

COMPREHENSIVE PLAN

2023

ADOPTED: SEPTEMBER 27, 2023



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**ENVISION
HANOVER**

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INTRODUCTION

The Comprehensive Plan is a long-term guide for growth and development, establishing a vision of what Hanover County could look like in 2045. It was developed based upon feedback provided by a variety of stakeholders, including residents, businesses, and elected officials. Per the Code of Virginia, every locality must have a Comprehensive Plan, and it must be reviewed at least once every five years.

The Comprehensive Plan is non-regulatory in nature, as it does not establish laws or regulations that must be followed. Instead, it is an advisory document that helps guide decisions.

Elected officials, appointed officials, and different departments consider recommendations made in the Comprehensive Plan when making decisions regarding the future (especially those related to growth, development, and public investment).

For example, the Planning Commission and Board of Supervisors consider the plan's recommendations when evaluating different policies and proposals, including:

- › Rezoning
- › Conditional Use Permits
- › Capital Improvement Program (CIP)
(pending plan for public improvements)

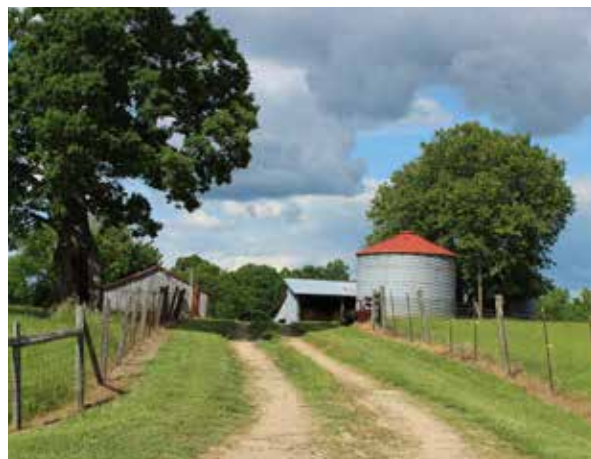
It is just one of the long-range planning documents that Hanover County uses. The vision and recommendations set forth in this plan influence the following planning documents:

- › County Strategic Plan
- › Capital Improvement Program (CIP)
- › Transportation Plans
- › Parks and Recreation Master Plan
- › Water & Wastewater Facilities Master Plan
- › Small Area Plans

A variety of tools, including the subdivision and zoning ordinances, can be used to help realize the vision outlined in the Comprehensive Plan.

The purpose of the Comprehensive Plan is not to regulate, but rather guide land use, transportation, and infrastructure decisions.

While the Comprehensive Plan includes recommendations that are considered as land use requests and County policies are developed, the Board of Supervisors makes decisions based upon a variety of additional factors, including community input, technical analyses, applicable regulations, and compatibility of the proposal with surrounding land uses. As the Comprehensive Plan is general in nature, application of its recommendations are tailored and adapted to address the specifics of a particular land use request or policy proposal.





PLANNING CONTEXT

- Hanover County continues to experience population growth. In 2020, Hanover County had 109,979 residents, up from 99,863 in 2010. Those residents are spread across 474 square miles.
- Looking into the future, it is likely that Hanover County will experience population growth of approximately 1% each year, with a forecasted population of approximately 136,536 in 2045 if trends continue.
- Hanover County has easy access to major transportation corridors and population centers, which supports economic development. Interstate 95 bisects the County (with multiple interchanges providing access), and there are also several interchanges along Interstate 295. Not only do these highways provide easy access to employment centers within the Richmond region, but also allow for shipping to major markets along the Atlantic Seaboard. There are already several business areas located along the I-95 and I-295 corridors, creating employment opportunities. It is expected that the County's location will continue to make it an attractive place to do business.
- Much of Hanover County remains rural, and residents have indicated they want to preserve this rural character. Approximately 22% of Hanover County is within the Suburban Service Area (SSA), where higher-intensity development is directed. The remaining 78% of the County is intended to remain rural, with residential densities no greater than 1 unit per 6.25 acres.
- Hanover County has existing suburban communities that include new development and older neighborhoods and commercial corridors.



TOPIC AREAS

The plan addresses a range of interrelated issues, including:



Land Use + Growth Management



Rural + Agriculture



Transportation



Active Living



Housing



Utilities + Community Facilities



Economic Vitality



History + Culture



Environment + Resiliency



PUBLIC ENGAGEMENT

Not only does the planning process consider existing conditions, but the needs and desires of residents, businesses, and other stakeholders. From January 2022 through plan adoption, there were multiple opportunities for members of the public to share their ideas for the future, with over 4,000 comments received. Public engagement activities were divided into multiple rounds:

PHASE #1 ENGAGEMENT

Phase #1 engagement, which lasted from January 1, 2022 through March 4, 2022, was intended to:

- Identify critical needs and issues that must be addressed through the planning process; and
- Identify common themes that should be reflected in the plan’s goals.

Four in-person, interactive open houses were held in February, drawing 172 attendees. Another 25 people participated in a virtual open house held via Zoom, and 13 people spoke with the project team at drop-in events held at local libraries. Additionally, 392 people participated in an online survey (with content that mirrored the in-person events).

VISUAL PREFERENCE SURVEY

Between April 25, 2022 and May 13, 2022, the public was given the opportunity to respond to an online visual preference survey. This survey allowed citizens and other stakeholders to provide their opinions regarding the design of future neighborhoods, employment areas, and development within Hanover County. Participants were shown two photos of existing development and asked to identify which one they preferred (or if they had no preference). They also had the option of explaining why they chose a particular photo. 336 stakeholders responded to the online survey.

LAND USE VISIONING

In July and August 2022, two interactive workshops focusing on land use were held. At these workshops, participants heard a presentation regarding land use planning in Hanover County and divided into small groups (usually 4 to 5 people) to share their thoughts on potential changes to the General Land Use Plan. About 79 members of the public participated in these in-person workshops.

TOPIC OUTREACH + PLAN AFFIRMATION

Throughout 2023, the public provided more detailed feedback regarding concepts and recommendations related to specific topic areas included within the plan:

- **Topical Area Outreach: Part #1** (Land Use, Economic Vitality, and History + Culture) occurred in January and February 2023. There were five in-person meetings, three *Stop and Chat* events, and a webinar, with 220 event attendees total.
- **Topical Area Outreach: Part #2** (Housing, Active Living, and Rural/Agricultural) occurred in April and May 2023. There were four in-person meetings, one *Stop and Chat* event, and a webinar, with 99 event attendees total.
- **Topical Outreach: Part #3** (Transportation, Utilities + Community Facilities, and Environment + Resiliency) occurred in July 2023. There were four in-person meetings, one *Stop and Chat* event, and a webinar, with 109 event attendees total.

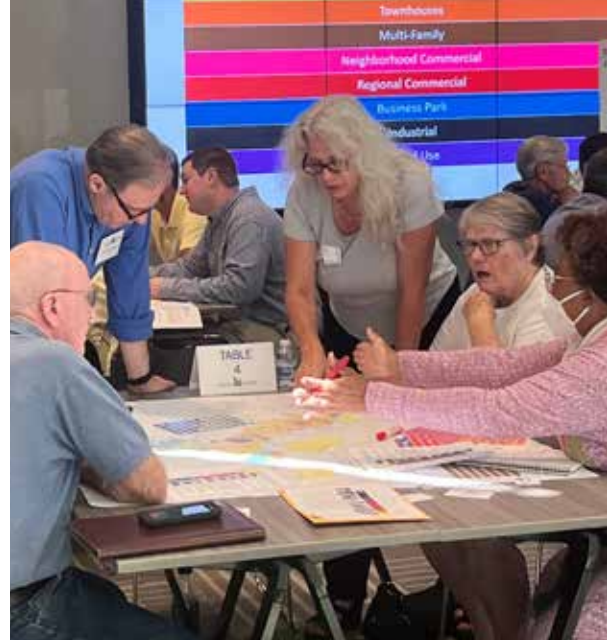
For each of these outreach periods, stakeholders could provide feedback in a variety of ways. There were 4 to 5 in-person meetings for each grouping of topics, where participants could listen to a presentation and then visit different stations devoted to each topic area. For those unable to attend an in-person meeting, there was a live webinar that presented similar information (with a recording posted on the County's YouTube page). Additionally, there were *Stop and Chat* events, where participants could ask the project team questions at informal office hours held at local libraries.

LAND USE AWARENESS

In May 2023, 1,759 letters were mailed to landowners whose properties were impacted by a proposed significant change to the General Land Use Plan. Additionally, signs were posted in areas where a significant change was proposed to the General Land Use Plan.

COMMUNITY PARTICIPATION TEAM

The Community Participation Team (CPT) was formed to provide feedback throughout the planning process. The CPT included each member of the Planning Commission and one citizen appointee from each magisterial district (up to 14 total members). The CPT met ten times between June 2022 and June 2023.



OTHER OUTREACH

The project team shared information about the planning process by providing presentations to multiple community groups and having booths at Ashland Train Day (2022 + 2023), Ashland Strawberry Festival (2022), and the Tomato Festival (2022). Additionally, there were multiple meetings at Brown Grove Baptist Church to develop land use recommendations for that area, which includes the recently-created Brown Grove Rural Historic District.

Throughout the planning process, stakeholders could access up-to-date information on the project website (www.envisionhanover.com). There was an email distribution list, with mass emails sent with project updates and information about upcoming public engagement. There were more than 250 posts on the project's social media accounts, which included Facebook, Instagram, and Twitter. Traditional media outlets were also used to share information about the planning process, with press releases and contributed articles in the Hanover Review (quarterly County newsletter), Mechanicsville Local, and other media outlets.

Based on the feedback received, guiding principles for the planning process were identified. These guiding principles influenced the plan's goals, objectives, and implementation strategies.

SUMMARY OF COMMUNITY ENGAGEMENT: GUIDING PRINCIPLES

The project team compiled and analyzed feedback received, which included thousands of comments. A broad range of ideas were shared, but several key themes emerged. These themes were used as the basis for policy decisions throughout the Comprehensive Plan update process.

COMMUNITY VALUES

- › Preserve rural character
- › Manage growth and direct development to areas with adequate infrastructure
- › Provide quality and diverse housing options at appropriate locations

COMMUNITY INFRASTRUCTURE & SERVICES

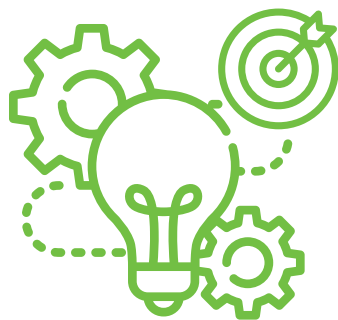
- › Maintain and enhance the transportation network to improve safety, reduce congestion, and provide safe opportunities for walking and biking
- › Maintain good schools
- › Provide more parks and recreational opportunities
- › Expand broadband access

COMMUNITY CHARACTER

- › Create vibrant places reflective of Hanover County’s rural character through the use of high-quality landscaping, architecture, and site design
- › Provide transitions between uses and place types to create harmonious communities
- › Protect and enhance rural villages and crossroads
- › Create attractive, well-planned residential neighborhoods with open space and landscaping integrated throughout
- › Accommodate high-quality commercial, industrial, and employment hubs near interstate interchanges and major corridors

GOALS, OBJECTIVES, AND IMPLEMENTATION STRATEGIES

The Comprehensive Plan establishes an overarching goal for each topic area. Each goal is supported by objective and implementation strategies:



GOAL

A goal describes a desired end-state or target. Each goal relates to a specific element of the Comprehensive Plan. A goal provides particular guidance for where the County should go in the future and sets the tone for individual objectives for each chapter.

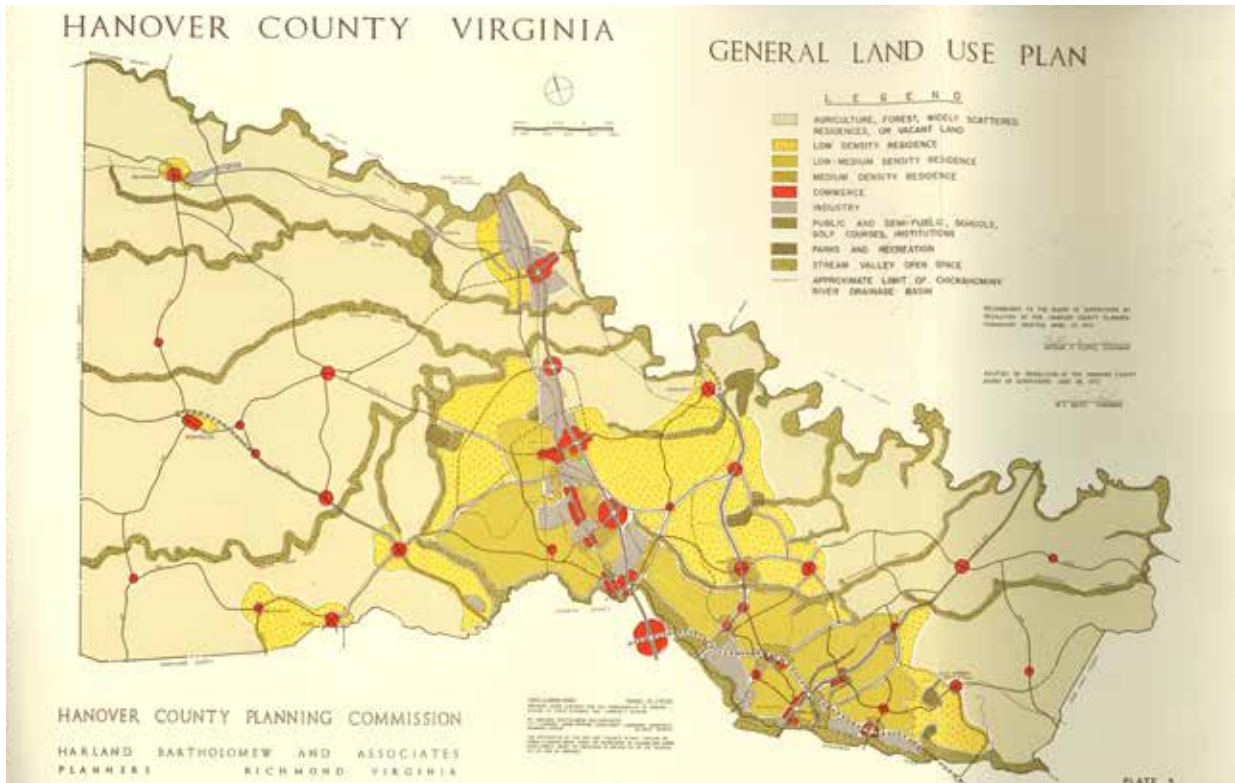
OBJECTIVE

An objective is a recommended course of action or task the County (or other stakeholders) could undertake to realize the plan’s goals. An objective provides focused and achievable guidance on specific topics or issues. The objectives tie implementation of the Comprehensive Plan to the adopted goals, and they should be measurable and time-specific.

IMPLEMENTATION STRATEGIES

An implementation strategy is a policy, infrastructure improvement, or other action that (if realized) can help achieve an objective.

GOALS	
 <p>LAND USE + GROWTH MANAGEMENT</p>	<p>Hanover County will strive to ensure the highest-quality living environment possible, through a mixture of land uses reflecting the needs and desires of local residents and how they want their community to develop. Residential growth and economic development will be primarily directed to appropriate locations within the Suburban Service Area (SSA), where utilities are planned. The majority of the County will remain rural with its agricultural, forestal, historic and natural resources being preserved for future generations.</p>
 <p>RURAL/ AGRICULTURAL</p>	<p>The rural character of the County will remain an integral and vital component to Hanover’s culture and economy. Hanover County will strive to support agricultural and forestry uses and maintain the majority of the county for rural heritage. Sustaining the rural character of the County enhances and improves the quality of life for all citizens.</p>
 <p>ECONOMIC VITALITY</p>	<p>Hanover County places priority on the growth and resiliency of our economy, which contributes to the vitality and well-being of our community. Through economic development activities, the County supports entrepreneurship and the growth of existing businesses, while working to attract new investment to appropriate areas.</p>
 <p>HOUSING</p>	<p>Hanover County will work collaboratively with the private sector to create communities that offer and maintain quality housing options, enabling residents to remain in the County as their needs and circumstances change.</p>
 <p>ACTIVE LIVING</p>	<p>Hanover County will strive to create healthy neighborhoods that provide safe, convenient, and comfortable options for active living for residents of all ages and abilities.</p>
 <p>TRANSPORTATION</p>	<p>Hanover County will provide an efficient, safe, and attractive multi-modal transportation network that accommodates the needs of residents, visitors, and businesses.</p>
 <p>COMMUNITY FACILITIES + UTILITIES</p>	<p>Hanover County will provide superior services in a cost-effective manner by strategically locating community facilities to most effectively serve public needs and foster a superior quality of life.</p>
 <p>HISTORY + CULTURE</p>	<p>Hanover County is a community that preserves the physical links to its past and shares the stories of its people, enhancing understanding of its multi-faceted history.</p>
 <p>ENVIRONMENT + RESILIENCY</p>	<p>Hanover County is a community that strategically preserves critical natural resources for the health and enjoyment of its current residents and future generations, creating a resilient community.</p>



HISTORY OF COMPREHENSIVE PLANNING IN HANOVER COUNTY

Hanover County began actively managing growth in the 1950s with adoption of its first Zoning Ordinance and Subdivision Ordinance. The first Comprehensive Plan was adopted in 1972 and has been regularly updated (usually every five years). Since the 1970s, the Comprehensive Plan and other growth management policies have directed higher-intensity development to designated growth areas (now known as the Suburban Service Area), helping protect the rural character of much of the County.

As part of the public review process, adjoining property owners are notified by mail of proposed Comprehensive Plan Amendments. Since these amendments have long-term policy implications that could impact a large area, the County will recommend sending mailed notice to a larger area.

AMENDING THE COMPREHENSIVE PLAN

While the Comprehensive Plan is thoroughly reviewed once every five years, applicants can request changes to the Comprehensive Plan in the intermediary time periods as issues arise. An application for a Comprehensive Plan Amendment is submitted, and then the Board of Supervisors must vote to authorize review of the proposed amendment. If the Board of Supervisors authorizes review, the request is analyzed by the Planning Department and reviewed by the Planning Commission (after holding an advertised public hearing). After the Planning Commission prepares its recommendation, the Board of Supervisors holds an advertised public hearing and decides whether to approve or deny the amendment.



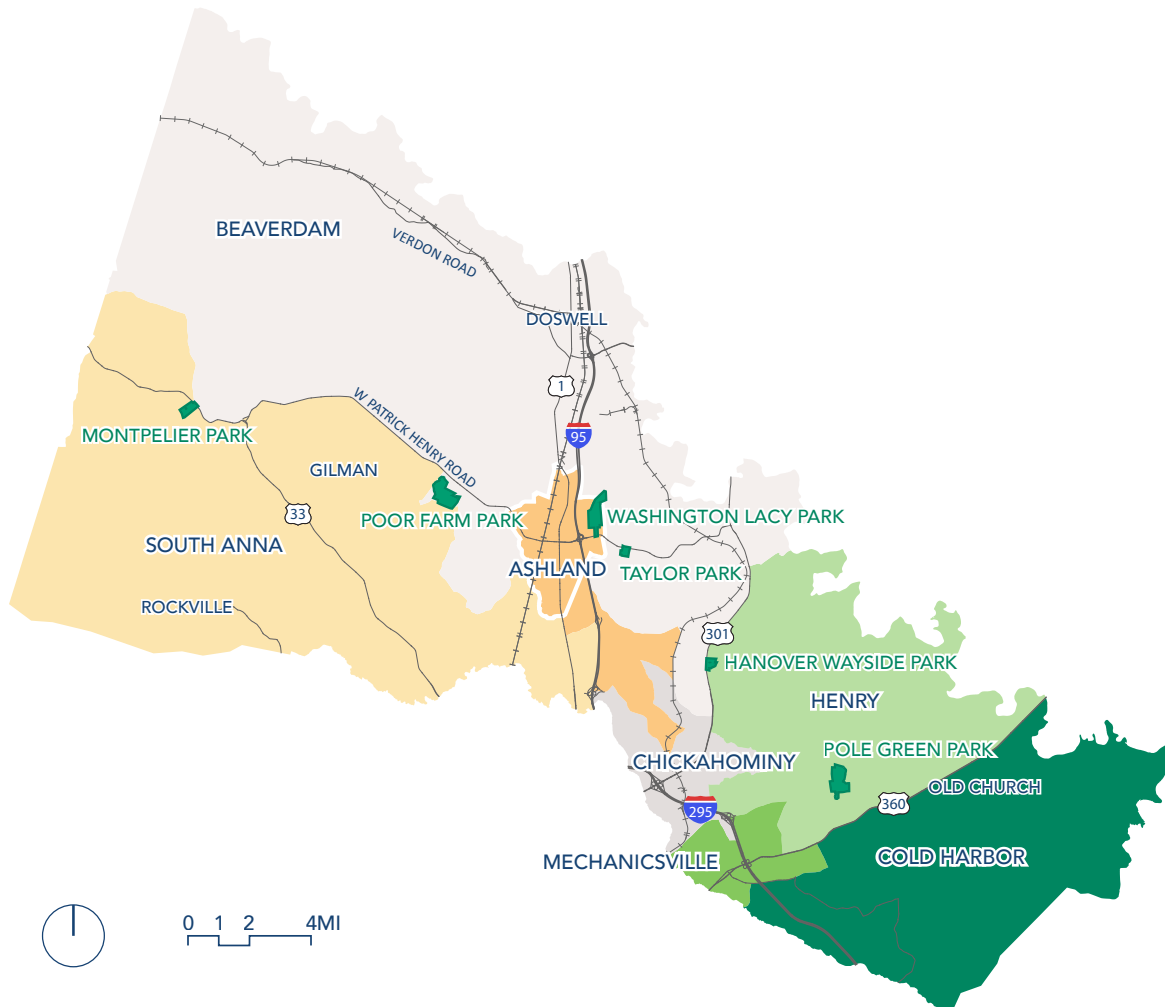
COMMUNITY OVERVIEW

LOCATION

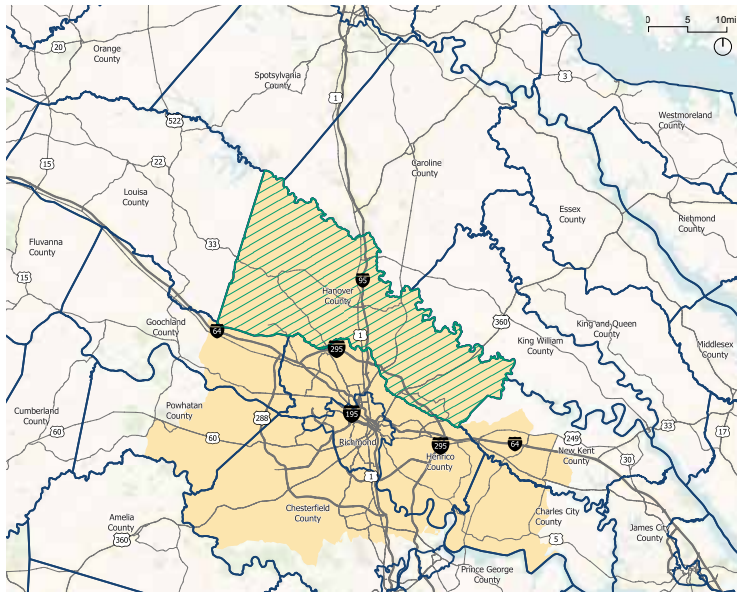
Hanover County is located in Central Virginia within the Greater Richmond Region. Spanning 474 square miles, the community remains largely rural, with suburban communities along the Interstate 95 and Interstate 295 corridors in the central and southern portions of the County.

COUNTY MAP

This map shows the seven Election Districts in Hanover County.



REGIONAL MAP

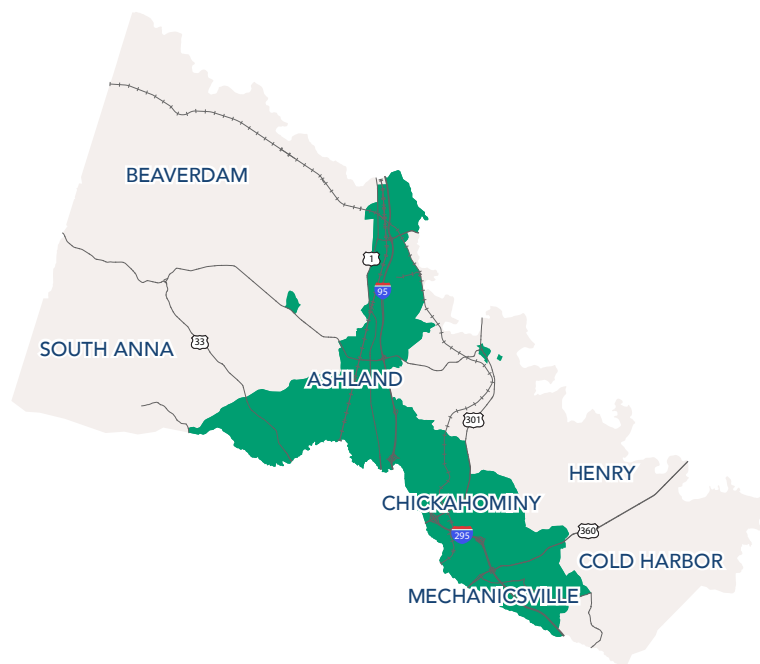


- Richmond Regional Transportation Planning Organization (RTPO)
- Hanover County

POLICY AREA MAP

Suburban Service Area

This map shows the County's designated Suburban Service Area which was designated in 1982 to concentrate development and utilities and to maintain rural character.



