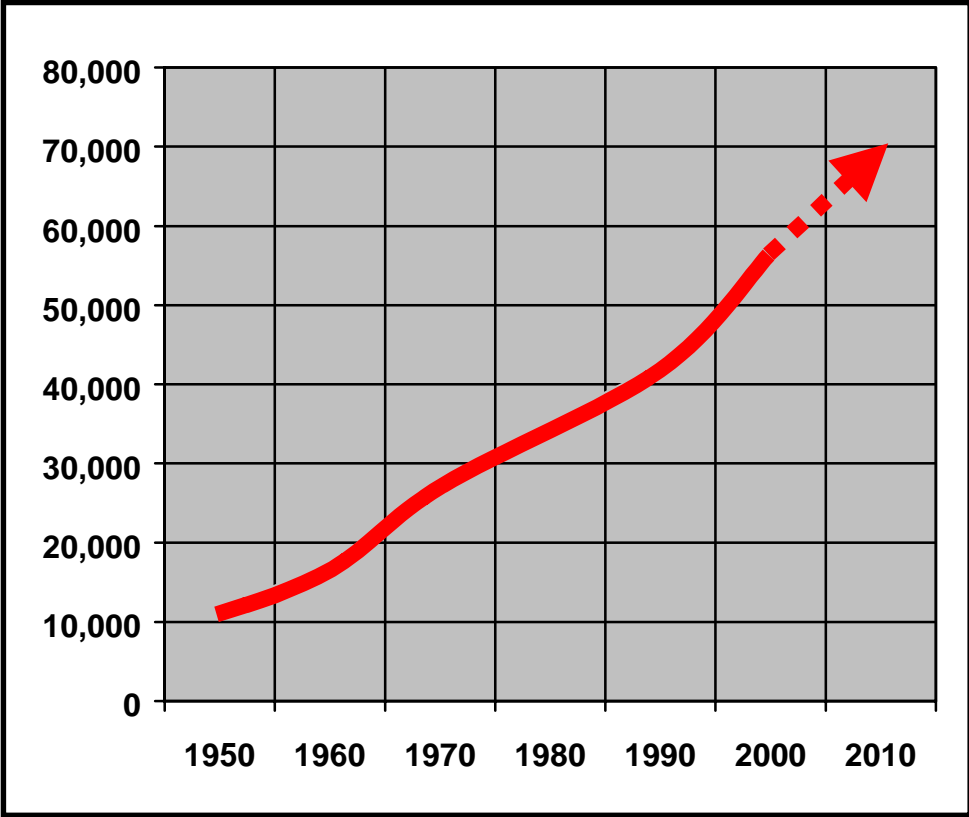


An Analysis of York County's Residential Growth Potential



Toward 80,000

York County Planning Division
September 20, 2002



EXECUTIVE SUMMARY

Since the adoption in 1991 of York County's Comprehensive Plan, the concept of a "maximum build-out population" has been a critical factor guiding planning and zoning decisions in the County. The maximum build-out population is an estimate of the total number of people who would be living in York County if all the residential land were developed at its highest allowable density. The Comprehensive Plan established 80,000 as the desirable maximum build-out population, and residential land use densities were established and applied to areas of the County with the intent of achieving this goal. The goal of an 80,000 build-out population was reaffirmed in the Comprehensive Plan update adopted by the Board in 1999. This study finds that the County appears to be on track toward meeting this goal, with an estimated maximum build-out figure of approximately 81,000 under almost any realistic development scenario.

Development of the County's geographic information system (GIS) has made it possible to perform more sophisticated build-out analysis than was possible in 1991. Using the GIS, staff conducted a build-out study in 1995 to determine if the proposed zoning districts as applied throughout the County would achieve the 80,000 build-out. The result of that study was that the County's housing stock could grow to an estimated 31,400 units under the proposed zoning ordinance and map (which were ultimately adopted by the Board of Supervisors) with an estimated 86,500 residents. This analysis and the one that preceded it were flawed in that they assumed that household sizes in the County would remain steady when, in fact, household sizes have been declining for decades and will likely decline further. In addition, both analyses failed to account for the fact that at any given point in time, a certain percentage of housing units in the County are unoccupied. As development occurs and the supply of vacant land in the County diminishes, the accuracy of this type of analysis improves, just as it is easier to predict tomorrow's weather than it is to predict the weather a month from now. Therefore, it is necessary every few years to update the analysis to incorporate the most current information and, if necessary, adjust the underlying assumptions accordingly. Seven years have passed – and over 3,500 homes have been built – since the last build-out study. Furthermore, the recent release of the 2000 Census results has provided more current information about household sizes than was previously available.

