CHAPTER 2

CHARLES COUNTY PROFILE AND DATA SUMMARY

2.1 BACKGROUND INFORMATION

Throughout most of its history, Charles County has been noted for its farmlands, waterways, shoreline, forests, and rural settlements. It has been characterized by its compact rural settlements interspersed throughout a landscape of farmlands, waterways, shoreline, and extensive undisturbed natural areas. Forests account for approximately 64 percent of county's land cover, attesting to this rural, environmental character.

The rapid growth of the past three decades, however, has brought great changes to the County and has also placed great development pressures against these assets for which the county has become known. These impediments to the quality of life have heightened the interest given to growth and development issues, both by the citizens and by the elected officials of Charles County. As a response to these concerns and in the face of increasing development pressure, the County's Comprehensive Plan, updated in 2006, delineates the County's goals and objectives in managing growth within the County's identified Development District, while at the same time maintaining the County's rural nature and quality of life.

One of the primary growth management tools is the planned growth of water and sewer services. This Comprehensive Water and Sewer Plan provides information and recommendations for those services. Prior to reviewing existing and future water and wastewater facilities and services within the County, a brief summary of the Charles County's history, setting, natural characteristics, and resources is presented, as well as an overview of the County's demographic characteristics. An understanding of these demographics will enable the County to plan for the provision of water and sewer services over the ten-year planning period.

2.1.1 Location and Setting

Charles County is located about 30 miles south of the Washington, D.C. metropolitan area. Over the years, Charles County has been able to maintain a diversified community with extensive waterfront, unique environmental resources, agriculture, woodlands, a rich historical heritage, and urbanized areas. Located on a peninsula between the Potomac and Patuxent Rivers in southern Maryland, the county is bounded by Prince George's County to the north and St. Mary's County to the southeast, as shown in Figure 2-1. Most of the land area in Charles County is drained by tributaries of the Potomac River, with land elevations ranging from 0 to 230 feet above sea level.

The local economy is strongly influenced by the Baltimore and Washington Highway corridors. Military installations, agriculture, and seafood harvesting industries contribute to the local economy. As the County continues to urbanize, areas are building up along the major highways (US 301, MD228, MD 5 and MD 210). Charles County is linked with other cities in the Washington, D.C. suburban area and beyond via Interstates 495 and 95 and Maryland Routes 50, 3, and 70, with points south accessible via the Potomac River Bridge.

Figure 2–1
Charles County Location Map
Charles County, Maryland

2.1.2 History

Founded in 1658, Charles County is steeped in the traditions of southern Maryland, retaining many of the tobacco country customs now three centuries old. Charles County is Maryland's fifth oldest county and is unique among the old counties in that it has all of its official records. Until 1895, the county seat of Port Tobacco served as the business and cultural center of Maryland. By 1890, however, Port Tobacco was losing eminence as a port due to the silting of the Port Tobacco River and the burning of the county courthouse in 1892. The county seat was relocated to La Plata in 1895.

Charles was one of Maryland's least known counties until 1940, when the Potomac River Bridge was opened, allowing through north-south traffic on US 301. Since 1950, population, housing, and commerce have expanded greatly due, in part, to the proximity to the Washington metropolitan complex. The County is now a mixture of the suburban development, primarily in the northwest section of the county, interspersed with older rural and semi-rural development patterns found elsewhere in the County.

2.2 RESOURCE BASE

2.2.1 Topography

Located in the Atlantic Coastal Plain, Charles County is a relatively low-lying area. Elevations range from 10 feet above sea level near the Potomac River to approximately 230 feet near Waldorf. Large portions of the county are exceedingly flat, with a gentle slope toward the Chesapeake Bay or toward local drainage features. Broad plateau formations with sides dissected by drainage features are common throughout most of the county. This dissection of the county shows the easily eroded clays, sands, and gravels that underlie it. In some areas, dissection is incomplete, and flat areas several miles across have not yet been reached by headward cutting streams. Stream valleys affect local topography throughout the County.

Stream terraces are located in several locations along the County's 183 miles of river shoreline. These elevated terraces are found in the Marshall Hall, Stump Neck, Moss Point, Maryland Point, and Clifton areas. Adjacent to the Potomac and Patuxent Rivers are low-lying flats not more than 10 to 25 feet above sea level. These areas vary in width from a few feet where the river current of the Potomac River washes strongly against the shoreline (such as is found at several locations in western Charles County near Indian Head and Potomac Heights) to more than a mile in the southern part of the county, such as Allen's Fresh. The interior of the County, along US 301 from Faulkner to the Prince George's County line, is predominately flat. Outward from this plateau, dissection becomes more pronounced, and the land is gently rolling and hilly to steeply sloping.

