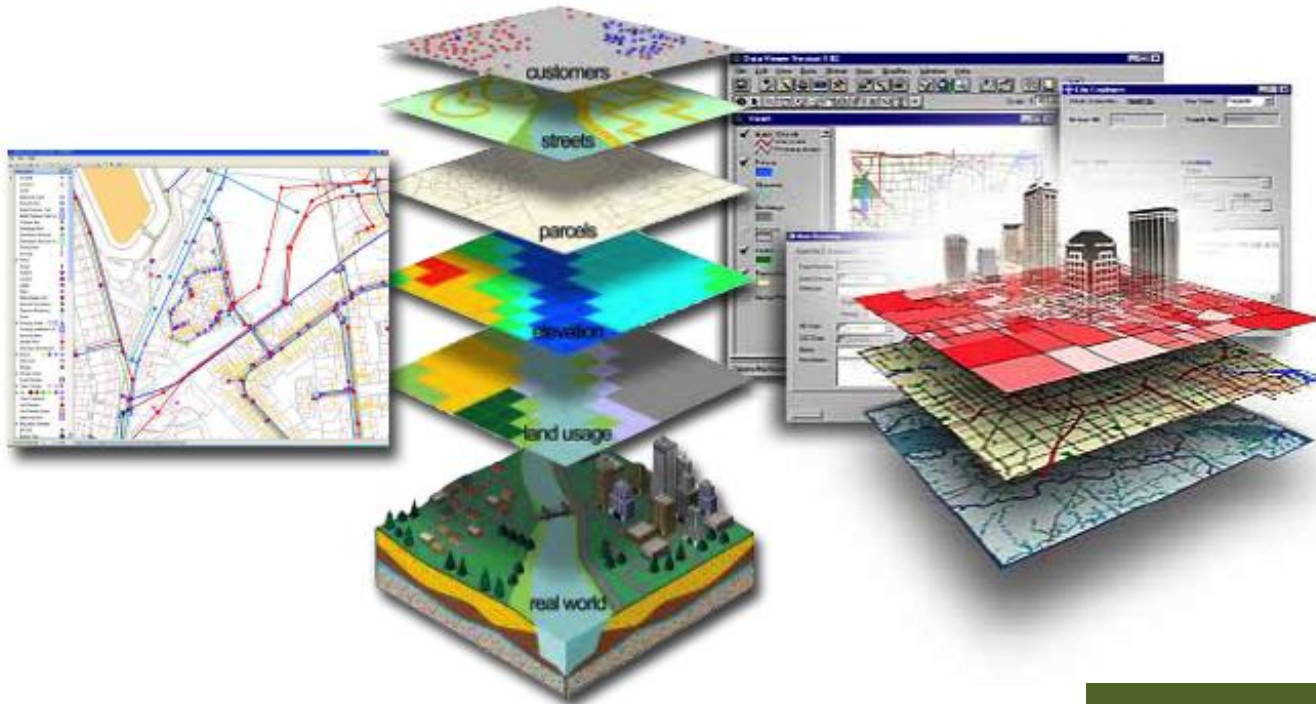


# Build-Out Analysis



Methodology



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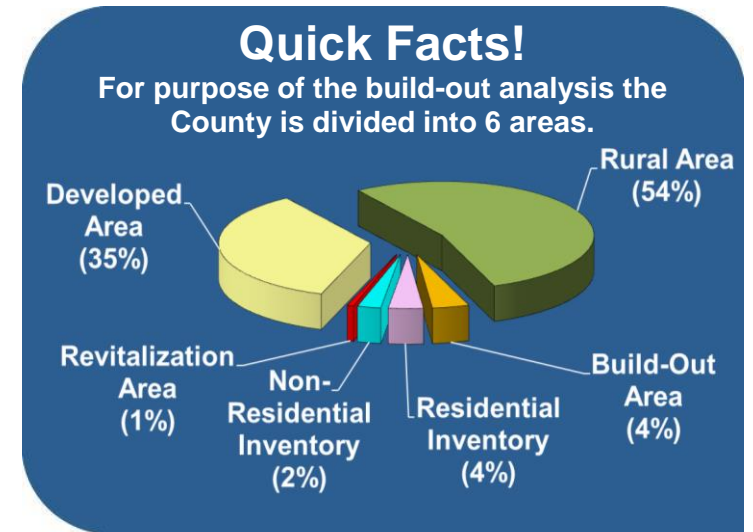
## Introduction