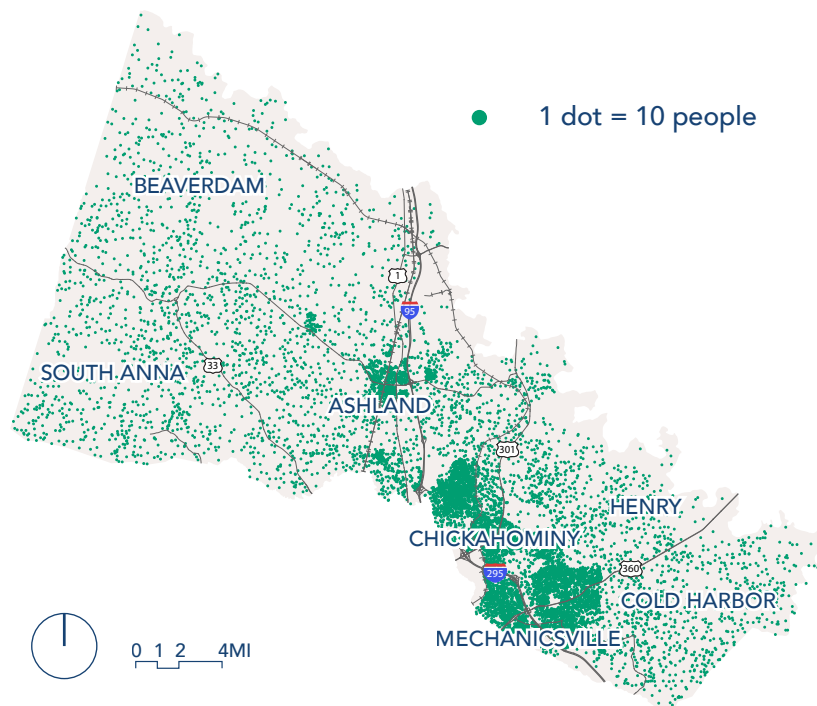
POPULATION AND FORECAST GROWTH

In 2020, Hanover County had a population of 109,979. Based on population and growth trends, it is anticipated that the County will have an average annual population growth rate of 1%, with a forecasted population of 136,536 in 2045.

POPULATION DENSITY

This map shows the distribution of people in the County currently.

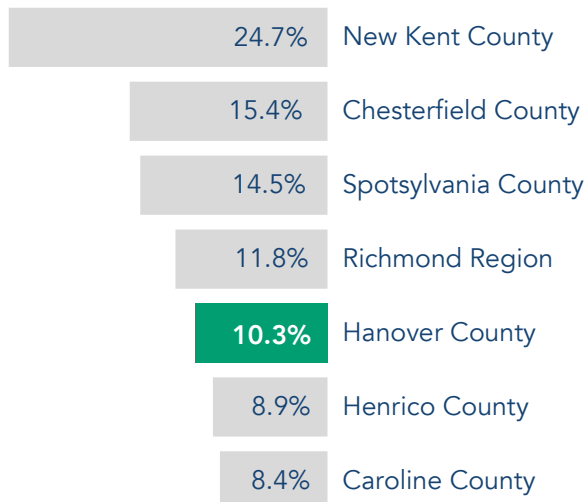
2020 U.S. Decennial Census



2010-2020 POPULATION GROWTH

Hanover County showed the third lowest population growth between 2010 and 2020.

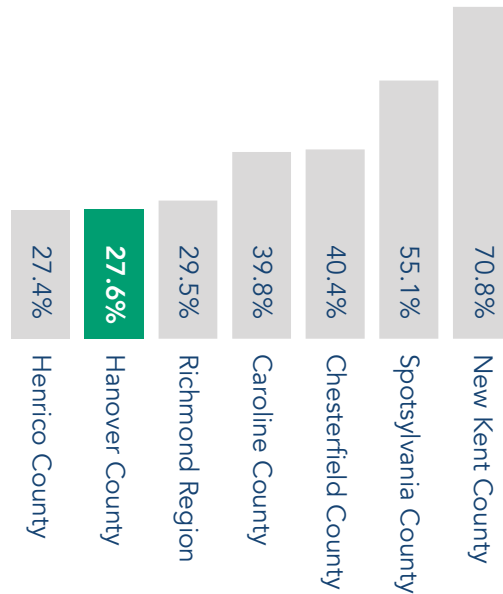
U.S. Census Bureau, Decennial Census



2000-2020 POPULATION GROWTH

Hanover County showed the second lowest population growth over the last two decades among peer counties and the region.

U.S. Census Bureau,
Decennial Census
Weldon Cooper Center



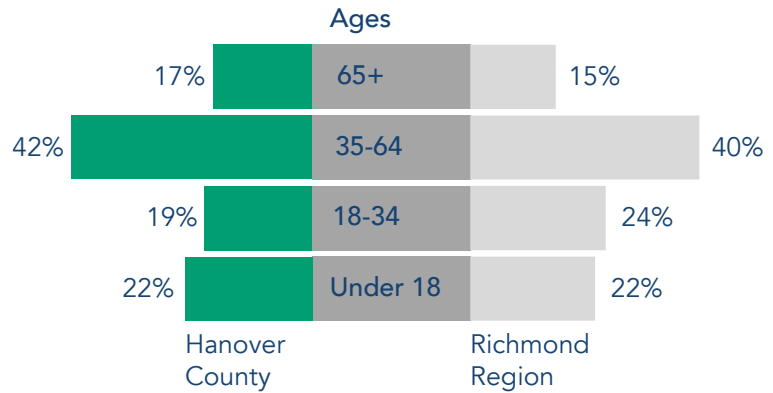
* The Richmond Region refers to the member counties of the Richmond Regional Commission:
City of Richmond
Hanover County
Henrico County
Goochland County
Powhatan County
Chesterfield County
Charles City County
New Kent County

POPULATION CHARACTERISTICS

AGE

Hanover County has a slightly higher proportion of residents over 35, and a slightly lower proportion of residents between 18-34 compared to the region.

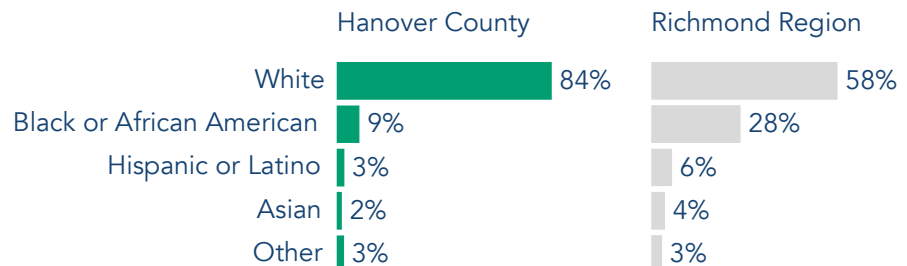
U.S. Census Bureau, 2015-2019
American Community Survey (ACS)
5-Year Estimates, Table DP05



RACE

Hanover County has somewhat less racial diversity than the region as a whole.

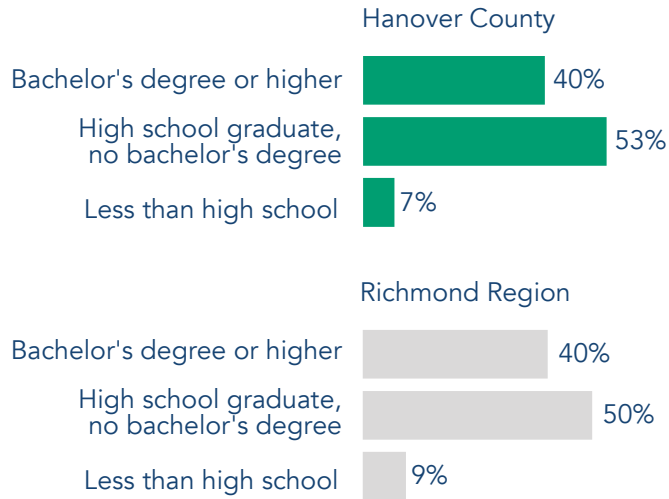
U.S. Census Bureau, 2015-2019
American Community Survey (ACS) 5-Year
Estimates, Table DP05



EDUCATION

Hanover County has similar educational attainment to the region.

U.S. Census Bureau,
2015-2019 American
Community Survey (ACS)
5-Year Estimates, Table
S1501

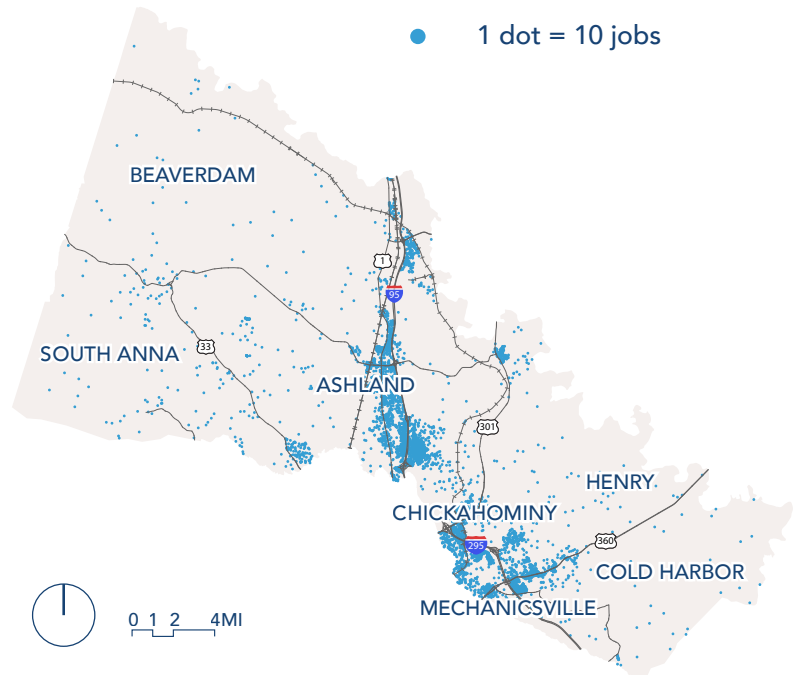


ECONOMIC CHARACTERISTICS

EMPLOYMENT DENSITY

This map shows the distribution of jobs in the County currently.

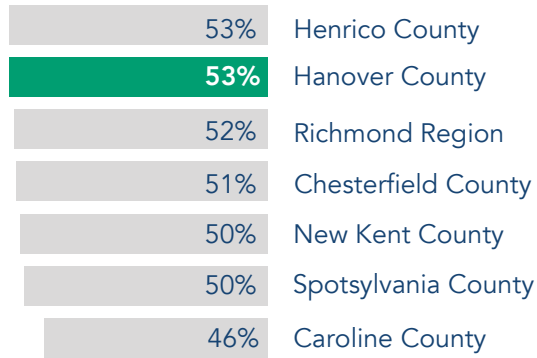
2019 Longitudinal Employer-Household
Dynamics



JOBS TO POPULATION

Hanover County has a high employment-to-population ratio compared to peer counties and the region. This is the number of jobs in the county divided by the population.

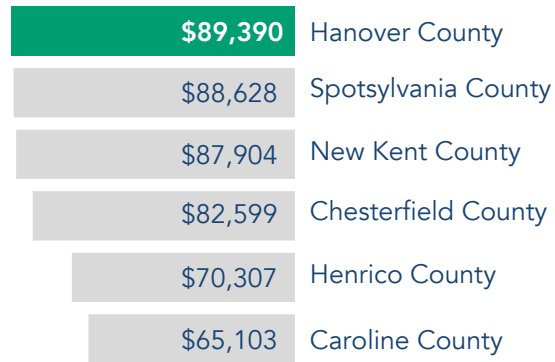
U.S. Census Bureau, 2015-2019 American Community Survey (ACS) 5-Year Estimates, Tables DP03 & DP05



MEDIAN HOUSEHOLD INCOME

Hanover County has one of the highest median household incomes among peer counties and the region.

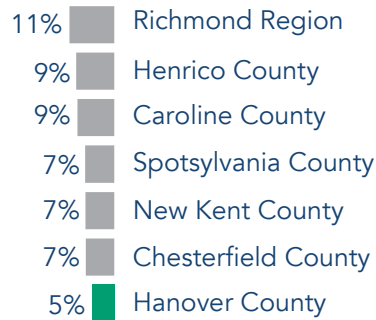
U.S. Census Bureau, 2015-2019 American Community Survey (ACS) 5-Year Estimates, Table DP04



POVERTY RATE

Hanover County has one of the lowest poverty rates among peer counties and the region.

U.S. Census Bureau, 2015-2019 American Community Survey (ACS) 5-Year Estimates, Table S1701



LAND USE + GROWTH MANAGEMENT

GOAL

Hanover County will strive to ensure the highest-quality living environment possible, through a mixture of land uses reflecting the needs and desires of local residents and how they want their community to develop. Residential growth and economic development will be primarily directed to appropriate locations within the Suburban Service Area (SSA), where utilities are planned. The majority of the County will remain rural with its agricultural, forestal, historic and natural resources being preserved for future generations.

WHY IT MATTERS

- **Maintain Rural Character:** One of the guiding principles identified during the public engagement process was to maintain the County's predominately rural character and to manage growth. Growth management involves using different tools to direct development to desired areas. Hanover County has historically used the Suburban Service Area (SSA) as a tool to manage growth by limiting where public utilities will be provided. This allows the majority of the County to remain rural. Supporting high-quality residential, commercial and industrial development in appropriate locations within the SSA provides the community with the resources necessary to preserve rural areas and keep development within a limited footprint.
- **Minimize Environmental Impacts:** The majority of the County (outside of the SSA) is deemed for rural/agricultural uses. Careful land use planning can reduce our environmental footprint by ensuring that resources are managed responsibly in rural areas and within the SSA. As a result, thoughtful planning helps preserve the environment, conserve resources, manage growth, and enhance communities.
- **Provide Services in an Efficient and Fiscally-Responsible Way:** The provision of high-quality services, such as public safety and schools, was identified as a guiding principle among our citizens. Compact and contiguous development can be more efficient to serve than sprawling development (shorter

distance to provide utilities, roads, student transportation, etc.). Directing higher-intensity development to a compact area also allows the community to better anticipate public infrastructure needs.

- **Help Minimize Conflicts between Land Uses:** Transitions have been identified as a guiding principle by our citizens. Providing transitions between higher- and lower-intensity development will help reduce conflicts between uses and create a better integrated community.

MEASURING OUR PROGRESS

- Number of Rezoning Requests Approved Consistent with the Comprehensive Plan
- Distribution of Residential Growth (70% SSA/30% Rural)

QUICK FACTS

- Accommodating development in a compact and contiguous area can help reduce growth pressures on rural areas.
- The Suburban Service Area (SSA) is the portion of the County where public water and sewer service are planned to be made available, allowing higher-density development to occur. The existing limits of the SSA are shown on the Growth Management, Conservation, and Suburban Development Plan within the Map Book. The suburban area includes properties



- o located within the defined boundaries of the SSA, with the rural areas being properties outside of the SSA.
- o No changes to the SSA boundaries are proposed with this plan.
- o The SSA accounts for 22% of the land area for the County.
- o The Comprehensive Plan targets the distribution of residential growth to be 70% in the SSA and 30% in the Rural Areas.
- o This plan anticipates a 1% growth rate for the County:
 - o 2020 Population: 109,979
 - o 2045 Forecast Population (1% Avg.): 136,536 (+27,307)
- o General Land Use Plan designations are not intended to be site specific, but are used as a guide regarding the recommended location of new development and use types.

GROWTH MANAGEMENT, CONSERVATION, AND SUBURBAN DEVELOPMENT PLAN

The Growth Management, Conservation, and Suburban Development Plan (included within the Map Book) shows where higher-intensity development should be directed and identifies areas that should retain their rural character. Growth areas are generally located along major transportation corridors in the central and southern parts of the County, where public utilities (water and sewer) exist or are planned. There are three area types shown on that plan:

- o Suburban Service Area
- o Rural Areas
- o Rural Conservation Area

More detail regarding each of these areas is below:

SUBURBAN SERVICE AREA: Since 1982, the Comprehensive Plan has identified a Suburban Service Area (SSA) to control premature development and to restrict growth to areas where

public facilities can be economically and efficiently provided. The SSA is the portion of the County where public water and sewer service are planned to be made available, allowing higher-density development to occur. The SSA is designed to concentrate development so that it occurs in a logical, compact, and contiguous manner and to maintain rural character in areas where utilities are not provided.

The Board of Supervisors may authorize the provision of public utilities outside of the boundaries of the SSA in certain instances identified in Chapter 9: Community Facilities + Utilities.

RURAL AREAS: These areas include agricultural, forestal, and rural areas outside of the SSA. More guidance on the County's rural areas can be found in Chapter 4: Rural + Agricultural.

RURAL CONSERVATION AREAS:

These areas include major rivers and streams, wetlands, prime agricultural soils, critical wildlife habitat, historic resources, and other features that contribute to the rural character and ecological health of Hanover County.

Due to their unique character and resources, additional preservation and conservation measures may be warranted. When reviewing development proposals within this area (and applicable land use policies), the following should be considered:

- Wider riparian buffers should be provided along rivers and streams (where possible) to protect water quality.
- Wider thoroughfare buffers should be provided along roadways to preserve scenic views and the area’s rural character.
- Viewsheds from National Historic Landmarks and sites/districts listed on the National Register of Historic Places should be protected.
- Residential development should be designed as a cluster or conservation subdivision that maximizes preserved open space.
- The use of land preservation tools, such as conservation easements and Agricultural and Forestal Districts (AFDs), should be encouraged in these areas.



GENERAL LAND USE PLAN

The General Land Use Plan (included within the Map Book) shows where new development may be appropriate over the next 20 years. It identifies where agricultural, residential, commercial, and industrial uses may be appropriate. A recommended land use designation is applied to every part of the County. The land use designations are not intended to be site specific, but show what types of uses and residential densities may be appropriate in a certain area.

LIST OF LAND USE DESIGNATIONS	
Land Use Designation	Appropriate Zoning Districts
Rural/Agricultural	A-1, AR-6, R-C
Rural Village	A-1, AR-6, B-O, B-1, B-2
Rural Crossroads	A-1, B-O, B-1
Suburban Transitional Residential (Up to 1.5 units/acre)	RS
Suburban Neighborhood Residential (1.5 – 3 units/acre)	RS
Suburban High Residential (3 – 7 units/acre)	RS, RM
Multi-Family Residential (8 – 15 units/acre)	RM, MX
Suburban Center	RS, RM, MX, OS, BP, B-1, B-2, B-3, M-1
Highway Commercial	B-O, B-1, B-2, B-3, BP, MX
Neighborhood Commercial	B-1
Business Flexible	B-O, B-1, B-2, B-3, OS, BP, M-1, M-2
Employment Center	B-1, B-2, OS, BP, M-1, MX
Destination Commerce	B-1, B-2, B-3
Limited Industrial	OS, BP, M-1
Industrial	M-1, M-2, M-3
Natural Conservation	Any Zoning District
Parks and Conserved Lands	Any Zoning District
<p>Note: In certain instances, the Suburban Center, Highway Commercial, and Employment Center land use designations may have a residential component. Descriptions of those land use designations include recommendations regarding the percentage of a project that may be dedicated for residential uses, along with a phasing plan.</p>	



This chapter includes detailed descriptions of each land use designation shown on the General Land Use Plan. There is guidance on recommended design standards applicable to each land use designation (based on the intensity of recommended uses) to ensure high-quality development contributes to the County’s rural character. While the 2017/2018 Comprehensive Plan is *use based* (focused on the location of different uses), a goal of this plan is to be more *design based*, reflecting citizen feedback received through a visual preference survey and other public outreach. Not only do descriptions of each land use designation provide guidance on different use types and their location, but also include guidance regarding:

- Transitions between Uses (Landscaping/ Buffers, Uses, Building Size)
- Buffering along Major Thoroughfares
- Pedestrian/Bicycle Infrastructure
- Access and Circulation
- Building Design
- Signage

The General Land Use Plan is advisory and does not legally control the use of land like a zoning ordinance or zoning map. It is a guide used by decisionmakers to help ensure that future development reflects the County’s overall vision for growth and development. Recommendations on the General Land Use Plan are considered as the Planning Commission and Board of Supervisors evaluate rezoning requests and other land use applications, such as conditional use permits. While each land use designation has specific

design-based guidance, these standards are not required to be implemented, but their applicability and appropriateness will be considered on a case-by-case basis.

For development within all land use designations, special consideration should be given to the following issues:

IEWS FROM COMMUNITY GATEWAYS AND MAJOR THOROUGHFARES

New development along major thoroughfares should be designed to create attractive gateways to the community through the use of high-quality landscaping, architecture, and site design. Landscaped thoroughfare buffers can be designed to soften the appearance of development, protect rural viewsheds, and limit the impact of high-speed vehicular traffic on adjacent residential uses. High-quality architecture, materials, landscaping, and signage can create attractive business corridors, with loading areas, outdoor storage, and HVAC systems thoughtfully located and screened to minimize their visibility.

OPEN SPACE DESIGN AND LAYOUT

Open space must be provided within suburban residential development, but it is also encouraged within a variety of place types and land use designations. In addition to guidance provided for each land use designation, consider the following when designing and locating open space areas:

- Provide open space in a publicly-accessible and visible location that is central to the

majority of the development's residents or users. This can be achieved in a variety of ways, such as:

- Providing a network of sidewalks and pedestrian pathways to connect homes and businesses with open space areas.
 - Providing single-loaded streets, where homes and/or businesses are located on one side of the street and open space areas are on the other side.
 - Locate open space at the end of a road or at an intersection to serve as a terminating vista.
 - Maximizing the number of residential lots that abut open space areas.
- Design open space areas to offer a mix of active and passive recreational opportunities.
 - Protect environmentally-sensitive features (floodplains, wetlands, steep slopes, unique habitats, etc.) within open space areas.
 - Where possible, protect historic and cultural resources within open space areas.
 - Where possible, existing healthy vegetation should be preserved within open space areas.
 - Where possible, locate open space areas to abut existing open space areas on adjacent parcels.
 - When stormwater facilities are located within open space areas, up to 75 percent of the area occupied by these features may count towards open space requirements IF they are designed as an open space amenity. To qualify as an amenity, they should support passive recreation uses by providing access, gentle slopes (less than 3:1), pedestrian elements (pathways, benches and seating areas, etc.), fountains, and/or high-quality native landscaping. If fencing is used, it should be of a type that complements the site (such as split-rail fencing, three-rail fencing, and picket fencing).



- Narrow strips of land (generally less than 25 feet in width) should generally not count towards minimum open space requirements, as these spaces are usually not usable for recreational purposes and cannot accommodate significant landscaping.

TRANSITIONS BETWEEN USES

Landscaping (buffers and/or screening) and/or greater setbacks should be provided on the perimeter of development when it abuts a use of a different type or intensity (existing or planned). Buildings on the perimeter of a development should be of a compatible scale and height as adjoining development. These transitions are intended to minimize negative impacts different use types may have on one another (noise, dust, light pollution, etc.).

Specific guidance regarding each of these issues and how they apply to different use types is included within the descriptions of each land use designation.

INFILL DEVELOPMENT

Infill development is encouraged to maximize the capacity of the Suburban Service Area (SSA) and efficiently use existing public infrastructure. It may be difficult for infill development to address all of the recommendations within each land use designation, but sites should be thoughtfully designed to:

- Provide adequate landscaping and open space;
- Incorporate design features (landscaping, architecture, etc.) that reflect the character of the surrounding area;
- Orient new buildings in a similar manner as existing adjacent development; and
- Minimize negative impacts to existing development (especially established residential neighborhoods) located on adjacent parcels by providing appropriate transitions between different use types and development intensities.



OVERALL OBJECTIVES AND STRATEGIES FOR LAND USE + GROWTH MANAGEMENT

OBJECTIVE LU.1: Provide for the orderly and timed development of land consistent with the County’s ability to provide services.

- Strategy LU.1a: Continue to promote policies that encourage suburban and commercial development to occur in a compact and contiguous manner.
- Strategy LU.1b: Maximize the use of existing infrastructure, facilities, and services to ensure economically- and financially-responsible service delivery.
- Strategy LU.1c: Provide for the independent and harmonious development of separate and distinct agricultural and suburban areas.
- Strategy LU.1d: Maximize the use of existing utility infrastructure to ensure the most financially responsible operation and maintenance of the system for the benefit of its customers.

- Strategy LU.1e: Evaluate the County’s cash proffer policy to determine if changes are necessary to ensure that new development is contributing to the cost of capital projects (capacity improvements) in an equitable and predictable way.

OBJECTIVE LU.2: Work collaboratively with different stakeholders to create communities that have a distinctive character and reflect Hanover County’s unique history and rural feel.

- Strategy LU.2a: Complete small area plans within targeted areas to develop more detailed recommendations regarding the desired form and character of new development within specific communities.
- Strategy LU.2b: Evaluate the subdivision and zoning ordinances to ensure that the different zoning districts and development standards align with recommendations made in the Comprehensive Plan.

LAND USE DESIGNATIONS

Detailed descriptions of the different land use designations are included on the following pages. After these descriptions, there are photos demonstrating how different design elements have been incorporated into existing development.

Land use designations with a residential component include recommended residential densities. All policies and ordinances should be considered when determining maximum achievable residential density in a specific area.

