



Section 4 Utilities and Community Facilities

Purpose

Hanover County's Mission is *to be a premier community by providing superior service through creativity, innovation and sound financial practices*. Adequate community facilities are essential to support services for current and future populations and for the local economy. The Comprehensive Plan has been developed with a 20-year horizon for guiding land use development and provides a course for predicting the need for future public facilities. The following section assesses existing facilities, the present design adequacy, capacity, and future demand for those facilities using the growth assumptions discussed in Section 1; specifically a 1.5% growth rate, 2.68 persons per household, and the assumption that 70% of growth will occur within the designated Suburban Service Area.

This section addresses water/wastewater utilities and facilities associated with Public Safety (Fire/EMS, Sheriff's Office, Animal Control), Parks and Recreation, Schools, Libraries, Judicial and General Government Services. References are made throughout this section to policies and documents that include further detail of the planning objectives utilized by a department or agency that administers the particular facility. This Section also provides guidance for accommodating private telecommunication infrastructure and to minimize the land use impacts of new facilities.

Goal

Hanover County citizens and businesses will be provided:

- < Superior services through cost-effective public utilities and community facilities
- < Strategically located facilities that provide optimal public safety
- < Educational, recreational and cultural opportunities that will foster a superior quality of life
- < A public communication network that provides optimal protection for citizens and emergency response employees; and a private communication network that can serve all County residents and businesses with fast and efficient wireless service

Adequate community facilities are essential to support services for current and future populations and for the local economy.

Utilities: Water and Wastewater Facilities

Objectives

- < Provide reliable water and wastewater service in accordance with applicable requirements
- < Maintain fiscal integrity to provide for system growth, adequate maintenance, and replacement of capital to ensure quality service, system reliability and to control future costs
- < Meet customer capacity needs in support of the County's Comprehensive Plan and economic development



The County's Department of Public Utilities owns, operates, and maintains public water and wastewater systems in the Suburban Service Area and a limited number of isolated rural water systems located outside of the Suburban Service Area. Collectively, in this document, these are referred to as the "System". Public Utilities operates as a self-supporting enterprise fund. In addition to the System operated by the County there are private central systems and individual systems in Hanover County.

The System and Suburban Development Plan

The Department of Public Utilities (DPU) invests in improvements related to water and wastewater treatment capacity, major regional water and wastewater pump stations, trunk sewers, water storage tanks, and water transmission mains to serve areas within the Suburban Service Area. DPU does not typically invest in smaller facilities serving specific areas or neighborhoods. Individual property owners are expected to design, construct and pay for local improvements from the major infrastructure constructed by the DPU. Historically, both existing and new development has paid for the local water and sewer infrastructure necessary to serve them, and if appropriate, also pays for County planned improvements that must be accelerated to meet the needs of these activities.

Public water and sewer are allowed to be extended into the areas shown on the *Conservation and Suburban Development Plan* map. As stated earlier in the Comprehensive Plan, changes in the expansion of the boundaries of the Suburban Service Area could be considered if any of the

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following conditions exist: (1) for economic development purposes where a private applicant is willing to fund public improvements, (2) where the County has determined the change is consistent with the Comprehensive Plan, (3) where the County has determined there is a demonstrated risk to the public health, safety, and welfare as a result of failing water or wastewater facilities necessary to serve an identified community, and (4) for Hanover County public sites and facilities.

Individual service connections for individual lots to the County's public water and sewer system may be allowed beyond the boundaries of the suburban service area in limited circumstances. These limited circumstances generally occur where connectable portions of the County's public water or sewer systems immediately adjoin, are located on, or are located within a right-of-way adjacent to a property located outside of the suburban services area.

Except as stated above, there are no other provisions for public water and sewer to be provided outside of the Suburban Service Area or outside the areas presently served by Public Utilities.

Provision of public utilities is conceptually described in the **Department of Public Utilities Water and Wastewater Facilities Master Plan** (this document can be reviewed by contacting the Hanover County Department of Public Utilities). DPU regularly updates this plan as required in response to changes in the Comprehensive Plan.

Public Water System

As of June 2012, DPU provided water service to approximately 20,590 customers. This includes approximately 1,800 commercial, industrial, and municipal accounts.

Water is provided by the County's Doswell Water Treatment Plant (4 Million Gallions per Day (MGD)), long term contracts with the City of Richmond (20 MGD), Henrico County (0.775 MGD), and ten wells (0.2 MGD). The System has a capacity of 25.0 MGD. Average daily water demand in FY12 was 8.7 MGD.