Based on the amount of vacant residentially zoned land in the County, it is estimated that under the existing zoning, a maximum of 12,200 additional housing units could potentially be built in York County, resulting in a total housing stock of approximately 34,100 units. If vacancy rates remain steady and the average household size continues to decline, leveling off eventually at 2.65 persons per household, and if the group quarters population increases from 627 to approximately 1,000, the County's maximum build-out population would be approximately 86,000 people.

This study intentionally uses conservative assumptions and methodologies in an effort to err on the side of *overstating* rather than *understating* the County's build-out potential. Though not literally a worst-case scenario, the estimated maximum build-out population of 86,000 truly is a maximum estimate under almost any plausible scenario. Under more realistic assumptions about environmental constraints and the amount of land in the County that will be subdivided, the likely build-out population would be approximately 81,000. The County should continue to monitor development and demographic trends to incorporate the latest information and assess the validity of the background assumptions. Accordingly, this type of build-out analysis should continue to be updated periodically to ensure that the County's population remains on track toward 80,000.

INTRODUCTION

Since the adoption in 1991 of Charting the Course to 2010: The County of York Comprehensive Plan, the concept of a “maximum build-out population” has been a critical factor guiding planning and zoning decisions in York County. The maximum build-out population represents an estimate of the total number of people who would be living in York County if all residential land in the County were developed at its maximum allowable density. The Comprehensive Plan established 80,000 as the desirable maximum build-out population, and residential land use densities were established and applied to areas of the County with the intent of achieving this goal. (The County’s 1983 Land Use Plan would have yielded a maximum build-out population of 135,000.) Based on the analysis that was done at the time, it was estimated that the land use densities would yield a maximum of 27,790 potential housing units housing an estimated 79,944 people (based on an average household size of 2.88 persons per household). The goal of an 80,000 build-out population was reaffirmed in the Comprehensive Plan update adopted by the Board in 1999.

Development of the County’s geographic information system (GIS) since the adoption of the 1991 comprehensive plan has greatly improved the quality of County land data, making it possible to perform more sophisticated build-out analysis than was possible in 1991. Using the GIS, staff conducted a build-out study in 1995 to determine if the proposed zoning districts as applied throughout the County would achieve the 80,000 build-out. The result of that study was that the County’s housing stock could grow to an estimated 31,400 units under the proposed zoning ordinance and map (which were ultimately adopted by the Board of Supervisors) with an estimated 86,500 residents. This analysis and the one that preceded it were flawed in that they assumed that household sizes in the County would remain steady when, in fact, household sizes have been declining for decades and will likely decline further. In addition, both analyses failed to account for the fact that at any given point in time, a certain percentage of housing units in the County are unoccupied.

As development occurs and the supply of vacant land in the County diminishes, the accuracy of this type of analysis improves. Therefore, it is necessary every few years to update the analysis to incorporate the most current information and, if necessary, adjust the underlying assumptions accordingly. Seven years have elapsed since the last build-out study; over 3,500 homes have been built, and the results of the 2000 Census have been released, providing much more current information about household sizes than was previously available.

What is the maximum build-out population of the County? This report seeks to answer that question using the best available data, but to do so requires that several other questions be answered first:

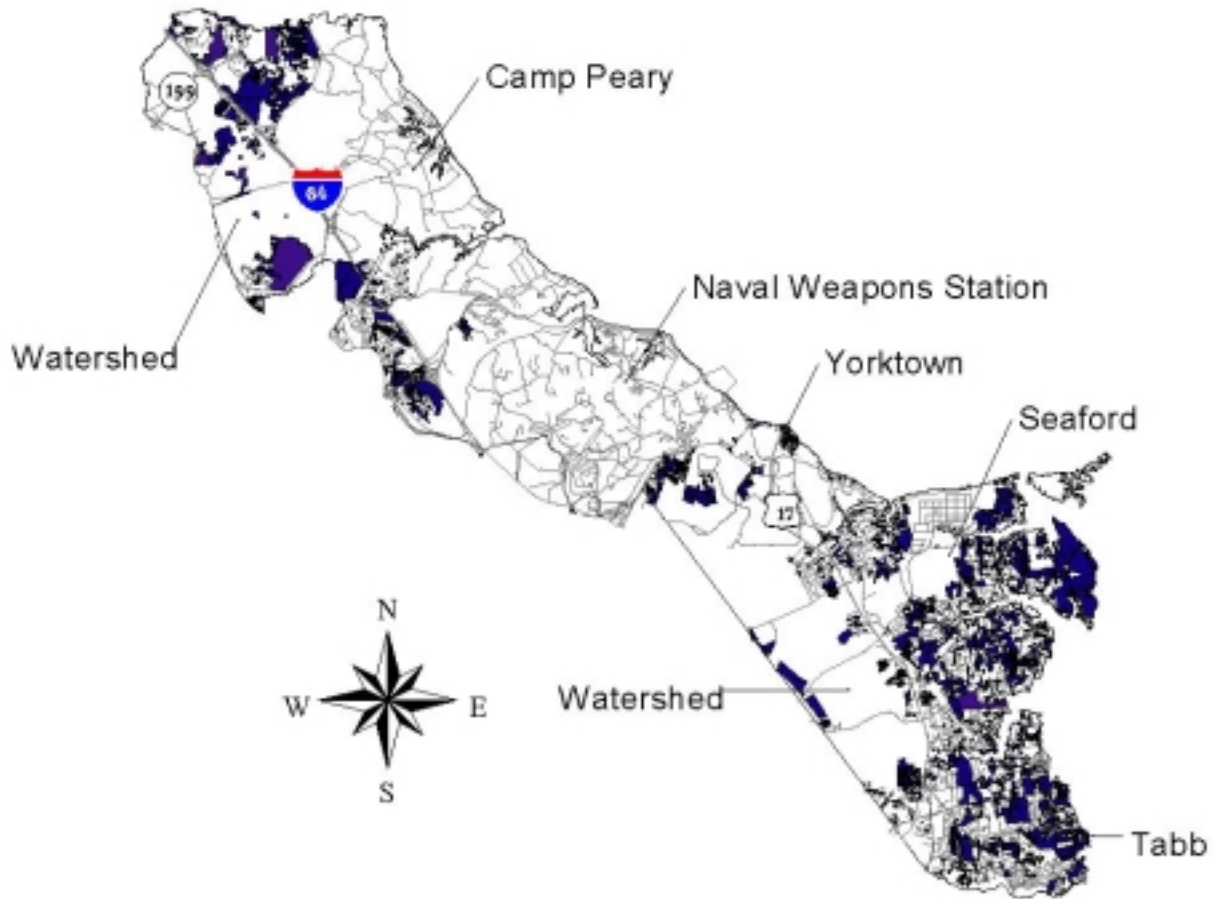
1. How much vacant land is left in the County?
2. How much land is in developed parcels that can be further subdivided?
3. How much land is likely to be redeveloped?
4. How much of it is zoned for residential development?
5. How much of it is not developable because of environmental or other constraints?
6. How many potential housing units are there in the County based on total land area, existing development, and current zoning?

DEVELOPABLE LAND

The first step in the analysis was to identify all developable residentially zoned parcels. This includes properties that either are undeveloped or can be further developed at a higher density than they are currently (i.e., subdivided). It also includes properties that could likely be redeveloped. These properties were then divided into five categories.

- **Category 1** consists of large parcels that can be subdivided for a major subdivision. Ten acres was selected as the minimum size based on the assumption that any subdivision of that size would involve the creation of new streets. For example, a ten-acre parcel could yield an estimated 25 residential lots under R13 zoning, 17 lots under R20 zoning, or eight lots under RR zoning. Ten acres also corresponds with the minimum area required for an open space (cluster) subdivision. There are a total of 171 such parcels in the County, ranging in size from ten to 271 acres; the average size is 27.8 acres.
- **Category 2** is made up of parcels that can be further subdivided but are not large enough for a major subdivision. Minor subdivisions typically do not involve the creation of a new street or the extension of an existing street and are below the minimum threshold for common open space to be provided (25 lots). Category 2 includes residentially zoned parcels that are at least twice the minimum lot size, based on current zoning, and less than ten acres. If the lot is developed with a structure(s) assessed at \$25,000 or more and can feasibly be subdivided, one lot was subtracted from the build-out total based on the assumption that the existing house will remain in place.
- **Category 3** includes relatively small parcels that cannot be subdivided and are undeveloped or, based on the value of the structure(s) located thereon, are likely to eventually be redeveloped. A threshold of \$25,000 was selected; in other words, the assumption is that a house with an assessed value at or below \$25,000 is likely to eventually be demolished and a new house built in its place.
- **Category 4** consists of parcels that are zoned RC (Resource Conservation), are under private ownership, and are at least five acres in area. Five acres is the minimum residential lot size in the RC district, which is the County's least intensive zoning district. Much of the RC-zoned property in the County is government land and is not likely to be developed under any realistic scenario. This includes the Yorktown Naval Weapons Station, Camp Peary, Cheatham Annex, the Colonial National Historical Park, the Newport News watershed property surrounding the Harwoods Mill and Lee Hall Reservoirs, Waller Mill Reservoir and the surrounding watershed property owned by the City of Williamsburg, and all County schools and parks. However, there are also approximately 35 privately owned properties scattered around the County that fall into this category by virtue of their environmental sensitivity (salt marshes, active and inactive private landfills) or institutional ownership (e.g., BP Amoco, Dominion Virginia Power).
- **Category 5** consists of undeveloped lots in approved planned developments. Although most of the major planned developments – such as Coventry and the Villages of Kiln Creek – are essentially built out, there are over 700 approved units yet to be built in various approved planned developments, including Willow Lakes, Rainbrook Villas, Williamsburg Bluffs, and Bruton Glen. In addition, a 96-unit