Build-Out Analysis is a projection of the maximum allowable future development within a locality. This analysis does not show the ideal or preferred conditions, but rather provides an assessment of the current zoning districts, long-range land use of undeveloped lots, and potential redevelopment areas within the County. The resulting charts, numeric data, and graphics depict how Prince William County is maturing and can be used to assess how well current regulations are implementing plan policies. The Build-Out Analysis results are also useful for comparing alternative development scenarios based on proposed changes to existing long-range land use designations.

The County's geographic information system (GIS) has been used to create layers and tables to monitor different types of development within the County at a parcel or project level. Using GIS, the Planning Office can track areas that are developed, developing, or undevelopable such as conserved or protected lands, publicly owned lands, parks, cemeteries, etc. These layers are compared against each other to determine remaining and future growth capacity.

This Build-Out Analysis is prepared annually by the Planning Office. Each update is based on occupancy permits, rezonings, special-use permits, and *Comprehensive Plan* amendments that have been issued or approved during the year. The data provided in this report shows the quantity of residential units built and an approximation of units yet to be built, commonly referred to as the "pipeline". Non-residential development is also analyzed in this report by the same factors. This report includes estimates of residential and non-residential capacity in "revitalization areas" where existing development density or intensity is significantly less than that permitted by existing zoning.

Supplemental sections provide information regarding parks, open space, and existing land use. Parks and protected open space acreage generally grows each year as land is acquired for parks, subdivisions designate open space areas, and conservation easements are recorded. Also included is the current land use in the County, reported by land use categories, and depicted on a map as well. The land use categories were developed in conjunction with the Watershed Management Division for watershed planning purposes and utilities assessment data to determine land use. Finally, a section with instructions on using the case number provided in the inventories to locate a project on County Mapper XM, the County's web-based Geographical Information System, is included.



# Introduction

## Component Areas

The six component areas of the Build-Out Analysis are the developed area, build-out area, residential inventory, non-residential inventory, revitalization areas, and the rural area. These areas do not include cities, towns, or large water bodies within the County. The geographic sizes and locations of these areas change as land development projects evolve. As land changes from being undeveloped to zoned and finally developed, it moves through these categories. Some older developed areas of the County are planned for redevelopment.

### Developed Area

The developed area contains both residential and non-residential projects that have reached completion with no additional land area available for development. Public facilities, parks, churches, cemeteries, and other similar features that may or may not be fully developed are assumed to be built to their full potential in this area.

### Build-Out Area

The build-out area is undeveloped A-1 zoned land that is not in the rural area. Some larger tracts of undeveloped R-4 and B-1 zoned lands designated in 1958 when zoning was established in the County and currently planned for a different use were also added. This analysis assumes that these “stale” zoning cases will be rezoned to a higher intensity use in accordance with the *Comprehensive Plan*. For calculating potential development, the *Comprehensive Plan*’s long-range land use designation was used. These designations offer a high and low range for residential development and a high and average range for non-residential development. An approximate mid-range was used for residential calculations and the average was used for non-residential calculations.

### Residential and Non-Residential Inventories

These areas contain projects that have rezoning approval by the Board of County Supervisors. The projects can be in any phase of development. Some projects may be in the middle of the construction process, some may just contain a pad site that is undeveloped, while others may be a complete project that has no development started. Both the residential and non-residential inventory areas are divided into rural and non-rural to create four separate areas for tracking purposes.