RURAL/AGRICULTURAL

The *Rural/Agricultural* land use designation includes areas that are used primarily for agriculture, forestry, and related uses that support the local agricultural economy. These areas include the majority of the County outside of the Suburban Service Area (SSA).

Low-density residential development is appropriate with a maximum density of one unit per 6.25 acres. Single-family dwellings may either be located on large lots compatible with surrounding uses or within rural cluster developments that include permanently-protected open space. Residential subdivisions should be designed to reflect the area's rural character by maintaining existing topography and native vegetation; preserving prime farmland and scenic roadside vistas; and protecting historic and natural resources.

These areas are served by limited public infrastructure. Public utilities will generally not be extended to areas designated *Rural/Agricultural*.

Appropriate Uses

- Agriculture
- Forestry
- Single-Family Detached Residential (Either within Large-Lot Developments or Cluster Developments)
- Small-Scale, Rural-Oriented Agribusinesses (Examples: Farmers' Markets, Agricultural Supply Stores)
- Small-Scale Lodging and Tourism-Oriented Uses (Examples: Bed and Breakfasts, Country Inns, Event Venues, Wineries, Breweries)
- Institutional Uses (Examples: Schools, Churches, Public Safety Facilities, and Similar Uses)
- Parks and Recreation Facilities

Appropriate Zoning Districts

- A-1 (Agricultural)
- AR-6 (Agricultural Residential)
- RC (Rural Conservation)

PROJECT FRAMEWORK

Project Size

- Rural Cluster Development: 25 acres (minimum)
- All Other Development: None

Residential Densities

- Up to 1 unit per 6.25 acres

Mix of Uses

- These areas should be used primarily for agricultural/forestry operations and supporting rural-oriented agribusinesses, with limited low density residential development (single-family detached residential uses) that does not detract from the area's rural character.
- Existing agricultural uses are encouraged to remain, as they are an important part of rural landscapes.
- Agribusiness and tourism uses compatible with the area's rural character may be appropriate in certain locations, upon demonstration that proposed uses will not negatively impact surrounding properties. Examples of such uses include equestrian centers, nurseries, boutique or unique agribusinesses, camps, rural tourism destinations, farmers' markets, and bed and breakfasts. These uses are recognized as economically-desirable businesses that support the viability of farming and land preservation.

Utilities

- These areas are not anticipated to be served by public utilities.



TRANSPORTATION

Access and Circulation

- Provide an interconnected street network that minimizes access to roads external to the subdivision.
- Use shared driveways to minimize access points to existing roads.
- Consider the use of public roads for subdivisions with more than 20 lots.

Active Transportation

- Construct pedestrian pathways within residential subdivisions to provide access to common open space (where provided).

COMMUNITY CHARACTER: RESIDENTIAL DEVELOPMENT

Open Space

- Rezoning requests designed as cluster subdivisions must provide at least 70% open space. Prioritize protecting rural viewsheds, natural resources, historic sites, and prime agricultural soils when locating the open space.

Landscaping and Buffers

- To help preserve viewsheds and the rural character of the County, minimize the visibility of new residential development by providing landscaped buffers at least 100 feet wide along major thoroughfares (enhanced buffers and greater setbacks along scenic roads).
- Preserve and supplement existing vegetation along rural roadways and scenic roads to create a wooded buffer that maintains the area’s rural character. In open areas, plant native trees and shrubs in a naturalistic, informal pattern to screen new development.

COMMUNITY CHARACTER: AGRIBUSINESS, AGRI-TOURISM, INSTITUTIONAL USES, AND OTHER NON-RESIDENTIAL DEVELOPMENT

Site Design

- Locate and design agribusiness and agri-tourism uses in a manner that minimizes negative impacts on the surrounding community (noise, lighting, odors, and/or traffic).
- Ensure that the scale and intensity of agribusiness and agri-tourism uses are generally compatible with (and sensitive to) the surrounding community. Businesses that directly relate to on-site agricultural operations are preferred.
- Divide parking areas into smaller areas that are screened with landscaping. Parking areas are encouraged to be located to limit visibility from adjacent roadways and residential uses.
- Design exterior lighting to the minimum height and intensity necessary for safe operations.

Landscaping and Buffers

- Consider providing a setback of at least 200 feet from existing occupied residential uses on adjacent properties, unless landscaping, topography, or other site features help mitigate negative impacts these uses may have on nearby residences.
- Screen parking areas with landscaping.
- Consider incorporating native plant species into the site design.
- Preserve existing vegetation on the development site where possible.

Signage

- Design freestanding signage with a size, scale, and design compatible with the area’s rural character. Lighting signage is discouraged.

Building Design

- Design buildings to reflect the massing, scale, materials, and architectural styles historically found in the surrounding area.

Noise

- Include measures to minimize noise impacts on surrounding properties, such as limiting the time/duration/amplification of outdoor music.

RURAL VILLAGE

The *Rural Village* land use designation accommodates a mix of institutional and commercial uses, including small-scale retail and services, which serve the surrounding rural community. Small-scale, single-family residential development may also be found in villages. These areas can also support heritage tourism by providing small-scale restaurants, shops, bed and breakfasts, and gas stations for visitors.

A mix of uses may be found in villages, but new development should complement the existing community with regard to scale, architecture, materials, and colors. The adaptive reuse of historic structures is strongly encouraged.

Villages should be compact and walkable. Sidewalks and pedestrian pathways should connect different uses, and parking should be located to the side and/or rear of buildings to create an attractive streetscape. Smaller setbacks may be appropriate to align with historic development patterns in the area.

Appropriate Uses

- Offices
- Retail
- Services
- Restaurants
- Institutional Uses (Including Schools, Churches, Public Safety Facilities, and Similar Uses)
- Single-Family Residential

Appropriate Zoning Districts

- A-1 (Agricultural)
- AR-6 (Agricultural Residential)
- B-O (Business Office)
- B-1 (Neighborhood Business)
- B-2 (Community Business)

*A new residential district may need to be created to accommodate small-scale residential development within Rural Villages.

PROJECT FRAMEWORK

Project Size

- None

Residential Densities

- Up to 1 unit/acre
(Residential-only projects should be 25 acres or less in area and have direct access to the main thoroughfare within the village)

Mix of Uses

- Commercial, Residential, and Institutional Uses Recommended (No Preferred Mix of Uses)
- Residential Projects: 100% Single-Family Dwellings (Detached)

Open Space

- Consider providing at least 10% of the project area as open space, with a mix of active and passive recreational amenities.
- Consider incorporating community gardens, vegetable farms, orchards, and/or other agricultural uses compatible with surrounding residential uses into open space areas, particularly on open sites historically used as farmland.

Utilities and Infrastructure

- Connect to public water and/or sewer (if available in the village).
- Screen stormwater management facilities or design them as an amenity (including landscaping, paths, benches, and/or similar features).



COMMUNITY CHARACTER

Landscaping and Buffers

- Provide landscaped buffers along major thoroughfares (enhanced buffers and greater setbacks along scenic roads), preserving existing vegetation where possible. Due to the compact nature of rural villages, thoroughfare buffers may be reduced or eliminated if parking is located to the side or rear of the principal building, pedestrian amenities exceeding minimum requirements are provided, street trees are provided, and/or buildings incorporate high-quality architectural details.
- Consider incorporating native plant species into thoroughfare buffers, parking islands, and other landscaped areas.
- Preserve existing vegetation on the development site where possible.

Building Design

- Incorporate architectural elements commonly used in historic structures in the area, including pitched roofs on at least a portion of the building.
- Use high-quality materials (such as brick, stone, and fiber-cement siding) commonly found on nearby historic structures.
- Design buildings to orient towards the street and avoid long, monotonous facades.
- Design buildings with footprints generally less than 15,000 square feet and no more than two stories in height. Design larger buildings to appear as a collection of smaller buildings.
- The adaptive reuse of historic buildings is strongly encouraged.

Signage

- Use small-scale freestanding and/or monument signage that is externally illuminated.

Parking and Loading

- Locate parking and loading areas to the side or rear of buildings to the greatest extent practicable. If located in the front, provide additional landscaping between the roadway and parking lots. Divide parking areas into smaller bays to reduce their scale.

Residential Uses

- Limit residential-only projects to 25 acres (or less) with internal streets that provide direct access to the main thoroughfare within the village.
- Minimize the prominence of garages along the streetscape. If a garage faces the street, preference is to have it set back from the primary façade. Side- and rear-loading garages are encouraged.
- Provide an interconnected street network that minimizes cul-de-sacs.

- Provide street trees and sidewalks/pedestrian paths, especially along major corridors.

Historic Districts

- For projects located within state- and/or nationally-recognized historic districts, reference guidance within Chapter 10: History + Culture.

TRANSITIONS (EXISTING USES, CURRENT ZONING, OR GENERAL LAND USE PLAN DESIGNATION)

Buffers

- Provide buffers between new development and adjacent agricultural uses. Consider the use of native plant species for any supplementary plantings.

Loading Areas

- Avoid orienting loading areas towards roadways and adjacent residential uses.

TRANSPORTATION

Access and Circulation

- Provide an interconnected street network that minimizes access to major thoroughfares. Use shared driveways along major thoroughfares.
- Provide stub roads to adjacent properties where appropriate and extend existing stub roads to improve transportation circulation and reduce traffic on main roads.

Active Transportation

- Provide sidewalks on at least one side of each street and around the turnaround of cul-de-sacs.
- Provide sidewalks within the development and to adjacent uses, offering pedestrians safe, convenient, and direct access to building entrances, parking areas, and open space, as well as pedestrian networks within neighboring development.
- Provide sidewalks or pedestrian pathways along the frontage of the road providing access to the project.
- Provide highly-visible and safe crossings for pedestrians, including crosswalks, pedestrian refuge islands, and/or other design features at intersections and mid-block crossings.
- Provide direct pedestrian and bicycle connections to regional trail networks, public facilities, and existing pedestrian/bicycle infrastructure that are immediately adjacent to the project.



RURAL CROSSROADS

Outside of the Suburban Service Area, *Rural Crossroads* are small concentrations of commercial activity located at key intersections. Historically, many of these locations included a store or other small businesses serving the nearby rural area. Small-scale commercial development is encouraged to complement the character of the surrounding community (including the scale, architecture, and materials of nearby historic structures). Uses typically consist of convenience stores, small grocery stores, general retail businesses, banks, and professional offices, along with institutional uses (post offices, fire stations, schools, churches, etc.). *Rural Crossroads* can also support heritage tourism by providing small-scale restaurants, shops, bed and breakfasts, and gas stations for visitors. The adaptive reuse of historic structures is strongly encouraged.

Appropriate Uses

- Small-Scale Services
(Examples: Convenience Stores, Gas Stations, Grocery Stores, Restaurants, General Retail, Banks)
- Small-Scale, Rural-Oriented Agribusinesses
(Examples: Farmers' Markets, Agricultural Supply Stores)
- Small-Scale Lodging and Tourism-Oriented Uses
(Examples: Bed and Breakfasts, Country Inns, Event Venues, Wineries, Breweries)
- Small-Scale Professional Offices

Appropriate Zoning Districts

- A-1 (Agricultural)
- B-O (Business Office)
- B-1 (Neighborhood Business)

PROJECT FRAMEWORK

Project Size

- None

Residential Densities

- No Residential Uses Recommended

Mix of Uses

- Commercial Uses: 100%

Open Space

- Not Applicable

Utilities and Infrastructure

- Public water and sewer are generally not available in these areas.
- Screen stormwater management facilities or design them as an amenity (including landscaping, paths, benches, and/or similar features).

COMMUNITY CHARACTER

Landscaping and Buffers

- Preserve existing vegetation on the site where possible. Due to the compact nature of rural crossroads, thoroughfare buffers may be reduced or eliminated if parking is located to the side or rear of the principal building and buildings incorporate high-quality architectural details.
- Consider incorporating native plant species into thoroughfare buffers, parking islands, and other landscaped areas.
- Preserve existing vegetation on the development site where possible.

Building Design

- Incorporate architectural elements commonly used in historic structures in the area, including pitched roofs on at least a portion of the building.
- Use high-quality materials (such as brick, stone, and fiber-cement siding) commonly found on nearby historic structures.
- Design buildings to orient towards the street and avoid long, monotonous facades.
- Design buildings with footprints generally less than 10,000 square feet and no more than two stories in height. Design larger buildings to appear as a collection of smaller buildings.
- The adaptive reuse of historic buildings is strongly encouraged.

Signage

- Use small-scale freestanding and/or monument signage that is externally illuminated.



Parking and Loading

- Locate parking and loading areas to the side or rear of buildings to the greatest extent practicable. If located in the front, provide additional landscaping between the roadway and parking lots. Divide parking areas into smaller bays to reduce their scale.

TRANSITIONS (EXISTING USES, CURRENT ZONING, OR GENERAL LAND USE PLAN DESIGNATION)

Buffers

- Provide transitional buffers adjacent to residential uses. Preserve existing vegetation where possible.

Loading Areas

- Avoid orienting loading areas towards roadways and adjacent residential uses (existing or planned).

TRANSPORTATION

Access and Circulation

- Minimize access to major thoroughfares. Use shared driveways along major thoroughfares.

SUBURBAN TRANSITIONAL RESIDENTIAL

The *Suburban Transitional Residential* land use designation accommodates detached single-family dwellings along the edge of the Suburban Service Area (SSA). Recommended residential densities are up to 1.5 dwelling units per acre. Ample open space should be integrated into these developments to help provide a transition between rural areas and adjacent suburban communities. Rural viewsheds should be preserved by providing thoroughfare buffers and greater building setbacks.

Appropriate Uses

- Detached Single-Family Dwellings
- Public and Institutional Uses (Schools, Churches, Community Centers, etc.)

Appropriate Zoning Districts

- RS (Single-Family Residential)

*A new residential district may need to be created to accommodate recommended development.

PROJECT FRAMEWORK

Project Size

- None

Residential Densities

- Up to 1.5 units/acre
- Minimum Recommended Lot Size: 20,000 square feet
- Minimum Recommended Lot Width: 125 feet

Mix of Uses

- Residential Uses: 100% of Project Area
- Mix of Housing Types: 100% Detached Single-Family Residential

Open Space

- Provide at least 15% of the project area as open space, with a mix of active and passive recreational amenities. Recreational areas should be dispersed throughout the neighborhood and/or situated to help protect rural viewsheds.
- Consider incorporating community gardens, vegetable farms, orchards, and/or other agricultural uses compatible with surrounding residential uses into open space areas, particularly on open sites historically used as farmland.
- Preserve existing healthy vegetation within open space where possible.

Utilities and Infrastructure

- Connect to public water and sewer.
- Screen stormwater management facilities or design them as an amenity (including landscaping, paths, benches, and/or similar features).



COMMUNITY CHARACTER

Landscaping and Buffers

- To help create attractive community gateways, the visibility of new residential development should be minimized by providing landscaped buffers along major thoroughfares. A mixture of deciduous and evergreen canopy trees, understory trees, and shrubs should be planted in a naturalistic, informal pattern to screen residences from view and provide privacy for residents. Existing mature, healthy vegetation is encouraged to be maintained where possible. In open areas with limited existing vegetation, new landscaping can be supplemented with berms, decorative fencing or walls (such as three-rail or split-rail fencing), or other features appropriate for the area.

To effectively reduce the visibility of new development, landscaped buffers along major thoroughfares should generally be at least 50 feet wide. Along scenic roads, wider and/or more densely-planted buffers may be necessary to protect viewsheds from these roads. Narrower buffers (maximum reduction in width of 20% on local roads) and/or less screening may be appropriate if residential buildings are oriented to face major thoroughfares to create an attractive streetscape, for infill development where immediately adjacent development has narrower buffer widths, and/or where the quality and density of existing vegetation maintained within the buffer creates an effective visual barrier.

- Preserve existing vegetation on the development site where possible.

Building Design

- Use high-quality materials (such as brick, stone, fiber-cement siding, and/or high-quality vinyl siding) on all street-facing facades.
- Consider constructing raised foundations with brick and/or stone veneer. If a house is constructed on a slab, design to give the appearance of a raised foundation.
- Provide variation in building elevations through diverse but complementary architectural forms, materials, colors, and textures.

- Minimize the prominence of garages along the streetscape. If a garage faces the street, preference is to have it set back from the primary façade. Side- and rear-loading garages are encouraged.
- Use the same architectural features on street-facing side and rear facades as are used on the front façade.
- Mix affordable and workforce housing (when provided) with market-rate units and design exteriors so that affordable and workforce units are indistinguishable from other housing types.

TRANSITIONS (EXISTING USES, CURRENT ZONING, OR GENERAL LAND USE PLAN DESIGNATION)

Adjacent to Lower-Intensity Uses

- Provide landscaped buffers and/or greater setbacks adjacent to low-density residential development and agricultural uses.
- Place larger lots along the perimeter of the development to provide a more compatible transition to adjacent lower-intensity uses.
- Orient buildings along the perimeter of the project to complement existing residential development on adjacent properties. For example, if adjacent residential properties face the major thoroughfare, new homes should also face the major thoroughfare (behind the landscaped buffer).

Adjacent to Higher-Intensity Uses

- Provide landscaped buffers adjacent to non-residential uses with a recommended width of at least 50 feet.
- Provide landscaped buffers adjacent to higher-intensity residential uses with a recommended width of 35 feet.

TRANSPORTATION

Access and Circulation

- Provide an interconnected street network that minimizes access to major thoroughfares.
- Provide stub roads to adjacent properties where appropriate and extend existing stub roads to improve transportation circulation and reduce traffic on main roads.
- Site entrances should be designed to avoid/minimize conflicts with commercial and industrial entrances where high truck traffic may occur.

Active Transportation

- Provide sidewalks on at least one side of major streets within the development.
- Design sidewalks and pedestrian pathways to connect residential uses with community open space and recreation areas.
- Provide direct pedestrian and bicycle connections to regional trail networks, public facilities (schools, libraries, parks, etc.), and existing pedestrian/ bicycle infrastructure that is immediately adjacent to the subdivision.



libraries, parks, etc.), and existing pedestrian/ bicycle infrastructure that is immediately adjacent to the subdivision.

SUBURBAN NEIGHBORHOOD RESIDENTIAL

The *Suburban Neighborhood Residential* land use designation accommodates detached and attached single-family dwellings (including townhouses) within the Suburban Service Area (SSA). Recommended residential densities are 1.5 to 3 dwelling units per acre.

This designation is intended to accommodate different housing options in a walkable environment through flexible lot sizing, variable density, and the provision of high-quality open space and recreational amenities.

Appropriate Uses

- Detached Single-Family Dwellings
- Attached Single-Family Dwellings
- Duplexes
- Townhouses



- Public and Institutional Uses (Schools, Churches, Community Centers, etc.)

Appropriate Zoning Districts

- RS (Single-Family Residential)

PROJECT FRAMEWORK

Project Size

- None

Residential Densities

- 1.5 – 3 units/acre

Mix of Uses

- Residential Uses: 100% of Project Area
- Mix of Housing Types: Projects greater than 25 acres should consider incorporating a mix of housing types. No more than 30% of the housing units should be attached.

Open Space

- Provide at least 15% of the project area as open space, with a mix of active and passive recreational amenities. Recreational areas should be dispersed throughout the neighborhood.
- Consider incorporating community gardens, vegetable farms, orchards, and/or other agricultural uses compatible with surrounding residential uses into open space areas, particularly on open sites historically used as farmland.
- Preserve existing healthy vegetation within open space where possible.

Utilities and Infrastructure

- Connect to public water and sewer.
- Screen stormwater management facilities or design them as an amenity (including landscaping, paths, benches, and/or similar features).

COMMUNITY CHARACTER

Landscaping and Buffers

- To help create attractive community gateways, the visibility of new residential development should be minimized by providing landscaped buffers along major thoroughfares. A mixture of deciduous and evergreen canopy trees, understory trees, and shrubs should be planted in a naturalistic, informal pattern to screen residences from view and provide privacy for residents. Existing mature, healthy vegetation is encouraged to be maintained where possible. In open areas with limited existing vegetation, new landscaping can be supplemented with berms, decorative fencing or walls (such as three-rail or split-rail fencing), or other features appropriate for the area. To effectively reduce the visibility of new development, landscaped buffers along major thoroughfares should generally be at least 50 feet wide. Along scenic roads, wider and/or more densely-planted buffers may be necessary to protect viewsheds from these roads. Narrower buffers (maximum reduction in width of 20% on local roads) and/or less screening may be appropriate if residential buildings are oriented to face major thoroughfares to create an attractive streetscape, for infill development where immediately adjacent development has narrower buffer widths, and/or where the quality and density of existing vegetation maintained within the buffer creates an effective visual barrier.
- Preserve existing vegetation on the development site where possible.
- Provide street trees.

Building Design

- Use high-quality materials (such as brick, stone, fiber-cement siding, and/or high-quality vinyl)

siding) on all street-facing facades.

- Consider constructing raised foundations with brick and/or stone veneer. If a house is constructed on a slab, design to give the appearance of a raised foundation.
- Provide variation in building elevations through diverse but complementary architectural forms, materials, colors, and textures.
- Minimize the prominence of garages along the streetscape. If a garage faces the street, preference is to have it set back from the primary façade. Side- and rear-loading garages are encouraged.
- Use the same architectural features on street-facing side and rear facades as are used on the front façade.
- Mix affordable and workforce housing (when provided) with market-rate units and design exteriors so that affordable and workforce units are indistinguishable from other housing types.
- Design single-family attached units and townhouses so there are no more than four attached units in a row.

TRANSITIONS (EXISTING USES, CURRENT ZONING, OR GENERAL LAND USE PLAN DESIGNATION)

Adjacent to Lower-Intensity Uses

- Provide landscaped buffers and/or greater setbacks adjacent to low-density residential development and agricultural uses.
- Place larger lots along the perimeter of the development to provide a more compatible transition to adjacent lower-intensity uses.
- Orient buildings along the perimeter of the project to complement existing residential development on adjacent properties. For example, if adjacent residential properties face the major thoroughfare, new homes should also face the major thoroughfare (behind the landscaped buffer).

Adjacent to Higher-Intensity Uses

- Provide landscaped buffers adjacent to non-residential uses with a recommended width of 50 feet, with landscape screening installed to minimize the visibility of non-residential uses from residential uses.
- Provide landscaped buffers adjacent to higher-intensity residential uses outside of the development with a recommended width of 35 feet.

TRANSPORTATION

Access and Circulation

- Provide an interconnected street network that minimizes access to major thoroughfares.
- Provide stub roads to adjacent properties where appropriate and extend existing stub roads to improve transportation circulation and reduce traffic on main roads.
- Site entrances should be designed to avoid/minimize conflicts with commercial and industrial entrances where high truck traffic may occur.

Active Transportation

- Provide sidewalks on both sides of each street and around the turnaround of cul-de-sacs.
- Provide sidewalks or pedestrian pathways along the frontage of the road providing access to the subdivision.
- Design sidewalks and pedestrian pathways to connect residential uses with community open space and recreation areas.
- Provide a bicycle lane or shared-use path along the frontage of the road providing access to the subdivision if regional trail networks and/or public facilities (schools, libraries, parks, etc.) are located within one mile of the subdivision.
- Provide direct pedestrian and bicycle connections to regional trail networks, public facilities (schools, libraries, parks, etc.), and existing pedestrian/bicycle infrastructure that is immediately adjacent to the subdivision.

SUBURBAN HIGH RESIDENTIAL

The *Suburban High Residential* land use designation accommodates detached and attached single-family dwellings, duplexes, townhouses, and small-scale multi-family residential development within the Suburban Service Area (SSA). Recommended residential densities are 3 to 7 dwelling units per acre.

This designation is intended to accommodate different housing options in a walkable environment through flexible lot sizing, variable density, and the provision of high-quality open space and recreational amenities.

Appropriate Uses

- Detached Single-Family Dwellings
- Attached Single-Family Dwellings
- Duplexes
- Townhouses
- Small-Scale Multi-Family Residential Buildings (Up to 6 Units per Building)
- Public and Institutional Uses (Schools, Churches, Community Centers, etc.)

Appropriate Zoning Districts

- RS (Single-Family Residential)
- RM (Multi-Family Residential)

PROJECT FRAMEWORK

Project Size

- None

Residential Densities

- 3 – 7 units/acre

Mix of Uses

- Residential Uses: 100% of Project Area

Open Space

- Provide at least 25% of the project area as open space, with a mix of active and passive recreational amenities. Recreational areas should be dispersed throughout the neighborhood.
- Consider incorporating community gardens, vegetable farms, orchards, and/or other agricultural uses compatible with surrounding residential uses into open space areas, particularly on open sites historically used as farmland.
- Preserve existing healthy vegetation within open space where possible.

Utilities and Infrastructure

- Connect to public water and sewer.
- Screen stormwater management facilities or design them as an amenity (including landscaping, paths, benches, and/or similar features).



COMMUNITY CHARACTER

Landscaping and Buffers

- To help create attractive community gateways, the visibility of new residential development should be minimized by providing landscaped buffers along major thoroughfares. A mixture of deciduous and evergreen canopy trees, understory trees, and shrubs should be planted in a naturalistic, informal pattern to screen residences from view and provide privacy for residents. Existing mature, healthy vegetation is encouraged to be maintained where possible. In open areas with limited existing vegetation, new landscaping can be supplemented with berms, decorative fencing or walls (such as three-rail or split-rail fencing), or other features appropriate for the area.

