment of manufactured home parks and subdivisions on a case-by-case basis through use permit provisions or other review techniques deemed appropriate by the Board. Such review procedures should be intended specifically to evaluate the suitability of manufactured home park and subdivision proposals with respect to potential impacts on surrounding development characteristics and potentials.

The primary emphasis of this designation is to provide higher density living arrangements with an orientation toward the rental market, although not necessarily precluding higher density forms of fee simple ownership. It should be recognized that, because of the need to provide safe, sanitary and visually attractive multi-family development, the maximum density envisioned by the designation will probably not be able to be achieved on certain parcels with certain types of development. This should not be considered to be inappropriate; it is merely an acknowledgement that each parcel of land is unique with some parcels more suited, and others less suited, to particular types of development.

### NEIGHBORHOOD COMMERCIAL

This designation is intended to provide small, widely scattered development opportunities for various types of commercial activities oriented primarily toward serving the day-to-day needs of residents of nearby areas. The scope of commercial activities permitted should be limited so as to discourage substantial traffic from outside the immediate neighborhood. Because of the limited scope of activities, this designation is appropriate within, or in close proximity to, residential neighborhoods.

### GENERAL COMMERCIAL

This designation is intended to provide opportunities for more than one commercial district which provides retail and service activities oriented primarily toward supplying goods or services for a community or regional market. The scope of commercial activities envisioned by this designation would include uses which are generally characterized by a need for access to arterial highways, and outdoor display or storage of goods or materials. The high intensity activity levels envisioned by this designation dictate that it be located with a full understanding of the potential impacts on adjacent residential and commercial development and traffic and circulation patterns.

### TOURIST COMMERCIAL

This designation recognizes the Williamsburg and Peninsula tourist market potential and is intended to enhance and provide specific opportunities for various types of activities oriented primarily toward serving the needs of tourists. The locational requirements of these activities dictate that they be easily accessible to major transportation corridors and in close proximity to tourist centers.

To capture and protect this economic asset, it will be necessary to establish a specific designation and develop appropriate land use standards. Such standards should ensure that an appropriate range of compatible retail commercial uses and associated amenities are permitted in those areas having an established tourist-oriented development pattern, or unique characteristics which make them particularly well suited to tourist-oriented activities.

### OFFICE/PROFESSIONAL/RESEARCH

This designation is intended to provide opportunities for uses such as business or professional offices, and research, development and training facilities. The research and development activities envisioned for this designation should be of a type that could comply with performance standards designed to ensure their compatibility with all surrounding land uses.

In addition, development regulations designed to implement this designation should give consideration to providing opportunities through the use permit process for certain types of commercial and light industrial activities which would be compatible with the high quality development atmosphere envisioned by the Office/Professional/Research designation.

### ECONOMIC OPPORTUNITY

This designation is intended to guide a mix of commercial, tourist-related, and limited industrial uses to certain portions of the County that have or are projected to have the access and infrastructure necessary to support both capital and employment intensive uses. Development at these locations is expected to be in keeping with that of the surrounding development and sensitive to the natural environment. In this regard the imposition of open space, landscaping, and buffering requirements which exceed the otherwise acceptable levels may be appropriate, however, no additional development standards should be considered until and unless an evaluation of the economic impacts of such is completed. The employment benefit to the County should be positive and enhance the tax base by increasing the County's fiscal strength. The unique nature of the Economic Opportunity designation excludes uses which may conflict with or detract from the activities proposed.

### WATER-ORIENTED COMMERCIAL/INDUSTRIAL

This designation is intended to recognize and continue to provide opportunities for various types of activities oriented toward, and requiring access to, the water. These types of activities have historically been conducted in such areas as Waterview, Seaford, Dandy, and Dare, and their locational requirements often dictate that they be within or in close proximity to established residential neighborhoods or in areas with limited vehicular accessibility.

Land use standards should ensure that an appropriate range of compatible commercial/industrial activities are permitted and can operate successfully in such areas. Such land use standards should specifically address the circumstances in which various types of water-related uses may be integrated into established residential areas; or conversely, where residential development will be integrated into established commercial/industrial water-related areas.

### LIMITED INDUSTRIAL

This designation is intended to provide opportunities for a variety of industrial activities of low to moderate intensity. Industrial activities envisioned for this designation are those whose operations and/or characteristics will have relatively minimal impacts in terms of smoke, noise, vibration, or similar factors. Desirable features of areas encompassed by this designation would include utility availability, highway access, rail service, and favorable soil conditions.

### GENERAL INDUSTRIAL

This designation is intended to provide opportunities for a variety of industrial activities whose operations and characteristics may necessarily involve significant levels of odor, noise, vibration, traffic and other conditions which may adversely impact surrounding land uses. Desirable features of areas encompassed by this designation would include full transportation access (highway, rail, water, air), available utilities, and favorable soil conditions.