2018 Planning Commission Annual Report



Prepared by the Planning Division, Planning and Growth Management Department
CHARLES COUNTY GOVERNMENT 200 Baltimore St., La Plata, MD 20646
May 2019

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Purpose of Report

State law requires the Planning Commission to prepare and file an annual report with the County Commissioners¹. The report is available for public inspection and a copy of the report is provided to the Secretary of Planning for the State of Maryland. The criteria for the content of the report are specified as follows:

"The annual report shall (a) index and locate on a map all changes in development patterns including land use, transportation, community facilities patterns, zoning map amendments, and subdivision plats which have occurred during the period covered by the report, and shall state whether these changes are or are not consistent with each other, with the recommendations of the last annual report, with adopted plans of adjoining jurisdictions, and with the adopted plans of all state and local jurisdictions that have the responsibility for financing and constructing public improvements necessary to implement the jurisdiction's plan; (b) contain statements and recommendations for improving the planning and development process within the jurisdiction."

The Annual Report for 2018 has been designed to comply with Smart Growth Goals, Measures, and Indicators and Implementation of Planning Visions enumerated in the Land Use Article of the Annotated Code of Maryland². The Annual Report is not intended to provide a comprehensive account of the activities of the Planning Division or the Planning Commission. Further, it should be noted that this Annual Report does not include data from the Towns of La Plata and Indian Head as these jurisdictions are also required to submit individual Annual Reports to the Maryland Department of Planning.

In compliance with the above-stated provision of the Land Use Article, this Annual Report was adopted by the Charles County Planning Commission on June 17, 2019 and forwarded to the Charles County Commissioners on June 28, 2019.

Sources of Additional Information

Detailed information on other endeavors, projects, operations and/or the status of submittals is available directly through the following sources:

Planning and Growth Management: (301) 645-0692 or (301) 645-0627

County Attorney's Office: (301) 645-0555 Transit: (301) 645-0642

Charles County Government Web Site: <www.CharlesCountyMD.gov>

¹ Annotated Code of Maryland, Land Use Article, §1-207, §1-208

² Annotated Code of Maryland, Natural Resources Article §8-1808

Introduction

This Annual Report provides an opportunity for the Charles County Planning Commission to review development approvals for calendar year 2018. Actual development can then be compared to the overall vision for future development as articulated in the 2016 Adopted Charles County Comprehensive Plan ("the Plan"). The general "theme" of the Plan is that the County should continue to grow with a Smart Growth philosophy: balancing growth with strong environmental protection measures by conserving resources within the framework and guidance of the Plan. This Comprehensive Plan makes significant changes from the previous plans by reducing the Development District from 52,200 acres to 22,189 acres (a reduction of 30,011 acres), concentrating growth, protecting our natural resources, promoting historic village revitalization efforts, and supporting light rail transit for long term development. Previous Planning Commission Annual Reports have measured development inside and outside of the Development District. However, as of 2016, Annual Reports focus on the Priority Funding Area (PFA) since the modified Development District now matches the PFA in the northern part of Charles County. Additionally, the County is committed to having 50 percent of its overall acreage in open space.

Planning Commission Functions and Membership

The Planning Commission consists of seven members who are appointed by the County Commissioners. Members serve four-year terms, which are staggered. A chairperson is appointed annually by the Commissioners. The purpose and functions of the Charles County Planning Commission are stated in the Land Use Article, Charles County Code of Public Laws, and the Charles County Zoning Ordinance. Functions include:

- Prepare and recommend a comprehensive plan for development of the jurisdiction, including among other things, land use, water and sewerage facilities, and transportation;
- Review and approve the subdivision of land of the jurisdiction;
- Reserve transportation facility rights-of-way;
- Review and approve adequate public facilities studies and mitigation measures;
- Approve and periodically amend the Site Design and Architectural Guidelines:
- Review and provide recommendations on rezoning requests for base zones, overlay zones, and floating zones;
- Review and make recommendations for amendments to the Zoning Ordinance and the Subdivision Regulations; and
- Adopt rules and regulations governing its procedure and operation consistent with the provisions of the Zoning Ordinance.

During CY2018, the Charles County Planning Commission conducted eighteen (18) regularly scheduled meetings.

Planning Commission Members (Current)

Wayne Magoon, Chairman Angela Sherard, Vice Chairman Rick Viohl, Jr., Secretary Robin Barnes Vicki Marckel William Murray Kevin Wedding

Growth Related Changes in 2018

This section provides an in-depth look at development that has occurred during calendar year 2018. A map is attached in the Appendix that demonstrates the growth-related changes including preliminary subdivision plans, final plats, site development plans, building permits, and zoning map changes.

Preliminary Subdivision Plan Approvals

A preliminary subdivision plan is the initial plan of subdivision consisting of drawings and supplementary materials that indicate the proposed layout of a subdivision. Approval of a preliminary subdivision plan establishes general consistency with the Charles County Comprehensive Plan, and compliance with the requirements of the Zoning Ordinance and Subdivision Regulations that are known to be applicable during the preliminary review stages. Lots proposed within a preliminary subdivision plan may be for future residential, commercial, or industrial purposes. Preliminary subdivision plans are approved by the Planning Commission.

Preliminary subdivision plans are required in Charles County for all major subdivisions. A subdivision project is considered to be a major subdivision when the proposed subdivision will result in the creation of more than five (5) lots from a parcel that was in existence on June 15, 1976, or when more than seven (7) lots are proposed from a parcel, residue or remainder in existence on December 31, 2012; provided that any lot resulting from a recorded deed or subdivision plat prior to December 31, 2012, cannot be considered a parcel for purposes of Section 17 of the Charles County Subdivision Regulations.

In 2018, there were no new preliminary subdivision plans or revisions brought before the Planning Commission that approved new lots or acreage. However, there was one proposed preliminary subdivision plan that was reviewed by the Planning Commission in January of 2018, which was denied. The project, known as Woods Edge, proposed to subdivide a total of 16.79 acres located within the Medium Density Residential (RM) zone (15.92 acres) and Watershed Conservation District (WCD) zone (0.87 acres) into sixty-four (64) lots intended for single-family attached (townhome) dwellings. The Planning Commission cited that the plan did not meet specific regulations with regard to open space and cluster developments, nor did it adequately meet the Superior Design Criteria for Cluster Developments.

Final Plat Approvals

A final subdivision plat establishes the official division of land that is approved by the Planning and Growth Management Department and recorded in the Land Records of Charles County. Final subdivision plats are approved and signed by the Planning Director. Final subdivision plats are prepared for both major and minor subdivisions. As defined in §278-17 of the Charles County Subdivision Regulations, a minor subdivision is a subdivision of land, which does <u>not</u> involve any of the following:

- The creation of more than five (5) lots from a parcel that was in existence on June 15, 1976, or more than seven (7) lots are proposed from a parcel, residue or remainder in existence on December 31, 2012; provided that any lot resulting from a recorded deed or subdivision plat prior to December 31, 2012, cannot be considered a parcel for purposes of Section 17 of the Charles County Subdivision Regulations.
- The extension of a public water or sewer system proposed as a part of a private development.
- The installation of off-site drainage improvements through one or more lots to serve one or more other lots proposed as a part of a private development.