apartment complex within the Coventry planned development was approved by the Board of Supervisors in 1995 but has not yet been constructed. Another as yet undeveloped planned development is Colony Pines of York, approved by the Board of Supervisors in 1992.



The darkened areas on the map above indicate those areas of the County that have residential development potential. As the map shows, these areas are scattered all over the County

Once the amount of land in each category was determined, it was necessary to make certain adjustments. For example, many residential subdivisions in the County have relatively large residentially zoned parcels that are designated as “common area” for the residents of the subdivision. Most are undeveloped while others are used as the subdivision’s recreation area (clubhouse, swimming pool, etc.) Since these parcels cannot be subdivided or developed for housing, it was necessary to deduct them from the calculation of the amount of available land.

Deductions For Existing Development

Certain land areas are zoned for residential development but have non-residential development and are not likely to be developed as housing. These include various churches and campgrounds, as well as the following properties:

- Chisman Creek Park
- James-York Playhouse
- Jackson Darst farm¹
- Lafayette Gun Club
- Peninsula Hardwood Mulch
- Williamsburg Country Club
- Wolftrap Park

Deductions for Proposed Development

Where a residentially-zoned parcel or group of contiguous parcels has been proposed for some type of residential development – be it a subdivision, townhouse, duplex, or quadruplex development, or apartment complex – these parcels were deducted from the calculation of available land, and the number of proposed lots (or units) was added to the total number of potential units. These include any development for which a preliminary plan, development plan, or subdivision plat has been submitted, whether approved or not. It also includes planned developments approved by the Board of Supervisors. The preparation of site-specific plans by an engineer typically yields a fairly reliable estimate of the number of potential lots because it is usually based on field data obtained through a physical survey of the property. Furthermore, this is a conservative (i.e., worst case) approach since the number of proposed lots often decreases but rarely if ever increases as plans make their way through the development review process.

Deductions For Environmental and Other Constraints

Certain land areas, because of their environmental sensitivity and importance, should not be developed at all, and others may only be credited partially toward developable area. Section 24.1-203 of the Zoning Ordinance specifies those types of land that cannot be included in the computation of buildable area:

- Areas 4 feet and less above mean sea level
- Areas in excess of one-third acre of USEPA/Corps of Engineers jurisdictional non-tidal wetlands
- Naturally occurring pre-development slopes
- Areas of existing ponds, lakes, or other impounded water bodies
- Existing and proposed public or private utility easements greater than 20 feet in width

Location within a Chesapeake Bay Resource Protection Area (RPA) can also dramatically reduce a parcel's development potential. As defined in Section 24.1-372(f)(1) of the Zoning Ordinance, the RPA is comprised of lands at or near the shoreline that have an intrinsic water quality value because of the ecological and biological processes they perform or are sensitive to impacts that may result in significant degradation to the quality of state waters. These lands include tidal wetlands, certain nontidal wetlands, tidal shores, and other lands important to water quality. The RPA also includes a 100'-wide buffer area adjacent to these natural features.²

¹ Zoned Rural Residential but protected by a permanent conservation easement

² Southeastern Virginia Planning District Commission, Environmental Reviews (March 1990 Special Edition).

Steep slopes are often a problem in the upper County, whereas in the lower County development is more commonly constrained by the presence of wetlands, Chesapeake Bay Preservation Areas, and the fact that much of the land is in low-lying areas.

The table below presents the calculations of developable area for a sample of subdivision proposals that have recently been submitted to the County for review. Clearly the percentage of undevelopable land on any given parcel varies widely, not just from area to area but from parcel to parcel throughout the County, ranging in this sample of proposed subdivisions from 9.4% to 43.6%. The cumulative percentage of undevelopable land for this sample is 22.6%. It is particularly interesting to note that the two extremes in the above sample are located on the same road within approximately 1,100 feet of each other.