### Revitalization Areas

The revitalization areas are focused on three areas within the County identified for redevelopment. Woodbridge, Triangle, and Yorkshire are older commercial corridors that are not utilized to their full potential in their current zoning district or their long-range land use designation. For calculating potential development, the *Comprehensive Plan*’s long-range land use designation was used. These

## Introduction

designations offer a high and low range for residential development and a high and average range for non-residential development. An approximate mid-range was used for residential calculations and an averaged FAR was used for non-residential calculations.

### **Rural Area**

The rural area covers more than fifty percent of the County. This area contains large residential land tracts, parks, agricultural and forestal land, along with numerous small businesses. Manassas National Battlefield Park and Prince William Forest Park are in this area. These parks are included in the total acreage but not used for calculations as no development will occur in these areas. Marine Corps Base Quantico is also in the rural area and includes large-scale residential and non-residential uses but they are not included in the report as they are not subject to County zoning. The current long-range land use and A-1 zoning district of the rural area allows only potential residential calculations based on lot size. Non-residential uses are allowed within the rural area, but there is no process to determine future growth potential.

# Build-Out Analysis Methodology

## Development Area Methodology

### I. Development Area

#### A. Build-Out Area Methodology

This component identifies undeveloped areas for future development. For this analysis, undeveloped acreage was considered land zoned A-1 and located in the development area with little or no improvements. Non-residential gross floor area was calculated by the long-range land use designated acreage, multiplied by an average floor area ratio (FAR) (Table 1 – page 9) according to the intended land use type.

#### Assumptions Used to Calculate Yield for Undeveloped Acreage

1. Densities are calculated using a buildable factor of 75% for all designations except SRR, which uses a factor of 85% and includes ER within the same parcel. This factor accounts for public infrastructure, open space, environmental constraints, and roads within a development.
2. Residential capacity was calculated based on the density range provided for each land use category in the *Comprehensive Plan*.
3. Non-residential gross floor area was calculated based on average FARs or existing proffered amounts.
4. Residential capacity for CEC, RCC, REC, UMU, and VMU assumed that residential development would occur in 25% of the CEC, RCC, REC, and VMU areas, and one-third of the UMU areas.
5. Non-residential gross floor area for CEC, RCC, REC, UMU, and VMU assumed that non-residential development would occur in 75% of the CEC, RCC, REC, and VMU areas, and two-thirds of the UMU areas.

# Build-Out Analysis Methodology

## Methodology Used to Calculate Undeveloped Land

1. Acreage was determined for each land use category using the County's GIS. Lands already developed were then subtracted, as were lands zoned but not yet developed (residential and non-residential inventories). Government land not yet designated public land (PL), such as new schools or fire stations, was also subtracted. Navigable waterways were also removed from the undeveloped land areas as these are not subject to development.
2. Developed land was land not zoned for agricultural purposes or any A-1 zoned land shown as being subdivided into residential lots. Aerial photography was also used to review lots with major improvements. Lots with significant improvements that contained large multi-family unit clusters or other large permanent structures, such as churches, private schools, or utilities were also considered to be developed land.
3. The FARs reflected in Tables 1 and 2 (page 9) were created by comparing numerous existing commercial and industrial areas to determine the average floor area ratios that are actually built. The gross floor area provided does not offer a mid-range, but an average approximation of what might be built using current trends. State, county, municipal, and federal buildings were included in the non-residential gross floor area totals. Churches, transit, and utility companies were also included.
4. For calculating potential development, the *Comprehensive Plan's* long-range land use designation was used. These designations offer a high and low range for residential development and a high and average range for non-residential development. An approximate mid-range was used for residential calculations and the average was used for non-residential calculations.

## B. Residential Inventory Methodology

The residential inventory compares the zoning data layer in the GIS against the premise address layer in GIS. The zoning layer records permitted unit densities. Reported unit densities are the proffered amount, theoretical yield, or subdivision lot count total. The premise address layer is merged with Real Estate Assessments data to determine unit type and occupancy status. Cases are removed from the residential inventory as they are completed.