Figure 1 on the following page shows the distribution of final plat types that were recorded in 2018. The majority of final plats that were processed were minor plats that did not record any lots. These include lot line adjustments, boundary surveys, forest conservation easement plats, etc.

Figure 1: 2018 Final Plat Types

Final Plat Type	No. of Plats
Minor Plats (No New Lots)	57
Residential - Minor Plats	5
Residential - Major Plats	10
Commercial	2
Industrial	1
Total	75

Figure 2 below provides a list of approved final plat lots. Further, Figure 3 below provides the net density of the residential final plats approved in 2018.

Figure 2: 2018 Approved Final Plat Lots

Final Plat Type	No. of New Lots	Plat Area	Inside PFA	Outside PFA	Inside PUD
Residential				12 lots,	
Minor Plats	12	447 acres	0	447 acres	0
Residential			347 lots,	80 lots,	247 lots,
Major Plats	427	231 acres	83 acres	148 acres	77 acres
			2 lots,		2 lots,
Commercial	2	66 acres	66 acres	0	66 acres
Industrial	0	0	0	0	0
			349 lots,	92 lots,	249 lots,
Total	441	744 acres	149 acres	595 acres	143 acres

Figure 3: Net Density of 2018 Residential Final Plats

	Total Area of Residential Lots	Total Number of Residential Lots	Average Lot Size
Countywide	446 acres	439	1.02 acres
Inside PFA	22 acres	347	0.06 acres
Outside PFA	424 acres	92	4.61 acres

Site Plan Approvals

Site plans are required for all commercial, multi-family residential, and telecommunication structures. There are two (2) types of site plans: major and minor. An application proposing detached single- and two-family dwellings, accessory buildings, additions less than 1,200 square feet for residential uses and change in use would be classified as a minor site plan. Any site plans other than those identified as minor site plan applications would be classified as major. Site plans are reviewed in house and are signed by the Planning Director. Site plans for projects located within the St. Charles Planned Unit Development (PUD) zone are required to obtain final approval by the Planning Commission. Additionally, any site plans that require an Adequate Public Facilities (APF) study to be performed are required to obtain final approval by the Planning Commission.

The following table, Figure 4, provides a breakdown of site plans in 2018. Figure 5 below provides the net density of commercial site plans inside the Priority Funding Area approved in 2018.

Figure 4: 2018 Site Plans

	Building		igure 1. 2010 Bite i iunis		
	Square				
Type of Use	Footage	Acreage	Inside PFA	Outside PFA	Inside PUD
			67,552 sq. ft./	0 sq. ft /	0 sq. ft./
Residential	67,552	18	18 acres	0 acres	0 acres
Commercial/			178,826 sq. ft./	0 sq. ft./	171,000 sq. ft./
Retail	178,826	86	86 acres	0 acres	15 acres
Institutional/					
Church/School/			0 sq. ft./	10,000 sq. ft./	0 sq. ft. /
Public Use	10,000	125	0 acres	125 acres	0 acres
Public Utilities					
(including			0 sq. ft./	0 sq. ft./	0 sq. ft./
cell towers)	0	2,907	489 acres	2,418 acres	373 acres
			246,378 sq. ft./	10,000 sq. ft./	171,000 sq. ft./
Total	256,378	3,136	593 acres	2,543 acres	388 acres

Figure 5: Net Density of 2018 Commercial Site Plans

	Total Area of Commercial Building Area	Total Area of Commercial Lots	Floor Area Ratio (FAR)
Countywide	178,826 sq. ft.	3,746,160 sq. ft. (86 acres)	0.05 FAR
Inside PFA	178,826 sq. ft.	3,746,160 sq. ft. (86 acres)	0.05 FAR

Building Permits

In 2018, there were 619 residential building permits (665 new units) and twelve (12) commercial building permits (12 new units) issued in Charles County. Building permits are issued for a variety of building related activities in Charles County including accessory structures, alterations, additions, pools, signs, etc. However, only new residential or new commercial structures are counted for the purposes of the Annual Report. Figure 6 below provides a breakdown of new residential building permits. Similarly, Figure 7 provides the breakdown of new commercial building permits.

Figure 6: 2018 Residential Building Permits

Building Permit Type	Total Number of New Units	Inside PFA	Outside PFA	Inside PUD
Single Family	386	207	179	114
Town House	223	223	0	130
Apartment	56	56	0	8
Duplex, Triplex, Quadriplex	0	0	0	0
Total	665	486	179	244

Figure 7: 2018 Commercial Building Permits

Building Permit Type	Total Number of New Units	Inside PFA	Outside PFA	Inside PUD
New Commercial	7	6	1	4

Other Commercial Building Permit Types: Commercial Alterations and Additions: 99

Miscellaneous Commercial: 65

Green Card³: 98

³A 'Green Card' permit is issued to establish a Use and Occupancy for a commercial space when no construction to the space is proposed. Utilized at the change of ownership or change of tenant, this permit allows for a safety inspection of the proposed space prior to use.

Use and Occupancy Permits

In 2018, there were 570 residential Use and Occupancy (U&O) permits (570 new units) and one (1) commercial U&Os issued (1 new unit) in Charles County. Figure 8 below provides a breakdown of new residential U&O permits. Similarly, Figure 9 below provides the breakdown of new commercial U&O Permits.

Figure 8: 2018 Residential Use and Occupancy (U&O) Permit Units

U&O Permit Type	Total Number of New U&Os (in units)	Inside PFA	Outside PFA	Inside PUD
Single Family	380	222	158	106
Town House	190	190	0	115
Apartment	0	0	0	0
Duplex, Triplex, Quadriplex	0	0	0	0
Total	570	412	158	221

Figure 9: 2018 Commercial Use and Occupancy (U&O) Permit Units

U&O Permit Type	Total Number of New U&Os (in units)	Inside PFA	Outside PFA	Inside PUD
New Commercial	1	1	0	1

Other Commercial Use and Occupancy Permit Types:

Commercial Alterations & Additions: 88

Miscellaneous Commercial: 33

Green Card: 81

Zoning Map Amendments

The following Zoning Map Amendments (ZMAs) were enacted in 2018:

Amendment No.	Description	Effective Date
ZMA #17-55	The purpose of this amendment was to create new zoning in	01/12/2018
Hughesville	Hughesville to promote a traditional, walkable pattern of	
Village	development in the village, as envisioned by the 2007	
	Hughesville Village Revitalization Plan. Four new zoning	
	districts were included: Hughesville Village Core (HVC)	
	and Hughesville Village Gateway (HVG), which are both	
	mixed use districts; Hughesville Village Employment	
	(HVE), and Hughesville Village Residential (HVR). The	
	new zoning will enable the transformation of Old	
	Leonardtown Road into a pedestrian-friendly main street,	
	facilitate redevelopment of existing properties, allow for	
	support of residential uses, and promote employment for the	
	village and surrounding area.	