Calculation of Developable Area for Selected Subdivision Proposals

Name	Location	Total Acres	Net Developable Area (Acres)	Net Developable Area (Percent)
Colony Pines Sec. 1	Denbigh Blvd	80.5	69.2	86.0%
Creskide Landing	W. Queens Dr	204.8	159.3	77.8%
Marshall's Bluff	Fenton Mill Rd	114.8	90.4	78.7%
Overlook Point	Mansion Rd	56.7	32.0	56.4%
Wythe Creek Woods	Mansion Rd	21.2	19.2	90.6%

Table 1

Based on this sample of current development projects and the wide variation it indicates, staff concluded that it would be impractical to develop a reliable, across-the-board figure to use for environmentally constrained land. Instead, staff took a conservative approach, evaluating large areas of contiguous acreage, reviewing the National Wetlands Inventory and Chesapeake Bay Preservation Area maps, comparing them to developed areas (or recent development proposals) that are nearby and/or have similar constraints. No attempt was made to perform environmental deductions for smaller in-fill areas. In contrast, the calculation of otherwise developable land lost because of existing utility easements greater than 20 feet in width was a relatively simple matter because this information is included in the County's GIS system and these areas can be easily measured.

Although the Zoning Ordinance also provides for a 50% reduction in allowable density for areas required for dedication to eliminate substandard right-of-way, no attempt was made to estimate the amount of available residential land that might fall into this category. Without specific plans showing how the property will be subdivided, there is no way to realistically predict which roads would require additional right-of-way to be dedicated by the developer.

Deductions For Streets and Common Areas

Once the amount of developable acreage was determined, further deductions had to be made to account for the amount of acreage that would be dedicated to streets and recreation space in the event that the land was subdivided. The reduction factors, shown below, are set forth in Section 24.1-402(b) of the Zoning Ordinance and are based on the zoning district in which the land is located.

<u>Zoning District</u>	<u>Reduction Factor</u>
• RC	87.5%
• RR	85.0%
• R20	82.5%
• R13	80.0%

These reduction factors were applied only to parcels in Categories 1 and 2 based on the assumption that most subdivisions that encompass 10 acres or more would likely involve both the construction of streets and the dedication of land for recreational use. Category 2 was included even though the parcels are less than 10 acres in size and in most cases are not large enough by themselves for a 25-lot subdivision that would trigger the requirement for common area. Most of these parcels tend to be grouped in clusters around the County where the combined acreage is at least 10 acres. Therefore, the most likely development scenario is that such parcels will be combined with other adjacent parcels and resubdivided to yield the maximum allowable number of lots.

After these deductions were made, the total aggregate developable acreage within each zoning district was divided by the minimum lot size for the zoning district to determine the maximum number of lots that would be permitted. Each planned development is unique, so the PD (Planned Development) zoning district does not have a minimum lot size. Consequently, the number of future PD lots for each planned development was calculated separately by subtracting the number of units built from the approved number of units. The results are shown in Table 2.

<u>Zoning District</u>	<u>Minimum Lot Size³</u>
• RC	5 acres
• RR	1 acre
• R20	20,000 square feet
• R13	13,500 square feet

A separate calculation was performed for parcels that are zoned RMF (Residential Multi-Family) for apartments, duplexes, townhouses, and quadruplexes. There are only a few such areas of the County where future development is possible. There is no minimum lot size for apartments, of course, and the minimum lot size for multiplex housing in a subdivision is 1,800 square feet. However, such housing is often located in condominium developments (such as Burnt Bridge Run, Eagle Sound, Rainbrook Villas, and portions of Williamsburg Commons and Yorkshire Downs) where there are no individual lots and the land is owned in common by all the residents. This means that there are many large, RMF-zoned parcels in the County that technically are undeveloped but in actuality have no potential for future development. For these reasons, the future unit potential for RMF parcels was calculated separately and added to the grand total that appears in Table 2. This resulted in the addition of an estimated 761 units.⁴

³ Except in the RC zoning district, these minimum lot size apply only where public water and sewer are available. The minimum lot size is 1.0 acre where only public sewer is available, 1.5 acres where only public water is available, and 2.0 acres where neither public water nor sewer is available.