# Build-Out Analysis Methodology

## C. Non-Residential Inventory Methodology

The non-residential inventory was derived from the zoning layer in the GIS and the premise address layer through Real Estate Assessments. All cases that are either undeveloped or not yet completed are shown in the table. It does not distinguish between the type or purpose of the square footage to be built. Real Estate Assessments records the current total of built square feet per parcel. Recent unbuilt or partially built rezoning cases have a proffered amount of allowable gross floor area. When these totals were available, they were used. Older zoning cases were reviewed and an average FAR was applied to the acreage based on its zoning classification to calculate a potential yield. Table 2 (page 9) shows the average FARs that were used for these calculations. Cases are removed from the non-residential inventory as they are completed.

## D. Revitalization Areas Methodology

Three specific areas of the County were examined for potential revitalization. These are older areas of the County that have at their core one of the three redevelopment overlay districts (ROD). Two of the three areas are included in the Potomac Communities Revitalization Plan. The Woodbridge ROD connects the North Woodbridge and Neabsco Mills study areas and the Triangle ROD is encompassed by the Triangle study area. The third revitalization area is centered on the Yorkshire ROD. These areas contain parcels that may have a non-agricultural zoning designation and, therefore, they are not included in the Build-Out area (item A above). These areas are not included in the residential inventory. The majority of these RODs have not been utilized to their potential in their current zoning district or in accordance with their long-range land use classification. The same methodology that was used in the build-out area above was used to calculate the housing and non-residential development potential of these areas.

## E. Public Lands Methodology

Public lands are in the development area identified in the County's public land inventory or open space inventory. These areas include public facilities such as schools and fire stations, utilities, churches, and numerous parks or open space areas. These areas are not included in the build-out calculations. They are assumed to be built to their intended purpose and are not referenced in any charts or tables. Their existing non-residential square feet of gross floor area have been added into the existing total of the development area.

# Build-Out Analysis Methodology

## F. Developed Areas Methodology

This area contains lands in the development area designated for public use and any other lands not included in the above categories.

## II. Rural Area

### A. Residential Methodology

To determine the capacity for additional residential development in the rural area, all parcels zoned A-1 that were 20 deed acres or greater in size were assumed to have the potential to be developed in 10-acre lots. Parcels less than 20 deed acres, but more than 1 deed acre, were assumed to have the potential for one residential unit. Family subdivision of lots within the rural area allows for lots as small as one acre to be created, but this was not considered in these calculations. The rural area also contains Marine Corps Base Quantico, Prince William Forest Park, the Manassas National Battlefield Park, many churches, utilities, and numerous other park or open space areas that were not used in the calculations. These parcels were assumed to be built to their intended purpose. Large established businesses were also removed from the calculations.

### B. Non-Residential Methodology

This area also has the potential for non-residential gross floor area in the form of agricultural and non-residential uses, but this can only be determined on a site-by-site basis, so no projected non-residential uses were calculated. The existing non-residential square feet of gross floor area have been added into the existing total of the rural area.

# Non-Residential Inventory Floor Area Ratio Trends

Table 1

LRLU Districts and FAR Values		
Long-Range Land Use Designation	Allowable FAR	Average FAR (used for calculations)
CEC	0.5	0.2
CR	0.1	0.1
EI	0.5	0.25
FEC	0.5	0.25
GC	0.4	0.2
NC	0.3	0.15
O	0.7	0.3
RCC	0.4	0.2
REC	1.3	0.5
UMU	per plan	0.3
VMU	per plan	0.18

Table 2

Zoning Districts and FAR Values		
Zoning District Designation	Allowable FAR	Average FAR (used for calculations)
B-1	0.4	0.2
B-2	0.3	0.15
B-3	0.1	0.1
M-1	0.5	0.25
M-2	0.5	0.25
M/T	0.75	0.3
O(F)	0.5	0.3
O(H)	1.25	0.5
O(L)	0.35	0.2
O(M)	0.65	0.3
PBD	0.5	0.3
PMD	0.75	0.5
PMR	0.3	0.3
RPC	0.3	0.3