Zoning Text Amendments

The following Zoning Text Amendments (ZTAs) were enacted in 2018:

Amendment No.	Summary	Effective Date
ZTA #17-147 Revisions to Core Employment Residential (CER) Zone	The purpose of this text amendment was to revise two standards in the CER (Core Employment Residential) Zone within the Zoning Ordinance. The amendment reduces the minimum rear yard requirements from 50 feet to 20 feet for the Commercial Use category. Further, the amendment eliminates the minimum two-story requirement for the Service-Oriented Commercial and Commercial use categories.	12/07/2018
ZTA #17-148 Consolidated Storage	The purpose of this text amendment was to add a use known as consolidated storage and permit consolidated storage by special exception in the CRR (Core Retail/Residential) Zone and the CV (Village Commercial) Zone.	11/16/2018
ZTA #18-150 Craft Beverage	The purpose of this text amendment was to amend certain provisions of the Zoning Ordinance to permit manufacturing, packaging, storage, promotion and sale of craft alcoholic beverages.	10/26/2018
ZTA #18-151 Surface Mining in the Watershed Conservation District (WCD) Zone	The purpose of this amendment was to add Surface Mining to the Charles County Zoning Ordinance as a use permitted by Special Exception in the Watershed Conservation District (WCD) Zone.	10/02/2018

Planned Development Zone Amendments

The following Planned Development Zone Amendments (PDZAs) were approved in 2018.

		Effective Date
Amendment No.	Summary	
PDZA #01-10	The purpose of this amendment was to amend the Bryan's	7/24/2018
Bryans Village	Village PRD Rezoning and Master Plan to permit a mixture	
	of townhouse and single-family detached units with a total	
	not to exceed 189 units.	
PDZA #18-90(20)	The purpose of the amendment to Docket 90 was to reduce	11/14/2018
St. Charles PUD	the total number of permitted units within the St. Charles	
Docket 90	Planned Unit Development (PUD) by approximately 2,500	
	units, and to clarify the school allocation policy for St.	
	Charles, including a per-unit fee.	

Comprehensive Plan Updates

On July 31st, 2018, the County Commissioners amended the 2016 Comprehensive Plan, by resolution, to include Chapter 13, a Mineral Resources Element.

Consistency Analysis

All changes in development patterns in 2018, including infrastructure improvements, were found to be consistent with the 2016 Comprehensive Plan, the Charles County Zoning Ordinance, as well as with all adopted plans of the state and adjoining jurisdictions.

Process Improvements

Reorganizational changes to the Charles County Department of Planning and Growth Management were implemented, effective March 31st, 2018. The new Department structure has three divisions under Administration: Transit; Planning; and Codes, Permits, and Inspection Services. No changes were made to the internal structure of Transit, but the other two Divisions have gone through significant changes. One of the major aspects of this reorganization was the combination of the Resource Infrastructure and Management Division with the Planning Division. Jason Groth is the Planning Director overseeing the new Planning Division, which contains four program focus areas: Engineering; Current Planning; Zoning; and Long Range and Preservation Planning.

In October 2018, Planning and Growth Management transitioned over to EnerGov, a new permitting software solution. This new permitting system is being used to provide a better experience for both citizens and staff by providing electronic review, submittal, fee payment and inspection requests for permits and plans. Communication between staff and applicants will be more efficient through the ability to provide marked up plans and standardized review letters for comments and approvals. Citizens now have access to their own portal where they can check the status of their plans, see any sub records, pay their fees, request inspections, apply for new applications and resubmit any documents or drawings. To create an easier review process and reduce paper waste, staff will have access to all previous and new submittals electronically for review and comment. It is intended that the implementation of this new system will allow Planning and Growth Management to create a more streamlined review process and better customer service experience for citizens.

Development Capacity Analysis

A development capacity analysis was conducted as part of the 2016 Comprehensive Plan, which was adopted in July of 2016. Development Capacity Analyses are required every three years. Charles County did have a significant change in zoning in 2017, with the adoption of the Watershed Conservation District (WCD) Zone. Therefore, Charles County Planning staff worked with staff from the Maryland Department of Planning (MDP) to update the Development Capacity Analysis for Charles County. This analysis was prepared by MDP in May of 2019. The results show that Charles County has enough capacity for the 2040 projected growth. The projections show a possible 21,137 household increase and the County has capacity for 23,490 additional households. The full Development Capacity Analysis is attached in the Appendix of this report. The next Development Capacity Analysis will be due in 2022.

Land Preservation

Land preservation programs continue to be very active in Charles County with growing landowner interest in preserving their farm and forest properties. The amount of land protected in calendar year 2018 reflects this trend, with a net increase of 2,132 acres.

The Maryland Agricultural Land Preservation Foundation (MALPF) and the Rural Legacy Program contributed 1,029 acres of this total. These two programs rely heavily on a strong partnership with the County Government and staff and local matching fund contributions. The County's Transfer of Development Rights (TDR) Program and Forest Conservation Act requirements contributed 619 acres of protected land in 2018.

Figure 10 below provides a detailed breakdown of protected lands in Charles County from all sources.

Figure 10: Protected Lands in Charles County through December 2018 (in acres)

	Type of Protection	Protected through 2017	2018 Data	Protected Through 2018
Regulatory	Resource Protection Zone (RPZ)	28,152	-416 ⁴	27,736
	Forest Conservation Easements	9,246	+97	9,343
	Stream Buffers in the Critical Area/Critical Area Buffer outside of the RPZ (IDZ and LDZ)	612		612
Federal	Federal Properties	1,600		1,600
State	State Owned Resource Land	21,144	+542	21,686
	State and Federal Owned Easements	3,657	+83	3,740
	Maryland Agricultural Land Preservation Foundation Easements (MALPF)	8,588	+932	9,520
	Maryland Historical Trust (MHT)	247		247
	Maryland Environmental Trust (MET)	5,488		5,488
State/Local	Rural Legacy Easement Properties	4,377	+97	4,474
	Transfer of Development Rights Program	5,633	+522	6,155
	County and Town Parks	3,390		3,390
Other	The Nature Conservancy (TNC)	2,610	+67 5	2,677
	Conservancy for Charles County (CCC)	134	+208	342
	Joint MET & CCC Properties	1,472		1,472
Total Acres I	Protected	96,350	+2,132	98,482
Total Acres of	Projected Open Space from Preliminary Plans for 2018		0	

⁴ Acreage decrease due to overlap with some of the newly protected lands.

⁵ Acreage increase due to correction from deed of a property in Nanjemoy.

Local Land Use Goal & Comprehensive Plan Goals

Local Land Use Goal:

With the recent adoption of the 2016 Comprehensive Plan, several significant changes were made, including downzoning measures to protect the County's natural resources, and increasing the size of Priority Preservation Areas (PPA). It is anticipated that the growth rate will be slower and will approach one percent or less rate of growth in the near future. A land use goal of the 2016 Comprehensive Plan, which was retained from the 2006 Comprehensive Plan, is to direct 75 percent of future residential growth to the sewer service areas and to the Towns of Indian Head and La Plata. Further, the 2016 Comprehensive Plan also retained the goal of protecting 50 percent of the county's land area as open space.