The County also owns the 2.0 MGD South Anna Water Treatment Plant on the South Anna River. This plant is currently not in service and would require substantial upgrades to return to service.

Private Water Systems

Some businesses and residential subdivisions are served by private central water systems. The largest private water purveyor, Aqua Virginia, Inc., owns and operates systems that serve twelve residential subdivisions.

Water Supply

The need for additional future water supplies to support the Comprehensive Plan and the growth of the System has been recognized since the 1970's. The findings of numerous studies agree that the groundwater resources of Hanover County are restricted by quantity and quality and are not viable for meeting the County's long-term water resource requirements. Several alternatives have been reviewed to meet the System's long term needs. The County has identified a reservoir located at the existing Verdon Quarry that could be supplied with water pumped from the North Anna River, the South Anna River and/or the Little River as its most viable source of water for the System. Two options are currently considered the most feasible and are outlined below.

Option 1: Verdon Quarry with Water Treatment Plant at Verdon Quarry

This alternative involves use of raw water storage in the Verdon Quarry a treatment plant adjacent to the quarry and includes:

- < 28 MGD (estimated) water treatment plant adjacent to the Verdon Quarry
- < 50 MGD (estimated) river intake and raw water pump station at Little River
- < 30 MGD (estimated) river intake and raw water pump station at North Anna River
- < 28 MGD (estimated) reservoir intake and raw water pumping station at Verdon Quarry
- < 28 MGD (estimated) finished water pump station at water treatment plant
- < 42-inch (estimated) raw water main from Little River to Verdon Quarry (approximately 400')
- < 42-inch (estimated) raw water main from Verdon Quarry to North Anna River (approximately 6,000')
- < 36-inch (estimated) finished water main from water plant to the Suburban Service Area (approximately 62,000')

Option 2: Verdon Quarry with Water Treatment Plant in Suburban Service Area

This alternative involves use of raw water storage in the Verdon Quarry, a treatment plant in the southern central portion of the County and includes:

- < 28 MGD (estimated) water treatment plant in the southern central portion of the County
- < 50 MGD (estimated) river intake and raw water pump station at Little River
- < 50 MGD (estimated) river intake and 78 MGD raw water pump station at South Anna River
- < 28 MGD (estimated) reservoir intake and raw water pump station at Verdon Quarry
- < 28 MGD (estimated) finished water pump station at water treatment plant
- < 42-inch (estimated) raw water main from Little River to Verdon Quarry (approximately 400')
- < 42-inch (estimated) raw water main from Verdon Quarry to South Anna River (approximately 39,000')
- < 42-inch (estimated) raw water main from South Anna River to water treatment plant (approximately 30,000')
- < 36-inch finished water main from water treatment plant to the Suburban Service Area (approximately 12,000')

Additional work to fully evaluate these options is needed. A new source of water is projected to be needed by approximately 2038. Based on current regulations and anticipated construction timelines, permitting activities and detailed design should start by 2022 which is 16 years prior to the new source being required.

Public Wastewater System

As of June 2012, DPU provided wastewater services to approximately 18,800 customers. This includes approximately 1,650 commercial, industrial, and municipal accounts.

Wastewater treatment is provided at Hanover's Totopotomoy Wastewater Treatment Plant (7 MGD), Ashland Wastewater Treatment Plant (2 MGD), Doswell Wastewater Treatment Plant (1 MGD), Hanover Courthouse Sewage Treatment Plant (0.08 MGD), and a long term contract with Henrico County (5.4 MGD). The System has a capacity of 15.48 MGD. Average daily wastewater demand in FY12 was 6.2 MGD.

Private Wastewater Systems

Bear Island Paper Company owns an on-site wastewater treatment plant which treats industrial wastewater prior to combining its discharge with the discharge from the Doswell Wastewater Treatment Plant. In addition, Tyson Foods operates a 1.0 MGD wastewater treatment facility at its facility on Route 33. Other private facilities are located at the Hanover Learning Center, Barrett Learning Center, the Missionary Training Center, and Kosmo Village Trailer Park.