2.2.2 Geology and Soils

The geologic formations beneath Charles County are composed of unconsolidated deposits of gravel, sand, silt, and clay. These materials were transported by streams, particularly the Potomac River, from the Appalachian and Piedmont regions west and north of the County throughout the geologic history of the County, and were deposited in the form of alluvial fans and deltas. Tidal and marine

muds and silt layers overlay dense, hard crystalline, metamorphic, and igneous rocks of the Precambrian Age. The crystalline bedrock formation is found deep below the surface.

In the vicinity of Faulkner are unique surficial sediments, which are a relatively young, thin veneer, approximately 30 feet in thickness, occupying elevations of 30 feet above mean sea level and consisting of gravel, sand, and silt. These sediments were deposited by the eastward flowing Potomac River as the river migrated slowly southeastward to its present location. Beneath this granular deposit is the Calvert formation of the Chesapeake Group, which is composed of the Fairhaven and Plum Point Marls. This formation overlies and tends to seal the surficial granular deposit from all of the older geologic units. Gently rolling terrain, nearly level upland plateaus, low-lying swamp lands, and shoreline stream terraces are characteristic of Charles County. The Coastal Plains soils found in Charles County are generally naturally acidic, low in fertility, and highly intermixed and variable as to their limitations or suitability for selected land uses. Most of the upland soils are well-drained to moderately-well drained and have a sandy loam or silt loam surface layer overlaying a sandy clay loam or silt loam subsoil. The sandier soils are better for farming and for many other land uses. A significant portion of the County possess soil types characterized by clay-rich soils. These soils tend to be poorly drained and restrictive to percolation.

Approximately 65 percent of Charles County is nearly level or gently sloping, with 24 percent moderately or strongly sloping and 11 percent considered steeply sloping. It is estimated that 76 percent of the County is well-drained, with the remaining 24 percent characterized as poorly drained or tidal marsh. A detailed soil survey, dated 1974, is available for the County. This survey describes various soil types and relates to maps of the County. The soil survey was made cooperatively by the U.S. Soil Conservation Service and the Maryland Agriculture Experiment Station.

2.2.3 Water Resources

Although Charles County is bordered by both the Patuxent and Potomac River systems, their use as surface water supply sources is constrained because of their salinity concentrations. The County also has a large number of smaller rivers and streams which are incapable of any large-scale water supply. There are presently only three lakes in Charles County with a suitable surface water area of about 12 square miles required for use as reservoirs. However, due to the locations of the lakes and the infrastructure improvements necessary to serve the development district, these water sources are not a feasible source of public water supply.

The major groundwater resources of Charles County are the aquifers of the Patuxent, Patapsco, Magothy, and Aquia Formations; and deposits of Pliocene and Pleistocene Age. The major water supply sources are the Magothy and Patapsco aquifers. These aquifers are found at depths ranging from 300 to 1,000 feet below the ground elevation. Groundwater provides the vast majority of the drinking water in Charles County. In a few places, it is available from springs; but in most locations, water is drawn from drilled or dug wells tapping into underlying water-bearing aquifers. In most cases, the aquifers most suitable for potable water supply occur 300 to 800 feet below the surface.

2.2.4 Groundwater and Surface Water Patterns

With the exception of Swanson and Indian Creeks, which flow into the Patuxent River system, all drainage flows into the Potomac River or its tributaries. Major water bodies within the County include the Wicomico River, Zekiah Swamp, Gilbert Swamp, Port Tobacco Creek, Port Tobacco River, Nanjemoy Creek, Mattawoman Creek and the Pomonkey Creek. Eastern portions of the County are drained by the Zekiah Swamp Run and the Gilbert Swamp Run, along with their tributaries. Northern portions of the County are drained by the Mattawoman and Pomonkey Creeks. Central and northwestern portions of the County are drained by the Port Tobacco River, Nanjemoy Creek, Wards Run and Mill Run. Chapter 3 provides additional information on the surface waters of Charles County.

