

TOWARD 80,000: AN UPDATED ANALYSIS OF YORK COUNTY'S RESIDENTIAL GROWTH POTENTIAL

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EXECUTIVE SUMMARY

Since the adoption of York County's Comprehensive Plan in 1991, the concept of a "maximum build-out population" has been a major 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 subsequent Comprehensive Plan updates adopted by the Board in 1999 and 2005. This study finds that the County appears to be on track toward this goal, with an estimated maximum build-out figure of approximately 82,000 under almost any realistic development scenario.

Based on the amount of vacant residentially zoned land in the County, it is estimated that under the existing zoning, a **maximum** of 10,400 additional housing units could potentially be built in York County, resulting in a total housing stock of approximately 35,400 units. If vacancy rates remain around 5% and the average household size continues to decline, leveling off eventually at 2.6 persons per household, and if the group quarters population increases from 648 to approximately 1,500, the County's maximum build-out population would be approximately 89,000 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 89,000 truly is a maximum estimate. 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 82,000. 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.

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 major 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 the 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. (By comparison, 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 updates adopted by the Board in 1999 and 2005.

Development of the County's geographic information system (GIS) since the adoption of the 1991 Plan has greatly improved the quality of land data, making it possible to perform more sophisticated build-out analyses than was possible in 1991. As part of the comprehensive update of the Zoning Ordinance and Zoning Map that followed the adoption of the 1991 Comprehensive Plan, staff used the GIS to conduct 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.

Another build-out study was conducted in 2002, which, unlike the previous analyses, accounted for vacant units and the declining average household size. That study concluded that under the zoning in place at the time, 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. Based on the prevailing vacancy rate at the time, an assumed average household size of 2.65 persons per household, and an assumed group quarters population increase of approximately 1,000 residents, the study calculated the maximum build-out population at approximately 86,000 people. The 2002 study further noted that the analysis intentionally used conservative assumptions and methodologies in an effort to err on the side of overstating rather than understating the County's build-out potential. The study concluded that under more realistic assumptions about environmental constraints and the amount of land in the County that would be subdivided, the likely build-out population would be approximately 81,000.

Ten years have passed since the last build-out study was conducted. In that period, around 3,300 homes have been built and the results of the 2010 Census have been released, providing much more current information about household sizes, vacancy, and group quarters population than was previously available. In addition, there was a boundary line adjustment between the County and the adjacent City of Newport News that had the effect of transferring land on which a future housing development had been approved from the County to the City. This loss of potential future units, however, was more than offset by the number of future units added as a result of several residential rezonings that have been approved by the Board of Supervisors since 2002.

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

1. How much vacant, residentially zoned land is left in the County?
2. How much residential land is in developed parcels that can be further subdivided?
3. How much residential land is likely to be redeveloped?
4. How much of the land available for residential development or redevelopment is, in fact, not developable because of environmental or other constraints?

These questions lead to the fundamental question of this analysis: 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 divided into six categories:

- **Category 1** consists of large parcels (ten acres or more) that can be subdivided for a major subdivision. There are a total of 119 such parcels in the County, ranging in size from 10 to 274 acres; the average size is 25.6 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 usually 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 even if the property is subdivided for development.
- **Category 3** includes relatively small parcels that cannot be subdivided and are undeveloped or, based on the value of the existing structure(s), are likely to be redeveloped. A threshold of \$25,000 was selected based on the assumption that a house with an assessed value at or below \$25,000 is likely to eventually be demolished and have 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-owned 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 28 privately owned properties in the County – most of them in the Seaford/York Point/Bay Tree Beach area – that fall into this category by virtue of their environmental sensitivity (salt marshes, active and inactive private landfills).
- **Category 5** consists of undeveloped lots or units in approved planned developments. These include Commonwealth Green, Nelson's Grant, The Reserve at Williamsburg, South Park, Sunset Meadows, Washington Ridge, and Yorktown Crescent, which have a combined total of 1,300 approved future units.
- **Category 6** consists of undeveloped land that is zoned RMF (Residential Multi-Family) and is available for development. A total of 27 acres fall into this category.

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 are not likely to be developed as housing. These include churches, campgrounds, properties that are protected from development by conservation easements, and such properties as Chisman Creek and Wolf Trap Parks on Wolf Trap Road (owned by Dominion Virginia Power), the James-York Playhouse on Hubbard Lane, the Lafayette Gun Club on Dare Road, and the Williamsburg Country Club on Merrimac Trail.

Deductions for Proposed Development

Where a residentially-zoned parcel or group of parcels has been proposed for some type of residential development, these parcels were deducted from the calculation of available land, and the number of proposed lots or units (1,176) 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.