Charles County established a Priority Preservation Area through the Agricultural Stewardship Act of 2006 with a goal of preserving 80 percent of the remaining undeveloped lands within the PPA for agricultural and forestry uses. The PPA contains 134,168 acres and includes three major rural parts of the county: the Cobb Neck Area, the Nanjemoy Peninsula, and much of the Mattawoman Creek Watershed. The adoption of the Tier Map in 2014, designated the PPA as Tier IV, which enabled the County to stabilize the land base in this area by limiting subdivisions on septic systems within the PPA to minor subdivisions.

Timeframe for achieving the goal:

The 2016 Comprehensive Plan is a ten-year planning guidance document. A Work Program is being developed and refined to prioritize implementation goals and set realistic timeframes to achieve changes to policies and regulations.

Resources necessary:

Resource needs are reviewed on an annual basis as a part of the County budget process.

Charles County Open Space Goal Acreage Analysis

Charles County has an open space preservation goal of 50 percent. Figure 11 below provides a summary of the County's preservation efforts through 2018 to meet this open space goal.

Figure 11: Open Space Goal Acreage Analysis

Category	Acres	Comments
Total County land area	294,404	
50% overall open space protection goal	147,202	294,404/2
Protected through December 2018	98,482	67% of goal, 33% of
		County total Land area
Additional needed to meet goal	48,720	

Adequate Public Facilities Ordinance Restrictions

Charles County adopted an Adequate Public Facilities Ordinance (APFO) in 1992, which has been amended as needed since that time. Primarily, the APFO governs the approval of development based on the status of public infrastructure, which includes water supply, rural fire suppression resources, roadways, and schools. Through the APFO and related subdivision regulations, the County requires commercial and residential developments to provide necessary improvements to infrastructure (specifically roads and fire suppression water supplies) when the impact of the development is shown to degrade the level of service of the surrounding infrastructure. For schools, a residential development project must be granted an allocation of school capacity for each proposed lot or dwelling unit in order to receive approval of a record plat of subdivision.

The Charles County Commissioners currently allocate the available capacity of each school to pending new development lots based on the measurement of 110% of State Rated Capacity. In order to obtain allocations, capacity must be available in each of the three schools (elementary, middle, and high school) that students generated by the particular subdivision would attend. A school allocation granting is restricted by the most limited school capacity among the three schools serving the proposed community. While the overall student population in the County had been declining slightly from 2011 through 2015, the total school attendance has been on the rise since then, including an increase of almost 250 students in 2018. In particular, the elementary school level has experienced a steady increase in population, warranting the expansion of capacity by the construction of a new elementary school in the Waldorf area.

The Charles County Adequate Public Facilities Manual allows the County Commissioners to utilize the capacity of the new Billingsley Elementary School in the calculation of available school seats for development projects in the 2018 School Allocation Cycle. The subject rules allow the capacity of planned and funded new schools to be counted and allocated within the 18 months prior to the opening of the new school facility. During the previous allocation cycle (2017), the added capacity of each elementary school was determined through the School Superintendent's Comprehensive Redistricting process, and the County Commissioners allocated according to the policy. Since the school opening was later delayed by one year, the Commissioners did not utilize this additional capacity for the 2018 allocation cycle.

With regard to funding the local share of school construction projects, a School Construction Excise Tax is collected from the homeowner of each new home via their property tax bill. Since the enactment of the Charles County Excise Tax in 2003, the calculation was based on the Producer Price Index, which was not keeping pace with the actual cost of school construction. In 2015, the Maryland General Assembly passed a revision to the Charles County Excise Tax Legislation to tie the calculation of the Excise Tax to the "State's Per Square Foot Cost of School Construction," ensuring the tax assessment keeps pace with the costs incurred by the County. The Fiscal Year 2018 Excise Tax assessed for a detached single-family dwelling is \$17,385, which is amortized over a 10-year period in the property tax bill. Similarly, the Excise Tax for a townhome is \$17,392 and for a multi-family dwelling is \$14,554.

Name and Location of Infrastructure Restrictions within Priority Funding Area

Infrastructure Restriction: Zekiah Sewer Pump Station

The Zekiah Sewer Pump Station reached its maximum functional capacity in 2012, which prompted the County to take certain actions in 2013. Development activity within the northeastern quadrant of Waldorf has filled the capacity of the sewer infrastructure serving the area between MD 5 (Mattawoman–Beantown Road) to the east, US 301 (Crain Highway) to the west, Acton Lane to the north, and MD 5 Business (Leonardtown Road) to the south. The Zekiah Pump Station was determined to be the most limiting factor with the Waldorf Urban Redevelopment Corrdior (WURC) area. The County completed the Infrastructure Analysis and Phase I Development Plan in late 2012, which determined the necessary infrastructure-related

incentives to create a catalyst for the redevelopment of this area of Waldorf. Among several water and wastewater improvements found to be essential to kick-start this initiative, the complete replacement of the pump station and associated sewer lines was illustrated as a priority. It was also noted that this sewer infrastructure capacity restriction would prohibit even small-scale projects from moving forward, with the exception of projects that were previously approved and accounted for in the final flow calculations of the pump station capacity. To address this restriction, the County Commissioners approved the capital projects to replace the pump station and the associated sewer infrastructure.

Infrastructure Changes

The Charles County Capital Improvements Division of the Department of Public Works completed numerous infrastructure enhancements in 2018. These projects included roadway improvements, water and sewer improvements, and stormwater and drainage improvements associated with the County's National Pollutant Discharge Elimination System (NPDES) Stormwater Permit. Specific projects are as follows:

Water/Sewer Projects

1) **Jenkins Lane Waterline** – This project involved the installation of approximately 2,483 of 8-inch water main along Jenkins Lane and approximately 1,560 feet of 8-inch water main along Hungerford Road. The project also included the abandonment of the two existing private water wells and associated water main.

Transportation/Drainage Projects

- 1) Western Parkway Phase 2 The Western Parkway, Phase 2 project involved the rehabilitation of the existing roadway and stormwater drainage between Acton Lane and Pierce Road. The Phase 2 project is the next phase of improvements for a north/south alternative route to US Route 301 that will facilitate local vehicular traffic within Waldorf. The existing roadway will be upgraded to a four-lane divided minor arterial parkway.
- 2) **Western Parkway, Phase 3A-1** Project includes the installation of storm drainage structures and pipe and construction of a stormwater management (SWM) pond/facility. This facility receives stormwater runoff from a portion of the Western Parkway, Phase 2 road improvements and the entire, future Western Parkway, Phase 3A-2 roadway. The SWM facility currently serves as a temporary sediment basin until the construction of Western Parkway, Phase 3A-2 is completed; Phase 3A-2 is currently under construction.
- 3) **Middletown Road and Billingsley Road Roundabout** The project involved the construction of a 2-lane roundabout and 800 linear feet (LF) of a 4-lane divided highway from the signalized intersection to the roundabout to meet the ultimate roadway classification for Middletown Road.
- 4) **McDaniel Road and Smallwood Drive Traffic Signal** The project involved the construction of a 3-leg traffic signal along with pedestrian signals and crossings. The traffic signal improvements and pedestrian improvements will allow for safer traffic turning movements and allow pedestrians to safely cross the intersection.
- 5) **St. Patrick's Drive and Smallwood Dr. Traffic Signal /Pedestrian Improvements** The project involved traffic signal modifications for dedicated left turn movements at the four legs of the intersection along with an extended left turn lane from Smallwood Drive onto northbound St. Patrick's Drive. The project also involved the upgrading of pedestrian ADA handicap ramps, pedestrian push button signals, sidewalk improvements, and improvements to the existing drainage ditch to minimize roadway flooding.