To effectively reduce the visibility of new development, landscaped buffers along major thoroughfares should generally be at least 50 feet wide. Along scenic roads, wider and/or more densely-planted buffers may be necessary to protect viewsheds from these roads. Narrower buffers (maximum reduction in width of 20% on local roads) and/or less screening may be appropriate if residential buildings are oriented to face major thoroughfares to create an attractive streetscape, for infill development where immediately adjacent development has narrower buffer widths, and/or where the quality and density of existing vegetation maintained within the buffer creates an effective visual barrier.

- Preserve existing vegetation on the development site where possible.
- Provide street trees.

Building Design

- Use high-quality materials (such as brick, stone, fiber-cement siding, and/or high-quality vinyl siding) on all street-facing facades.
- Consider constructing raised foundations with brick and/or stone veneer. If a house is constructed on

a slab, design to give the appearance of a raised foundation.

- Provide variation in building elevations through diverse but complementary architectural forms, materials, colors, and textures.
- Avoid long, monotonous facades. Use architectural treatments and changes in material to break up the appearance of long facades.
- Minimize the prominence of garages along the streetscape. If a garage faces the street, preference is to have it set back from the primary façade. Side- and rear-loading garages are encouraged.
- Use the same architectural features on street-facing side and rear facades as are used on the front façade.
- Mix affordable and workforce housing (when provided) with market-rate units and design exteriors so that affordable and workforce units are indistinguishable from other housing types.
- Design multi-family buildings so there are no more than six units in a building and townhouses so there are no more than six attached units in a row (no more than four attached units in a row abutting existing single-family residential development).

TRANSITIONS (EXISTING USES, CURRENT ZONING, OR GENERAL LAND USE PLAN DESIGNATION)

Adjacent to Lower-Intensity Uses

- Provide landscaped buffers adjacent to low-density residential development and agricultural uses with a recommended width of 50 feet. Narrower widths may be appropriate with landscape screening installed to minimize the visibility of higher-intensity residential development from lower-intensity uses, particularly as part of infill development.
- Limit townhouse buildings adjacent to single-family residential development to no more than four attached units in a row, with building heights of three stories or less.
- Orient buildings along the perimeter of the project to complement existing residential development on adjacent properties. For example, if adjacent residential properties face the major thoroughfare, new homes should also face the major thoroughfare (behind the landscaped buffer).

Adjacent to Higher-Intensity Uses

- Provide landscaped buffers adjacent to non-residential uses with a recommended width of 50 feet, with landscape screening installed to minimize the visibility of non-residential uses from residential uses.
- Provide landscaped buffers adjacent to higher-intensity residential uses with a recommended width of 35 feet.

TRANSPORTATION

Access and Circulation

- Provide an interconnected street network that minimizes access to major thoroughfares.
- Provide stub roads to adjacent properties where appropriate and extend existing stub roads to improve transportation circulation and reduce traffic on main roads.
- Site entrances should be designed to avoid/minimize conflicts with commercial and industrial entrances where high truck traffic may occur.

Active Transportation

- Provide sidewalks on both sides of all streets and around the turnaround of cul-de-sacs.
- Provide sidewalks or pedestrian pathways along the frontage of the road providing access to the subdivision.
- Design sidewalks and pedestrian pathways to connect residential uses with community open space and recreation areas.
- Provide a bicycle lane or shared-use path along the frontage of the road providing access to the subdivision if regional trail networks and/or public facilities (schools, libraries, parks, etc.) are located within one mile of the subdivision.
- Provide direct pedestrian and bicycle connections to regional trail networks, public facilities (schools, libraries, parks, etc.), and existing pedestrian/bicycle infrastructure that are immediately adjacent to the subdivision.

MULTI-FAMILY RESIDENTIAL

The *Multi-Family Residential* land use designation accommodates attached single-family dwellings, duplexes, townhouses, and multi-family residential (apartments, condominiums, etc.) development within the Suburban Service Area (SSA). These areas can also accommodate mixed-use development that includes both residential and neighborhood-oriented commercial uses. Recommended residential densities are 8 to 15 dwelling units per acre.

This designation is intended to accommodate different housing options in a walkable environment through flexible lot sizing, variable density, and the provision of high-quality open space and recreational amenities.

Appropriate Uses

- Attached Single-Family Dwellings
- Duplexes
- Townhouses
- Multi-Family Residential (Apartments, Condominiums, etc.)
- Public and Institutional Uses (Schools, Churches, Community Centers, etc.)
- Vertically Mixed-Use Buildings (with Ground-Floor Retail, Restaurants, Services, Offices, and Neighborhood-Oriented Commercial)

Appropriate Zoning Districts

- RM (Multi-Family Residential)
- MX (Mixed Use)

PROJECT FRAMEWORK

Project Size

- None

Residential Densities

- 8 – 15 units/acre

Mix of Uses

- RM Zoning District: 100% Residential
- MX Zoning District: Minimum 35% Neighborhood Commercial Uses (For mixed-use projects, develop a phasing plan that ensures portions of the business uses are constructed prior to occupancy of residential uses.)
- Mix of Housing Types: No Required Mix

Open Space

- Provide at least 25% of the project area as open space, with a mix of active and passive recreational amenities. Recreational areas should be dispersed throughout the neighborhood.
- Consider incorporating community gardens, vegetable farms, orchards, and/or other agricultural uses compatible with surrounding residential uses into open space areas, particularly on open sites historically used as farmland.
- Preserve existing healthy vegetation within open space where possible.

Utilities and Infrastructure

- Connect to public water and sewer.
- Screen stormwater management facilities or design them as an amenity (including landscaping, paths, benches, and/or similar features).

COMMUNITY CHARACTER

Landscaping and Buffers

- To help create attractive community gateways, the visibility of new residential development should be minimized by providing landscaped buffers along major thoroughfares. A mixture of deciduous and evergreen canopy trees, understory trees, and shrubs should be planted in a naturalistic, informal pattern to screen residences from view and provide privacy for residents. Existing mature, healthy vegetation is encouraged to be maintained where possible. In open areas with limited existing vegetation, new landscaping can be supplemented with berms, decorative fencing or walls (such as three-rail or split-rail fencing), or other features appropriate for the area.

To effectively reduce the visibility of new development, landscaped buffers along major thoroughfares should generally be at least 50 feet wide. Along scenic roads, wider and/or more densely-planted buffers may be necessary to protect viewsheds from these roads. Narrower buffers (maximum reduction in width of 20% on local roads) and/or less screening may be appropriate if residential buildings are oriented to face major thoroughfares to create an attractive streetscape, for infill development where immediately adjacent development has narrower buffer widths, and/or where the quality and density of existing vegetation maintained within the buffer creates an effective visual barrier.

- Provide street trees.
- Consider incorporating native plant species into thoroughfare buffers, parking islands, and other landscaped areas.
- Preserve existing vegetation on the development site where possible.

Building Design

- Use high-quality materials (such as brick, stone, fiber-cement siding, and/or high-quality vinyl siding) on all street-facing facades.
- Coordinated architecture throughout the project.
- Use the same architectural features on street-facing side and rear facades as are used on the front façade.
- Avoid long, monotonous facades. Use architectural treatments and changes in material to break up the appearance of long facades.
- Provide variation in building elevations through diverse but complementary architectural forms, materials, colors, and textures.
- Minimize the prominence of garages along the streetscape. If a garage faces the street, preference is to have it set back from the primary façade. Side- and rear-loading garages are encouraged.
- Mix affordable and workforce housing (when provided) with market-rate units and design exteriors so that affordable and workforce units are indistinguishable from other housing types.
- For multi-family buildings, a collection of shorter, smaller-scale buildings is preferred over taller buildings with a larger footprint.

Lighting

- Provide pedestrian-scale exterior lighting that minimizes glare on adjacent properties and roadways.

TRANSITIONS (EXISTING USES, CURRENT ZONING, OR GENERAL LAND USE PLAN DESIGNATION)

Adjacent to Lower-Intensity Uses

Provide landscaped buffers adjacent to low-density residential development and agricultural uses with a recommended width of 50 feet. Narrower widths may be appropriate with landscape screening installed to minimize the visibility of higher-intensity residential development from lower-intensity uses, particularly as part of infill development.

Locate shorter, smaller-scale buildings along the perimeter of the project:

- Multi-family buildings located immediately adjacent to or within 50 feet of property lines abutting single-family residential and townhouse development should be designed with a massing and scale that transitions to adjacent lower-intensity uses, with a maximum height of 3 stories recommended.
- Design townhouses located immediately adjacent to or within 50 feet of property lines abutting single-family residential development so that there are no more than four attached units in a row and units are no more than 3 stories in height.

Adjacent to Commercial and/or Industrial Uses

- Provide landscaped buffers adjacent to existing and planned non-residential uses with a recommended width of 50 feet. Depending upon the intensity of adjacent non-residential uses, narrower widths may be appropriate with landscape screening installed to minimize the visibility of non-residential development from residential uses, particularly as part of infill development.

TRANSPORTATION

Access and Circulation

- Provide an interconnected street network that minimizes access to major thoroughfares.
- Provide stub roads to adjacent properties where appropriate and extend existing stub roads to improve transportation circulation and reduce traffic on main roads.
- Site entrances should be designed to avoid/minimize conflicts with commercial and industrial entrances where high truck traffic may occur.

Active Transportation

- Provide sidewalks on both sides of all streets and around the turnaround of cul-de-sacs.
- Provide sidewalks or pedestrian pathways along the frontage of the road providing access to the project.
- Design sidewalks and pedestrian pathways to connect residential uses with community open space and recreation areas.
- Ensure sidewalks and pathways provide pedestrians with safe, convenient, and direct access to building entrances, parking areas, and open space, as well as pedestrian networks within neighboring development.
- Provide highly-visible and safe crossings for pedestrians, including crosswalks, pedestrian refuge islands, and/or other design features at intersections and mid-block crossings.
- Provide a bicycle lane or shared-use path along the frontage of the road providing access to the project if regional trail networks and/or public facilities are located within one mile of the project.
- Provide direct pedestrian and bicycle connections to regional trail networks, public facilities, and existing pedestrian/bicycle infrastructure that are immediately adjacent to the project.



SUBURBAN CENTER

Areas designated **Suburban Center** are intended to accommodate employment-generating uses within a master-planned community that provides a pedestrian-oriented environment, with a symbiotic combination of commercial, residential, light industrial, and other complementary uses that support workers, residents, and the general public. The site layout and design standards for each project should create a cohesive, high-quality development that harmoniously integrates different uses and has a unique sense-of-place that reflects the character of Hanover County. This designation is intended to provide the flexibility to use one or more zoning districts to accommodate the appropriate mix of uses. No more than 50% of the project area (based on total acreage) may be used for residential uses, and a phasing plan must be provided to ensure that commercial uses develop concurrently with (or prior to) residential uses. Residential uses include single-family residential, townhouses, multi-family residential, and congregate living.

Appropriate Uses

- Offices
- Retail

- Services
- Light Industrial Uses
- Research and Development
- Detached Single-Family Dwellings
- Townhouses
- Multi-Family Residential
- Congregate Living
- Vertically Mixed-Use Buildings

Appropriate Zoning Districts

- RS (Single-Family Residential)
- RM (Multi-Family Residential)
- MX (Mixed Use)
- Office/Service (OS)
- Business Park (BP)
- B-1 (Neighborhood Business)
- B-2 (Community Business)
- B-3 (General Business)
- M-1 (Limited Industrial)

PROJECT FRAMEWORK

Project Size

- 20 acres
(Infill development and redevelopment sites may be smaller)

Residential Densities

- Up to 15 dwelling units per acre
(within portions of the project dedicated to residential uses and vertically mixed-use buildings with a residential component)

Mix of Uses

- A mix of businesses and residential uses should be accommodated within areas designated **Suburban Center**. The following mix of uses is preferred:
 - Commercial Uses: 50—85% of Total Acreage
 - Residential Uses: 15—50% of Total Acreage
 - Low-Impact Industrial Uses: 0 – 25% of Total Acreage
- When determining the percentages listed above, horizontal mixed-use developments are calculated based on the acreage dedicated to each use. For vertically mixed-use buildings, at least 30% of the building square footage should be dedicated to commercial or office uses for it to count towards the commercial calculation. Congregate care uses should be considered a residential use.

- Develop a phasing plan that ensures portions of the business uses are constructed prior to occupancy of residential uses. While each mixed-use project is unique, phasing plans should consider the following schedule:

- Up to 10% of residential units may be constructed prior to the construction of any commercial uses.
- No more than 50% of residential units may be constructed prior to the completion of at least 25% of the commercial square footage (Certificates of Occupancy issued).
- No more than 80% of the residential units may be constructed prior to the completion of at least 80% of the commercial square footage (Certificates of Occupancy issued).

Open Space

- Provide at least 25% of the project area as open space, with a mix of active and passive recreational amenities that are located to enhance the appearance of the development.

Utilities and Infrastructure

- Connect to public water and sewer.
- Screen stormwater management facilities or design them as an amenity (including landscaping, paths, benches, and/or similar features).

COMMUNITY CHARACTER

Landscaping and Buffers

- Provide coordinated landscaping throughout the development to create a park-like environment.
- To help create attractive community gateways, soften the appearance of new development by providing landscaped buffers along major thoroughfares. A mixture of deciduous and evergreen canopy trees, understory trees, and shrubs should be planted in a naturalistic, informal pattern. Existing mature, healthy vegetation is encouraged to be maintained where possible. In open areas with limited existing vegetation, new landscaping can be supplemented with berms, decorative fencing or walls (such as three-rail or split-rail fencing), or other features appropriate for the area. The width of landscaped buffers along major thoroughfares may vary depending upon the size (including height) and location of buildings within the development, as well as the intensity of uses, but should generally be at least 50 feet wide. Along scenic roads, wider and/or more densely-planted buffers may be necessary to protect viewsheds from these roads. Narrower buffers (maximum reduction in width of 20%) may be appropriate with increased landscaping, and/or enhanced streetscape improvements, and/or where the quality and density of existing vegetation maintained within the buffer creates an effective visual barrier.
- Provide street trees.

Building Design: Businesses and Mixed-Use Buildings

- Provide coordinated architecture throughout the project with buildings that incorporate high-quality materials (such as brick, stone, stucco, fiber-cement siding, and architectural block), façade articulation, and varied roof lines.
- Avoid long, monotonous facades. Windows, wall offsets, awnings, and other architectural features should be used to visually break long facades.
- Orient bay doors, garages, and loading/unloading facilities away from public roads and adjacent residential uses (existing or planned). If such features are oriented towards public roads, additional landscaping or other features should be used to provide screening.
- Consider deed restrictions or other options to ensure the long-term quality of the development and coordination between uses.

Building Design: Residential Buildings

- Use high-quality materials (such as brick, stone, fiber-cement siding, and/or high-quality vinyl siding) on all street-facing facades.
- Provide coordinated architecture throughout.
- Use the same architectural features on street-facing side and rear facades as are used on the front façade.
- Avoid long, monotonous facades. Windows, wall offsets, awnings, and other architectural features should be used to visually break long facades.
- Provide variation in building elevations through diverse but complementary architectural forms,

materials, colors, and textures.

- Minimize the prominence of garages along the streetscape. If a garage faces the street, preference is to have it set back from the primary façade. Side- and rear-loading garages are encouraged.
- Mix affordable and workforce housing (when provided) with market-rate units and design exteriors so that affordable and workforce units are indistinguishable from other housing types.
- For multi-family buildings, a collection of shorter, smaller-scale buildings is preferred over taller buildings with a larger footprint.

Signage

- Provide cohesive signage throughout the project (monument signs preferred).

Parking and Loading

- Locate parking and loading areas to the side or rear of buildings to the greatest extent practicable. If located in the front, provide additional landscaping between the roadway and parking lots.
- Use landscaped islands and other features to divide parking areas into smaller bays.

Lighting

- Provide pedestrian-scale exterior lighting that minimizes glare on adjacent properties and roadways.

TRANSITIONS (EXISTING USES, CURRENT ZONING, OR GENERAL LAND USE PLAN DESIGNATION)

Internal Transitions

- Multi-use projects are designed to be cohesive and coordinated, so transitions are not necessary within (internal to) the development.

Adjacent to Lower-Intensity Uses

- Locate lower-intensity uses along the perimeter of the project adjacent to residential uses.
- Provide landscaped buffers adjacent to low-density residential development and agricultural uses with a recommended width of 75 feet.
- Locate taller buildings in the project interior, with shorter, smaller-scale buildings along the perimeter of the project:
 - Multi-family buildings should be designed with a massing and scale that transitions to adjacent lower-intensity uses, with a maximum height of 3 stories recommended.
 - Design townhouses adjacent to single-family residential development so that there are no more than four attached units in a row and units are no more than 3 stories in height.
 - Commercial and industrial buildings adjacent to lower-intensity uses should be no more than 35 feet in height.

- Locate loading areas, dumpsters, and other service areas away from adjacent residential uses.

Adjacent to Commercial and/or Industrial Uses

- Provide landscaped buffers (with a minimum recommended width of 75 feet) to protect proposed residential uses from non-residential uses on adjacent properties.

TRANSPORTATION

Access and Circulation

- Design the access and circulation system to provide safe accommodations for multiple users of the transportation network, including pedestrians, bicyclists, and motorists. Provide pedestrian and bicycle accommodations where appropriate.
- Provide an interconnected street network that minimizes access to major thoroughfares. Individual uses should not have direct access to major thoroughfares.
- Provide stub roads to adjacent properties where appropriate and extend existing stub roads to improve transportation circulation and reduce traffic on main roads.

Active Transportation

- Provide sidewalks on both sides of the street, with wide sidewalks in areas fronting civic buildings and buildings with ground-floor commercial uses.
- Provide sidewalks or pedestrian pathways along the frontage of the road providing access to the project.
- Provide sidewalks within the development and to adjacent uses, offering pedestrians safe, convenient, and direct access to building entrances, parking areas, and open space, as well as pedestrian networks within neighboring development.
- Provide highly-visible and safe crossings for pedestrians, including crosswalks, pedestrian refuge islands, and/or other design features at intersections and mid-block crossings.
- Provide amenities for pedestrians along sidewalks, including street trees, benches, lighting, and other features with a coordinated style throughout the project.
- Provide a bicycle lane or shared-use path along the frontage of the road providing access to the project if regional trail networks and/or public facilities (schools, libraries, parks, etc.) are located within one mile of the project.
- Provide direct pedestrian and bicycle connections to regional trail networks, public facilities (schools, libraries, parks, etc.), and existing pedestrian/bicycle infrastructure that are immediately adjacent to the project.

HIGHWAY COMMERCIAL

Areas designated *Highway Commercial* are intended to accommodate a mix of commercial uses that serve customers from the surrounding community and the larger region. Since these uses may generate a significant number of vehicle trips, these areas are primarily located along arterial roadways and/or near interstate interchanges within the Suburban Service Area (SSA).

These areas may include a wide range of retail, office, and business uses in both smaller and larger footprints. Outdoor storage is generally discouraged.

Appropriate Uses

- Offices
- General Retail
- Convenience Stores
- Gas Stations
- Grocery Stores
- Restaurants (Sit-Down and Drive-Throughs)

- Banks
- Auto-Oriented Uses (Automobile Sales and Repair)

Appropriate Zoning Districts

- B-O (Business Office)
- B-1 (Neighborhood Business)
- B-2 (Community Business)
- B-3 (General Business)
- BP (Business Park)
- MX (Mixed Use) (with a minimum of 50% of area designated for commercial uses and adoption of a phasing plan that ensures portions of the business uses are constructed prior to occupancy of residential uses)

PROJECT FRAMEWORK

Project Size

- None

Residential Densities

- No Residential Uses Recommended

Mix of Uses

- Commercial Uses: 100%

(See Mixed-Use Development within Highway Commercial Areas later in this section for guidance regarding mixed-use development within Highway Commercial areas.)

Open Space

- Provide thoroughfare and perimeter buffers (see below).

Utilities and Infrastructure

- Connect to public water and sewer (if available).
- Screen stormwater management facilities from public view, unless designed as an amenity (including landscaping, paths, benches, and/or similar features).



COMMUNITY CHARACTER

Landscaping and Buffers

- To help create attractive community gateways, soften the appearance of new development by providing landscaped buffers along major thoroughfares. A mixture of deciduous and evergreen canopy trees, understory trees, and shrubs should be planted in a naturalistic, informal pattern. Existing mature, healthy vegetation is encouraged to be maintained where possible. In open areas with limited existing vegetation, new landscaping can be supplemented with berms, decorative fencing or walls (such as three-rail or split-rail fencing), or other features appropriate for the area. The width of landscaped buffers along major thoroughfares may vary depending upon the size (including height) and location of buildings within the development, as well as the intensity of uses, but should generally be at least 50 feet wide. Along scenic roads, wider and/or more densely-planted buffers may be necessary to protect viewsheds from these roads. Narrower buffers (maximum reduction in width of 20%) may be appropriate with increased landscaping, enhanced streetscape improvements, and/or where the quality and density of existing vegetation maintained within the buffer creates an effective visual barrier.
- Provide street trees.
- Consider incorporating native plant species into thoroughfare buffers, parking islands, and other landscaped areas.
- Preserve existing vegetation on the development site where possible.
- If permitted, locate outdoor storage to the side and/or rear of buildings screened by high-quality fencing, walls, and/or landscaping.

Building Design

- Provide coordinated architecture throughout the project with buildings that incorporate high-quality materials (such as brick, stone, stucco, fiber-cement siding, and architectural block), façade articulation, and varied roof lines along street-facing facades (pitched roofs are encouraged).
- Avoid long, monotonous facades. Windows, wall offsets, awnings, changes in color or material, changes in roofline, and other architectural features should be used to visually break long facades.
- Screen rooftop HVAC and mechanical systems from roadways and adjacent properties with building materials and features that are an integral part of building.
- Screen ground-level HVAC and mechanical systems from roadways and adjacent properties with decorative fencing and/or landscaping.
- Use deed restrictions to help ensure the long-term quality of the development.

Signage

- Provide cohesive signage throughout the project (monument signs preferred).

Parking and Loading

- Locating parking and loading areas to the side or rear of buildings is encouraged. If located in the front, provide additional landscaping between the roadway and parking lots.
- Use landscaped islands and other features to divide parking areas into smaller bays.

TRANSITIONS (EXISTING USES, CURRENT ZONING, OR GENERAL LAND USE PLAN DESIGNATION)

Adjacent to Lower-Intensity Uses

- Provide heavily-landscaped transitional buffers adjacent to residential uses. Preserve existing vegetation where possible. Buffers adjacent to residential areas should generally be at least 30 feet wide.
- Limit the height of buildings abutting residential development to 35 feet, unless a larger setback is provided.
- Avoid orienting loading areas towards adjacent residential uses.

TRANSPORTATION

Access and Circulation

- Provide an interconnected street network that minimizes access to major thoroughfares. Use shared driveways along major thoroughfares.
- Truck traffic should be directed to full-access entrances at major thoroughfares. Special consideration should be given to reduce conflict points between entrances with high truck traffic and nearby residential entrances.

Active Transportation

- Provide sidewalks within the development and to adjacent uses, offering pedestrians safe, convenient, and direct access to building entrances, parking areas, and open space, as well as pedestrian networks within neighboring development.
- Provide pedestrian pathways or sidewalks along adjacent major thoroughfares.
- Provide highly-visible and safe crossings for pedestrians, including crosswalks, pedestrian refuge islands, and/or other design features at intersections and mid-block crossings.
- Provide direct pedestrian and bicycle connections to regional trail networks, public facilities (schools, libraries, parks, etc.), and existing pedestrian/bicycle infrastructure that are immediately adjacent to the project.

MIXED-USE DEVELOPMENT WITHIN HIGHWAY COMMERCIAL AREAS

Mixed-use development may be appropriate within areas designated Highway Commercial as follows:

Mix of Uses

- A minimum of 50% of the project area must be designated for commercial uses.
- Develop a phasing plan that ensures commercial uses are constructed prior to (or concurrently with) residential uses. While each mixed-use project is unique, phasing plans should consider the following schedule:
 - Up to 10% of residential units may be constructed prior to the construction of any commercial uses.
 - No more than 50% of residential units may be constructed prior to the completion of at least 25% of the commercial square footage (Certificates of Occupancy issued).
 - No more than 80% of the residential units may be constructed prior to the completion of at least 80% of the commercial square footage (Certificates of Occupancy issued).

Vertically Mixed-Use Buildings

- Residential units should generally be located above ground-floor commercial space within vertically mixed-use buildings.

Pedestrian-Oriented Design

- Development should include sidewalks and street trees on both sides of the street. The pedestrian network should connect uses within the development with adjacent neighborhoods, commercial uses, and public facilities (schools, facilities, parks, etc.). On-street parking may be appropriate, but off-street parking should generally be located to the side or rear of main buildings.

Neighborhood Scale

- Buildings should be no more than four stories in height. Buildings along the perimeter of the site should only be two stories in height when abutting residential development, unless the predominate building height in the adjacent neighborhood is three stories.

Maximum Residential Density

- The maximum residential density is 15 units per acre.

NEIGHBORHOOD COMMERCIAL

Areas designated *Neighborhood Commercial* are intended to accommodate a limited range of commercial uses that provide services and goods to surrounding neighborhoods. Businesses tend to be smaller-scale, lower-intensity uses that do not generate significant truck traffic. These areas are generally located at the intersection of minor arterial and/or collector roads within the Suburban Service Area (SSA).

Example businesses include grocery stores, small-scale retail, small-scale service uses, restaurants without drive-through windows, banks, and professional offices. Outdoor storage, businesses

open 24/7, and drive-through windows are generally discouraged.