Wastewater Treatment

Additional wastewater treatment capacity will be needed in the future as Hanover continues to grow. In addition to requiring additional capacity, Hanover's wastewater treatment plants will need to be updated to meet nutrient limits required by the Chesapeake Bay Total Maximum Daily Load (TMDL) and the associated Virginia Watershed Implementation Plan. The Department of Public Utilities is constantly evaluating its options in an ever changing regulatory environment. At this time no additional treatment facilities are anticipated to be needed, but improvements at any or all of the four existing facilities may be required during the planning period covered by this Comprehensive Plan Update.

Strategies

- < Explore additional future water supplies to support the Comprehensive Plan and the growth of the System including the following options
 - Verdon Quarry with Water Treatment Plant at Verdon Quarry
 - Verdon Quarry with Water Treatment Plant in the Suburban Service Area
- < Increase wastewater treatment capacity as required for future population growth demands and update facilities to meet nutrient limits required by the Chesapeake Bay Total Maximum Daily Load and the associated Virginia Watershed Implementation Plan



Libraries



Objectives

- < Provide convenient locations to access library materials
- < Maintain current service levels and look for opportunities to achieve target recommendations established by the State Library of Virginia and the Pamunkey Regional Library Board (PRLB)

The Pamunkey Regional Library serves the Counties of Hanover, King and Queen, Goochland and King William. Currently, the County is served by six library branches located at various locations around the County. Libraries currently occupy 51,895 SF, resulting in a SF/capita of 0.5. The SF/capita is a benchmark to illustrate the availability of library space to the citizens. The County has traditionally been in a range between (0.4) - (0.5) sf/capita; The State Library of Virginia and the Pamunkey Regional Library Board have established (0.6) sf/capita as a target to provide quality service to the citizens. The following table 2 illustrates in five year increments, through 2032, projected population growth, the County's library space and additional square footage needed to maintain the current service level of (0.5) SF/capita ratio and the (0.6) SF target established by The State Library of Virginia (SLV) and the PRLB.

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2012 Existing Library Square Footage		Table 2			
<u>Library</u>	<u>2012SF</u>	Library Facility Space and Per Capita Projections			
		Year	Population 1.5%	SF/ratio 0.5 Existing Service	SF/ratio 0.6 SLV and PRLB Service Target
Gillis (Ashland)	10,000	2012	101,586	51,895 sf (Existing)	60,952 sf
Atlee	13,000	2017	109,437	54,719	65,662 sf
Courthouse	3,000	2022	117,895	58,948	70,737 sf
Mechanicsville	16,000	2027	127,006	63,503 sf	76,204sf
Wickham (Montpelier)	2,500	2032	136,822	68,411 sf	82,093sf
Cochrane (Rockville)	7,395				
<u>Total</u>	<u>51,895</u>				

Strategies to support the Pamunkey Regional Library Board

- < The next priority for library space will be an Atlee Library replacement; 2.2 acres located in Rutland development has been dedicated to the County for a new Atlee Library
- < Monitor population and demographic changes to ensure current service levels are maintained, and when appropriate, construct and locate new facilities that will meet the additional service demands
- < Explore innovative use of technology that can yield greater efficiencies and have the potential of reducing building or facility square footage
- < Where feasible, strive to achieve the library standards established by The State Library of Virginia and the Pamunkey Regional Library Board
- < As shown on the table above making use of population growth assumptions, a new library facility could be warranted between 2022 and 2027 to maintain the current service level of 0.5 sf per capita; to achieve the target ratio of 0.6 sf per capita a new facility could be needed between 2012 and 2017. It should be noted that the assumed 1.5% growth rate is averaged over a 20 year period with yearly fluctuations that can affect the scheduling of new construction

Fire and Emergency Management Services (EMS)



Objectives

- < Site new facilities and reconstruct and maintain existing facilities so that they are strategically located and designed to achieve the following benchmark measures to provide high quality Fire/EMS services to citizens and businesses:
 - Respond to life threatening calls in less than 8 minutes on 80% of the calls
 - Respond to non-life threatening calls in less than 12 minutes on 80% of the calls
 - Respond to all other calls in less than 15 minutes on 80% of the calls
 - Respond to suburban fire calls in less than 8 minutes on 80% of the calls
 - Respond to rural fire calls in less than 12 minutes on 80% of the calls

Fire/EMS is a combined operation of Fire and EMS divisions. There are 16 facilities (12 fire and 4 EMS) and a training center. The administrative support for the operation is located in the Courthouse Fire Station. The Harmon-Taylor Training Center is on 23 acres adjacent to Poor Farm Park and houses 6,060 sf of training space and specialty training structures. Based on long-term utilization of this site, it appears that the space for accommodating expanded training needs is available for the foreseeable future.