6) **St. Patrick's Drive and Western Parkway Pedestrian Improvements** – The project involved the installation of four (4) upgraded pedestrian signals, the removal and placement of existing handicap ramps to meet the current ADA standards, the installation of new crosswalks, and pedestrian push button signals.

Other Infrastructure

- 1) **NPDES Longmeade Outfall** The project involved the construction of outfall protection and stabilization to eliminate illicit discharge within the existing County Right of Way.
- 2) **NPDES Charles County Plaza** The project involved the construction of a shallow gravel wetland system. This project will effectively treat approximately 18.6 acres of impervious surfaces that are currently considered untreated and reduce the total waste load allocations (WLA's) for nitrogen, phosphorus, and total suspended solids.
- 3) **NPDES Shoreline Stabilization at Benedict Community Park** This project involved the construction of approximately 527 LF of shoreline stabilization along the Patuxent River in Benedict, Maryland. The primary purpose of this project is to stabilize the eroding shoreline by constructing a 527 LF stone sill, and the eradication of 14,753 SF of Phragmite Australis which will create a living shoreline that will reduce erosion of the existing shoreline improving the habitat and water quality.
- 4) **NPDES** Shoreline Stabilization at Swan Point The project involved the construction of approximately 1,740 LF of shoreline along Cuckold Creek and Shaw's Branch at the Swan Point Wastewater Treatment Plant in Issue, Maryland. The primary purpose of this project was to stabilize the eroding shoreline by constructing 991 LF of stone revetment and stone sill, 749 LF of low-profile coir log, with a rock toe, sand fill, marsh vegetation, upland grading and stabilization to tie in the revetment.
- 5) Government Building Atrium Renovation The project involved the construction of renovations to the Government Building main entrance atrium to include security desk enclosure, structural improvements to facilitate upper floor office space, an upgraded HVAC system along with associated electrical work.

New Schools or Additions to Schools

The County Government and Board of Education began working together on Elementary School No. 22 in 2014. The property was purchased in 2015 to build a new elementary school on Billingsley Road, west of US 301, to address the capacity needs in the area. Construction progressed through 2018 and was completed January 2019. The new school will be open to students in the fall of 2019.

The Board of Education also initiated a 200-seat addition on the Dr. Samuel A. Mudd Elementary School within the St. Charles community in eastern Waldorf in 2017, which continued through 2018. Both the additional capacity at Mudd Elementary as well as the new Billingsley Elementary School were incorporated into the Comprehensive School Redistricting process that was completed in 2017, and subsequently adopted by the School Superintendent. This elementary school redistricting process was done to balance the capacity surplus and shortages throughout the County in tandem with the allocation of additional capacity provided by the new school additions.

Growth Trends

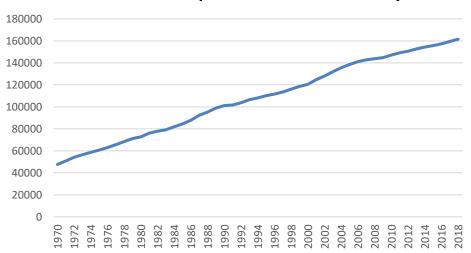
In order to understand growth trends in Charles County, it is important to consider that there are a number of factors that come into play. Charles County is part of the growing Washington DC Metropolitan region; and market conditions in this region affect how the County grows. These market desires for housing type and economic conditions greatly impact what type of development occurs and when.

While market conditions will always play a role, growth is also affected by current policies and regulations that are in place. In 2012, as part of the Sustainable Growth and Agricultural Preservation Act, a Tier Map was adopted countywide that restricts growth in the rural areas of the county to minor subdivisions. In 2016, the Comprehensive Plan was updated, which now calls for a target growth rate of approximately one percent, or less, per year. It is too early to fully measure the effect that the 2016 Comprehensive Plan will have on growth in Charles County. It should also be noted that it will take years to implement the recommendations of the Comprehensive Plan, which will involve changes to zoning, as well as to current policies and regulations.

When considering growth in Charles County, and especially in the Development District, St. Charles accounts for a significant portion of development approvals. The Zoning Indenture known as Docket #90 authorized the Planned Unit Development (PUD) of St. Charles. Through village master plans, St. Charles is allowed to build more than 20,000 units including single-family homes, townhouses, and apartments. There are approximately 7,000 remaining units to be platted. In 2018, final plat approvals in the St. Charles PUD accounted for 71 percent of the final plats approved inside the PFA, and 56 percent of the total final plat approvals.

According to Figure 12 below, the population of Charles County is steadily increasing. While it may appear on the surface that the County is growing rapidly, the average annual rate of growth has decreased over the last several decades. Between 1970 and 1980, the growth rate was 4.32 percent. The growth rate between 1980 and 1990 decreased to 3.35 percent. Between 1990 and 2000, the growth rate dropped again to 1.8 percent, but did not change much between 2000 and 2010 at 2 percent. The population growth rate between 2011 and 2018 was 1.14 percent, which is a reduction of more than 3 percent since the decade between 1970 and 1980.

Figure 12: Estimated Population Growth in Charles County since 1970 **Estimated Population in Charles County**



Source: U.S. Census Bureau Population Estimates

While population is one way to look at growth, there are other factors to consider that will have a direct effect on growth such as the approval of preliminary subdivision plans, final subdivision plats, and building permits. It should be noted, however, that preliminary subdivision plans should only be considered as an indicator of potential growth as they may not be built for several years, and some preliminary plans are voided before moving to the final plat stage. The recordation of final plat lots and the issuance of building permits signifies actual growth. Trends for each of these will be considered in the following pages.

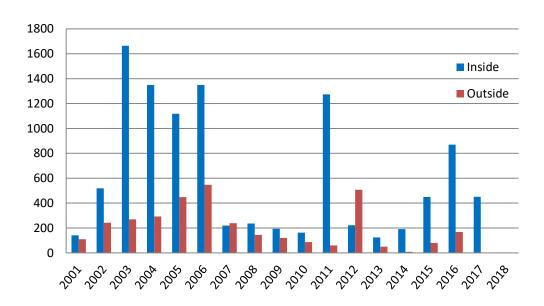
Preliminary Subdivision Plans

Preliminary subdivision plans are required for projects with more than seven (7) proposed lots. As noted previously, preliminary plans that are approved can take years to be built, or they may be voided for a number of reasons. Therefore, while it is important to consider preliminary plan trends for forecasting purposes, final plats and building permits are a more accurate form of measurement in the grand scheme of development in Charles County.