Appropriate Uses

- Small-Scale Service Uses
- Small-Scale General Retail
- Small-Scale Professional Offices

Appropriate Zoning Districts

- B-1 (Neighborhood Business)

PROJECT FRAMEWORK

Project Size

- None

Residential Densities

- No Residential Uses Recommended

Mix of Uses

- Commercial Uses: 100%
- Businesses that are open 24/7 are generally discouraged, as they may have a greater impact on adjacent residential areas. Drive-through windows are generally discouraged; if provided, there should be standards regarding the design and operation of any drive-through windows to minimize negative impacts to adjacent residential areas.

Open Space

- Provide thoroughfare and perimeter buffers (see below).

Utilities and Infrastructure

- Connect to public water and sewer (if available).
- Screen stormwater management facilities from public view, unless designed as an amenity (including landscaping, paths, benches, and/or similar features).

COMMUNITY CHARACTER

Landscaping and Buffers

- To help create attractive community gateways, soften the appearance of new development by providing landscaped buffers along major thoroughfares. A mixture of deciduous and evergreen canopy trees, understory trees, and shrubs should be planted in a naturalistic, informal pattern. Existing mature, healthy vegetation is



encouraged to be maintained where possible. In open areas with limited existing vegetation, new landscaping can be supplemented with berms, decorative fencing or walls (such as three-rail or split-rail fencing), or other features appropriate for the area. The width of landscaped buffers along major thoroughfares may vary depending upon the size (including height) and location of buildings within the development, as well as the intensity of uses, but should generally be at least 50 feet wide. Along scenic roads, wider and/or more densely-planted buffers may be necessary to protect viewsheds from these roads. Narrower buffers (maximum reduction in width of 20%) may be appropriate with increased landscaping, enhanced streetscape improvements, and/or where the quality and density of existing vegetation maintained within the buffer creates an effective visual barrier.

- Provide street trees.
- Consider incorporating native plant species into thoroughfare buffers, parking islands, and other landscaped areas.
- Preserve existing vegetation on the development site where possible.

Building Design

- Provide coordinated architecture throughout the project with buildings that incorporate high-quality materials (such as brick, stone, stucco, fiber-cement siding, and architectural block), façade articulation, and varied roof lines along street-facing facades (pitched roofs are encouraged).
- Design buildings at a pedestrian scale with footprints generally less than 12,500 square feet and no more than two stories in height. Design larger buildings to appear as a collection of smaller buildings.
- Avoid long, monotonous facades.
- Screen rooftop HVAC and mechanical systems from roadways and adjacent properties with building materials and features that are an integral part of building.
- Screen ground-level HVAC and mechanical systems from roadways and adjacent properties with decorative fencing and/or landscaping.
- Use deed restrictions to help ensure the long-term quality of the development.

Signage

- Provide cohesive signage throughout the project (monument signs preferred).

Parking and Loading

- Locating parking and loading areas to the side or rear of buildings is encouraged. If located in the front, provide additional landscaping between the roadway and parking lots.
- Use landscaped islands and other features to divide parking areas into smaller bays.

TRANSITIONS (EXISTING USES, CURRENT ZONING, OR GENERAL LAND USE PLAN DESIGNATION)

Adjacent to Lower-Intensity Uses

- Provide heavily-landscaped transitional buffers adjacent to residential uses. Preserve existing vegetation where possible. Buffers adjacent to residential areas should generally be at least 30 feet wide.
- Limit the height of buildings abutting residential development to 35 feet, unless a larger setback is provided.
- Avoid orienting loading areas towards adjacent residential uses.

TRANSPORTATION

Access and Circulation

- Provide an interconnected street network that minimizes access to major thoroughfares. Use shared driveways along major thoroughfares.
- Truck traffic should be directed to full-access entrances at major thoroughfares. Special consideration should be given to reduce conflict points between entrances with high truck traffic and nearby residential entrances.

Active Transportation

- Provide sidewalks within the development and to adjacent uses, offering pedestrians safe, convenient, and direct access to building entrances, parking areas, and open space, as well as pedestrian networks within neighboring development.
- Provide pedestrian pathways or sidewalks along adjacent major thoroughfares.
- Provide highly-visible and safe crossings for pedestrians, including crosswalks, pedestrian refuge islands, and/or other design features at intersections and mid-block crossings.
- Provide direct pedestrian and bicycle connections to regional trail networks, public facilities (schools, libraries, parks, etc.), and existing pedestrian/bicycle infrastructure that are immediately adjacent to the project.

BUSINESS FLEXIBLE

Areas designated *Business Flexible* are intended to accommodate a variety of commercial, office, and light industrial uses. These areas generally include established business corridors, such as the U.S. Route 1 Corridor between Stony Run and Lakeridge Parkway. Due to the mix of business uses, areas designated *Business Flexible* are located along (or in close proximity to) major arterials that provide access to regional markets.

These areas generally include existing businesses that have been developed over time and with different development standards. This designation is intended to provide flexibility in zoning and design to promote the reuse and/or redevelopment of existing buildings. As properties are redeveloped, it is expected that site features (landscaping, exterior lighting, signage, off-street parking, architectural features, etc.) be improved to help create an attractive gateway to the surrounding area.

Appropriate Uses

- Offices
- Light Manufacturing
- Research and Development
- Retail
- Services

Appropriate Zoning Districts

- B-O (Business Office)
- B-1 (Neighborhood Business)
- B-2 (Community Business)
- B-3 (General Business)
- OS (Office/Service)
- BP (Business Park)
- M-1 (Limited Industrial)
- M-2 (Light Industrial)

PROJECT FRAMEWORK

Project Size

- None

Residential Densities

- No Residential Uses Recommended

Mix of Uses

- Commercial and/or Light Industrial Uses: 100% of Project Area

Open Space

- Provide thoroughfare and perimeter buffers (see below).

Utilities and Infrastructure

- Connect to public water and sewer (if available).
- Screen stormwater management facilities from public view, unless designed as an amenity (including landscaping, paths, benches, and/or similar features).

healthy vegetation is encouraged to be maintained where possible. In open areas with limited existing vegetation, new landscaping can be supplemented with berms, decorative fencing or walls (such as three-rail or split-rail fencing), or other features appropriate for the area. The width of landscaped buffers along major thoroughfares may vary depending upon the size (including height) and location of buildings within the development, as well as the intensity of uses, but should generally be at least 50 feet wide. Along scenic roads, wider and/or more densely-planted buffers may be necessary to protect viewsheds from these roads. Narrower buffers (maximum reduction in width of 20%) may be appropriate with increased landscaping, enhanced streetscape improvements, and/or where the quality and density of existing vegetation maintained within the buffer creates an effective visual barrier.

- Provide street trees.
- Use landscaping (trees, foundation plantings, etc.) to soften the appearance of buildings.

COMMUNITY CHARACTER

Landscaping and Buffers

- To help create attractive community gateways, soften the appearance of new development by providing landscaped buffers along major thoroughfares. A mixture of deciduous and evergreen canopy trees, understory trees, and shrubs should be planted in a naturalistic, informal pattern. Existing mature,



- Consider incorporating native plant species into thoroughfare buffers, parking islands, and other landscaped areas.
- Preserve existing vegetation on the development site where possible.
- If permitted, locate outdoor storage areas to the side or rear of buildings and screened from roads and lower-intensity uses with evergreen trees and shrubs, berms, and/or decorative fencing.

Building Design

- When fronting on a major thoroughfare, provide coordinated architecture throughout the project with buildings that incorporate high-quality materials (such as brick, stone, stucco, fiber-cement siding, and architectural block), façade articulation, and varied roof lines (pitched roofs are encouraged).
- Orient bay doors, garages, and loading/unloading facilities away from public roads and adjacent residential uses (existing or planned). If such features are oriented towards public roads, additional landscaping or other features should be used to provide screening.
- Avoid long, monotonous facades. Windows, wall offsets, awnings, changes in color or material, changes in roofline, and other architectural features should be used to visually break long facades.
- Preserve and reuse historic structures (when possible).
- Design buildings with similar setbacks as adjoining uses.

Signage

- Provide cohesive signage throughout the project (monument signs preferred).

Parking and Loading

- Locating parking and loading areas to the side or rear of buildings is encouraged. If located in the front, provide additional landscaping between the roadway and parking lots.
- Where appropriate, shared parking should be considered to help redevelopment projects meet current standards.
- Use landscaped islands and other features to divide parking areas into smaller bays.

TRANSITIONS (EXISTING USES, CURRENT ZONING, OR GENERAL LAND USE PLAN DESIGNATION)

Adjacent to Lower-Intensity Uses

- Provide heavily-landscaped transitional buffers adjacent to residential uses. Preserve existing vegetation where possible. Buffers adjacent to residential areas should generally be at least 25 feet wide. Consider the use of appropriate fencing.
- Limit the height of buildings abutting residential development to 35 feet, unless a larger setback is provided.
- Avoid orienting loading areas towards adjacent residential uses.

- Design sites adjacent to residential uses to minimize the negative impacts of business operations:
 - Design exterior lighting to the minimum height and intensity necessary for safe operations.
 - Include measures to minimize noise impacts on surrounding properties.
- Truck traffic should be directed to full-access entrances at major thoroughfares. Special consideration should be given to reduce conflict points between entrances with high truck traffic and nearby residential entrances.

Adjacent to Higher-Intensity Industrial Uses

- Provide landscaped buffers adjacent to heavy industrial uses where no buffers exist to reduce visual impacts of those uses (where appropriate).

TRANSPORTATION

Access and Circulation

- Provide an interconnected street network that minimizes access to major thoroughfares. Use shared driveways along major thoroughfares. Design site entrances and internal roadways to accommodate heavy truck traffic.

Active Transportation

- Provide sidewalks within the development and to adjacent uses, offering pedestrians safe, convenient, and direct access to building entrances, parking areas, and open space, as well as pedestrian networks within neighboring development.
- Provide pedestrian pathways or sidewalks along adjacent major thoroughfares.
- Provide highly-visible and safe crossings for pedestrians, including crosswalks, pedestrian refuge islands, and/or other design features at intersections and mid-block crossings.
- Provide direct pedestrian and bicycle connections to regional trail networks, public facilities (schools, libraries, parks, etc.), and existing pedestrian/bicycle infrastructure that are immediately adjacent to the project.

EMPLOYMENT CENTER

Areas designated **Employment Center** are intended to accommodate employment-generating businesses and limited industrial uses within cohesive, master-planned developments that are at least twenty (20) acres in area.

These areas can include a wide range of office, business, light industrial, and research/development uses, along with ancillary retail, service, and restaurant uses that serve employees of businesses within the development. Distribution and warehouse uses are discouraged. Outdoor storage is generally discouraged.

These projects involve a significant number of vehicle trips and a mix of passenger vehicle and heavy truck traffic, so they should be located along major thoroughfares that provide direct access to major arterials and/or interstate highways.

Mixed-use projects with a residential component may be appropriate with application of the MX zoning district. No more than 30% of the project area (based on total acreage) may be used for residential uses, and a phasing plan must be provided to ensure

that business uses develop concurrently with (or prior to) residential uses. Residential uses include single-family residential, townhouses, multi-family residential, and congregate living.

Appropriate Uses

- Offices
- Clean Manufacturing
- Research and Development
- Data Centers
- Supporting Retail and Services
- Limited Residential Uses (See Above)

Appropriate Zoning Districts

- B-1 (Neighborhood Business)
- B-2 (Community Business)
- OS (Office/Service)
- BP (Business Park)
- M-1 (Limited Industrial)
- MX (Mixed Use)

PROJECT FRAMEWORK

Project Size

- 20 acres
(Infill development and redevelopment sites may be smaller)

Residential Densities

- Up to 15 dwelling units per acre

Mix of Uses

- Commercial and/or Light Industrial Uses: 70 - 100% of Total Acreage
- Residential Uses: 0 – 30% of Total Acreage
- Develop a phasing plan that ensures portions of the business uses are constructed prior to residential uses.
 - Up to 10% of residential units may be constructed prior to the construction of any commercial uses.
 - No more than 50% of residential units may be constructed prior to the completion of at least 25% of the commercial square footage (Certificates of Occupancy issued).
 - No more than 80% of the residential units may be constructed prior to the completion of at least 80% of the commercial square footage (Certificates of Occupancy issued).
- Residential uses should incorporate design features recommended in the **Multi-Family Residential** land use designation (Community Character Recommendations).

Open Space

- Provide at least 10% of the project area as open space, with a mix of active and passive recreational amenities. Design projects to highlight and protect environmental and historic features.
- If residential uses are incorporated into the project, at least 20% of the project area should be provided as open space.

Utilities and Infrastructure

- Connect to public water and sewer.
- Screen stormwater management facilities or design them as an amenity (including landscaping, paths, benches, and/or similar features).

COMMUNITY CHARACTER

Landscaping and Buffers

- Provide coordinated landscaping throughout the development to create a park-like environment.
- To help create attractive community gateways, soften the appearance of new development by providing landscaped buffers along major thoroughfares. A mixture of deciduous and evergreen canopy trees, understory trees, and shrubs should be planted in a naturalistic, informal pattern. Existing mature, healthy vegetation is encouraged to be maintained where possible. In open areas with limited existing vegetation, new landscaping can be supplemented with berms, decorative fencing or walls (such as three-rail or split-rail fencing), or other features appropriate

for the area. The width of landscaped buffers along major thoroughfares may vary depending upon the size (including height) and location of buildings within the development, as well as the intensity of uses, but should generally be at least 50 feet wide. Along scenic roads, wider and/or more densely-planted buffers may be necessary to protect viewsheds from these roads. Narrower buffers (maximum reduction in width of 20%) may be appropriate with increased landscaping, enhanced streetscape improvements, and/or where the quality and density of existing vegetation maintained within the buffer creates an effective visual barrier.

- Provide street trees.
- Consider incorporating native plant species into thoroughfare buffers, parking islands, and other landscaped areas.
- Preserve existing vegetation on the development site where possible.
- If permitted, locate outdoor storage to the side and/or rear of buildings screened by high-quality fencing, walls, and/or landscaping.

Building Design

- Provide coordinated architecture throughout the project with buildings that incorporate high-quality materials (such as brick, stone, stucco, fiber-cement siding, and architectural block), façade articulation, and varied roof lines along street-facing facades (pitched roofs are encouraged on commercial buildings oriented towards major thoroughfares).
- Avoid long, monotonous street-facing facades. Windows, wall offsets, awnings, changes in color or material, changes in roofline, and other architectural features should be used to visually break long facades.
- Use deed restrictions to help ensure the long-term quality of the development.

Signage

- Provide cohesive signage throughout the project (monument signs preferred).

Parking and Loading

- Locate parking and loading areas to the side or rear of buildings to the greatest extent practicable. If located in the front, provide additional landscaping between the roadway and parking lots.
- Use landscaped islands and other features to divide parking areas into smaller bays.

TRANSITIONS (EXISTING USES, CURRENT ZONING, OR GENERAL LAND USE PLAN DESIGNATION)

Adjacent to Lower-Intensity Uses

- Locate lower-intensity uses along the perimeter of the project adjacent to residential uses.
- Provide heavily-landscaped transitional buffers adjacent to residential uses. Preserve existing vegetation where possible. Buffers adjacent to residential areas should generally be at least 75 feet wide.
- Limit the height of buildings abutting residential development to 35 feet, unless a larger setback is provided.
- Avoid orienting loading areas towards adjacent

residential uses.

- Design sites adjacent to residential uses to minimize the negative impacts of business operations:
 - Design exterior lighting to the minimum height and intensity necessary for safe operations.
 - Include measures to minimize noise impacts on surrounding properties.

Adjacent to Higher-Intensity Industrial Uses

- Provide landscaped buffers adjacent to heavy industrial uses where no buffers exist to reduce visual impacts of those uses (where appropriate).

TRANSPORTATION

Access and Circulation

- Design the access and circulation system to provide safe accommodations for multiple users of the transportation network, including pedestrians, bicyclists, and motorists. Provide pedestrian and bicycle accommodations where appropriate.
- Provide an interconnected street network that minimizes access to major thoroughfares. Individual uses should not have direct access to major thoroughfares.
- Design site entrances and internal roadways to accommodate heavy truck traffic.
- Truck traffic should be directed to full-access entrances at major thoroughfares. Special consideration should be given to reduce conflict points between entrances with high truck traffic and nearby residential entrances.
- Provide stub roads to adjacent properties where appropriate and extend existing stub roads to improve transportation circulation and reduce traffic on main roads.

Active Transportation

- Provide sidewalks and/or pedestrian pathways on at least one side of the street and throughout the development, offering pedestrians safe, convenient, and direct access to building entrances, parking areas, and open space, as well as pedestrian networks within neighboring development.
- Provide sidewalks or pedestrian pathways along the frontage of the road providing access to the project.
- Provide highly-visible and safe crossings for pedestrians, including crosswalks, pedestrian refuge islands, and/or other design features at intersections and mid-block crossings.
- Provide amenities for pedestrians along sidewalks, including street trees, benches, lighting, and other features with a coordinated style throughout the project.
- Provide a bicycle lane or shared-use path along the frontage of the road providing access to the project if regional trail networks and/or public facilities (schools, libraries, parks, etc.) are located within one mile of the project.
- Provide direct pedestrian and bicycle connections to regional trail networks, public facilities (schools, libraries, parks, etc.), and existing pedestrian/bicycle infrastructure that are immediately adjacent to the project.

DESTINATION COMMERCE

Areas designated *Destination Commerce* are intended to accommodate commercial uses that attract clients and customers from throughout the region and state. These businesses typically rely on Interstate visibility and access.

Projects are anchored by a major destination or attraction. Complementary uses include restaurants, hotels, boutique retail, and convenience stores, which serve as an amenity for those visiting nearby attractions.

Since these areas are located at major gateways to the County, projects should incorporate high-quality architecture, signage, landscaping, and site design that reflect the character of the area and create a favorable impression for visitors.

Appropriate Uses

- Destination Retail
- Destination Indoor and Outdoor Recreation Facilities
- Conference Centers
- Hotels and Lodging
- Restaurants
- Gas Stations
- Convenience Stores

Appropriate Zoning Districts

- B-1 (Neighborhood Business)
- B-2 (Community Business)
- B-3 (General Business)

PROJECT FRAMEWORK

Project Size

- 50 acres
- (Infill development and redevelopment sites may be smaller)

Residential Densities

- No Residential Uses Recommended

Mix of Uses

- Commercial Uses: 100%

Open Space

- Consider providing at least 10% of the project area as open space, with a mix of active and passive recreational amenities.

Utilities and Infrastructure

- Connect to public water and sewer.
- Screen stormwater management facilities or design them as an amenity (including landscaping, paths, benches, and/or similar features).

shrubs should be planted in a naturalistic, informal pattern. Existing mature, healthy vegetation is encouraged to be maintained where possible. In open areas with limited existing vegetation, new landscaping can be supplemented with berms, decorative fencing or walls (such as three-rail or split-rail fencing), or other features appropriate for the area. The width of landscaped buffers along major thoroughfares may vary depending upon the size (including height) and location of buildings within the development, as well as the intensity of uses, but should generally be at least 50 feet wide. Along scenic roads, wider and/or more densely-planted buffers may be necessary to protect viewsheds from these roads. Narrower buffers (maximum reduction in width of 20%) may be appropriate with increased landscaping, enhanced streetscape improvements, and/or where the quality and density of existing vegetation maintained within the buffer creates an effective visual barrier.

- Provide street trees.
- Consider incorporating native plant species into thoroughfare buffers, parking islands, and other landscaped areas.
- Preserve existing vegetation on the development site where possible.

Building Design

- Provide coordinated architecture throughout the project with buildings that incorporate high-quality materials (such as brick, stone, stucco, fiber-cement siding, and architectural block), façade articulation, and varied roof lines.
- Avoid long, monotonous facades. Windows, wall offsets, awnings, and other architectural features should be used to visually break long facades.

Signage

- Provide cohesive signage throughout the project (monument signs preferred).

COMMUNITY CHARACTER

Landscaping and Buffers

- Provide coordinated landscaping throughout the development to create a park-like environment.
- To help create attractive community gateways, soften the appearance of new development by providing landscaped buffers along major thoroughfares. A mixture of deciduous and evergreen canopy trees, understory trees, and

Parking and Loading

- Use landscaped islands and other features to divide parking areas into smaller bays.

TRANSITIONS (EXISTING USES, CURRENT ZONING, OR GENERAL LAND USE PLAN DESIGNATION)

Adjacent to Lower-Intensity Uses

- Locate lower-intensity uses along the perimeter of the project adjacent to residential uses.
- Provide landscaped buffers adjacent to low-density residential development and agricultural uses with a recommended width of 50 feet.
- Locate taller buildings in the project interior, with shorter, smaller-scale buildings along the perimeter of the project.
- Locate loading areas, dumpsters, and other service areas away from adjacent residential uses.

Adjacent to Higher-Intensity Uses

- Provide landscaped buffers adjacent to heavy industrial uses where no buffers exist to reduce visual impacts of those uses.

TRANSPORTATION

Access and Circulation

- Provide an interconnected street network that minimizes access to major thoroughfares. Use shared driveways along major thoroughfares.
- Truck traffic should be directed to full-access entrances at major thoroughfares. Special consideration should be given to reduce conflict points between entrances with high truck traffic and nearby residential entrances.
- Provide stub roads to adjacent properties where appropriate and extend existing stub roads to improve transportation circulation and reduce traffic on main roads.

Active Transportation

- Provide sidewalks within the development and to adjacent uses, offering pedestrians safe, convenient, and direct access to building entrances, parking areas, and open space, as well as pedestrian networks within neighboring development.
- Provide pedestrian pathways or sidewalks along adjacent major thoroughfares.
- Provide highly-visible and safe crossings for pedestrians, including crosswalks, pedestrian refuge islands, and/or other design features at intersections and mid-block crossings.
- Provide direct pedestrian and bicycle connections to regional trail networks, public facilities (schools, libraries, parks, etc.), and existing pedestrian/ bicycle infrastructure that are immediately adjacent to the project.

LIMITED INDUSTRIAL

Areas designated *Limited Industrial* are intended to accommodate low-impact industrial uses (general light industry, warehousing, and similar low-intensity uses), providing jobs and other economic benefits to Hanover County and its residents. While these businesses are industrial nature, they do not tend to generate significant noise, dust, and/or odors.

Residential uses are inappropriate within areas designated *Limited Industrial*. Limited commercial uses that support workers in these areas may be appropriate.

These projects may involve a significant number of vehicle trips and a mix of passenger vehicle and heavy truck traffic, so they should be located along major thoroughfares that provide direct access to major arterials and/or interstate highways.

Appropriate Uses

- Offices
- Light Manufacturing
- Research and Development
- Data Centers
- Retail (as Ancillary/Supporting Use)
- Services (as Ancillary/Supporting Use)
- Restaurants (as Ancillary/Supporting Use)

Appropriate Zoning Districts

- Office/Service (OS)
- Business Park (BP)
- M-1 (Limited Industrial)

PROJECT FRAMEWORK

Project Size

- None

Residential Densities

- No Residential Uses Recommended

Mix of Uses

- Industrial Uses: 100% of Project Area

Open Space

- Provide thoroughfare and perimeter buffers (see below).

Utilities and Infrastructure

- Connect to public water and sewer (if available).
- Screen stormwater management facilities from public view, unless designed as an amenity (including landscaping, paths, benches, and/or similar features).

where possible. In open areas with limited existing vegetation, new landscaping can be supplemented with berms, decorative fencing or walls (such as three-rail or split-rail fencing), or other features appropriate for the area. The width of landscaped buffers along major thoroughfares may vary depending upon the size (including height) and location of buildings within the development, as well as the intensity of uses, but should generally be at least 50 feet wide. Along scenic roads, wider and/or more densely-planted buffers may be necessary to protect viewsheds from these roads. Narrower buffers (maximum reduction in width of 20%) may be appropriate with increased landscaping, enhanced streetscape improvements, and/or where the quality and density of existing vegetation maintained within the buffer creates an effective visual barrier.

- Locate outdoor storage areas to the side or rear of buildings and screened from roads and lower-intensity uses with evergreen trees and shrubs, berms, and/or decorative fencing.
- Consider incorporating native plant species into thoroughfare buffers, parking islands, and other landscaped areas.
- Preserve existing vegetation on the development site where possible.

Building Design

- Orient bay doors, garages, and loading/unloading facilities away from public roads and adjacent residential uses (existing or planned). If such features are oriented towards public roads, additional landscaping or other features should be used to provide screening.
- Avoid long, monotonous street-facing facades. Windows, wall offsets, awnings, changes in color or material, changes in roofline, and other architectural features should be used to visually break long facades.

COMMUNITY CHARACTER

Landscaping and Buffers

- To help create attractive community gateways, soften the appearance of new development by providing landscaped buffers along major thoroughfares. A mixture of deciduous and evergreen canopy trees, understory trees, and shrubs should be planted in a naturalistic, informal pattern. Existing mature, healthy vegetation is encouraged to be maintained

- Consider deed restrictions or other options to ensure the long-term quality of the development and coordination between uses.

Signage

- Along major thoroughfares, match freestanding signage with materials and colors used on the main building (monument signs encouraged).