Utilities and Community Facilities

The following table illustrates the existing stations and their square footage. Although Fire and EMS stations are noted separately, both of these divisions will pursue opportunities where EMS vehicles can be deployed from fire stations and fire vehicles from EMS stations. It is anticipated that four existing fire stations, built prior to the current prototype design, will be reviewed in the future to determine if replacement plans should be formulated which can house additional and larger vehicles, provide appropriate sleeping quarters for male and female personnel and provide appropriate space for meetings and on-site training of staff. The County currently relies on an adjacent volunteer rescue squad in Goochland County to provide services in the far southwestern portion of the County. Long-term strategies will include the County becoming self-sufficient in the provision of Fire/EMS services with its own personnel.

Fire/EMS Stations						
<u>Station</u>	<u>Primary Role</u>	<u>SF 2012</u>	<u>SF 2017</u>	<u>SF 2022</u>	<u>SF 2027</u>	<u>SF 2032</u>
Ashland	Fire	10,500	10,500	10,500	10,500	10,500
Eastern Hanover	Fire	9,750	9,750	9,750	9,750	9,750
Courthouse	Fire	6,300	6,300	6,300	6,300	6,300
Mechanicsville	Fire	8,300	8,300	8,300	8,300	8,300
Rockville	Fire	6,350	REVIEW	→		
Farrington	Fire	10,500	10,500	10,500	10,500	10,500
Beaverdam	Fire	6,500	6,500	6,500	6,500	6,500
Doswell	Fire	6,300	REVIEW	→		
Henry	Fire	8,300	8,300	8,300	8,300	8,300
Montpelier	Fire	7,300	REVIEW	→		
Chickahominy	Fire	6,300	REVIEW	→		
Black Creek	Fire	10,500	10,500	10,500	10,500	10,500
Ashland	EMS	8,710	8,710	8,710	8,710	8,710
Ashcake	EMS	8,748	8,748	8,748	8,748	8,748
East Hanover	EMS	11,567	11,567	11,567	11,567	11,567
West Hanover	EMS	9,185	9,185	9,185	9,185	9,185

Strategies

For both Fire and EMS, population growth and the geographic location of both residential and commercial/Industrial development will determine the need for additional facilities in order to achieve the benchmark performance measures.

Parks and Recreation



Objectives

- < Promote, advocate and provide quality park and recreation resources and leisure services
- < Provide a balance of recreational programs and facilities to meet the needs of the present and planned population of Hanover County
- < Preserve, maintain and further enhance public grounds, areas of scenic beauty and areas of historic significance
- < Encourage the use of existing recreational and scenic areas

The Parks and Recreation Department (PRD) provides and promotes leisure services to the citizens of Hanover County. Parks are essential to the County's quality of life by providing active and passive recreational activities and offering gathering places that foster a sense of community. Parks also help preserve environmental features such as open space, wildlife habitat and cultural resources affording the population a greater opportunity to appreciate

Utilities and Community Facilities

PRD currently administers over 1,228 acres of public parks and has a cooperative agreement with the Hanover School Board for the shared use of school facilities for recreational purposes after school hours. The County is also fortunate to have over 200 acres in nationally recognized battlefield sites managed by the National Park Service, historic sites managed by historical organizations, neighborhood parks managed by homeowners or community associations, and athletic facilities/centers managed by non-profit and private sector groups. These community-based resources are a valuable addition in complementing the County sponsored parks and recreational activities.

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The location of park facilities is dependent upon many factors: however, convenient access and areas that are conducive to the types of activities for which the park will be utilized are major factors. To ensure that Hanover County's recreation facilities continue to meet residents' needs, the County adopted the **Hanover County Parks and Recreation Comprehensive Facilities Master Plan** which is a planning guide for ensuring recreational facilities continue to meet residents needs into the future (the Parks and Recreation Comprehensive Facilities Master Plan can be found at <http://www.co.hanover.va.us/parksrec/> or contact the Hanover County Department of Parks and Recreation). In developing service level standards, Parks and Recreation relies on a variety of sources: The Virginia Department of Conservation and Recreation (DCR) and the National Recreation and Parks Association (NRPA). Each has standards for the number of acres for types of parks and/or the amenities that such parks should have (e.g., ball fields).