By looking at trends for preliminary plans since 2001 in Figure 13 below, there were only two years since 2001 in which there were more lots approved outside of the Development District or PFA than inside. In fact, there were no preliminary plan lots approved in 2018. The beginning of the mortgage and financial crisis in the United Sates that impacted development overall began in 2007. While 2011 was an anomaly, preliminary plan approvals have been down since the beginning of the financial crisis, but the trend of more lots approved inside the Priority Funding Area is continuing. It should also be noted that there was an increase in preliminary lot approvals in 2016 as the Sustainable Growth and Agricultural Preservation Act of 2012 required that preliminary plans in the pipeline be approved by October 1, 2016 in order to be grandfathered. Further, with the adoption of the tier map in 2012, there have been fewer preliminary plans in general, especially in the rural areas.

Figure 13: Approved Preliminary Lots Inside and Outside of the Development District (2001-2015) and Priority Funding Area (2016-2018)

Approved Preliminary Lots



Final Plats

In looking at trends for final plats in Charles County since 2001 in Figure 14 below, it should be noted that more final plat lots are being recorded inside of the Development District/Priority Funding Area than outside overall. With the exception of 2013 and 2015, there has been a decline in approvals of final plat lots since the mortgage and financial crisis that began in 2007/2008. However, with the housing market slowly improving around the country, there will likely be an increase in final plat lot approvals over the next few years, but approvals should primarily be located within the Priority Funding Area based on the location of preliminary plan approvals over the last five to seven years. Final plat approvals should also remain steady in the Development District/Priority Funding Area for the next few years as St. Charles continues to plat lots in the PUD. It can also be observed that the County Commissioners changed the policy on school allocations in 2016 and allowed for a small increase in recorded lots in 2016 and 2017. Since each lot/unit that is receiving a school allocation is required to be recorded in the land records, the increase in available school allocations allowed for some increase in recorded lots in districts that had available capacity at receiving schools.

Figure 14: Number of Final Plat Lots Approved Inside and Outside of the Development District (2001-2015) and Priority Funding Area (2016-2018)⁶

Approved Final Plat Lots

⁶ Final plat lot numbers in Figure 6 include apartment and multi-family (duplex, triplex, quadriplex) units, if applicable. Apartment units are not counted as individual lots on final plats; therefore, this information was extracted from building permit data and added to the appropriate plat year in Figures 5 and 6. In 2018, there were building permits approved for 56 apartment units.

Building Permits

Building permit data is very important to track as it represents actual development that may have been in process for many years. Figure 15 below shows the distribution of building permits over the last 50 years. Between 1981 and 1986 there was a significant building boom in the county, with 1985 being the year with the highest number of building permit approvals since 1969 at almost 1,700 permits. The fifty-year building permit average is 913 permits per year. However, the average number of residential building permits approved in the last ten years is 775.

An analysis of building permits since 1970 shows that the average annual growth rate over this 50-year period is 3.09 percent. This growth rate is understandable when considering that there were several years since 1970 where more than 1,000 building permits were approved, especially during the 1980's. However, the average annual growth rate for building permits over the last ten years between 2009 and 2018 is 1.44 percent. Further, the average annual growth rate for building permits for 2018 is 1.15 percent.

Figure 15: Charles County Residential Building Permits since 1969

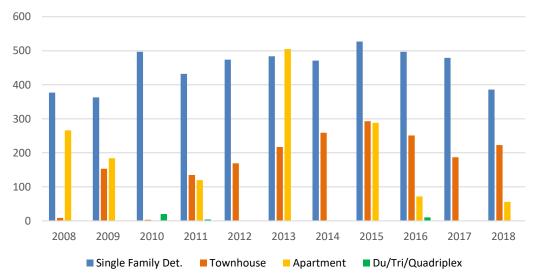
Figure 16 below shows the ten-year trend for Charles County residential building permits. Similarly, Figure 17 below shows the distribution of building permits by housing type since 2009. Single-family dwellings and townhome approvals have been fairly consistent over the last ten years. Apartment approvals have increased when there is a market demand for this housing type. There has not been a huge market-driven demand for duplex/triplex/quadraplex units in general.

Figure 16: Charles County Residential Building Permits

	CED			Duplex/Triplex/	T ()
	SFD's	Townhomes	Apartments	Quadraplex	Total
2009	363	153	184	0	700
2010	497	3	0	20	520
2011	432	135	120	4	691
2012	474	169	0	0	643
2013	484	217	505	0	1,206
2014	471	259	0	0	730
2015	527	293	288	0	1,108
2016	497	251	72	10	830
2017	479	187	0	0	666
2018	386	223	56	0	665
Total	4,610	1,890	1,225	34	7,759

Figure 17: Charles County Residential Building Permits by Housing Types

Charles County Building Permits by Residential Type



School Enrollment

A key indicator of the impact of residential growth on public facilities is the effect on student population in the public schools. This indicator is a good way to measure how the increase in residential dwelling units translates into a secondary impact on the services provided by the state and local governments. Since 2008, Charles County has experienced a 12 percent increase in residential dwelling units. However, the overall growth in the public school population has been relatively flat according to Figure 18 below. Total student enrollment in 2008 was 26,289 students versus a total enrollment of 26,544 in 2018. This equates to less than one percent growth in enrollment over 11 years. Elementary school growth has been the strongest with an increase of 10 percent, while middle school has declined by one percent, and high school has declined nine percent over the same time period. It can be expected that the general increase in population at the elementary school level will move on to the middle and high school levels, but the general lack of overall growth in total school enrollment over the last 11 years clearly shows an easing of growth in the County.

School Enrollment History in Charles County 14,000 12,000 10,000 8,000 6,000 4,000 2,000 2008 2009 2010 2012 2013 2014 2015 2016 2017 2018 2011 Middle ——High Elementary =

Figure 18: Charles County School Enrollment History

What does this all mean?

When looking at growth in Charles County, there are multiple indicators to consider. Previous Planning Commission Annual Reports have calculated the average annual growth rate strictly on population estimates provided by the Census Bureau. The Comprehensive Plan also calculates the average annual growth rate based on Census estimated population data. When the Census Bureau updates their population estimates, they use current data on deaths, births, and migration. Staff has taken a new approach of looking at actual residential development approvals, and specifically building permits, as a way of considering the average annual rate of growth. Unlike population data, building permit approvals reflect actual development on the ground, which is a direct result of economic market conditions, as well as current policies and regulations that are in place. The average annual growth rate for population for 2018 is 1.29 percent. In comparison, the average annual growth rate for building permits is 1.15 percent.