TRANSITIONS (EXISTING USES, CURRENT ZONING, OR GENERAL LAND USE PLAN DESIGNATION)

Adjacent to Lower-Intensity Uses

- Locate lower-intensity uses and smaller-scale buildings along the perimeter of the project adjacent to residential uses (where possible).
- Provide heavily-landscaped transitional buffers adjacent to residential uses. Preserve existing vegetation where possible. Buffers adjacent to residential areas should generally be at least 100 feet wide.
- Limit the height of buildings abutting existing residential development to 35 feet, unless a larger setback is provided.
- Avoid orienting loading areas towards adjacent residential uses.
- Design sites adjacent to residential uses to minimize the negative impacts of business operations:
 - Design exterior lighting to the minimum height and intensity necessary for safe operations.
 - Include measures to minimize noise impacts on surrounding properties.

TRANSPORTATION

Access and Circulation

- Provide an interconnected street network that minimizes access to major thoroughfares. Use shared driveways along major thoroughfares. Design site entrances and internal roadways to accommodate heavy truck traffic.
- Truck traffic should be directed to full-access entrances at major thoroughfares. Special consideration should be given to reduce conflict points between entrances with high truck traffic and nearby residential entrances.
- Provide stub roads to adjacent properties where appropriate and extend existing stub roads to improve transportation circulation and reduce traffic on main roads.

INDUSTRIAL

Areas designated *Industrial* are intended to accommodate a full range of industrial uses, providing jobs and other economic benefits to Hanover County and its residents. While these businesses are an important part of the local and regional economy, some industrial operations create noise, dust, and/or odors that may negatively impact nearby residential and commercial uses if not properly mitigated.

Residential uses are inappropriate within areas designated *Industrial*. Limited commercial uses that support workers in these areas may be appropriate and could be sited at the edge of larger projects, serving as a transition between industrial and non-industrial uses.

These projects may involve a significant number of vehicle trips and a mix of passenger vehicle and heavy truck traffic, so they should be located along major thoroughfares that provide direct access to

major arterials and/or interstate highways.

Appropriate Uses

- Offices
- Manufacturing
- Research and Development
- Data Centers
- Retail (as Ancillary/Supporting Use)
- Services (as Ancillary/Supporting Use)
- Restaurants (as Ancillary/Supporting Use)

Appropriate Zoning Districts

- M-1 (Limited Industrial)
- M-2 (Light Industrial)
- M-3 (Heavy Industrial)

PROJECT FRAMEWORK

Project Size	<ul style="list-style-type: none"> • None
Residential Densities	<ul style="list-style-type: none"> • No Residential Uses Recommended
Mix of Uses	<ul style="list-style-type: none"> • Industrial Uses: 100% of Project Area
Open Space	<ul style="list-style-type: none"> • Provide thoroughfare and perimeter buffers (see below).
Utilities and Infrastructure	<ul style="list-style-type: none"> • Connect to public water and sewer (if available). • Screen stormwater management facilities from public view, unless designed as an amenity (including landscaping, paths, benches, and/or similar features).

COMMUNITY CHARACTER

Landscaping and Buffers	<ul style="list-style-type: none"> • To help create attractive community gateways, soften the appearance of new development by providing landscaped buffers along major thoroughfares. A mixture of deciduous and evergreen canopy trees, understory trees, and shrubs should be planted in a naturalistic, informal pattern. Existing mature, healthy vegetation is encouraged to be maintained where possible. In open areas with limited existing vegetation, new landscaping can be supplemented with berms, decorative fencing or walls (such as three-rail or split-rail fencing), or other features appropriate for the area. The width of landscaped buffers along major thoroughfares may vary depending upon the size (including height) and location of buildings within the development, as well as the intensity of uses, but should generally be at least 50 feet wide. Along scenic roads, wider and/or more densely-planted buffers may be necessary to protect viewsheds from these roads. Narrower buffers (maximum reduction in width of 20%) may be appropriate with increased landscaping, enhanced streetscape improvements, and/or where the quality and density of existing vegetation maintained within the buffer creates an effective visual barrier. • Located outdoor storage areas to the side or rear of buildings and screened from roads and lower-intensity uses with evergreen trees and shrubs, berms, and/or decorative fencing.
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- Consider incorporating native plant species into thoroughfare buffers, parking islands, and other landscaped areas.
- Preserve existing vegetation on the development site where possible.

Building Design

- Orient bay doors, garages, and loading/unloading facilities away from public roads and adjacent residential uses (existing or planned). If such features are oriented towards public roads, additional landscaping or other features should be used to provide screening.
- Avoid long, monotonous street-facing facades. Windows, wall offsets, awnings, changes in color or material, changes in roofline, and other architectural features should be used to visually break long facades.
- Consider deed restrictions or other options to ensure the long-term quality of the development and coordination between uses.

Signage

- Along major thoroughfares, match freestanding signage with materials and colors used on the main building (monument signs encouraged).

TRANSITIONS (EXISTING USES, CURRENT ZONING, OR GENERAL LAND USE PLAN DESIGNATION)

Adjacent to Lower-Intensity Uses

- Locate lower-intensity uses and smaller-scale buildings along the perimeter of the project adjacent to residential uses (where possible).
- Provide heavily-landscaped transitional buffers adjacent to residential uses. Preserve existing vegetation where possible. Buffers adjacent to residential areas should generally be at least 100 feet wide.
- Limit the height of buildings abutting existing residential development to 45 feet, unless a larger setback is provided.
- Avoid orienting loading areas towards adjacent residential uses.
- Design sites adjacent to residential uses to minimize the negative impacts of business operations:
 - Design exterior lighting to the minimum height and intensity necessary for safe operations.
 - Include measures to minimize noise impacts on surrounding properties.

TRANSPORTATION

Access and Circulation

- Provide an interconnected street network that minimizes access to major thoroughfares. Use shared driveways along major thoroughfares. Design site entrances and internal roadways to accommodate heavy truck traffic.
- Truck traffic should be directed to full-access entrances at major thoroughfares. Special consideration should be given to reduce conflict points between entrances with high truck traffic and nearby residential entrances.
- Provide stub roads to adjacent properties where appropriate and extend existing stub roads to improve transportation circulation and reduce traffic on main roads.

NATURAL CONSERVATION

Natural Conservation indicates areas with critical natural features, such as floodplains, floodways, wetlands, and major stream and river corridors. Development within these areas is generally discouraged, since they closely align with regulatory floodplains and Resource Protection Areas (RPAs). These areas should remain in their natural state (and be restored if natural vegetation has been removed or damaged).

This land use designation is intended as a general guide, highlighting areas where environmentally-sensitive features may be located. Site-specific inventories of these resources should be conducted as part of the development review process for any activity near or adjacent to areas designated Natural Conservation.

Appropriate Uses

- Natural Preservation Areas
- Pedestrian and Bicycle Trails
- Water-Dependent Uses

Appropriate Zoning Districts

- Areas designated as Natural Conservation may be located within any zoning district, provided that they are maintained in a naturalized, undisturbed state.

PROJECT FRAMEWORK

Project Size

- Not Applicable

Residential Densities

- No Residential Uses Recommended

Mix of Uses

- Limit disturbance within areas designated Natural Conservation except activities that mitigate or repair damage done by development activities in adjacent areas. Pedestrian and bicycle trails may be appropriate, if designed to minimize negative environmental impacts. In certain instances, water-dependent activities may be located in these areas.

Utilities and Infrastructure

- Design any infrastructure that crosses Natural Conservation areas to minimize disturbance on critical resources.

COMMUNITY CHARACTER

Landscaping and Buffers

- Maintain and enhance riparian buffers to protect water quality. Preserve existing vegetation to greatest extent practicable.

TRANSPORTATION

Access and Circulation

- Design any new roads that cross Natural Conservation areas to minimize disturbance on critical resources.

PARKS AND CONSERVED LANDS

Parks and Conserved Lands includes the following areas:

- Properties owned by government entities for use primarily for recreational and/or conservation purposes, such as County-owned parks and areas owned by the National Park Service;
- Properties owned by non-profit organizations, such as the American Battlefield Trust and Richmond Battlefields Association, that are used primarily for conservation purposes; and
- Properties that have been placed in a conservation easement.

This designation is only intended to be applied to the different categories of properties listed above, and is not intended to be applied to privately-owned properties other than those currently encumbered by a conservation easement or owned by a non-profit organization for conservation purposes.

Appropriate Uses

- Natural Preservation Areas
- Parks and Recreation Facilities
- Pedestrian and Bicycle Trails
- Tourism-Related Uses

Appropriate Zoning Districts

- Areas designated as Parks and Conserved Lands may be located within any zoning district, provided that the historic and/or natural character of these areas is maintained.

PROJECT FRAMEWORK

Project Size

- Not Applicable

Residential Densities

- No New Residential Uses Recommended

Mix of Uses

- Uses should support tourism, recreation, and interpretation of critical cultural resources.

Utilities and Infrastructure

- Design any infrastructure that crosses these areas to minimize disturbance to critical cultural and environmental resources.

Landscaping and Buffers

- Preserve existing vegetation to the greatest extent practicable.
- Maintain and enhance riparian buffers to protect water quality.
- Maintain buffers along adjacent roadways to protect viewsheds (where appropriate).

TRANSPORTATION

Access and Circulation

- Design any new roads that cross these areas to minimize disturbance to critical cultural and environmental resources and reflect the historic character of the surrounding area.

COMMUNITY CHARACTER

Building Design

- Design buildings at a scale and with architectural features that reflect the character of the surrounding area.
- Avoid long, monotonous facades. Windows, wall offsets, awnings, changes in color and material, changes in roofline, and other architectural features should be used to visually break long facades.

DESIGN GUIDANCE: PHOTO EXAMPLES

This section includes photos of existing development that demonstrate different design guidance described within the land use designations, providing ideas and inspiration for future development.

RESIDENTIAL LAND USE DESIGNATIONS (WITHIN THE SUBURBAN SERVICE AREA)

Example	Noteworthy Features
	<ul style="list-style-type: none"> • In <i>Suburban Transitional Residential</i> areas, homes are on wider lots. • Side-loading garages are used. • Homes are oriented to open space areas. <p style="text-align: center;"><i>Example Location: Willowsford, Ashburn, VA</i></p>
	<ul style="list-style-type: none"> • Front-loading garages are set back from the primary façade to minimize the visual prominence of garages. • Street trees are provided. • Sidewalks are provided. • Masonry foundations are used. • Single-loaded streets are provided to maximize views of open space. <p style="text-align: center;"><i>Example Location: Briar Chapel, Chapel Hill, NC</i></p>
	<ul style="list-style-type: none"> • High-quality materials (such as brick, stone, fiber-cement siding, and/or high-quality vinyl siding) are used on all street-facing façades. • Masonry foundations are used. • Rear-loading garages are used to create a pedestrian-friendly streetscape. • Street trees are provided. • Sidewalks are provided. <p style="text-align: center;"><i>Example Location: Old Trail, Crozet, VA</i></p>
	<ul style="list-style-type: none"> • Variation in building elevations are provided through diverse but complementary architectural forms, materials, colors, and textures. • High-quality materials (such as brick, stone, fiber-cement siding, and/or high-quality vinyl siding) are used on all street-facing façades. • Workforce housing is integrated with market-rate housing with similar exterior design features. <p style="text-align: center;"><i>Example Location: Old Trail, Crozet, VA</i></p>

Example



Noteworthy Features

- High-quality materials (such as brick, stone, fiber-cement siding, and/or high-quality vinyl siding) are used on all street-facing façades.
- Changes in roofline (including dormers), changes in materials, porches, and “bump-outs” avoid the appearance of a long, monotonous façade.
- Sidewalks provide connectivity within the development.
- Foundation plantings and parking lot trees help soften the development.

*Example Location:
Artistry at Winterfield, Midlothian
(Powhatan County), VA*



- High-quality materials (such as brick, stone, fiber-cement siding, and/or high-quality vinyl siding) are used on all street-facing façades.
- Changes in roofline, changes in materials, porches, and “bump-outs” avoid the appearance of a long, monotonous façade.
- Buildings are designed to appear like a collection of shorter, smaller-scale build.

*Example Location:
High Street, Williamsburg, VA*



- Front-loading garages are set back from the primary façade to minimize the visual prominence of garages. Side- and rear-loading garages are also used.
- Single-loaded streets are provided to maximize views of open space.
- Existing trees and vegetation are preserved to the greatest extent practicable.

*Example:
Vickery, Cumming, GA*



- A community garden is integrated into a residential neighborhood as part of the open space.

*Example Location:
Carlton Landing, OK*

Example



Noteworthy Features

- A small-scale farm is integrated into a residential neighborhood as part of the open space.
- Homes are oriented towards the open space area.
- Sidewalks and street trees are located along neighborhood streets.

*Example Location:
Chickahominy Falls, Hanover County, VA*



- Within an infill development, houses are oriented towards the external road.
- Sidewalks and a bicycle lane are provided along the external road, along with pedestrian-scale decorative lighting, landscaping, and decorative fencing.
- High-quality materials (such as brick, stone, fiber-cement siding, and/or high-quality vinyl siding) are used on all street-facing façades.

*Example Location:
Yellow Springs Road, Frederick, MD*

COMMERCIAL AND BUSINESS-ORIENTED LAND USE DESIGNATIONS

Example



Noteworthy Features

- High-quality materials (such as brick, stone, fiber-cement siding, and/or high-quality vinyl siding) are used on all street-facing façades.
- Windows, wall offsets, awnings/porches, changes in roofline (including gables and dormers) visually break up street-facing façades.

*Example Location:
Moseley, VA*



- High-quality materials (such as brick, stone, fiber-cement siding, and/or high-quality vinyl siding) are used on all street-facing façades.
- Windows, wall offsets, awnings/porches, changes in roofline (including gables and dormers) visually break up street-facing façades.
- A shared-use path and street trees are provided along the major thoroughfare.
- Parking areas are located to the side and rear of the building (as viewed from the major thoroughfare). Landscaping is provided between the parking area and the shared-use path/major thoroughfare.

*Example Location:
Summerville, SC*

Example



Noteworthy Features

- High-quality materials (such as brick, stone, fiber-cement siding, and/or high-quality vinyl siding) are used on all street-facing façades.
- Windows, wall offsets, awnings/porches, and changes in roofline visually break up street-facing facades.
- Sidewalks and crosswalks accommodate pedestrian traffic within the development.
- Parking lot landscaping is provided.

*Example Location:
Midlothian, VA*



- High-quality materials (such as brick, stone, fiber-cement siding, and/or high-quality vinyl siding) are used on all street-facing façades.
- Windows, wall offsets, awnings/porches, and changes in roofline visually break up the facades.
- Parking lot landscaping, including shrubs along the perimeter of the parking area, is provided.
- Decorative full cut-off lighting fixtures are used in parking areas.

*Example Location:
Midlothian (Powhatan County), VA*



- High-quality materials (such as brick, stone, fiber-cement siding, and/or high-quality vinyl siding) are used on all street-facing façades.
- Parking areas are located to the side and rear of the building (as viewed from the major thoroughfare).
- Sidewalks are provided along adjacent roadways, and there is a pedestrian connection between the building and the sidewalk along the street.
- Street trees are provided.

*Example Location:
Albemarle County, VA*

Example



Noteworthy Features

- High-quality materials (such as brick, stone, fiber-cement siding, and/or high-quality vinyl siding) are used on all street-facing façades.
- Windows, wall offsets, awnings/porches, changes in roofline (including gables and dormers) visually break up street-facing façades.
- Existing trees are preserved within a landscaped buffer along the major thoroughfare.
- Sidewalks with pedestrian lighting are provided along the major thoroughfare, and there is a pedestrian connection between the building and the public sidewalk.
- Parking areas are located to the side and rear of the building (as viewed from the major thoroughfare).

*Example Location:
Midlothian, VA*



- A monument sign with a masonry/stone base is provided along a major thoroughfare.
- A mix of trees and shrubs, including some native species, are provided within a thoroughfare buffer.

*Example Location:
Powhatan, VA*

INDUSTRIAL LAND USE DESIGNATIONS

Example



Noteworthy Features

- Windows, changes in color and material, changes in roofline, and awnings visually break long façades visible from roadways.
- Sidewalks connect parking areas to the building's main entrance.

*Example Location:
Atlee, VA*

Example



Noteworthy Features

- Wide landscaped buffers are provided along major thoroughfares, and existing vegetation is maintained to the greatest extent practicable.
- Bay doors, garages, and loading/unloading facilities are located to the side and the rear of the building.
- Windows, wall offsets, changes in color and material, and changes in roofline are used on street-facing facades.
- Sidewalks connect parking areas to the building's main entrance.

*Example Location:
Midlothian (Powhatan County), VA*



- High-quality building materials are used on street-facing facades.
- Bay doors, garages, and loading/unloading facilities are located to the side and the rear of the building.
- Wall offsets, windows, and awnings add visual interest to street-facing facades.
- Foundation plantings and parking lot landscaping help soften the appearance of the building.

*Example Location:
Midlothian (Powhatan County), VA*



- Loading areas are screened with a wall and evergreen landscaping.
- High-quality materials are used on street-facing facades.

*Example Location:
Ashburn Crossing, Ashburn, VA*

MULTI-USE LAND USE DESIGNATION

Example



Noteworthy Features

- High-quality materials (such as brick, stone, fiber-cement siding, and/or high-quality vinyl siding) are used on all street-facing façades.
- Windows, changes in color and material, changes in roofline (including dormers, gables, and chimneys), porches, and awnings visually break long facades visible from roadways.
- Sidewalks and crosswalks accommodate pedestrians throughout the development.

*Example Location:
New Town, Williamsburg (James City County), VA*



- High-quality materials (such as brick, stone, fiber-cement siding, and/or high-quality vinyl siding) are used on all street-facing façades.
- Windows, changes in color and material, changes in roofline (including dormers), balconies, and awnings visually break long facades visible from roadways.
- Buildings are oriented towards open space areas.
- Sidewalks and crosswalks accommodate pedestrians throughout the development.
- Decorative pedestrian lighting and street signs are provided.

*Example Location:
East Beach, Norfolk, VA*



- High-quality materials (such as brick, stone, fiber-cement siding, and/or high-quality vinyl siding) are used on all street-facing façades.
- Windows, changes in color and material, and awnings visually break long facades visible from roadways.
- Sidewalks and crosswalks accommodate pedestrians throughout the development.
- Decorative pedestrian lighting and street signs, along with street trees, are provided.
- On-street parking is provided.

*Example Location:
Freshfields Village, Kiawah Island, SC*

Example



Noteworthy Features

- Different uses are oriented around open space, which features sidewalks, amenities (including pet stations), and native landscaping.

*Example:
Old Trail Village, Crozet, VA*



- Shared-use paths are provided along major thoroughfares.
- Landscaping and decorative fencing are provided within the thoroughfare buffer, helping to screen the development from view. The design of the landscape buffer is consistent throughout the frontage of the development.
- Pedestrian signals and crosswalks are provided at intersections.

*Example:
New Town, Williamsburg (James City County), VA*

RURAL LAND USE DESIGNATIONS

Example



Noteworthy Features

- A rural business (brewery), approved with a conditional use permit, includes architecture (including building scale), high-quality materials, and landscaping that blend in with the surrounding rural area.

*Example Location:
Powhatan, VA*

Example



Noteworthy Features

- A rural tourism business (country inn), approved with a conditional use permit, includes architectural features (including building scale), high-quality materials, landscaping, and dark sky-compliant decorative lighting that blend in with the surrounding rural area.

*Example Location:
Powhatan, VA*



- A new commercial building within a rural village includes architectural features and high-quality materials that blend with existing buildings in the area.
- Parking is located to the rear of the building.

*Example Location:
Powhatan, VA*

RURAL + AGRICULTURE

GOAL

The rural character of the County will remain an integral and vital component to Hanover’s culture and economy. Hanover County will strive to support agricultural and forestry uses and maintain the majority of the County for rural heritage. Sustaining the rural character of the County enhances and improves the quality of life for all citizens.

WHY IT MATTERS

Hanover County’s rural character is one of its most important assets, and residents have expressed interest in preserving that character. One of the guiding principles identified during the public engagement process was to maintain the County’s predominately rural character. County residents have expressed a significant connection to Hanover’s rural heritage and lifestyle, regardless of where they reside in the County. Hanover County is predominantly a rural locality in terms of land area. Approximately 78% of the County is located outside of the Suburban Service Area and the majority of that land is designated for rural/agriculture.

The rural character of the County is valued due to the scenic quality, natural environment, and fiscal health. Preserving large areas of land to promote an agricultural economy preserves the County’s rural character, provides for the long-term viability of abundant wildlife, provides food products, minimizes the need for urban infrastructure and services, and enhances the quality of life for our citizens. Preserving agricultural industries will help slow the conversion of rural lands to low-density residential uses, and therefore help stem rising service delivery costs to outlying areas.

This section of the Comprehensive Plan provides guidance regarding policies and programs that can be implemented that help ensure our vision for the county to be predominantly rural and for these areas to remain rural for the foreseeable future. It is important to promote the idea of agriculture as a desired use. While the open space is enjoyed by many, and is a valuable community amenity, discourage the view of agriculture as permanent open space, and do not expect farmers to carry the burden. In addition, this chapter will identify strategies to address how rural character can be incorporated into the Suburban Service Area.

MEASURING OUR PROGRESS

- Acreage of Forestal and Agricultural Land Converted to a Different Use
- Number of Projects Promoted through Economic Development for Agriculture/Agr-Business Type Uses
- Number of Projects Incorporating Rural Design Features/Characteristics

QUICK FACTS

- In 2017, there were 567 farms in Hanover County per the latest Census of Agriculture. This was a decrease of 6% from 2012.
- As of 2017, there were 89,186 acres in farmland, which is approximately 29.5% of the County’s total area. The acreage in farms decreased 5% between 2012 and 2017.
- The average farm is 157 acres in area.
- In 2017, the market value of products sold was \$49,254,000, which is a decrease of 11% since 2012. In terms of market value of agricultural products sold, the County ranked 20th statewide.

FARMS BY SIZE (2017 CENSUS OF AGRICULTURE)		
Size	Number	% of total
1-9 acres	99	17
10-49 acres	251	44
50-179 acres	140	25
180-499 acres	42	7
500-999 acres	9	2
1,000+ acres	26	5

AGRICULTURAL PRODUCERS (2017 CENSUS OF AGRICULTURE)	
Total Number of Producers	898
Males	536
Females	362
Age < 35	102
Age 35 – 64	505
Age 65+	291

- Crops produced in the County include soybeans, corn for grain, forage (hay), wheat for grain, and vegetables.
- Approximately 63% of the County (over 180,000 acres) is forested (per U.S. Forest Service: Forest Inventory and Analysis Application “EVALIDator”).
- There are currently eight Agricultural and Forestal Districts (AFDs) in the County, which total 14,941.9 acres.

RURAL DEVELOPMENT AND CHARACTER

CHARACTERIZING RURAL

One of Hanover County’s most treasured assets is its rural character, but what does *rural* mean? As part of the Comprehensive Plan public engagement process, stakeholders were asked to define what *rural* means to them. Based on feedback received (along with input from the Community Participation Team, Planning Commission, and Board of Supervisors), common characteristics of Hanover County’s rural areas were identified as the following:

Much of Hanover County retains its rural character. There are diverse rural communities countywide, including Beaverdam, Montpelier, and Rockville to the west and Old Church and Cold Harbor to the east. While each part of the County may have its own unique character, these rural areas share some common characteristics:

- *Scenic views of fields, farmland, forests, and open space;*
- *Limited light pollution;*
- *Limited very low-density residential development set back from rural roadways;*
- *Vibrant economy consisting of small-scale businesses that are primarily related to agriculture, forestry, and tourism;*

- *Compact villages and crossroads communities that include a mix of historic structures and new development that is consistent with the scale and traditional architecture of the area;*
- *Strong sense of community.*

This characterization can help guide decisionmakers as different programs, policies, and land use policies are reviewed in the County’s rural areas, providing guidance as to what elements of the County’s rural areas are most important to preserve.



LAND PRESERVATION

Different tools have been used to preserve land within rural areas and protect the characteristics listed above. Many of these tools are voluntary programs that private property owners proactively pursue.

CONSERVATION EASEMENTS

Conservation easements involve a voluntary legal agreement in which the landowner conveys property interest to a qualified organization for

the primary purpose of protecting a property’s critical resources and characteristics. Generally, a landowner voluntarily agrees to forego some or all of their property’s development potential in perpetuity in exchange for tax benefits. Many landowners that

take advantage of this tool are also interested in maintaining the rural and scenic character of their properties. Conservation easements protect a wide variety of environmental and cultural resources, including historic structures, archaeological sites, wetlands, riparian areas, and scenic viewsheds. A variety of organizations hold conservation easements in the County, including the Virginia Outdoors Foundation, Virginia Department of Historic Resources, Virginia Department of Forestry, Capital Region Land Conservancy, American Battlefield Trust, and the County itself. As of early 2023, the Assessor's office has indicated that 4,111 acres are under conservation easements.

AGRICULTURAL & FORESTAL DISTRICTS (AFDS)

Since the late 1970s, the Agricultural and Forestal District (AFD) program has been used to help protect the County's rural character. The AFD designation is a temporary and voluntary restriction to limit development and reserve the land for the production of agricultural products, timber, and the maintenance of open space. This program temporarily reduces the tax valuation for the land in exchange for the temporary relinquishment of development rights. Properties cannot be developed to a higher intensity use while enrolled in the program. Additionally, proposed public improvements within an AFD must undergo additional review to determine potential impacts on agriculture and forestry. Properties are enrolled in the AFD Program by consent of the landowner and the County. These districts are reviewed by the Agricultural and Forestry Districts Advisory Committee, the Planning Commission, and the Board of Supervisors every six years to determine

whether the districts should be continued, modified, or terminated. There are currently eight AFDs in the County, which total 14,941.9 acres.