Deductions For Environmental and Other Constraints

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

- Areas 4 feet or 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 of 20% or greater
- 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 23.2-2 of the Chesapeake Bay Preservation Areas Ordinance, the RPA is “comprised of tidal wetlands; non-tidal wetlands connected by surface flow and contiguous to tidal wetlands or water bodies with perennial flow; tidal shores; and a vegetated buffer not less than 100-feet in width located adjacent to and landward of the components listed above and along both sides of any water body with perennial flow. These lands have an intrinsic water quality value due to the ecological and biological processes they perform or are sensitive to impacts, which may result in significant degradation to the quality of state waters.”

In estimating the amount of undevelopable land, staff once again followed a conservative approach, including only those properties whose development potential is clearly limited by environmental constraints or the presence of utility easements. While the GIS is a valuable tool in this exercise, it is not practical for identifying steep slopes, which would require an extremely time-consuming series of calculations. Complete and accurate wetlands information also is not readily available for every parcel. The National Wetlands Inventory includes hundreds of acres of vacant, residentially zoned land in the County, but unless a physical wetlands delineation has been conducted for a specific piece of property, there is no way to know for certain if it actually has wetlands. For these reasons, no areas with severe slopes have been deducted, and wetland areas have been deducted only for those properties where the presence of wetlands has been documented.

The Zoning Ordinance also provides for a 50% reduction in allowable density for areas required for dedication to eliminate substandard right-of-way, but no attempt was made to estimate the amount of available residential land that might fall into this category. Without specific plans showing how a property would 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 were made to account for the 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 since most of these parcels tend to be grouped in clusters around the County where the combined acreage is at least 10 acres such that 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. To this was added the number of future PD lots (or units) in all of the approved Planned Developments. The results are shown in Table 2.

<u>Zoning District</u>	<u>Minimum Lot Size¹</u>
• RC	5 acres
• RR	1 acre
• R20	20,000 square feet
• R13	13,500 square feet

The future unit potential for RMF-zoned parcels was calculated by multiplying the total vacant acreage available for development by the maximum allowable density of 10 units per acre in RMF). The result is included in the grand total that appears in Table 2.

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	31	81
	R20	191	343
	RR	1,984	1,687
	Total	2,207	2,111
Category 2: Parcels that are at least twice the minimum lot size (up to 10 acres)	R13	413	912
	R20	925	1,358
	RR	2,987	1,915
	Total	4,325	4,185
Category 3: Parcels that are less than twice the minimum lot size and have an improved value below \$25,000	R13	58	219
	R20	89	160
	RR	648	830
	RC	54	64
	Total	795	1,273
Category 4: Privately owned RC parcels that are at least 5 acres in area	RC	435	68
Category 5: Parcels within approved Planned Developments	PD	194	1,300
Privately owned vacant parcels in Yorktown	YVA	5	25
Land designated for multi-family residential development	RMF	27	270
TOTAL			9,232
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.			
YVA: No minimum lot size.			
RMF: Maximum density is ten (10) units per acre.			

Table 2

¹ Except in the RC zoning district, these minimum lot sizes 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.

VACANCY

At any point in time, a certain percentage of housing units are going to be vacant, and these vacant units must be accounted for in the build-out analysis. The total number of vacant housing units includes units that are for sale or rent, units that have been sold or rented but not yet occupied, and “other” vacant units.² The vacancy rate fluctuates with the housing market and thus has not followed any clear trend: in York County, the overall vacancy rate was 4.1% in 1980, 5.3% in 1990, 3.4% in 2000, and 5.8% in 2010. This build-out analysis is based on an assumed vacancy rate of 5%, which appears reasonable based on historical data.

HOUSEHOLD SIZE

Population is a function of the number of housing units, the average household size, and the vacancy rate. The average household size can have a dramatic effect on the total population. There is no way to know what the average household size will be in ten, twenty, or thirty years as the County approaches residential build-out, but past trends can provide a clue. As shown in Figure 1, the average household size has been on the decline for decades in York County, as it has been nationwide. For a variety of social and demographic reasons – high divorce rates, falling marriage rates, falling birth rates – people are less likely to be married than was the case fifty, thirty, and even ten years ago, and they are likely to have fewer children than their parents did. While this trend is expected to continue, it could potentially be slowed or stalled as the population continues to age and more and more older parents move in with their children when they find they can no longer live independently.

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 2.6 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 decrease (both numeric and percentage) in the average household size. The trend, both nationally and in the County, is toward greater stability. The number 2.6 was derived by extrapolating from the 40-year curve depicted in the chart.

The assumed average household size of 2.6 persons per household was then multiplied by the total number of occupied housing units – both existing and future – to yield the total expected future household population if all residential land were developed at its maximum allowable density.