⁴ This calculation includes the proposed 216-unit Claremont Apartment complex, the approved 96-unit apartment complex in the Coventry planned development, and approved lots in Callahan Village, the

Calculation of Potential Housing Units

Category of Developable Land	Zoning District	Net Residential Development Potential	
		Land (Acres)	Housing Units
Category 1: Parcels that are 10 acres or more in area	R13	168	706
	R20	681	1,598
	RR	2,579	2,351
	Total	3,428	4,655
Category 2: Parcels that are at least twice the minimum lot size (up to 10 acres)	R13	658	1,468
	R20	1,065	1,669
	RR	2,921	1,668
	Total	4,644	4,805
Category 3: Parcels that are less than twice the minimum lot size and have an improved value below \$25,000	R13	47	340
	R20	71	219
	RR	390	705
	Total	509	1,264
Category 4: Privately owned RC parcels that are at least 5 acres in area	RC	951	35
Category 5: Parcels within approved Planned Developments	PD	431	709
Land designated for multi-family residential development	RMF	NA	761
TOTAL			12,229
Notes			
R13:	Minimum lot size is 13,500 square feet (with public utilities)		
R20:	Minimum lot size is 20,000 square feet (with public utilities)		
RR:	Minimum lot size is one acre, or 43,560 square feet (with public utilities)		
RC:	Minimum lot size is five acres		

Table 2

Gables of York, and Williamsburg Commons that were undeveloped when this study was conducted. For calculating the unit potential of the remaining developable RMF acreage, a density of 8.5 units per acre was assumed.

VACANCY

One weakness of previous build-out studies is that they failed to account for the fact that at any given point in time there is a certain percentage of the housing stock that is vacant. This may reflect a “worst-case” scenario, but it is a scenario that has no plausibility and should be excluded from the realm of realistic consideration.

The only reliable vacancy data for York County comes from the decennial census. It is only a “snapshot in time” and reflects the housing market that is in place for a very short period once every ten years. Still, it is the only data available. Comparative vacancy data for the Peninsula localities, metropolitan area, state, and nation are shown in Table 3.

Comparative 2000 Vacancy Rates, Selected Jurisdictions

Jurisdiction	Percent of Vacant Units	Homeowner Vacancy Rate	Rental Vacancy Rate
Hampton	6.0%	2.0%	5.6%
James City County	8.5%	2.3%	11.2%
Newport News	6.0%	1.9%	6.2%
Poquoson	3.1%	1.0%	2.4%
Williamsburg	6.7%	2.1%	3.9%
York County	3.4%	1.3%	2.7%
Norfolk-Va. Beach-Newport News MSA	6.7%	1.9%	5.6%
Commonwealth of Virginia	7.1%	1.5%	5.2%
United States	9.0%	1.7%	6.8%

Source: U.S. Census Bureau

Table 3

Vacancy rates for both rental and homeowner housing in York County are lower than in most surrounding localities. According to the 2000 Census, 3.4% of York County’s housing stock was vacant. This was the seventh lowest among Virginia’s 135 counties and cities and second lowest (behind Poquoson) in the Hampton Roads region.

By national, state, and regional standards, vacancy rates in York County were quite low in 2000. In 1990, 810 (5.3%) of the County’s 15,284 housing units were vacant, In 2000, the size of the housing stock had grown by almost 5,000 units to 20,701, yet the number of vacant units actually declined to 701 (3.4%). The percentage of vacant units declined across the Peninsula, except for Poquoson, where it was the same in 2000 as in 1990.

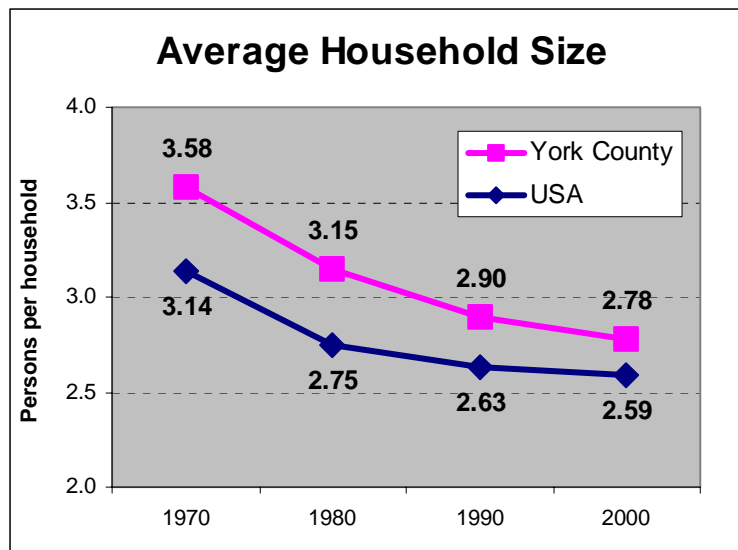
Housing vacancy has followed no clear trend in the United States since 1960. In general, vacancy rates are higher in the south than in the Northeast, Midwest, and West. They are also lower in suburban areas (such as York County) than in central cities.⁵ For these reasons, this build-out analysis assumes that vacancy will not drop below its current level of 3.4% of the County’s housing stock. Accordingly, the future housing unit total was multiplied by 0.966 to generate the future occupied housing unit total.