Utilities and Community Facilities

The following chart provides a breakdown of Hanover County’s parks as classified by the NRPA and DCR’s Virginia Outdoors Plan (VOP) and includes consideration for existing and proposed Hanover County Parks, Town of Ashland Parks, and National Parks.

Hanover County Park Classifications	Parks																		
<p>Regional Parks: 100 - 500 acres, with an abundance of open space for recreational pursuits such as picnicking, hiking, nature study, and general outdoor enjoyment (i.e., lakes, streams, or other outstanding natural features). As much as 80% of the site should be undeveloped usable open space to provide opportunities for hiking, nature study, and other passive activities. An isolated segment of the site may be reserved for day camps.</p> <p>District Parks: 10 - 250 acres that primarily have active recreation facilities (e.g., ball fields, tennis courts, trails, swimming pools, beach area, and/or recreation center). As some of these amenities can be included in the master plans of regional parks as a compliment component of such park, for purpose of presenting such information, district parks are combined together with regional parks.</p>	<table border="1"> <tr><td>Cold Harbor Battlefield Park</td><td style="text-align: right;">50 acres</td></tr> <tr><td>Courthouse Park</td><td style="text-align: right;">120 acres</td></tr> <tr><td>Hanover Wayside Park</td><td style="text-align: right;">36 acres</td></tr> <tr><td>North Anna Battlefield Park</td><td style="text-align: right;">170 acres</td></tr> <tr><td>Pole Green Park</td><td style="text-align: right;">217 acres</td></tr> <tr><td>Poor Farm Park</td><td style="text-align: right;">254 acres</td></tr> <tr><td>Taylor Park</td><td style="text-align: right;">53 acres</td></tr> <tr><td>Washington Lacy Park</td><td style="text-align: right;">216 acres</td></tr> <tr><td style="text-align: right;">Total</td><td style="text-align: right;">1,116 acres</td></tr> </table>	Cold Harbor Battlefield Park	50 acres	Courthouse Park	120 acres	Hanover Wayside Park	36 acres	North Anna Battlefield Park	170 acres	Pole Green Park	217 acres	Poor Farm Park	254 acres	Taylor Park	53 acres	Washington Lacy Park	216 acres	Total	1,116 acres
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Total	1,116 acres																		
<p>Community Parks: 3-50 acres, with a wide variety of recreational activities with intensive use (e.g., ball fields, tennis courts, basketball courts, natural areas, trails). School facilities are included in this category and generally include the use of their gymnasiums, playgrounds, tennis courts and ball fields.</p>	<table border="1"> <tr><td>Montpelier Park</td><td style="text-align: right;">50 acres</td></tr> <tr><td>Little River Park (proposed)</td><td style="text-align: right;">22 acres</td></tr> <tr><td>Winding Brook Park (proposed)</td><td style="text-align: right;">40 acres</td></tr> <tr><td>Public Schools</td><td style="text-align: right;">155 acres</td></tr> <tr><td style="text-align: right;">Total</td><td style="text-align: right;">267 acres</td></tr> </table>	Montpelier Park	50 acres	Little River Park (proposed)	22 acres	Winding Brook Park (proposed)	40 acres	Public Schools	155 acres	Total	267 acres								
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<p>Neighborhood Parks: Up to 20 acres, with very limited selection of active recreation facilities (e.g., playgrounds, picnic areas, ball fields, hiking/jogging trails) that are within easy walking/biking distance of residents’ homes.</p>	<p>Doswell – Ruritan Park¹ Bethany Park Town of Ashland Parks² Private Residential Parks³</p>																		
<p>Boat Launch: Up to three acres, developed for the purpose of providing a public launching point for boats.</p>	<p>Boat Ramps: Ground Squirrel – South Anna River Littlepage -Pamunkey River North Anna -North Anna River South Anna-South Anna River Nelson Bridge (Proposed) Lower Pamunkey (Proposed)</p>																		
<p>Greenways/Trails: – > 1 mile in length, utilizing watercourses (streams, rivers, and canals) and rights-of-way (transportation and utility). The purpose is to protect, preserve, and maintain existing natural and cultural corridors and to serve as a link from one area to another.</p>	<p>Ashland Trolley Line</p>																		
<p>Battlefield Parks: The Civil War battlefields managed by the National Park Service (NPS) in the County are connected by Cold Harbor Rd. which runs from Mechanicsville east to the crossing of the Chickahominy River where it enters Henrico County and are part of a larger regional park system that ranges from the North Anna River to Petersburg. These parks contain trails, visitor centers and historic signs, of which Cold Harbor’s visitor center is staffed year-round by NPS personnel.</p>	<p>Beaverdam Creek Cold Harbor Gaines Mill Garthwright House Rural Plains/Totopotomoy</p>																		