Many of the freshwater streams are broad near their confluence with the Potomac and Patuxent Rivers and develop estuaries and tidal marshes due to the influence of the more saline waters of these receiving bodies. Stream systems with significant estuaries include the Mattawoman Creek, Pomonkey Creek, Port Tobacco River, Nanjemoy Creek, Wicomico River, Zekiah Swamp and the Gilbert Run Swamp.

2.2.5 Aquifers

Several water-bearing formations are below the surface and they can be tapped by wells ranging in depth from 10 feet or less to drilled wells greater than 1,400 feet in depth. The Charles County Health Department has discouraged the use of shallow wells since the 1950s in favor of drilled wells tapping deep-water aquifers. The major aquifers in Charles County are in the Patuxent, Patapsco, Raritan, Magothy formations of the Cretaceous system, the Aquia Greensand of the Eocene series, and Pleistocene deposits. Water in the deeper formations is replenished from precipitation that filters through the soil zone in their outcrop areas, most of which are not in Charles County. Some of Charles County's aquifers are recharged principally west of the Potomac River in Fairfax, Prince William and Stafford Counties. Groundwater moves slowly through these aquifers generally south and east. Water in the upland deposits moves toward the central upland of the County to low-lying areas along the major stream valleys. Chapter 3 provides additional information on the County's aquifers. The Water Supply Plan provides information on technical aspects, including their capabilities and suitabilities for use.

2.2.6 Water Quality Criteria

Water quality criteria for the State of Maryland are included as part of COMAR 26.08.02.03, "Classifications of the Waters of the State":

Class I Waters:	All waters of the State shall be protected for use as water contact recreation, for fish, other aquatic life, and wildlife
Class II Waters:	Waters of the State which shall be additionally protected for shellfish harvesting

Class III Waters: Natural trout waters

Class IV Waters: Recreational trout waters

Waters within Charles County have been classified as either Class I or Class II waters. No waters have been classified as trout waters. The Potomac River and its tributaries above a line from Smith Point to Simms Point are also classified as Class II waters.

2.3 DEMOGRAPHICS

2.3.1 Regional Setting and Development Trends

Charles County's growth rate can be attributed to a number of factors, in particular its proximity to the Washington, D.C. metropolitan area, and regional out-migration trends into new suburban areas. Charles County is located in the Council of Government's Washington Metropolitan Statistical Area, composed of Charles, Prince George's, Calvert, Frederick and Montgomery Counties and the cities of Alexandria, Fairfax and Falls Church in Virginia, as well as the District of Columbia and Fairfax, Prince William, Arlington, Stafford and Loudon Counties and the cities of Manassas and Manassas Park in Virginia. Construction of new residential developments has been drastically reduced in the more urbanized areas of the Washington Metropolitan Area, as these areas become fully developed. Charles County's relatively low tax rate, lower housing costs and rural character add to its appeal as a popular market. In-migration is expected to continue over the planning period due to these trends.

Population distribution in the county reflects the influence of its proximity to Washington, the influence of local employment and the availability of public facilities to serve development. The County's densest population is in the northwestern quadrant of Waldorf, the same area which is currently experiencing the most rapid growth. This area is located approximately 20 miles from the Capitol Beltway (I-495) and is readily accessible to commuter traffic. Other important centers of population include the Town of La Plata and the Bryans Road/Town of Indian Head area in the western portion of the county.

The Washington Metropolitan Council of Governments considers Charles County among the outer, or second-tier counties which will be influenced by the metropolitan area. These outer suburbs are forecasted to add 312,000 jobs to the region’s job base between 2000 and 2025, reflecting an 80% increase over current employment during this period. Employment in Charles County is responding to the increase in residential growth with the Council of Governments projecting a 25% increase in county jobs between 2000 and 2025. Most of these new jobs are forecast in the Services, Retail Trade, Government and Construction sectors.

2.3.2 Characteristics of Growth and Recent Trends

Census 2000 recorded a population of 120,546 persons in Charles County. The County was the ninth fastest growing County in the State between the 1990 census and Census 2000, reflecting an average annual rate of growth of 1.77 percent. This is a significant change from the previous decade’s average annual growth rate of 3.4%, and one that is more in line with the goals and objectives of the

county's Comprehensive Plan. During the previous decade, 1980 to 1990, Charles County ranked as the third fastest growing county in the State of Maryland.

The Sixth Election District (Waldorf) showed the highest absolute growth in Census 2000, increasing by a total of 15,115 persons. The highest rates of growth occurred in the Ninth (Hughesville) and Fourth (Allens Fresh) Election Districts, which experienced 62.2% and 32.9% increases, respectively. Five of the county's remaining seven election district absorbed the remaining growth, while the Third (Nanjemoy) and Tenth (Marbury) Election Districts experienced declines in growth during the last decade.