LAND USE TAXATION PROGRAM

The Land Use Taxation Program allows landowners who can demonstrate that they use their property for agriculture, horticulture, forestry, or open space use to receive a reduced property tax assessment based on the value given its current use (resulting in a lower property tax bill). Property owners are required to pay back five years of the deferred taxes if the property is developed for residential or commercial use. As of 2023, 153,845 acres have been enrolled in this program.

PUBLIC & PRIVATE PROTECTED LANDS

There are properties throughout the County that are owned by governmental entities and non-profit organizations for conservation purposes. These properties permanently protect environmental features, viewsheds, and/or historic sites (including battlefields). For example, the National Park Service and associated entities own and manage land in the Mechanicsville and Cold Harbor areas to preserve Civil War battlefield sites. Hanover County and the American Battlefield Trust also own historically-significant properties in the Cold Harbor area. The Association for the Preservation of Virginia Antiquities (also known as Preservation Virginia) owns Scotchtown and some surrounding parcels, protecting that historic landmark.

RESIDENTIAL DEVELOPMENT IN RURAL AREAS

Since 1982, higher-density residential development has been directed to the Suburban Service Area (SSA). In the remainder of the County – the rural area – residential development can occur at a density no greater than 1 dwelling unit for every 6.25 acres, except for family divisions that allow a minimum lot size of two acres.

Most of the County's rural areas are zoned Agricultural (A-1). In 1996, the Board of Supervisors reduced permitted densities within the A-1 zoning district from 1 dwelling unit per 6.25 acres to 1 dwelling unit per 10 acres. To address the issue of lost density for agricultural property owners, two new zoning districts were created to allow rural residential development at densities of 1 unit for every 6.25 acres: Agricultural Residential (AR-6) and Rural Conservation (RC). (See table on pg. 70)

INTEGRATING RURAL RESIDENTIAL DEVELOPMENT INTO RURAL AREAS

Even at very low densities, residential development within the rural areas (if not properly situated) can erode the rural character and negatively impact nearby agricultural operations. Different strategies can be used to mitigate potential negative impacts residential development may have on these areas, including:

- Maintaining wooded buffers along rural roadways to screen development from view.
- Providing greater setbacks along rural roadways to minimize the visual impacts of residential development.
- Maintaining protective buffers between

- residential lots and abutting agricultural operations.
- Clustering residential development to preserve prime agricultural soils, viewsheds from scenic roadways and historic properties, and sensitive environmental features (wetlands, riparian corridors, critical habitat, etc.) within protected open space.
- Minimizing the “stripping” of lots along existing roadways.
- Minimizing access points to existing rural roadways by utilizing shared driveways and/or internal roads to access individual lots.
- Preserving existing trees to the greatest extent practicable.

Chapter 3: Land Use and Growth Management provides complementary recommendations regarding residential development within rural areas.

COMMERCIAL DEVELOPMENT IN RURAL AREAS

In the rural areas, small-scale commercial businesses are typically located at rural crossroads and within villages, providing services to the surrounding community. Except for agribusiness and tourism uses that complement agricultural operations and other traditionally-rural uses, small-scale commercial uses in the rural areas should generally only occur within rural crossroads

RESIDENTIAL DEVELOPMENT OPTIONS IN RURAL AREAS PER CURRENT ZONING/SUBDIVISION REGULATIONS	
A-1: Conventional Subdivision	Property can be divided into lots that are at least ten acres in size accessed by public or private roads. Internal subdivision roads are not required (new lots can have direct access to existing public roads). No open space is required. This is a “by-right” option that does not require special approval.
A-1: Rural Cluster Subdivision	Property can be divided to accommodate one dwelling per ten acres, but the lots are clustered to preserve open space. At least 80% of the property must be preserved as part of a conservation lot, which cannot be further divided. Each residential building lot can be up to two acres in size and must be accessed from an internal subdivision road (which may be a public or private road). This is a “by-right” option only in areas designated <i>Rural Conservation</i> on the <i>Growth Management, Conservation, and Suburban Development Plan</i> .
RC: Cluster Subdivision	Property can be divided to accommodate one dwelling per 6.25 acres, but the lots are clustered to preserve open space. At least 70% of the property must be preserved as conservation area, which may include preservation lots, common open space, or a combination of both. There is no minimum or maximum size for the residential building lots. Lots must be accessed from an internal subdivision road. This development option requires rezoning (public hearing process).
AR-6: Conventional Subdivisions	Property can generally be divided to accommodate one dwelling per 6.25 acres, with a minimum lot size of 5 acres. For projects less than 25 acres in area, lots as small as 2 acres are permitted (based on a sliding scale). No open space is required. Internal subdivision roads are not required (new lots can have direct access to existing public roads). Lots can be accessed from public or private roads. This development option requires rezoning (public hearing process).

Note: In addition to these development options, landowners may divide their property as part of a family division, which allows newly-created lots to be transferred to an eligible family member with less stringent review standards.



and villages. These areas have historically served as hubs for the surrounding rural communities. Rural crossroads include Rockville, Vontay, Goshen Cross Road, Hewlett, Barkers Mill, and other key intersections. Rural villages include Beaverdam, Montpelier, and Hanover Courthouse.

See *Chapter 3: Land Use and Growth Management* for recommendations regarding the form new commercial development should take within these communities. For new development in Montpelier and Hanover Courthouse, also reference *Chapter 10: History and Culture*, as those parts of those villages are within historic districts listed on the National Register of Historic Places.

INTEGRATING RURAL CHARACTER INTO THE SUBURBAN SERVICE AREA

During the planning process, residents expressed interest in incorporating characteristics of the County's rural areas into new development within the Suburban Service Area (SSA). The following strategies could be integrated into suburban-style development to reflect the County's predominately rural character:

- To help preserve viewsheds and the rural character of the County, minimize the visibility of new residential development by providing significant landscaped buffers along major thoroughfares (with enhanced buffers and greater setbacks along scenic roads). In open areas, narrower buffers may be appropriate if berms that have natural-looking landforms are provided and landscaped with a mix of native trees and shrubs in varying heights in a naturalistic, informal pattern. Decorative fencing with a rural character could be incorporated into the buffer areas.

- Large, continuous open space areas should be provided.
- Incorporate single-loaded streets into new developments, so that preserved open space areas are easily visible and accessible to the public.
- Terminate streets in views of open space or other scenic features.
- Retain existing trees and vegetation throughout the site (to the greatest extent practicable).

During the public engagement process, some participants expressed interest in having more agrihoods like Chickahominy Falls, where there is an agricultural component integrated into the development. Vegetable farms, orchards, community gardens, and other agricultural uses could be incorporated into the open space set-aside, provided such uses do not generate excessive noise and odors that would negatively impact adjacent residential uses.



RURAL ECONOMY

AGRICULTURE

Historically, the economy and culture of Hanover County have both been centered on agriculture. While the agricultural industry and its impact on the local economy have changed over time, agriculture is still an important part of the County's identity and its rural landscapes. The County is known for the Hanover Tomato, which is a celebrated part of the community and is highlighted each year at the Tomato Festival.

Different entities provide technical assistance and support to the agricultural industry, including the Hanover-Caroline Soil and Water Conservation District and Virginia Cooperative Extension.

RURAL TOURISM

Agritourism, ecotourism, and cultural/heritage tourism can complement existing agricultural uses and create additional revenue streams for landowners, while allowing residents and visitors to enjoy Hanover County's rural landscapes. Agritourism uses should be monitored and conditional uses should



be carefully reviewed, so that these operations do not have negative impacts on nearby farms or residences. Such uses should:

- o Relate to and complement existing agricultural uses on the property;
- o Be compatible in scale and intensity to surrounding agricultural uses;
- o Pose no threat to public health, safety, and welfare;
- o Further local goals of preserving farmland, open space, and the County's scenic beauty; and
- o Not result in the degradation of critical environmental resources.

There should be a strong relationship between the success of the use and its rural location. For example, a farm winery where most of the grapes are grown on-site is appropriate for a rural location, while a retail wine shop that sells wines produced worldwide would not be appropriate in the rural areas.



EXAMPLES OF RURAL TOURISM

Agritourism	<ul style="list-style-type: none"> • Farm wineries • Farm breweries • Farm tours • Seasonal farm activities (pumpkin patches, hay rides, corn mazes, Christmas trees, pick-your-own operations) • Horseback riding • Petting zoos • Equine and agricultural events, shows, competitions, and races • Bed and breakfasts
Ecotourism	<ul style="list-style-type: none"> • Fishing • Hiking • Canoeing • Kayaking • Camping • Recreational outfitters/recreational equipment rental
Cultural/Heritage Tourism	<ul style="list-style-type: none"> • Taking scenic drives in rural areas • Bicycling in rural areas • Visiting rural historic landmarks

For tourism-related uses that require a special exception or a conditional use permit, conditions should be put in place to ensure that the size, scale, and location of these uses is appropriate for the rural areas.

§ 15.2-2288.6 of the Code of Virginia limits localities' ability to regulate agritourism activities (as defined in § 3.26400 of the Code of Virginia) and other types of activities that occur at agricultural operations.

Such uses may only be regulated if they have a substantial impact on the health, safety, or general welfare of the public.

OVERALL OBJECTIVES AND STRATEGIES FOR RURAL

OBJECTIVE R.1: Support land preservation within rural areas.

- Strategy R.1a: Continue to direct higher-intensity development to the Suburban Service Area (SSA) to reduce development pressures on the rural areas.
- Strategy R.1b: Continue to support the work of conservation organizations in acquiring conservation easements or fee interest on properties within rural areas.
- Strategy R.1c: Focus on the protection of prime agricultural soils, viewsheds from scenic roadways and historic properties, and sensitive environmental features (wetlands, riparian corridors, critical habitat, etc.) as a distinct priority in the implementation of open space protection policies, aiming to create large contiguous blocks of protected open space.
- Strategy R.1d: Maintain the land use taxation and AFD programs as tools to protect agricultural land and production within the County.
- Strategy R.1e: Educate property owners about conservation easements, land use assessments program, and other land conservation programs that could help provide the financial relief necessary to avoid the subdivision of their properties.

OBJECTIVE R.2: Ensure development outside of the Suburban Service Area (SSA) reflects the community's rural character and does not negatively impact agricultural operations.

- Strategy R.2a: Review zoning and subdivisions regulations applicable to the County's rural areas to determine how they align with recommendations in the Comprehensive Plan regarding rural character and growth management.
- Strategy R.2b: Encourage or require new development outside of the SSA (and outside of Villages and Rural Crossroads) to provide landscaped buffers along rural roadways to screen new development from view. Existing vegetation should be preserved and

supplemented, with new any new plantings consisting of native trees and shrubs placed in a naturalistic, informal pattern.

- Strategy R.2c: Encourage or require vegetated buffers, increased setbacks, or other design techniques during the zoning process to minimize potential negative impacts proposed development may have on adjacent agricultural operations and Agricultural and Forestal Districts (AFDs).
- Strategy R.2d: Encourage or require new development outside of the SSA to avoid prime agricultural soils, maintaining these areas as open space that could be used for agricultural purposes.
- Strategy R.2e: Encourage or require new development outside of the SSA to avoid mass grading, working with existing topography and site features to minimizing clearing and land disturbance.

OBJECTIVE R.3: Incorporate characteristics of the County's rural areas into the Suburban Service Area (SSA).

- Strategy R.3a: Encourage new development inside of the SSA to provide enhanced landscaped buffers that exceed current zoning requirements to screen new development from view. Existing vegetation should be preserved and supplemented, with any new plantings consisting of native trees and shrubs placed in a naturalistic, informal pattern.
- Strategy R.3b: Encourage new development to situate open space so that it is highly visible to residents, helps shield new development from view, and is easily accessible, incorporating the County's rural character into the SSA.

OBJECTIVE R.4: Foster the local agricultural economy.

- Strategy R.4a: Conduct periodic reviews of zoning regulations to ensure they address and adequately support the overall agricultural economy, including agritourism and the processing of agricultural products.
- Strategy R.4b: Promote context-sensitive agritourism, eco-tourism, and cultural/heritage tourism within rural areas.
- Strategy R.4c: Encourage creative, unique, and niche forms of agriculture that are compatible with and highlight the County's unique assets.
- Strategy R.4d: Discourage rezonings or CUPs for land uses incompatible with adjacent agricultural uses that would have an adverse effect on the continued viability of the uses.
- Strategy R.4e: Consider the impacts to environmentally-sensitive areas and prime agricultural soils in land use decisions.
- Strategy R.4f: Evaluate opportunities for housing for farm workers
- Strategy R.4g: Help connect local farms with local consumers.
- Strategy R.4h: Develop a database of agricultural operations.
- Strategy R.4i: Complete a study of the impact agriculture plays in the County's economy in order to determine how this economic sector may be best support, encouraged, and promoted. This study should specifically analyze food and fiber production in the County and how that component of the agricultural economy can best be supported.
- Strategy R.4j: Investigate the feasibility of creating a Rural Support Program position that provides agricultural assistance, community education, marketing strategies, information on agricultural support businesses, and information about alternative agricultural uses.

ECONOMIC VITALITY

GOAL

Hanover County places priority on the growth and resiliency of our economy, which contributes to the vitality and well-being of our community. Through economic development activities, the County supports entrepreneurship and the growth of existing businesses, while working to attract new investment to appropriate areas.

WHY IT MATTERS

One of the guiding principles identified during the public engagement process was to maintain the County's predominately rural character and to manage growth. Supporting commercial and industrial development in appropriate locations within the Suburban Service Area (SSA), along with context-sensitive agribusinesses in rural areas, provides the community with the resources necessary to preserve rural areas and keep development within a limited footprint.

Economic development is about creating opportunities for residents. A strong and diverse economy helps create a vibrant and healthy community by:

- Allowing for the continued balance of preservation and growth.
- Providing job opportunities to residents, allowing people to live and work in their community and secure the resources needed to support a high quality of life.
- Providing the tax revenues needed to deliver necessary services, including high-quality schools, public safety, and infrastructure, while minimizing tax burdens on residents.
- Ensuring the viability and sustainability of Hanover County's premier quality of life.

Given the dynamic and competitive nature of the larger economy, Hanover County must proactively nurture and develop its business sector to continue to thrive long-term with a diversified and balanced community.

This section of the Comprehensive Plan provides guidance regarding policies and programs that can be implemented to attract desired businesses and capitalize on private investment. All of these activities lead to job creation, an increase in the tax

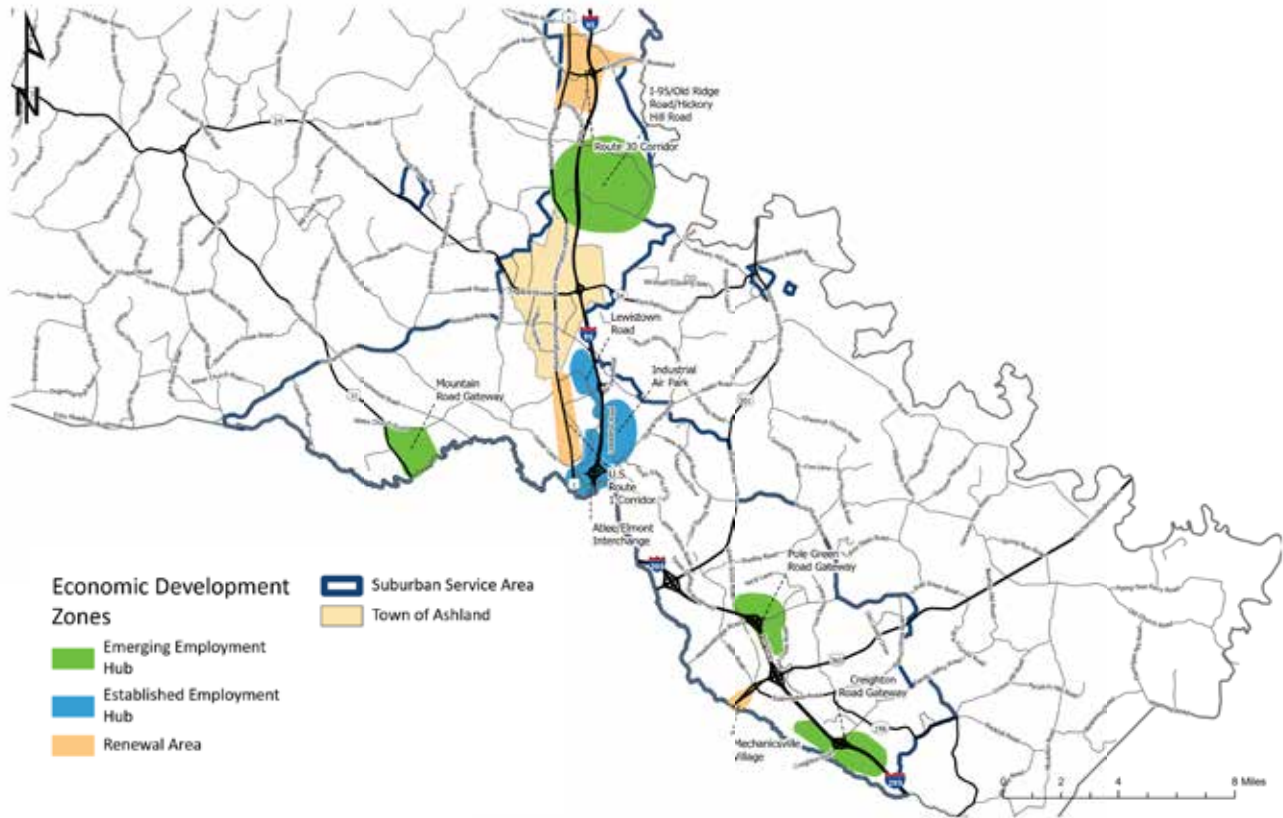
base, and improvement of the overall quality of life within a community. Recommended policies allow for a continued balance between preservation and growth. Supporting economic development within designated areas with the appropriate infrastructure allows more than 75% of the County to remain rural.

MEASURING OUR PROGRESS

- Number of Net New Jobs
- Increase in Annual Average Wages
- Inventory of Tier 3+ Sites (Virginia Business Sites Readiness Program)
- Ratio of Commercial/Residential Tax Base Property Assessments
- Diversification of Industry Types

QUICK FACTS

- Hanover County is located within the Richmond Metropolitan Statistical Area (MSA) along several major transportation corridors, including Interstate 95 and Interstate 295. Access to these transportation corridors and proximity to major metropolitan areas creates economic development opportunities.
- As of 2022, Hanover County has 58,537 jobs. Some of the top employment industries relate to healthcare, professional services, food services, construction, and local government.
- Hanover County has experienced significant employment growth in recent decades, and continued growth is expected. The County has experienced 1.6% average annual employment growth since 2001, which is four times the growth rate of the Richmond MSA (0.4% annually). Employment is projected to



- grow faster (1.6% annually) than the MSA (0.6% annually) through 2030.
- As of 2021, there is 37.7 million square feet of non-residential building space countywide. More than 44% of this space is occupied by warehouse/storage uses (16.8 million square feet), with another 4.7 million square feet (12.7%) occupied by retail businesses and 3.2 million square feet (8.6%) occupied by service uses. The majority of these non-residential buildings are located within southeastern portions of the Suburban Service Area (SSA), which includes the Atlee and Mechanicsville areas.
- As of November 2022, there are 286 acres of land available for economic development officially ranked Tier 3 or higher (based upon the Virginia Business Sites Readiness Program).
- There are limited areas in the County for new large-scale economic development that are supported by existing infrastructure and utilities.
- Hanover County has an educated workforce. 24.7% of residents 25 years of age or older hold a bachelor’s degree or higher (compared to 23.5% statewide).
- In 2021, the median household income in Hanover County was \$94,381, compared to a median household income of \$80,963 statewide.
- In 2022 (Q1), the average weekly wage for jobs in Hanover County was \$1,093, which is lower than the average of neighboring localities (\$1,231). The average weekly wage in Hanover County is higher than those found in Caroline, King William, New Kent, and Spotsylvania counties, but lower than those in Goochland, Henrico, and Louisa counties.
- As a rural locality, agriculture remains a part of the local economy. According to the last Census of Agriculture (2017), farms covered 89,186 acres and sold more than \$49,000,000 in agricultural products. Hanover County ranked among the top 10 Virginia counties in crop production.
- The seven-member Economic Development Authority (EDA) was created in 1967 to provide creative financing alternatives to assist businesses in land acquisition, building construction, and equipment acquisition. More than 100 bonds have been issued by the EDA with a total value of more than \$700 million. Members are appointed by the Board of Supervisors and supported by staff in the Economic Development Department.

ECONOMIC DEVELOPMENT ZONES

Since 2000, Hanover County has identified **Economic Development Zones (EDZs)**, which are areas intended to support new and expanding businesses by:

- Ensuring appropriate land use designations are in place;
- Prioritizing investment in supporting infrastructure (roads, utilities, etc.); and
- Supporting public/private partnerships to enhance the quality of development.

These areas are generally located near interstate interchanges or other major transportation corridors located within the Suburban Service

Area (SSA), where businesses can capitalize upon existing (or planned) infrastructure investments.

This plan identifies three types of EDZs, with each type having different characteristics and needs:

- Renewal Areas
- Emerging Employment Hubs
- Established Employment Hubs

More detail is listed on the following pages for each of these categories.

EDZs: RENEWAL AREAS	
<p><i>Renewal Areas</i> include highly-visible business areas that have the potential for additional redevelopment and reinvestment. These areas include sites developed prior to modern development standards, so reinvestment could be capitalized on to enhance community aesthetics (landscaping, lighting, signage, etc.), pedestrian/bicycle infrastructure, access management, and other features to create attractive gateways to Hanover County, support existing businesses, and attract new ones.</p>	
Area	
U.S. Route 1 Corridor (Chickahominy River to Ashland Town Limits)	
Mechanicsville Village	
Route 30 Corridor	
Specific Policy Guidance for Renewal Areas	
Infrastructure Investment	<ul style="list-style-type: none"> • Maintain and upgrade existing infrastructure to meet current business needs and maintain the area’s marketability.
Regulatory Review	<ul style="list-style-type: none"> • Work with property owners and businesses to identify creative policies and programs that could facilitate redevelopment and infill development, accommodating the expansion of existing businesses and the location of new complementary businesses.
Building Rehabilitation and Reuse	<ul style="list-style-type: none"> • Encourage the renovation and reuse of existing structure, especially those with historic significance. • Consider providing grants or other financial incentives to businesses investing in façade improvements and/or site improvement that enhance community aesthetics.

EDZs: EMERGING EMPLOYMENT HUBS		
<p><i>Emerging Employment Hubs</i> include areas near major transportation corridors where there is significant land available to accommodate new businesses and industries to create high-quality employment opportunities. The focus of these areas are to accommodate new economic development opportunities and to construct and/or upgrade infrastructure to make these areas attractive for new business investment and targeted industries.</p>		
Area	Targeted Industries	Potential Infrastructure Upgrades
Mountain Road Gateway	<ul style="list-style-type: none"> • Life Sciences • Technology • Research and Development • Data Centers • Corporate Offices • Retail 	<ul style="list-style-type: none"> • Transportation • Sewer • Gas
Creighton Road Gateway	<ul style="list-style-type: none"> • Flex Industrial • Light- to Medium-Intensity Manufacturing • Advanced Manufacturing • Research and Development • Data Centers 	<ul style="list-style-type: none"> • Transportation • Water • Sewer
I-95/Old Ridge Road/Hickory Hill Road	<ul style="list-style-type: none"> • Heavy Industrial • Advanced Manufacturing • Automotive (incl. electric vehicles) • Semiconductor • Data Centers • Life Sciences 	<ul style="list-style-type: none"> • Transportation • Water • Sewer • Gas
Pole Green Road Gateway	<ul style="list-style-type: none"> • Financial Services • Medical • Life Sciences • Offices • Distribution 	<ul style="list-style-type: none"> • Sewer • Gas
Specific Policy Guidance for Emerging Employment Hubs		
Infrastructure Investment	<ul style="list-style-type: none"> • Prioritize and implement the Water and Wastewater Facilities Master Plan to provide adequate water and sewer infrastructure to these EDZs. • Dedicate funding to construct new infrastructure to accommodate targeted industries. • Coordinate with other utility providers (such as electric, gas, and fiber providers) to ensure adequate availability and capacity to accommodate targeted industries. 	
Regulatory Review	<ul style="list-style-type: none"> • Continuously review zoning regulations to ensure they adequately address emerging industries and business trends. 	
Shovel-Ready Sites	<ul style="list-style-type: none"> • Partner with property owners to complete plans and studies that could improve the marketability of vacant properties for economic development. • Evaluate strategies that could be used to have properties prepared and certified as shovel-ready sites. 	
Incentives	<ul style="list-style-type: none"> • Identify tools that could be used to incentivize economic development opportunities that generate high-quality jobs within these EDZs. 	



EDZs: ESTABLISHED EMPLOYMENT HUBS

Established Employment Hubs include areas that have a concentration of established businesses and industries. The focus of these areas are to support existing businesses; facilitate redevelopment and infill development to accommodate complementary businesses; and maintain and upgrade the infrastructure necessary to facilitate goods movement and support continued economic vitality. These areas have been developed with a variety of architectural styles, in accordance with varying development standards and zoning regulations.