¹ Doswell and Bethany Parks are operated by non-profit agencies but offer amenities that serve as neighborhood parks

² Population projections include the Town of Ashland, therefore neighborhood parks managed by the Town are included

³ Some residential developments have HOA maintained neighborhood parks and common areas, these are typically limited to residents of the development and are not considered public parks

Utilities and Community Facilities

The following chart summarizes the existing acreage of the different park classifications compared with the VOP recommendations for the ratio of park acreage to projected population in five year increments from 2012 to 2032. The recommended appropriate park acreage ratio/population is based on 4 acres per 1,000 population for District and Regional Parks and 3 acres per 1,000 population for Community and Neighborhood Parks.

Hanover County Park Classification and VOP Standards 1.5% County Population Growth					
Park Class	Year <u>2012</u>	<u>2017</u>	<u>2022</u>	<u>2027</u>	<u>2032</u>
		Pop. 101,586	109,437	117,895	127,006
District/Regional Existing 1,116 ac	Recommended 406 ac Exceeded by 710 ac	Recommended 437 ac Exceeded by 679 ac	Recommended 471 ac Exceeded by 645 ac	Recommended 508 ac Exceeded by 608 ac	Recommended 547 ac Exceeded by 569 ac
Community Existing 267 ac	Recommended 305 ac Deficient 38 ac	Recommended 328 ac Deficient 61 ac	Recommended 353 ac Deficient 86 ac	Recommended 381 ac Deficient 114 ac	Recommended 410 ac Deficient 143 ac
Neighborhood Existing 0 ac	Recommended Deficient 305 ac	Recommended Deficient 328 ac	Recommended Deficient 353 ac	Recommended Deficient 381 ac	Recommended Deficient 410 ac
The County currently does not administer any Neighborhood Parks but will continue to seek opportunity to develop this park classification in the future. The County does however have privately maintained residential development parks and common areas, Doswell-Ruritan and Bethany Parks that are maintained by non-profit organizations and the Town of Ashland neighborhood parks, all of which contribute to the recommended standard for this classification.					

Strategies

- < Recognize the national importance of the NPS Civil War Battlefield Parks and work with the National Park Service to strengthen protective measures to ensure these resources can expand even though minimum standards to serve the local population are more than met in the District and Regional Park category
- < Monitor population and demographic changes to ensure current service levels are improved for Community and Neighborhood Parks
- < upgrade existing public facilities to meet growth needs where appropriate and feasible
- < Support the addition of public and private Community and Neighborhood Parks and facilities that are appropriately located to serve areas that are now considered deficient
- < Require open space with both passive and active recreation facilities as part of new residential development

Public Schools



Objectives

- < Provide facilities of the kind and size that will best support and accommodate the schools division's educational program and the number of students enrolled
- < Provide new and remodeled facilities that will offer the best possible physical environment for learning and teaching

Hanover County Public Schools (HCPS) 2012 student enrollment is over 19,000 students in pre-K-12. There are (15) elementary schools, (4) middle schools, (4) high schools, an alternative education center and a center for trades and technology. HCPS is the fourteenth largest of the 134 school districts in Virginia and is among the 300 largest of the 15,500 school districts in the United States.

Residential development is a primary factor contributing to the growth of the public school system's enrollment; therefore it is important for a coordinated planning effort between the County and the School Board to ensure adequately sized facilities are provided for future populations.

Utilities and Community Facilities

The Hanover County Public Schools facility construction philosophy and planning can be found in the **Schools Board's Policy Manual, Section 4-Support Services, III. Facility Planning and Design**. The manual explains how capacity in a specific school is computed.

'Overcrowding' is defined as more than 20 percent above capacity for three consecutive years. Alternatives to school construction such as attendance boundary adjustments, school calendar revisions, and class size increases are the first priority for offering practical solutions to overcrowding in targeted school facility(ies). In the event these measures will not relieve overcrowding, additions to current facilities or construction of new schools would be scheduled for targeted facilities no more than three years after the overcrowding has occurred. The Schools Board's Policy Manual can be found at <http://www.hcps.us/> or by contacting the Hanover County Public Schools.