Of particular significance is the fact that the Sixth (Waldorf) and Seventh (Pomonkey) Election Districts, representing the County's Development District, absorbed roughly 80 percent of the total population increase countywide between the 1990 census and Census 2000. This is just slightly less than the 88 percent of the growth absorbed by these two election districts during the previous decade.

Historically, the county's population began experiencing significant growth beginning in 1950. At that time, the population of the county was only 23,415 persons, due largely to the County's relative isolation and agrarian economy. Between 1950 and 1960, the population grew 39.1 percent, and between 1960 and 1970, an additional 46.5 percent increase in population was documented by census figures. The following two decades witnessed even greater increases, with a 52.6 percent increase between the 1970 population count of 47,678 persons and the 1980 count of 72,751 persons, and a 64.3 percent increase when the 1990 count was listed as 101,154 persons.

Two of the most significant growth management objectives established in the County's Comprehensive Plan, originally adopted in 1990, were to establish a target average annual growth rate of 2.0 percent per year, and direct 75% of that growth to the County's Development District. As the above Census 2000 figures demonstrate, the County was successful in achieving both of these goals during the first full decade of the Comprehensive Plan being in effect.

2.3.3 Projected Growth as a Basis for Water and Sewer Planning

As discussed above, the primary growth management and land use concept developed in the Charles County Comprehensive Plan is that of the establishment of the Development District, generally located in northwestern Charles County. The development district is intended to serve as the principal center for population growth, services, and employment. Comprising the most suitable area for new population growth, by virtue of existing development, infrastructure, and transportation networks, this area is planned to receive 75 percent of the County's growth through the year 2020.

The Development District generally corresponds to the Mattawoman Sewer Service Area, as delineated on the maps which accompany this document. In the 1997 Comprehensive Plan, the County reduced the size of the Development District by approximately 5,000 acres, eliminating an area which was not located in the Mattawoman Creek's natural drainage basin. Subsequent to this action, in response to the leapfrog pattern of development that was occurring, the County decreased the densities in the deferred development district and adjacent areas, effectively reducing the size of the primary area of the Development District. Approximately 15,000 acres in the western part of

the Development District were rezoned to a base zone of RC(D), which provides for a lower intensity of development (1 dwelling unit per ten acres) during a comprehensive rezoning process in the year 2000.

Controlled growth within development districts will minimize sewer collection systems and potable water system costs, and increase the opportunity for modifying existing water and sewer systems to meet the goals and objectives of this Plan. Wide-spread growth, resulting in sparsely populated areas, will increase potable water and sewer costs, increase private well and septic systems, and minimize the opportunity for modifying existing systems. The Comprehensive Plan indicates that the County will concentrate on public facilities needs in existing developed areas and those proposed to be served by public water and sewer systems. Conversely, infrastructure is not encouraged in the County's rural areas.

Charles County's computerized hydraulic modeling software enables the County to tie the County's population projections to its water and sewer needs. This is particularly important as the County begins to implement its adequate public facilities provisions, as established in the Zoning Ordinance. More information on the modeling effort is available from the Development Services Department in Planning and Growth Management.

2.3.4 Population Projections

This Water and Sewer Plan discusses the County's demographic profile, and in particular future population projections in an effort to create an understanding of current and future conditions to be experienced in Charles County. This understanding is vital, as it provides an indication of the County's future water supply and sewer treatment needs. Thus, this section provides the linkage between the County's current and future population and its infrastructure needs. Population projections through the year 2025 are based on existing County-wide population totals by Transportation Analysis Zones (TAZ). For further information see Section 2.3.4.2 (Population Estimates).

2.3.4.1 Data Sources

Charles County has completed several studies and plans which contain population projection information. These studies and plans include:

- the County-wide 2006 Comprehensive Plan;
- the Traffic Analysis Zone projections (TAZ)

Charles County completed its County-wide 2006 Comprehensive Plan Update, providing land use and density (unit per acre) information for the various land uses. The Comprehensive Plan also outlines the "Development District." As stated, the County's goal is to manage growth effectively by providing the necessary services within the Development District so that 75% of future growth occurs within the Development District.