It is important to note that building permit data does not include information on the number of persons per household. According to the 2016 Comprehensive Plan, new households added between 2010 and 2020 will have 2.35 people, on average. It is further projected that households added between 2030 and 2040 will have 2.22 people, on average. While building permit data does not capture how many people will be living in new households that are built in the county, this is a more accurate way to capture actual residential growth in Charles County in any given year, which is also driven by economic market trends, as well as current policies and regulations. Further, it is important to point out that school enrollment figures have remained relatively constant at less than one percent over 11 years, and this trend is expected to continue.

Due to the significant changes made by the 2016 Comprehensive Plan, including downzoning measures to protect the County's natural resources, and increasing the size of the Priority Preservation Areas, it is anticipated that the rate of growth will be slowed to 1 percent or less in the future. Data from final plats, building permits, and school enrollment provide a more accurate indication of growth and development trends. These measures would appear to reflect a steady or declining rate of growth.

Conclusions and Recommendations

Due to the significant changes made in the 2016 Comprehensive Plan, and the fact that 65 percent of the County is mapped as Tier IV and limited to minor subdivisions, it is anticipated that the growth rate will be slowed to a 1 percent or less rate of growth per year. Further, growth control mechanisms, especially zoning, water and sewer policies, and adequate public facility regulations, will likely continue to result in 70 to 75 percent of new growth occurring in the Development District and the incorporated towns.

Consistency with Comprehensive Plan

One of the 2016 Comprehensive Plan goals is to direct 75 percent of future residential growth to the Development District and to the Towns of Indian Head and La Plata as these areas will provide infrastructure to support growth, including water and sewer, schools and roads. As noted previously, the 2016 Comprehensive Plan reduced the size of the Development District from 52,200 acres to 22,189 acres for a total reduction of 30,011 acres.

Figure 19 below demonstrates how Charles County's development activity is generally consistent with the 2016 Comprehensive Plan goals, although many projects approved in 2018 were in the development review pipeline previous to the adoption of the Plan. It is important to note that local market conditions, including the Washington DC market, influence housing availability and price in Charles County. The Planning Division is working with the American Planning Association's Community Planning Action Team to study the best way to comply with housing goals and the direction of the Comprehensive Plan.

Figure 19: Development Consistency with Comprehensive Plan Goals

	Comprehensive Plan Goals	2018	5-Year Average	10-Year Average
% Preliminary Plan Lots Inside Development District/PFA:	75%	0%	88%	78%
% Final Plat Lots Inside Development District/PFA:	75%	81%	80%	80%
Housing: Single Family	80%	58%	60%	58%
Housing: Townhomes	15%	34%	30%	24%
Housing: Apartments	5%	8%	10%	18%

In 2018, the County did not have any preliminary plan lots approved. However, an analysis of preliminary plan lots inside the Development District/PFA from 2009 through 2018 demonstrates that the County is generally consistent with Comprehensive Plan goals, averaging 78 percent over the ten-year period.

In 2018, 81 percent of the final plat lots were located inside the Development District/PFA. An analysis of final plat lots inside the Development District/PFA from 2009 through 2018 demonstrates that the County is consistent with Comprehensive Plan goals, averaging 80 percent over the ten-year period.

The 2016 Comprehensive Plan identifies a goal for housing mix of approximately 80 percent single-family detached units, 15 percent townhouses and condominiums, and 5 percent apartments. Therefore, using building permit data as an indicator, in 2018 the County was generally consistent with the goal for apartments, but exceeded the goal for townhouses. The County was under the goal for single-family dwellings. It is too early to measure the effect that the 2016 Comprehensive Plan will have on growth in Charles County as it will take years to implement the recommendations, which will involve changes to zoning, as well as to current policies and regulations. The economic market will always play a strong role in driving the demand for housing types as well.

Per the state Smart, Green and Growing legislation, jurisdictions are to establish a goal toward increasing the percentage of growth within their PFAs while decreasing the percentage of growth outside. Priority Funding Areas are existing communities and places where State and local governments want to target their efforts to encourage and support economic development and new growth. Further, these locations are also where local governments want State investment to support future growth. The 2018 Annual Report map in the appendix includes the Priority Funding Areas.

The current growth policy of Charles County is aligned with the principles of the State legislation by encouraging, as a matter of policy, the majority of development into the Development District and the PFAs. Charles County has been supporting smart growth as a policy and concept as reflected in the Planned Unit Development (PUD) of St. Charles Communities for well over three decades. Additionally, the County is committed to having 50 percent of its overall acreage in open space. A large Priority Preservation Area has been established with an aggressive goal of preserving 80 percent of the remaining undeveloped land within these areas. The County's commitment to land preservation has resulted in approximately 1,000 acres protected annually since 2016. The same will likely hold true for calendar year 2019.

Currently, the trend lines indicate development is within the level of tolerance. If, in the coming years, development trends do not continue in this manner, then policies can be re-evaluated by the Planning Commission to determine if changes are necessary.

Appendix

- 1) Development Activity Map with Priority Funding Areas
- 2) Development Capacity Analysis (completed May 2019)
- 3) Land Use Map from the Comprehensive Plan
- 4) Protected Lands Map
- 5) Tier Map
- 6) Priority Preservation Areas Map

IMPORTANT PLEASE NOTE: All publications located within the Planning and Growth Management section of the web site are believed to be accurate as of their posting date. However, they may not be accurate on the day you view them. To verify whether these documents are the most current official document, please contact the division associated with the document in question.

PLANNING COMMISSION OF CHARLES COUNTY, MARYLAND

BE IT RESOLVED, this 17th day of June 2019, by the Planning Commission of Charles County that the document consisting of text, maps, and charts, entitled "2018 Planning Commission Annual Report" and dated May 2019, is hereby adopted in accordance with the Land Use Article of the Annotated Code of Maryland.