The following chart utilizes the cohort survival method formulated by the School Board for the 5 years following the actual 2012 student enrollment; the remaining 15 year horizon assumes a 1.5% overall County population growth rate with 2.68 persons per household and 20% being school age children for each of the County schools. Based on those projections the chart indicates sufficient school capacity for the 20-year Comprehensive Plan horizon. It should be noted that the 1.5% growth rate is averaged over a 15 year period (2017 -2032) with yearly fluctuations that can affect the enrollment of a school as well as development that may occur within attendance boundaries of a school. National economic trends can also influence growth and development at the local level as experienced in Hanover County with a lower than average growth rate the past several years; those trends cannot be relied on for long term growth projections. For facility planning purposes it should be recognized that fluctuations in population growth are likely to change over time. Although the forecast does not anticipate a need for any additional schools, prudent facility planning suggests the County anticipate the need for one additional school within the 20-year planning horizon.

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Hanover County Public Schools Enrollment, Capacity and Forecast Summary Cohort Survival Method 2013-2017 Assumed 1.5% Annual County Population Growth Rate

<u>Elementary Schools</u>				
Year	# of Elementary School Students	Existing Capacity	(Over)/Under Capacity	% (Over)/Under Capacity
2012	7,747	9,605	1,858	19.34%
2017	6,839	9,605	2,766	28.80%
2022	7,368	9,605	2,237	23.29%
2027	7,937	9,605	1,668	17.37%
2032	8,550	9,605	1,055	10.98%

<u>Middle Schools</u>				
Year	# of Middle School Students	Existing Capacity	(Over)/Under Capacity	% (Over)/Under Capacity
2012	4,370	5,005	635	12.69%
2017	4,080	5,005	925	18.48%
2022	4,395	5,005	610	12.19%
2027	4,735	5,005	270	5.39%
2032	5,101	5,005	(96)	(1.92%)

<u>High Schools</u>				
Year	# of High Schools Students	Existing Capacity	(Over)/Under Capacity	% (Over)/Under Capacity
2012	5,825	6,675	850	12.73%
2017	5,775	6,675	900	13.48%
2022	6,221	6,675	454	6.80%
2027	6,702	6,675	(27)	(.40%)
2032	7,220	6,675	(545)	(8.16%)

Strategies

- < Ensure current service levels are maintained by monitoring population and demographic changes, and when appropriate measures do not achieve adequate service levels, construct and locate new facilities that will meet the additional service demands
- < Accommodate and facilitate those new organizational and instructional patterns in new and renovated buildings that support the division's educational philosophy and instructional goals
- < Meet all safety requirements through the remodeling of older structures
- < Provide building renovations as needed to meet requirements on the availability of public school facilities to persons with disabilities
- < Design and construct buildings that will yield lower maintenance costs and conserve energy. These two factors will also be given special consideration in the renovation of buildings
- < Decisions pertaining to educational specifications of new buildings and those undergoing extensive remodeling will be developed with the benefit of viewpoints of teachers, students, and the community.



General Government, Administration, and Judicial



Objectives

- < Provide suitable office space and facilities housing the workforce responsible for County services that will foster high quality customer service
- < Meet capacity needs anticipated by the General District and Circuit Courts

The future office/facility requirements for the County's workforce are difficult to project. Space to provide new and expanded services is dependent on factors such as State or Federal mandates and citizen/Board of Supervisor initiatives that influence the extent and function of the County's workforce. Innovative use of technology can yield greater efficiencies that have the potential of reducing building or facility square footage. The County has periodically performed a facilities space needs analysis encompassing the current space allocation in the County buildings for the workforce, the most recent was conducted during FY 2006. Future space needs analysis should be conducted recognizing the changing dynamics of providing superior service and sound financial practices.

The primary location of County office space is located at the Hanover County Government Complex on U.S. Route 301. There are additional offices in the Human Services Building on U.S. Route 1, the Fire Administration offices at the Courthouse Fire Station, the Parks and Recreation administrative offices on State Route 54, and the Economic Development offices in the Rutland Center Commercial Condominiums off Atlee Road.

Utilities and Community Facilities

The General District Court and Circuit Court are located in the Hanover County Government Complex. An approximate 118,000 sq. ft. future Courts building is anticipated and would be located on County property adjacent to the Vaughn Bradley Building in the Hanover County Government Complex.