As part of the TAZ analysis, the County determined buildout flows for the Mattawoman Sewer District. These buildout flows were based on land use (and its associated population densities) per the 2006 Comprehensive Plan. To determine buildout flows, the County estimated the acreage for each type of land use in conjunction with projected densities as established in the Comprehensive Plan.

As a methodology, both of these documents were considered. By combining the residential and commercial/industrial flows, the total projected wastewater flows for the Mattawoman Service Area, inside of Charles County, were estimated.

2.3.4.2 Population Estimates

The most recent County population projections, included in this document, are based on the following assumptions:

- Population pressures from greater Washington area ex-urban movement will continue to stimulate residential development.
- Housing costs, compared to the greater Washington area, will remain somewhat lower in Charles County.
- Adopted growth control measures (excise tax, zoning, adequate public facility regulations, etc.) will continue to affect growth patterns.
- Through growth management strategies, 70 to 75 percent of new growth will be directed to the Development District, despite an increase in growth pressure in the rural areas.
- Economic development strategies will bring about a better balance between residential and commercial/industrial development.
- Jobs in Charles County will increase but a high proportion of the work force will continue to commute out of the County.
- Transportation improvements in the US 301 corridor will enhance mobility and promote economic development.
- Planned communities, especially in St. Charles, will absorb significant amounts of growth.

There has been an increasing emphasis on land use planning around the State. In fact, one of the seven vision statements as stated in the Chesapeake Bay Agreement is that "development is concentrated in suitable areas." With this in mind, Charles County adopted its Comprehensive Plan in September 1990 and subsequently updated in 1997 and 2006 to conform to the Maryland Growth Management and Resource Protection Act of 1992 (Growth Act). The land use component of the Comprehensive Plan establishes the Development District. The "suitable areas" doctrine was further refined by the Growth Act. In an effort to increase conformance with State law, this Water and Sewer Plan segregates Development District and non-Development District population projections. These projections were the basis for the County's hydraulic modeling efforts. For all units, population is projected at 2005, 2010, 2015, 2020 and 2025 intervals. This type of projection allows the Water and Sewer Plan to present a picture of distribution and density patterns which will occur over the next ten to twenty years.

County Overall

The anticipated projected average annual growth rate for Charles County is 2.0 percent for the period 2000 to 2020, based on the previously mentioned assumptions. Important factors in the data computations were Comprehensive Plan density projections, the 2000 census figures and housing unit totals. Projections were based on the County's current rate of growth factored into the expected housing units growth and average household size for the year 2010 and the 2020 planning horizon.

2.4 LAND USE

2.4.1 Comprehensive Plan

The Charles County Comprehensive Plan was updated in 1997 & 2006 through careful review of the 1990 Plan policies and objectives. The updated plan is the result of a joint effort of elected and appointed officials, professional land use planners, and a 30 member Citizens' Advisory Committee. The plan presents policies and guidelines to serve the County for the duration of the 20-year planning horizon.

The Charles County Comprehensive Plan consists of a land use map, goals, objectives, policies, and recommendations that will guide future land development. Other elements of the Charles County overall comprehensive planning program include: documents prepared to complete the Comprehensive Plan (i.e. *the Waldorf Sub-Area Plan, the Bryans Road Sub-Area Plan, the Hughesville Revitalization Strategy, the Charles County Critical Area Program* and *the Charles County Land Preservation, Parks, and Recreation Plan*); documents that will serve to implement the comprehensive plan (i.e. *Zoning Ordinance*, *Subdivision Regulations of Charles County, Maryland*); and the documents that influence the comprehensive plan (i.e. *Comprehensive Sewer and Water Plan, Capital Programming, Comprehensive Plan for Schools, Solid Waste Management Plan, Public Safety Plan, Emergency Operations Plan,* and *Fire and Rescue Plan*).

Topics discussed in the Charles County Comprehensive Plan include:

- Growth Management
- Community Development
- Economic Development
- Transportation
- Community Facilities
- Mineral Extraction
- Housing
- Natural Resource Protection
- Agricultural/Forestry Preservation
- Parks, Recreation and Open Space
- Historic/Cultural Preservation
- Plan Implementation

In relation to water supply and sewer planning, the Comprehensive Plan presents goals, policies, and implementation strategies for many public services, including the management of water supply and sewer treatment and disposal.