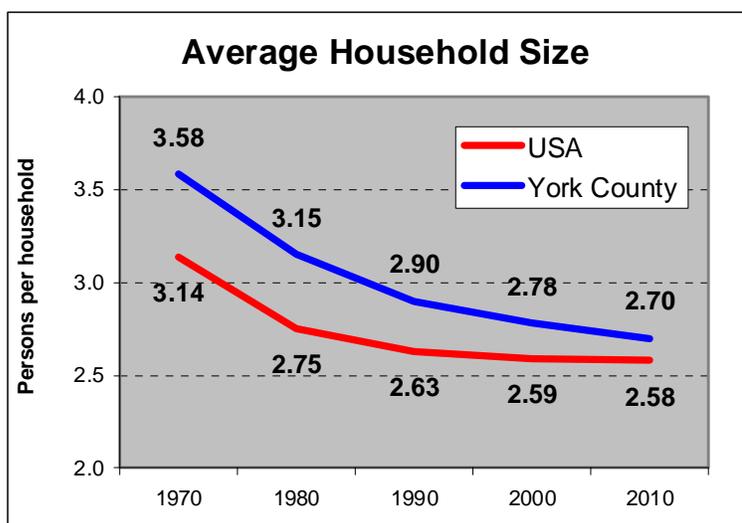


Figure 1

² Units held for occupancy by a caretaker or janitor and units held for personal reasons of the owner are two examples of “other vacant units” offered by the Census Bureau.

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 group quarters population is less than half what it was in 1980 but has been fairly stable for the past twenty years.

York County Group Quarters Population, 1970-2010					
Group Quarters Type	1970	1980	1990	2000	2010
Correctional institutions ³	22	27	33	0	0
Nursing homes/Skilled nursing facilities	0	0	114	118	114
Military Quarters	1,317	1,166	359	372	511
Other	0	0	4	137	23
Total	1,339	1,193	510	627	648
Source: U.S. Census Bureau					

Table 3

There are two nursing homes in the County; that has not changed in twenty years, and neither has the size of the nursing home population. Nevertheless, it is reasonable to assume that the growing senior population could generate demand for more skilled nursing facilities and/or nursing homes. The first members of the “baby boom” generation turned 65 in 2011, signaling the beginning of a trend that will swell the ranks of the senior population for decades to come.

The size of the military quarters population is subject to political shifts, economic conditions, and national and international events and thus has not been as stable as the nursing home population. Although the long-term trend in York County has been downward, the first decade of the twentieth century brought a 37% increase, and in 2011 the Marine Corps announced the planned phased consolidation of its Security Force Regiment at the Naval Weapons Station Yorktown, adding 825 Marines, sailors, and civilians, at least some of whom will live in group quarters on the base.

Based on these trends, this study assumes that the group quarters population will grow to approximately 1,500 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 10,400 additional housing units – including single-family detached homes, townhouses, multiplexes, and apartments (both rental and condominium) – can potentially be built in York County. Adding these potential future units to the existing housing stock of approximately 25,000 units yields a maximum build-out of approximately 35,400 units housing a total of approximately 89,000 people.

³ The York-Poquoson Jail in Yorktown closed between 1990 and 2000 with the opening of the Virginia Peninsula Regional Jail in James City County.

CONCLUSION

As of April 1, 2012, there were approximately 10,100 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 300 acres of this land is not likely, for various reasons, to be developed (or redeveloped) residentially. Almost 850 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 1,100 acres is estimated to be non-buildable because of environmental constraints or utility easements. If the remaining 7,900 acres were developed at their maximum allowable density under the existing zoning, they, combined with the 850 acres of undeveloped land in approved or proposed housing developments, would yield an estimated 10,400 housing units, bringing the County's total housing stock to approximately 35,400 units. The population growth accompanying this housing growth would increase the County's total population to approximately 89,000.

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 developed *will* be developed. 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 lot of two acres or more except for those who live in subdivisions – such as Old Quaker Estates, Skimino Hills, and Skimino Landing Estates – that were developed without public utilities or those who live on parcels zoned RC-Resource Conservation. There are currently approximately 1,100 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 about 12% of the total amount of the residential acreage available for development or redevelopment. As noted previously, this build-out study does not account for steep slopes, which are prevalent on much of the undeveloped land in the upper County, nor does it account for the full extent of wetlands in the County. As stated in 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 89,000 is truly a maximum under almost any plausible scenario. A more likely scenario is that at least 20% 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

81,700. Therefore, for the purposes of the 2012 build-out study, 82,000 is considered to be the most plausible estimate of the County's ultimate population.

In actuality, York County probably will never be completely built out; there will always be some undeveloped residential land. If housing construction were to continue at current rates, build-out – or something close to it – would be over 20 years away. It is probably further away than that since residential growth will likely slow down as the supply of developable land diminishes. Indeed, new home construction followed a downward trend during the first decade of the 21st Century, even before the housing slump and economic recession that began in 2008. It will be important to 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.