Sheriff's Office: Law enforcement in Hanover County is provided by the Sheriff's Office. The Sheriff's office is divided into three divisions: Patrol Operations, Administrative Support Operations and Investigative Operations. As their various divisions and specialized training units are primarily invested in those personnel deployed on the road, their space needs are a combination between those support and related personnel who need such office space to conduct their work and those deputies who primarily utilize their vehicle for their office. The Sheriff's office facility is in the 29,896 sf Vaughn-Bradley building located at the Hanover County Government Center. The Sheriff's Office Training Complex includes a 6,000 sf specialty vehicle storage facility and firing range site adjacent to the Pamunkey Regional Jail. The Firing Range facility contains two training buildings that are used as support for training done at this range. The Sheriff's Office also relies upon the Rappahannock Regional Criminal Justice Academy for training needs. Other long-term training needs and space assessments for such training will be further reviewed for how best to provide the training needed for the Sheriff's sworn officers. As additional demands arise for specialty training and/or current space is not conducive to the demands of training needs, then the Sheriff's Office will perform the necessary analysis to propose such additional facility needs.

Animal Control: The department is now organizationally part of the Sheriff's Department. The existing Animal Control facility is located on Route 54 at the Taylor Complex and provides for the safety and security of animals as well as the administrative needs for the Animal Control Department. It currently has 144 cages in a 5,143 sf building that is designed for an additional 50% capacity. Animal Control has a Memorandum of Understanding with the Richmond SPCA to help facilitate animal placement. A small animal hospital is also located within the facility enabling spaying/neutering.



Pamunkey Regional Jail: This jail is operated by a regional authority that is located adjacent to Courthouse Park on Route 301 and charges a bed rental fee to all authority members and outside entities that house inmates at this facility. The priority to inmate space is given to authority members, of which the County represents approximately 80% of such inmate population.

Middle Peninsula Juvenile Detention Commission (MPJDC): The MPDJC is operated by a regional authority that is located in Williamsburg and charges a bed rental fee to all authority members that house juveniles at this facility. The County is also the location for two State juvenile detention centers.

Community Services Board (CSB) Programs: The CSB has facility space dedicated for employment and business programs for its clients including a recycling program located at Atlee Commons and rehabilitation programs at the Old Mechanicsville Library and Bell Creek Office Park.

Strategies

- < Explore innovative use of technology that can yield greater efficiencies and have the potential of reducing building or facility square footage
- < Monitor population and demographic changes to ensure current service levels are maintained and when appropriate construct and locate new facilities that will meet the additional service demands
- < Conduct future space needs analysis recognizing population changes, sound financial practices and the changing dynamics of providing superior service
- < Plan for an approximate 118,000 sq. ft. future Courts building located on County property adjacent to the Vaughn Bradley Building in the Hanover County Government Complex

Telecommunication Infrastructure



Objectives

- < Ensure that public safety employees are able to effectively communicate with each other to provide optimal public safety
- < Ensure County policies and regulations provide private companies opportunity to optimize infrastructure that serve all citizens and businesses of the County with wireless technology services while carefully evaluating the impact communication structures and facilities have on neighboring properties

County Communications System: The Emergency Communication department serves as the 911 answering point and emergency dispatch center for Hanover County and the Town of Ashland. These services, as well as many other support activities, are provided to citizens and the various public safety and public service agencies and departments on a 24/7 basis. The Department uses modern technology, including a 15 site, twelve channel 800 MHz trunked radio system, enhanced wireline and wireless 911 systems, a computer aided dispatch system, CAD mapping, digital recording system, and interoperable communications systems.

Private Telecommunications Networks: Growth in the industry providing mobile telephones, paging equipment and wireless Internet has created considerable demand for new facilities and structures in order to ensure a cohesive telecommunications infrastructure. Assessment of future sites for facilities and structures supporting private telecommunications networks must include an evaluation of the impact on surrounding land uses and the desire to enhance the telecommunications infrastructure throughout the County. Site evaluation should include an assessment of the safety, aesthetics, security, access, and technological needs for the area in close proximity to the facility or structure and the County as a whole.

Strategies

- < Research, evaluate, and pursue equipment, technology, facilities, services and systems that will enhance the emergency communications operations
- < Allow construction of communication facilities in all land use designations that are designed and located in a manner that is compatible with the character of the surrounding area
- < Use a tiered method evaluation structure impacts based on zoning classifications and structure form
- < Telecommunications facilities and structures should be located and designed in such a manner as to protect the safety of individuals nearby
- < All telecommunications facilities should be located, designed and operated in a manner that avoids interference with County communication networks