TABLE 2-1

Charles County Population Projections

Year	Projection
2000*	120,564
2005	138,002
2010	147,400
2015	162,293
2020	177,181
2025	193,914

Source: *2000 data from U.S. Census Bureau, Census 2000
Remaining data from Charles County Department of Planning and Growth Management**,** 2001

Information interpolated from data provided by Charles County. Persons per unit factor used to determine total population from dwelling unit data (average household size) is as follows:

1990	3.03 persons per unit	2010	2.78 persons per unit
1997	2.90 persons per unit	2015	2.76 persons per unit
2000	2.86 persons per unit	2020	2.74 persons per unit
2005	2.83 persons per unit	2025	2.69 persons per unit

2.4.2 Zoning Ordinance

The Charles County Zoning Ordinance was the first major legislative initiative intended to make the goals of the Comprehensive Plan become a reality. The Zoning Ordinance was adopted by the County Commissioners in August 1992 and became effective October 1, 1992. Subsequent revisions to the Zoning Ordinance have been made, including the creation of a new zoning district.

The Charles County Zoning Ordinance currently provides for one conservation zone, three rural zones, two village zones, four residential zones, four commercial zones, two industrial zones, one planned unit development zone, one waterfront planned community, five planned development zones, and three overlay zones. A brief description of each zone is provided below.

- The agricultural conservation (AC) zone provides a full range of agricultural and farming activities; protects these established uses from encroaching development, which may adversely affect the agricultural economy of the County; and encourages the right to farm in the County without undue burden on the landowner.

- The rural conservation (RC) and rural residential (RR) zones are intended to maintain rural character in the County areas consistent with the Charles County Comprehensive Plan objectives.The RC(D) zone, Rural Conservation Deferred Development District, maintains low-density residential development, preserves the rural environment and natural features, including existing agricultural and aquacultural activities, and provides the land base necessary to support these activities.

- The village residential (VR) and village commercial (VC) zones are located at existing centers of population or commerce in areas of the County outside the Development District.

- The low-density suburban residential (RL), medium-density suburban residential (RM), high-density residential (RH), and residential office (RO) zones concentrate residential development in areas identified as Development Districts in the Charles County Comprehensive Plan.

- Neighborhood commercial (CN) and community commercial (CC) zones provide standards for the range of commercial uses from neighborhood business to highway-oriented commercial uses. The central business (CB) zone provides appropriate locations for high-intensity commercial uses and encourages development consistent with a traditional "downtown" area. The business park (BP) zone concentrates business and light industrial uses in a park-like setting

to promote economic development and job creation while protecting the environment and reducing impacts on the surrounding residential neighborhoods.

- General industrial (IG) and heavy industrial (IH) zones strengthen the economic environment of the County by recognizing existing industrial uses and promoting industrial development in order to broaden the County's tax base and create new jobs.

- The planned unit development zone is designated for St. Charles. Activity within this zone is bound by the requirements of Docket 90, as amended, and all other legally binding agreements executed between the County and the developer.

- Swan Point is designated as a Waterfront Planned Community (WPC). The activities within this zone are bound by Docket 250. No additional waterfront planned community zones will be considered.

- Planned residential development (PRD), mixed use development (MX), planned employment and industrial park (PEP), planned manufactured home park (PMH) and transit oriented development (TOD) zones encourage innovative and creative design of residential, commercial, and industrial development, and provide a broad range of housing and economic opportunities to present and future residents of the County consistent with the Charles County Comprehensive Plan.

- The three overlay zones include the Critial Area Zone, the Highway Corridor (HC) Overlay Zone and the Resource Protection Zone (RPZ). Within the Critical Area, the intense development (IDA), limited development (LDA), and the resource conservation (RCOZ) zones provide special regulatory protection for the land and water resources located within the Chesapeake Bay Critical Area in Charles County. These zones implement the Charles County Critical Area Program, the requirements of the Maryland Critical Area Law, and the Critical Area Criteria and are adopted pursuant to the Natural Resources Article, Subtitle 18 and COMAR 14.15, the Critical Area Criteria.

- Three (3) new zoning districts were established in the Bryans Road Town Center Core. Two (2) of these districts, the Core Retail Residential (CRR) and the Core Employment Residential (CER), permit mixed use development, with a maximum of fifteen (15) dwelling units per acre allowed for residential development. The

Core Mixed Residential (CMR) is a new residential district that surrounds the two mixed use zones and allows a maximum of ten (10) dwelling units per acre.