## List of Abbreviations

<b>A-1</b>	Agricultural zoning district	<b>M-1</b>	Heavy Industrial zoning district
<b>A-1C</b>	Agricultural Clustered zoning district	<b>M-2</b>	Light Industrial zoning district
<b>AE</b>	Agricultural or Estate long-range land use classification	<b>M/T</b>	Industrial/Transportation zoning district
<b>B-1</b>	General Business zoning district	<b>MCB</b>	Marine Corps Base
<b>B-2</b>	Neighborhood Business zoning district	<b>MF</b>	Multi-family dwelling
<b>B-3</b>	Convenience Retail zoning district	<b>MTN</b>	Mass Transit Node long-range land use classification
<b>BOCS</b>	Board of County Supervisors	<b>NC</b>	Neighborhood Commercial long-range land use classification
<b>CEC</b>	Community Employment Center long-range land use classification	<b>O</b>	Office long-range land use classification
<b>CR</b>	Convenience Retail long-range land use classification	<b>O(F)</b>	Office/Flex zoning district
<b>DU</b>	Dwelling units	<b>O(H)</b>	High-Rise Office zoning district
<b>EI</b>	Industrial Employment long-range land use classification	<b>O(L)</b>	Low-Rise Office zoning district
<b>ER</b>	Environmental Resource long-range land use classification	<b>O(M)</b>	Mid-Rise Office zoning district
<b>FAR</b>	Floor Area Ratio	<b>PBD</b>	Planned Business District zoning district
<b>FEC</b>	Flexible-Use Employment Center long-range land use classification	<b>PL</b>	Public Land long-range land use classification
<b>GC</b>	General Commercial long-range land use classification	<b>PMD</b>	Planned Mixed Use District zoning district
<b>GFA</b>	Gross Floor Area	<b>PMR</b>	Planned Mixed Residential zoning district
<b>GIS</b>	Geographic Information System	<b>PWC</b>	Prince William County
<b>HOA</b>	Homeowners Association	<b>R-2</b>	Suburban Residential zoning district
<b>LRLU</b>	Long-Range Land Use	<b>R-2C</b>	Suburban Residential Clustered zoning district

## List of Abbreviations

<b>R-4</b>	Suburban Residential zoning district	<b>SRL</b>	Suburban Residential Low long-range land use classification
<b>R-4C</b>	Suburban Residential Clustered zoning district	<b>SRM</b>	Suburban Residential Medium long-range land use classification
<b>R-6</b>	Suburban Residential zoning district	<b>SRR</b>	Semi-Rural Residential long-range land use classification
<b>R-16</b>	Suburban Residential High zoning district	<b>SUP</b>	Special Use Permit
<b>R-30</b>	Urban Residential zoning district	<b>TH</b>	Townhouse dwelling
<b>RCC</b>	Regional Commercial Center long-range land use classification	<b>UMU</b>	Urban Mixed-Use long-range land use classification
<b>REC</b>	Regional Employment Center long-range land use classification	<b>URH</b>	Urban Residential High long-range land use classification
<b>REZ</b>	Rezoning	<b>URL</b>	Urban Residential Low long-range land use classification
<b>ROD</b>	Redevelopment Overlay District	<b>URM</b>	Urban Residential Medium long-range land use classification
<b>RPC</b>	Residential Planned Community zoning district and long-range land use classification	<b>VMU</b>	Village Mixed-Use long-range land use classification
<b>SF</b>	Single-family detached dwelling or Square Feet	<b>VDOT</b>	Virginia Department of Transportation
<b>Sq Ft</b>	Square feet		
<b>SR-1</b>	Semi-Rural Residential zoning district		
<b>SR-1C</b>	Semi-Rural Residential Clustered zoning district		
<b>SR-3</b>	Semi-Rural Residential zoning district		
<b>SR-3C</b>	Semi-Rural Residential Clustered zoning district		
<b>SR-5</b>	Semi-Rural Residential zoning district		
<b>SR-5C</b>	Semi-Rural Residential Clustered zoning district		
<b>SRH</b>	Suburban Residential High long-range land use classification		

## Planning Office



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