⁵ U. S. Census Bureau, Housing Vacancy Survey (published annually)

HOUSEHOLD SIZE

Population is a function of the number of housing units, the average household size, and the vacancy rate. The 80,000 build-out population has been so much the centerpiece of planning and zoning policy that it has become ingrained in the minds of the citizens, staff, developers, and policy makers alike, but in fact a local government cannot directly affect the size of its population through zoning. It can, however, influence the number of housing units. The average household size can have a dramatic effect on the total population. For example, all other things being equal, if household sizes had not changed from 1990 to 2000, the 2000 population would have been higher than it was by 2,330 people.

There is, of course, no way to know what the average household size will be in ten, twenty, or thirty years as the County approaches residential build-out. However, past trends can give us a clue. As shown in the graph, the average household size has been on the decline for decades in York County, as it has been nationwide. Divorce rates (which increased from 2.6 divorces per 1,000 population in 1950 to 5.3 in 1980), the increasing role of women in the workplace, and the growing prevalence of unmarried couples are among the many societal factors that have contributed to this trend. Indicative of the changing household types in today's society is that for the 2000 Census the Census Bureau created a new category in the household relationship statistics – “unmarried partner.” Whatever the causes, the demographic reality is that people are less likely to be married than was the case fifty, thirty, and even ten years ago, and are likely to have fewer children than their parents did.



This decline in household sizes was taken into account in 1996 when the County updated its long-range population projections. However, the 2000 Census data has revealed that household sizes have fallen at a higher rate since 1990 than was assumed; the projections assumed that the average household size would fall to 2.80 by 2000 and to 2.78 by 2005. In fact, the Census revealed that York County had 2.78 persons per household in 2000, five years earlier than had been assumed.

This decline in household sizes was taken into account in 1996 when the County updated its long-range population projections. However, the 2000 Census data has revealed that household sizes have fallen at a higher rate since 1990 than was assumed; the projections assumed that the average household size would fall to 2.80 by 2000 and to 2.78 by 2005. In fact, the Census revealed that York County had 2.78 persons per household in 2000, five years earlier than had been assumed.

For the purposes of this study, it has been assumed that as York County approaches residential build-out, the average household size will stabilize at approximately 2.65 persons per household. This is based on the fact that the average household size appears to be leveling off (see Figure 1). Each successive decade brings a smaller (both numeric and percentage) decrease in the average household size. The trend, both nationally and in the County, clearly is toward greater stability. The figure 2.65 was derived by extrapolating from the 30-year curve depicted in the chart above.

The projected average household size of 2.65 persons per household was then applied to the housing unit total. This is important because previous build-out studies have simply added the estimated population growth to the current population, failing to account for the fact that the ongoing decline in the County's average household size applies to the County as a whole and not just to households moving into newly built housing units.

GROUP QUARTERS POPULATION

Multiplying the estimated number of occupied housing units by the average household size yields the estimated maximum household population of the County at full build-out. However, some people live not in households but in group quarters such as military quarters, nursing homes, college dormitories, and correctional institutions. In York County, the size of the group quarters population increased during the past decade but has declined considerably since 1970 largely because of military cutbacks. In addition, the County joined with James City County and the Cities of Williamsburg and Poquoson to build and operate the Virginia Peninsula Regional Jail, which is located in James City County. The York Jail has subsequently closed and been demolished.

York County Group Quarters Population, 1970-2000

	1970	1980	1990	2000
Correctional institutions	22	27	33	0
Nursing homes	0	0	114	118
Military Quarters	1,317	1,166	359	372
Other	0	0	4	137
Total	1,339	1,193	510	627

Table 4

Although the County's group quarters population is less than half what it was thirty years ago, it has increased by 22.9% in the last ten years. Further increases are likely in the years ahead as life expectancy increases and the senior population continues to grow, generating demand for more nursing homes and similar types of housing. The oldest members of the "baby boom" generation will turn 65 in 2011, signaling the beginning of a trend that will swell the ranks of the senior population through 2030. Statewide, the number of people age 65 and over is projected to grow from 11.2% of the population in 2000 to 17.9% by 2025. Nursing home residents represent a relatively small proportion of the over 65 age group (2.3% in 2000), but if this proportion remains steady it could mean almost a doubling in the nursing home population to 330 residents.