2.4.3 Smart Growth

In 1997, Maryland's General Assembly adopted several specific programs, which collectively are referred to as Maryland's Smart Growth Program. The program has three very straightforward goals, which are:

- To save our most valuable remaining natural resources before they are forever lost;
- To support existing communities and neighborhoods by targeting state resources to support development in areas where the infrastructure is already in place or planned to support it, and
- To save taxpayers millions of dollars in the unnecessary cost of building the infrastructure required to support sprawl.

In order to achieve these goals, each county, after performing an analysis of its future growth needs, was requested to designate a "priority funding area". The Priority Funding Area (PFA) represents the area in the county where growth is planned, infrastructure is already in place, and which is consistent with criteria established by the State. When approving construction projects, the State will target funding for "growth related" projects to these areas, providing not only a great savings to taxpayers, but also protection from sprawl development to other areas of the county. Growth related projects are defined in the legislation and include most State programs which encourage or support growth, *including the construction of sewer and water facilities.*

Charles County's Development District was established prior to the enactment of the Smart Growth legislation. When the Priority Funding Area legislation was passed, the county used the Development District as a basis to begin the process of establishing and certifying the county's Priority Funding Area. (PFA). Once approved locally, the PFA map was submitted to the State, in accordance with the State's Smart Growth requirements.

2.4.3.1 Priority Funding Areas and Water and Sewer Service Areas

In accordance with the Smart Growth Areas Act of 1997, Charles County designated PFA's in accordance with the state criteria. One of many criteria used to determine if an area qualifies as a PFA is the presence of existing water and sewer service or planned service within 10 years. As sewer and water service becomes available, additional PFA's may be designated if they meet the residential density criteria.

Charles County's Sewerage Service area generally coincides with the established Development District boundary in the 2006 Comprehensive Land Use Plan. The development district

boundary is the ultimate area for build out, beyond the 2025 time frame. As such, the primary PFA area does not coincide with the development district, rather it is a sub-set of the development district. It is envisioned that ultimately the PFA area inside the Development District will expand outward and the PFA and Development District boundary will coincide. In the meantime, the County's policy of public facilities emanating out from the urban core, along with the RC(D) zoning, will direct growth in an orderly fashion.

2.5 MAJOR INSTITUTIONS

Federal facilities in Charles County include the Indian Head Naval Surface Warfare Center, Blossom Point Proving Grounds, and the Naval Research Laboratory. In addition, there are two properties owned by the National Park Service in Charles County: the Thomas Stone Historical Site and the Piscataway National Park. Many State Facilities are also located in Charles County, including Cedarville State Forest, Chapman's Forest, Chicamuxen Wildlife Management Area, Doncaster State Forest, Hughesville Pond, Myrtle Grove Wildlife Management Area, Patuxent River Natural Resources Area, Patuxent Vista Natural Resources Management Area, Purse State Park, Smallwood State Park, and the Zekiah Swamp Natural Environmental Area.

TABLE 2-2

LAND USE IN ACRES

CHARLES COUNTY	1973	1981	1985	1990	1997	2002	Projected 2020*
Low Density Residential	12,593	16,238	17,572	25,549	29,403	33,156	39,918
Medium / High Density Residential	3,561	4,165	4,752	6,656	7,877	6,933	11,904
Commercial/Industrial/ Transportation	3,036	3,479	3,854	4,405	4,681	4,616	6,029
Institutional / Open	3,522	3,867	3,931	4,911	4,917	3,695	4,917
Other						2,258	
TOTAL DEVELOPMENT	**22,713**	**27,749**	**30,109**	**41,520**	**46,877**	**50,658**	**62,768**
Agriculture	66,591	64,778	63,779	62,169	61,096	57,514	57,597
Forest	196,621	193,440	191,895	181,971	177,851	178,472	165,456
Extractive / Barren / Bare	1,181	1,292	1,590	2,057	1,935	860	1,935
Wetland	6,748	6,788	6,775	6,771	6,755	6,900	6,755
TOTAL RESOURCES	**271,141**	**266,298**	**264,040**	**252,967**	**247,637**	**243,746**	**231,742**
TOTAL LAND	**293,853**	**294,046**	**294,149**	**294,487**	**294,514**	**294,404**	**294,511**
WATER	**120,443**	**120,252**	**120,150**	**119,812**	**119,785**	**119,895**	**119,789**
TOTAL AREA	**414,296**	**414,298**	**414,299**	**414,299**	**414,299**	**414,299**	**414,299**

Source: 2006 Charles County Comprehensive Plan, Table 3-1.