CHARLES COUNTY PLANNING COMMISSION

CHARLES COUNTY, MARYLAND

Wayne Magoon, Chairman

Rick Viohl, Jr., Secretary

Vicki Marckel

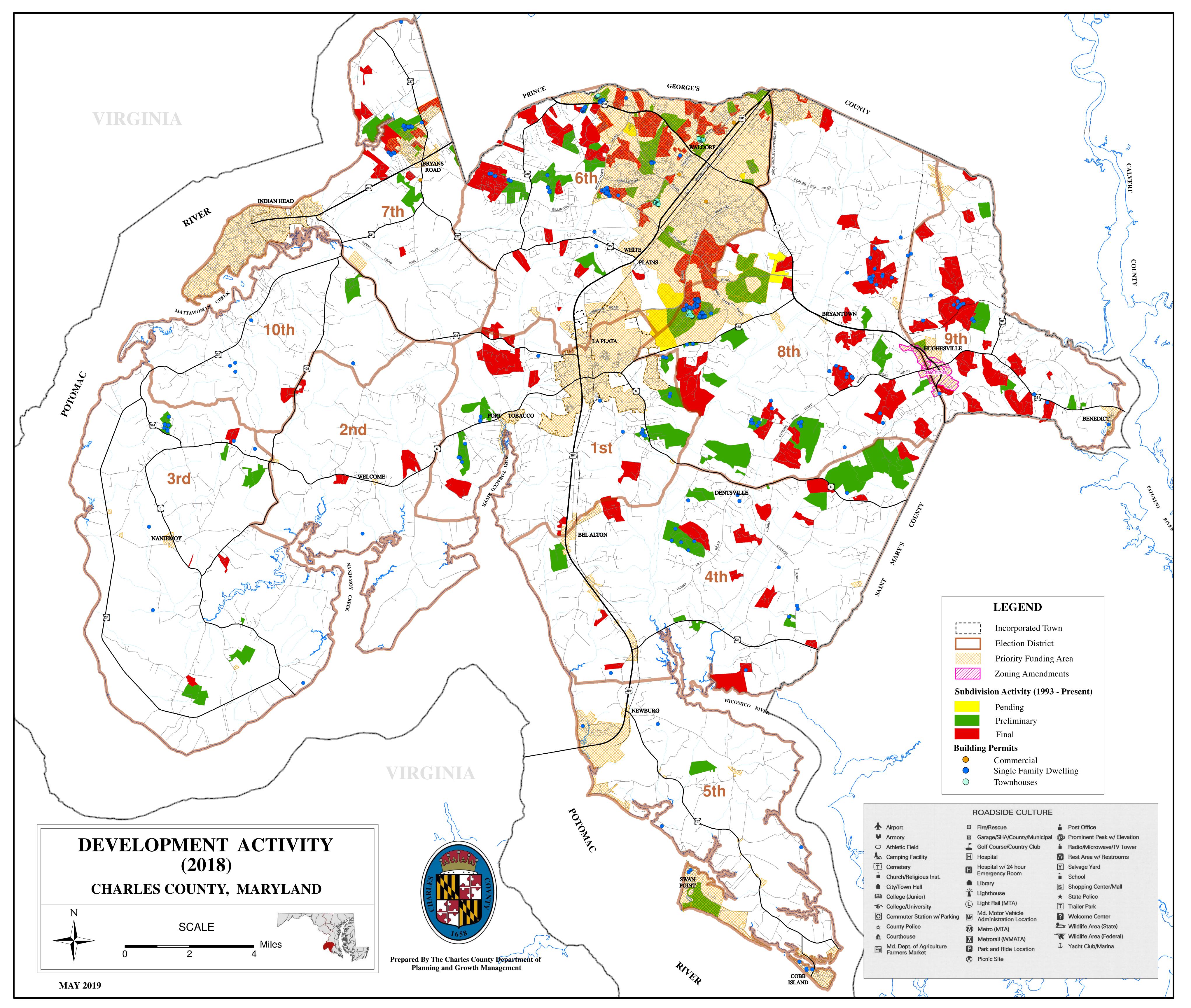
Kevin Wedding

Angela Sherard, Vice Chairman

Robin Barnes

William Murray

Melissa Hively, Clerk



Charles County Development Capacity Analysis *May 13, 2019*

MDP has performed a development capacity analysis for Charles County. Analysis for the towns of La Plata and Indian Head were excluded from this analysis as they are municipalities and have their own zoning.

Estimating Residential Development Capacity: A Guidebook for Analysis and Implementation in Maryland (August 2005) includes a full description of the analysis' methodology and its caveats. This analysis produces estimates of the number of dwelling units built by build-out based on existing zoning, land use, parcel data and information about un-buildable lands. This analysis does not account for school, road, or sewer capacity. The estimates are focused on the capacity of the land to accommodate future growth.

Background and Trend Data

Based on Census data, Charles County is expected to grow from 167,050 in 2020 to 218,550 people by 2040, an increase of 51,500 persons. There were 60,675 housing units as of July 1, 2017 and is projected to have 80,923 households by 2040 which is an increase of 21,137 households.

Capacity Analysis

The results show that Charles County has enough capacity for the 2040 projected growth. The projections show a possible 21,137 household increase and the County has capacity for 23,490 additional households, despite the analysis excluding the towns of La Plata and Indian Head. Mixed-use zoning was considered at 40% of the parcel to be built as residential and then the yield factor was applied as well.

Density yield of each zoning category was determined using MDP's default, or "assumed" yield factor of 75% of the allowable density of a residential zoning district (see Table 1). Mixed-use zoning was considered at 40% of the parcel to be built as residential and then the yield factor was applied as well.

Table 1. Density Yield in Residential and Mixed-Use Zoning Districts

Zoning	Density Yield (du/acre)*
AC	0.25
RC	0.25
RR	1.09
RV	1.63
RL	1.82
RM	2.72
RO	0.93
RH	4.08
PRD	5.45

CER	2.61
CMR	2.61
CRR	2.61
MX	2.61
PMH	7.26
WC	9.00
AUC	9.00
WCD	0.04
HVC	2.61
HVR	3.27

^{*}Density Yield = (Allowable Density x 0.75)

The attached Development Capacity Summary Report shows that almost all of the County's capacity, 18,352 potential households, is located on underdeveloped larger parcels that are more than 2 acres in size.

Development Capacity Summary Report Charles County (2015 Model)

Result	Process	Acres	Number of Parcels	Capacity
Total Acres in Parcels and				
Lots(1)		278,319	60,423	
	Subtract land zoned for non			
	residential use (commercial,			
	Industrial, and mixed use)	7,210	1,607	
Residentially Zoned				
Acres(2)(3)		271,108	58,816	23,490
	Subtract tax exempt	(4)		
	Subtract protected lands and			
	environmentally sensitive parcels	(5)		
	Subtract other parcels without			
	capacity (built out areas)	(6)		
Acres and Parcels with				
Capacity	Total Capacity	128,279	7,468	23,490
Capacity Inside PFA(7)		6,417	2,016	9,079
Capacity Outside PFA		121,862	5,452	14,411
	bsets of the Analysis of Inter			17,711
	bsets of the Analysis of Inter	est (not add	iitive)	
Acres and Parcels with	Hairana and Danasla (ct10 000)			
Capacity Associated with	Unimproved Parcels (<\$10,000) less than 5 acres	0.022	7 124	F 0F0
Undeveloped Land Acres and Parcels	less than 5 acres	8,933	7,134	5,059
Associated with Small	Parcels <2 acres in size (improved			
Parcels	or unimproved)	16,914	43,660	3,902
Acres and Parcels	or animproved)	10,914	+3,000	3,302
Associated with Larger	Unimproved parcels, > 2 acres			
Parcels, Underdeveloped	with capacity and improved			
Parcels.	parcels > 5 acres with capacity.	125,416	3,962	18,352

- (1) Analysis is based on 2015 edition year of Md Property View data.
- (2) Zoning is based on the new zoning code submitted to MDP in 2018.
- (3) Parcels zoned commercial or industrial are not assigned capacity in the current version of the analysis.
- (4) Tax exempt parcels were not found to be significant in the analysis and therefore were not considered or are already accounted for in the analysis.
- (5) Site constraints were not accounted for separately but are ultimately accounted for in the total capacity.
- (6) Parcels without capacity due to various reasons.
- (7) PFA status was determined using 2015 PFA boundaries.

This report was created on May 13, 2019