The size of the military quarters population is subject to political shifts, economic booms and busts, and national and international events and, therefore, is extremely unpredictable. The long-term trend in York County has been downward, dropping by over 700% from 1970 through 1990 and increasing very slightly (3.6%) from 1990 to 2000. Even less predictable is the "other" category, which increased in population from 4 in 1990 to 137 in 2000 (3,325%).

Based on these trends, this study assumes that the group quarters population will grow to approximately 1,000 residents as the County approaches build-out.

RESULTS

Based on the methodology and assumptions described in this report, it is estimated that under the existing zoning, a maximum of 12,200 additional housing units – including single-family detached homes, townhouses, multiplexes, and apartments – could potentially be built in York County. Adding these potential future units to the existing housing stock of approximately 21,900 units yields a maximum build-out of approximately 34,100 units housing a total of approximately 86,000 people.

CONCLUSION

As of February 1, 2002, there were approximately 12,500 residentially zoned acres of land in the County that either were undeveloped or were developed but large enough to be redeveloped at a higher housing density. Approximately 1,070 acres of this land is not likely, for various reasons, to be developed (or redeveloped) residentially. Almost 880 acres are within active or proposed housing developments for which the number of lots or units has already been calculated by the developer. At least another 1,450 acres is estimated to be non-buildable because of environmental constraints or utility easements. If the remaining 9,100 acres were developed at their maximum allowable density under the existing zoning, they, combined with the 880 acres of undeveloped land in approved or proposed housing developments, would yield an estimated 12,200 housing units, bringing the County's total housing stock to approximately 34,100 units. The population growth accompanying this housing growth would increase the County's total population to approximately 86,000.

It is important to emphasize that this is a *maximum* build-out scenario and not the *likely* build-out scenario. It assumes that every single parcel of residential land in the County that *can* be built on *will* be built on. Moreover, it assumes that each parcel will be developed to the maximum extent allowed under the existing zoning. This means that almost nobody would live on a two-acre lot except for those who live in subdivisions – such as Old Quaker Estates, Skimino Hills, and Skimino Landing Estates – that were developed without public utilities. There are currently approximately 1,200 homes located on parcels that are at least twice the minimum lot size for the zoning district in which they are located; under the maximum build-out scenario, *all* of these parcels would be subdivided and all of the subdivided lots developed.

It is also important to emphasize that the amount of land estimated, for the purposes of this study, to be undevelopable is relatively low, constituting only about 12% of the total amount of residential acreage available for development or redevelopment. In comparison with recent subdivision plan submissions, the correct figure may be twice as high. For the five subdivision plans listed in Table 1 on page 6, the cumulative percentage of undevelopable land was 22.6%. If 22.6% is substituted for the 1,450-acre estimate of undevelopable land, the build-out estimate drops to 83,600, and it is possible that the true undevelopable proportion could be even higher than 22.6%. As stated in the Environment element of the 1991 Comprehensive Plan, “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.” Many of these sites were passed over because environmental and other constraints made them difficult – and costly – to develop. It is likely that as the supply of land continues to diminish, that which is left will be increasingly encumbered by environmental and other constraints that will reduce the allowable lot yields.

Every effort has been made in this study to use conservative assumptions and methodologies; that is, to err on the side of *overstating* rather than *understating* the County's build-out potential. Though not literally a worst-case scenario (Imagine, for example, if Camp Peary were to be transferred to private ownership.), the estimated maximum build-out population of 86,000 is truly a maximum under almost any plausible scenario. A more likely scenario is that at least 20% to 25% of the available residential land will not be developable and that at least some County residents will live on oversized lots simply because they want to. Slight changes in the background assumptions can have a significant effect on the build-out population. For example, if just one-third of the acreage in oversized lots were to remain unsubdivided, and if 20% of the available land were found to be non-buildable, the estimated build-out population would drop to 80,800.

In actuality, York County probably will never be *completely* built out, at least in the foreseeable future; there will always be *some* undeveloped residential land. If housing construction continues at current rates, build-out – or something close to it – is at least 15 to 20 years away.⁶ It is probably further away than that since residential growth (in terms of the number of new homes built per year) will likely slow down, as it did during the late 1990s, as the supply of land diminishes. The County should continue to monitor both residential development trends and demographic trends to see if household sizes and environmental deductions follow their projected path. A difference of just 0.01 person per household – or 1% in the percentage of land lost to environmental constraints – can alter the build-out population by over 300 people. Therefore, it is important that build-out studies such as this be updated periodically to incorporate the latest information and, if necessary, to revise the underlying assumptions of the analysis. This will help present and future policy makers make the planning and development decisions necessary to ensure that the County's population remains on track toward 80,000.

⁶ The annual number of new homes built in the County averaged 541 from 1997 through 2001.