Area	Established Industries
Atlee/Elmont Interchange	<ul style="list-style-type: none"> • Financial Services • Medical • Life Sciences • Light Industrial • Retail • Office
Lewistown Road	<ul style="list-style-type: none"> • Life Sciences • Distribution/Logistics/Supply Chain • Light- to Medium-Intensity Industrial • Advanced Manufacturing • Office
Hanover County Industrial Airpark	<ul style="list-style-type: none"> • Flex industrial • Light Industrial • Heavy Industrial • Distribution • Fabrication • Niche Manufacturing • Office • Retail

Specific Policy Guidance for Established Employment Hubs

Infrastructure Investment	<ul style="list-style-type: none"> • Maintain and upgrade existing infrastructure to meet current business needs and maintain the area’s marketability.
Regulatory Review	<ul style="list-style-type: none"> • Work with property owners and businesses to identify creative policies and programs that could facilitate redevelopment and infill development, accommodating the expansion of existing businesses and the location of new complementary businesses.
Business Retention	<ul style="list-style-type: none"> • Strengthen the business visitation program to support existing businesses in these areas.

OVERALL OBJECTIVES & STRATEGIES FOR ECONOMIC VITALITY

OBJECTIVE EV.1: Pursue policies, programs, and infrastructure investments within EDZs to maintain their economic vitality and sustain competitive inventories of marketable properties, ensuring there is sufficient land suitable for economic development at appropriate locations.

- Strategy EV.1a: Implement policy guidance for different EDZ types identified in this chapter.
- Strategy EV.1b: Review and revise local policies and regulations to ensure they are supportive of current business models and development trends, while maintaining quality development standards that are not overly burdensome.
- Strategy EV.1c: Align County infrastructure plans, such as the utilities master plan and major thoroughfare plan, to accommodate growth within the Emerging Employment Hubs.
- Strategy EV.1d: Identify funding mechanisms (including public/private partnerships) that could be used to make strategic infrastructure investments in public utilities and roads within the EDZs to support economic development.
- Strategy EV.1e: Protect industrial areas from encroachment. Through zoning, ensure that existing and planned employment centers are protected from incompatible land uses and development.

OBJECTIVE EV.2: Support business attraction and retention efforts to create a diverse economic base.

- Strategy EV.2a: Identify targeted industries in Hanover County based upon citizen engagement and market analysis (and update the list regularly as conditions change).
- Strategy EV.2b: Evaluate practices and policies used to incentivize projects, including new economic development projects, business retention/expansion efforts, and redevelopment opportunities.
- Strategy EV.2c: Coordinate with the Chamber of Commerce and other business organizations to maintain continued awareness regarding local business needs and changing trends.
- Strategy EV.2d: Coordinate business-to-business support within the County.
-

OBJECTIVE EV.3: Promote tourism.

- Strategy EV.3a: Develop a strategy on how to support tourism (including sports tourism and agritourism).
- Strategy EV.3b: Identify gateway corridors that approach major tourist destinations and investigate policies and programs (including the adoption of development standards) that could support attractive development and redevelopment in these areas.
- Strategy EV.3c: Participate in major events that highlight the history of Hanover County.

OBJECTIVE EV.4: Support agri-business.

- Strategy EV.4a: Promote agriculture, forestry, and agribusiness enterprises in the County's rural areas to create a vibrant agricultural economy.
- Strategy EV.4b: Complete a study of the impact agriculture plays in the County's economy in order to determine how this economic sector may be best supported, encouraged, and promoted.

OBJECTIVE EV.5: Increase the availability of high-speed data connections and broadband internet access.

- Strategy EV.5a: Continue implementing the Connect Hanover initiative to provide broadband access to all residents and businesses countywide.

OBJECTIVE EV.6: Support workforce development across age ranges, skill sets, and business sectors to create a workforce prepared for current and future opportunities.

- Strategy EV.6a: Support existing workforce programs.
- Strategy EV.6b: Expand collaboration between employers and training providers to address the needs of local industries and build a pipeline of talent to fuel future business growth.
- Strategy EV.6c: Attract businesses that match the skills of the County's workforce, creating job opportunities for existing residents.

HOUSING

GOAL

Hanover County will work collaboratively with the private sector to create communities that offer and maintain quality housing options, enabling residents to remain in the County as their needs and circumstances change.

WHY IT MATTERS

This section of the Comprehensive Plan provides guidance regarding policies and programs that can help provide quality and diverse housing options in appropriate locations.

Everyone needs access to safe housing options that meet their needs. During the public engagement process, stakeholders expressed interest in accommodating quality and diverse housing options at appropriate locations. Not only could this mean building new housing at appropriate locations and densities designated on the General Land Use Plan (Chapter 3), but investing in existing housing stock in established neighborhoods. While the construction, rehabilitation, and maintenance of housing stock is primarily driven by the private sector, public-sector partnerships and policies can influence the provision of quality housing.

One of the guiding principles identified during the public engagement process is to provide quality and diverse housing at appropriate locations.

MEASURING OUR PROGRESS

- Number of residential projects approved with varied housing options.
- Number of Units Participating in the Residential Rehabilitation Tax Exemptions

QUICK FACTS

- As of 2021, Hanover County has approximately 42,400 housing units:
 - 87.6% (37,137 units) are single-family detached homes
 - 4.4% (1,846 units) are townhouses/ single-family condominiums
 - 7.0% (2,988 units) are multi-family properties
- About 70% of all housing units were built before 2000.
- Approximately 69% of the County's housing units are within the Suburban Service Area (SSA) (including the Town of Ashland), with the remaining 31% located in rural areas.
- The median home price has increased to more than \$400,000. Between March 2020 and June 2022, there has been a 32% increase in the median home price in the County.
- From the end of Q3 2021 and Q3 2022, average asking rents in Hanover County grew significantly from \$1,272 to \$1,492, which is a 17% increase. During that same period, the vacancy rate for rentals dropped below 1%.



FOCUS AREAS

Vibrant communities provide a range of safe, high-quality housing options that meet the needs and preferences of all residents. Providing a diverse stock of housing, consisting of a range of styles, sizes, prices, and locations, will allow the County to meet the needs and preferences of its residents, and to be more resilient to changes in the housing market. Not only can the County’s housing needs be met through new construction, but by encouraging reinvestment in existing homes.

Emerging trends and challenges include the following:



AGING HOUSING STOCK

- o A significant portion of the County’s housing stock consists of older construction. About 70% of housing units were built before 2000. Older homes are often less energy-efficient than new construction and may not offer the amenities or layout today’s homebuyers are looking for. Encouraging reinvestment in aging housing stock can help stabilize older neighborhoods, reduce demand for new housing in other areas, and provide residents with lower-cost housing options. If maintained, some of the older housing stock can serve as quality affordable housing.

AGING POPULATION

- o Hanover County has seen the second-highest growth in senior households in the region, rising 36% since 2010. As the County’s population ages, there may be more demand for low-maintenance, one-level living that allows residents to age in place. There may also be a greater need for home repair and rehabilitation assistance, as older residents with limited incomes and/or physical disabilities may be unable to maintain aging homes without help. Encouraging the provision of greater housing options will allow older residents to stay within the County as they age.

RISING HOUSING COSTS

- o Housing cost continue to rise, making it difficult for some segments of the workforce to find housing that meets their needs at a cost they can afford. Both home prices and rents have increased rapidly in recent years, with the median home price surpassing \$400,000 and average asking rents increasing to nearly

EXISTING COUNTY HOUSING INITIATIVES - SPRING 2023	
Tax Relief	<ul style="list-style-type: none"> • Residential Rehabilitation Tax Exemptions • Property Tax Exemptions for Seniors
Zoning + Housing Options	<ul style="list-style-type: none"> • Accessory Family Housing Unit (for family members with a Special Exception Permit) • In RS zoning district, if workforce housing is provided, additional open space, single-loaded streets, or streetlights are not required.
Regional Initiatives	<ul style="list-style-type: none"> • Participation in Partnership for Housing Affordability
Community Services Board	<ul style="list-style-type: none"> • Housing Choice Vouchers • State Rental Assistance (SRAP) for Residents with Developmental and Intellectual Disabilities
Strategic Plan	<ul style="list-style-type: none"> • Action Item: Creation of a Local Housing Task Force + Development of a County Housing Plan



\$1,500 in 2022. During the public engagement process, 31% of participants indicated that lack of affordable housing options is a critical issue that the County is currently facing. In Hanover County, workforce housing refers to housing that households earning 80% AMI (area median income) can afford without spending more than 30% of their gross income on rent/mortgage, utilities, and other housing-related expenses.

HOUSING OPTIONS

- As of 2021, Hanover County has approximately 42,400 housing units. Most of these options (87.6% or 37,137 units) are single-family detached homes. Townhouses/single-family condominiums make up 4.4% of the housing stock (1,846 units) and multi-family properties make up 7.0% of the housing stock (2,988 units).
- Manufactured homes are a housing option

in Hanover County that are generally more affordable. Modern manufactured homes are safe, energy-efficient, and built to high-quality standards. There are two manufactured home communities that are outside of the Town of Ashland along U.S. Route 1 (Colonial Estates: 115 units and Kosmo Village/Stoney Run Village: 92 units). Manufactured homes are also allowed by-right in the A-1 and AR-6 zoning districts.

Having a variety of housing options can allow residents to remain in their community as their needs change. For example, older residents may want low-maintenance, accessible housing options near services. Between 2016 and 2020, the County saw a decrease in households with children; smaller households may be interested in smaller housing options.

HOMELESSNESS IN HANOVER COUNTY

Homelessness is one of the social and economic issues that affects all age groups, including the most vulnerable in the community (e.g., youth, seniors, lower-income residents). Homeward serves as the planning and coordinating organization for homeless services in the Greater Richmond Region. Between May 1, 2020 and April 30, 2023, 218 people that connected with the Homeless Connection Line (managed by Homeward) and street outreach reported that their last permanent residence was in Hanover County. Among those, 131 were single adults and 87 were in families (41 adults and 46 children). Those contacting the Homeless Connection Line or encountered by street outreach were most likely to be White (62.2%), followed by Black (26.84%) and multiracial (9.53%). 1.43% were other races. 39 were older adults age 55 or older. A variety of local and regional programs offered by public and private agencies provide services to the region's homeless population.

OVERALL OBJECTIVES AND STRATEGIES FOR HOUSING

OBJECTIVE HN.1: Raise awareness of local housing challenges.

- Strategy HN.1a: Educate community members on existing County programs related to housing, including the residential rehabilitation tax exemption program, property tax exemptions for seniors, and services offered by the Community Services Board.
- Strategy HN.1b: Work with social services agencies and non-profit organizations to evaluate housing needs, including homelessness.
- Strategy HN.1c: Collaborate with regional entities to identify housing needs and tools that can be used to address those needs.

OBJECTIVE HN.2: Encourage the private sector to provide high-quality housing options at appropriate locations that meet residents' needs as their abilities and circumstances change.

- Strategy HN.2a: Review zoning regulations applicable to accessory dwelling units (ADUs) to determine how that housing type can accommodate multi-generational families and be compatible with surrounding neighborhoods.
- Strategy HN.2b: Investigate policies and programs that could incentivize the provision of workforce housing and/or universally-accessible units as part of new, large-scale residential and multi-use developments (expedited permitting, reduced permit fees, reduced utility connection fees, etc.).
- Strategy HN.2c: Investigate ways that the County could partner with non-profits to support the construction of context-sensitive workforce housing at appropriate locations, including the use of surplus County-owned land.
- Strategy HN.2d: Develop zoning standards applicable to manufactured home communities to provide additional opportunities for quality affordable housing, as the current zoning ordinance does not provide adequate guidance regarding the design of these communities.
- Strategy HN.2e: Consider amendments to the zoning ordinance and other development-related regulations to accommodate innovative housing types that would provide greater housing choices, including prefabricated and

manufactured housing, 3D-printed housing, and tiny houses.

OBJECTIVE HN.3: Support continued investment within established residential neighborhoods

- Strategy HN.3a: Promote the residential rehabilitation tax exemption program to encourage the renovation of older residential structures.
- Strategy HN.3b: Investigate ways the County could partner with non-profits to support home repair programs to improve the condition of older residential structures.



ACTIVE LIVING

GOAL

Hanover County will strive to create healthy neighborhoods that provide safe, convenient, and comfortable options for active living for residents of all ages and abilities.



WHY IT MATTERS

This section of the Comprehensive Plan provides guidance regarding policies and programs that can create neighborhoods and communities where walking and biking are safe, convenient, and comfortable transportation options and recreational activities. When this guidance is incorporated into new development and transportation projects, it can improve the connectivity and safety of the pedestrian and bicycle network.

The built environment is an important determinant of the community's health and economic vitality. Research suggests that building an environment where people have the ability to live active lifestyles is more effective than encouraging healthy living through educational efforts. Health impacts should be taken into consideration when evaluating new development as local decisions on land use and transportation have an impact on physical activity, air and water quality, and safety.

The way a community is planned and designed can:

- Improve safety for motorists, cyclists, and pedestrians;
- Promote active living that enables physical activity and exercise;
- Strengthen social cohesion;
- Enhance the local economy; and
- Increase property values and enhance local revenues.

The design of the suburbs of Hanover County, like many in the United States, has been heavily influenced by the automobile. For the most part, people are dependent on their vehicle to get from place to place for shopping, work, and recreation. Community amenities such as neighborhood parks, sidewalks, and bike lanes provide alternative means to connect residential neighborhoods to public facilities and activity centers, such as libraries, schools, parks, churches, and businesses. Treating walking and cycling as viable modes of transportation will greatly influence the manner

in which people move about their neighborhoods and communities.

According to the National Association of Realtors publication *On Common Ground* (Winter 2017), neighborhoods that are walkable have higher property values, and market studies have shown a strong demand for housing within walkable communities. This study found that pedestrian/bicycle amenities attract new residents and retain current ones, and that if a place is walkable, people will spend more money locally. In addition, it is noted that a walkable neighborhood creates a greater feeling of being part of a community.

One of the guiding principles identified during the public engagement process is to provide safe opportunities for walking and biking. Stakeholders also identified a desire for more parks and recreation opportunities within the Suburban Service Area (SSA).

MEASURING OUR PROGRESS

- Mileage of Pedestrian and Bicycle Infrastructure

QUICK FACTS

- As of Spring 2023, there are an estimated 64.2 miles of sidewalks and 2.96 lane miles of bike lanes in the County.
- The RS (Single-Family Residential) Zoning District applicable to the Suburban Service Area requires that pedestrian paths be provided to open space, common areas, and adjoining developments (both residential and commercial). Pedestrian paths are also required within the required buffer along public roads.
- For non-residential developments, the Zoning Ordinance requires the parking area to be accessible by a public sidewalk or other improved pedestrian walkway.

PROVIDING SAFE, COMFORTABLE, AND CONVENIENT OPPORTUNITIES FOR WALKING AND BIKING

Road networks should be planned and designed to ensure the safety, mobility, accessibility, and convenience for all users (including pedestrians, bicyclists, drivers, commercial and emergency vehicles), while also accommodating people of all ages and abilities. Applying these concepts within neighborhoods also helps residents to age in place by providing additional transportation options for older residents. Given the diversity of the natural and built environment in Hanover County, flexibility in accommodating different modes of travel is essential to balance the needs of motorists, pedestrians, and cyclists.

Application of these policies should be implemented in a balanced approach that considers the character of the project area, community desires, and the needs of all users. These design concepts will not look the same in all settings and will primarily be applicable within the Suburban Service Area (SSA).

As the public sector and development community invest in pedestrian and bicycle infrastructure, these groups should work collaboratively to create a network that is safe, comfortable, and convenient. VDOT and Hanover County should consider pedestrian/bicycle mobility when designing roadway improvements. As private property

develops, developers should look for ways to incorporate pedestrian/bicycle infrastructure into their design plans, providing thoughtful connections that make walking and biking a convenient and safe option. The following should be evaluated or applied to help pedestrian network that appeals to the greatest number of users.





RESIDENTIAL DEVELOPMENT

SAFETY

- Provide buffer strips between roadways and adjacent pedestrian/bicycle facilities to offer separation between different users, improving safety and comfort.
- Use traffic-calming techniques where appropriate (narrow traffic lanes, road diets, traffic-calming circles, etc.) to slow vehicular traffic on spine roads within residential developments, through streets, and other higher-volume streets within residential neighborhoods.
- Provide highly-visible and safe crossings for pedestrians, including accessible curb ramps, crosswalks, pedestrian refuge islands, pedestrian signals, and/or other design features at intersections and mid-block crossings.
- Provide pedestrian-scale lighting along pedestrian/bicycle facilities (where appropriate).

COMFORT

- Plant street trees and other landscaping to provide shade and visual interest.

- Install benches and street furniture, providing a resting place for users.

CONVENIENT

- Provide pedestrian/bicycle facilities throughout new development and to adjacent uses. Sidewalks should generally be at least five feet in width. Within residential development, provide access to central mailboxes, open space, and other community amenities, and provide sidewalks around the entire cul-de-sac.
- Provide pedestrian/bicycle accommodations along the frontage of the road providing access to the residential subdivision. Within *Pedestrian/Bicycle Capital Investment Focus Areas* listed later in this chapter, a sidewalk within the public right-of-way is preferred.
- Create an interconnected street network that provides direct connections for pedestrians and cyclists. In areas with cul-de-sacs, provide pedestrian/bicycle cut-throughs.
- Provide direct pedestrian and bicycle connections to regional trail networks, public facilities (schools, libraries, parks, etc.), and existing pedestrian/bicycle infrastructure.

NON-RESIDENTIAL DEVELOPMENT

SAFETY

- Provide buffer strips between roadways and adjacent pedestrian/bicycle facilities to offer separation between different users, improving safety and comfort.
- Provide highly-visible and safe crossings for pedestrians, including accessible curb ramps, crosswalks, pedestrian refuge islands, pedestrian signals, and/or other design features at intersections and mid-block crossings.
- Provide pedestrian-scale lighting along pedestrian/bicycle facilities (where appropriate).

COMFORT

- Plant street trees and other landscaping to provide shade and visual interest.
- Install benches and street furniture, providing a resting place for users.

CONVENIENT

- Provide pedestrian/bicycle facilities throughout new development and to adjacent uses. Sidewalks should generally be at least five feet in width. In business areas, provide pedestrians safe, convenient, and direct access to building entrances, parking areas, and open space, as well as pedestrian networks within neighboring development. Pedestrians should be able to walk to the building entrance on a paved surface that provides as direct a connection as possible. The following items should be considered when designing pedestrian mobility on site:
 - Pedestrian pathways should be provided through parking areas to connect the main entrance of major destinations to sidewalks and shared-use paths along adjacent major thoroughfares. Trees and landscaping along these paths provide shade and create a more attractive environment for walking, with clearly-marked crosswalks creating safer crossings.
 - For development with multiple buildings and/or outparcels, all building entrances should be connected by walkways. Sidewalks between the building edge and the parking lots should allow safe and convenient access to entrances without having to walk within parking lot drive aisles.

- Barriers such as fences and landscaping should not be placed to hinder access.
- Landscaping can be used to channel and organize traffic flow in parking lots, as well as to provide pedestrian refuge.
- Clearly delineate pedestrian paths with striping, different paving materials, or by situating the path through the center of strategically-placed parking islands.
- Provide pedestrian/bicycle accommodations along the frontage of the road providing access to the development. Within *Pedestrian/Bicycle Capital Investment Focus Areas* listed later in this chapter, a sidewalk within the public right-of-way is preferred.
- Provide direct pedestrian and bicycle connections to regional trail networks, public facilities (schools, libraries, parks, etc.), and existing pedestrian/bicycle infrastructure.
- Provide bicycle parking and/or other end-of-trip facilities (showers, lockers, fix-it stations, etc.) at major destinations (community facilities, employment centers, etc.).

Page 93 provides examples of these design elements and other features that can improve pedestrian and bicycle mobility.



U.S. BICYCLE ROUTES

Established in 1978 by the American Association of State Highway and Transportation Officials (AASHTO), the United States Bicycle Route System (USBRS) is a network of long-distance cycling routes in the United States that include shared roadways, on-road accommodations, and off-road shared use paths. On-road segments were selected for lower traffic volumes, posted speed limits, and generally safer riding conditions. As traffic volumes and speeds increase, conditions for biking becomes less safe. VDOT works with regional governments, localities, governments, and advocates to identify safer alternatives.

Two U.S. Bicycle Routes traverse Hanover County:

- U.S. Bicycle Route 1 generally goes north/south through the County.
- U.S. Bicycle Route 76 generally goes east/west through the County.

The two routes intersect in Ashland and follow the same route northwest from the town.

This long-distance network provides opportunities for tourism and for local cyclists. As roadway projects are planned along these routes and zoning cases are evaluated, the County should consider providing improved accommodations for cyclists (where appropriate). For example, bicycle lanes, wide shoulders, shared-use paths, or other accommodations for cyclists could be provided. Increased signage and improved amenities, such as fix-it stations and bicycle parking at major destinations, could also be considered.

These design elements may be incorporated into public- and private-sector projects. Appropriate design elements for specific streets will largely be based on the contextual design of the neighborhood or project. The need, desirability, and specific location of pedestrian and bicycle facilities would primarily be evaluated during the zoning process; not only will recommendations within this chapter be considered, but also recommendations in Chapter 3 (Land Use and Growth Management) and Chapter 8 (Transportation). For public investments, the design, scope, and construction of facilities will largely be dependent on need, location, safety, and intended function of the facility. To that end, a planning and review process that closely follows *VDOT's Policy for Integrating Pedestrian and Bicycle Accommodations* should be implemented.

Not only should pedestrian/bicycle infrastructure be incorporated into new development, but open space should be provided that provides opportunities for passive and active recreation. Open spaces should be located in highly-visible locations accessible to the broader community, and their placement and design in isolated areas that provide limited access should be discouraged.

Partnerships and coordination are necessary to improve pedestrian and bicycle mobility and provide opportunities for active living:

COUNTY/NEIGHBORHOOD PARTNERSHIPS

Some established neighborhoods and commercial areas do not have adequate pedestrian/bicycle infrastructure to meet residents' needs and expectations. This project type focuses on opportunities for existing neighborhoods and/or business centers to partner with Hanover County when there is community support for enhanced pedestrian or bicycle infrastructure. Projects within this general classification are often initiated by the community.

Infrastructure improvements may include pedestrian paths, sidewalks, and/or bicycle facilities. Examples of community-supported projects include linking existing sidewalk or pedestrian infrastructure to nearby schools; extending pedestrian paths to link neighborhoods; and creating pedestrian or bicycle linkages to businesses and other community facilities (such as parks and libraries). In commercial areas, the business community may be interested in streetscape improvements, such as sidewalks, street trees, pedestrian-scale lighting, bicycle parking, and/or undergrounding overhead utilities.

Many projects within this classification may qualify for funding through VDOT's Transportation Alternative Program (TAP). These funds are allocated on a competitive basis. Utilization of TAP funds generally requires a local match; therefore, the community or entities seeking support from Hanover County to access these funds would be obligated to contribute the matching funds.



VIRGINIA DEPARTMENT OF TRANSPORTATION (VDOT)

When planning and designing public road improvements, VDOT's Bicycle and Pedestrian Accommodation Decision Process must be considered. This policy assumes all VDOT projects will include some form of pedestrian and/or bicycle accommodation and is intended to determine the most appropriate type of accommodation based on location, need, design, and safety considerations. Implementation of this policy does not represent a change in road planning and design operational strategy, but rather recognizes VDOT's scoping and funding requirements.

PUBLIC FACILITIES

Pedestrian and bicycle facilities are not the only means by which Hanover County can facilitate active living. Public parks play a vital role in the well-being of citizens as well. With over 1,200 acres of existing and planned parks, these facilities and other programs sponsored by the Parks and Recreation Department provide extensive opportunities for physical activity and social interaction for all age groups. Schools and other public facilities (as permitted by law) provide additional areas for recreation.

As public parks and other public facilities are planned and improved, the County should consider providing and/or enhancing pedestrian and bicycle facilities to connect to the surrounding community. The County can also consider connections to the already funded Fall Line Trail and developing other linear trail opportunities, such as linear park/trail along the Chickahominy

River. While some of these opportunities may require public land acquisition, the County can partner with landowners and developers to reserve right-of-way for linear parks and trails during the zoning process.

PRIVATE DEVELOPMENT

Privately-owned recreational amenities can be incorporated into new development. These facilities may be owned and maintained by a homeowners association, property owners association, or similar entity that makes these facilities accessible to residents (or, within multi-use and business-oriented developments, employees and customers). *Chapter 3 (Land Use and Growth Management)* includes recommendations regarding the amount of open space that should be provided within different development types and how it should be designed. The zoning ordinance also includes requirements regarding the provision of open space within new development. Most development should incorporate easily-accessible open space within the development that offers opportunities for active and passive recreation.

Pedestrian/bicycle facilities should be provided throughout new development, providing access to open space and other destinations within and adjacent to the development to create an interconnected network. *Chapter 3 (Land Use and Growth Management)* includes recommendations regarding the provision of pedestrian/bicycle infrastructure within different development types.

FALL LINE TRAIL

Throughout the Richmond region, VDOT and localities have been planning for and investing in regional trail networks that improve pedestrian/bicycle mobility, create recreational opportunities, and can support tourism. One of the major regional trail projects that will benefit Hanover County is the Fall Line Trail. Once complete, the shared-use path will run 43 miles through seven localities: Ashland, Hanover, Henrico, Richmond, Chesterfield, Colonial Heights, and Petersburg. In Hanover County, the facility will generally follow the route of the historic Ashland Trolley Line, running approximately 4.8 miles from the end of the existing Trolley Line Trail in Ashland to the Chickahominy River near Holly Hill Road. As of early 2023, design was underway.

As the Fall Line Trail is developed, the County could consider partnering with VDOT and other agencies to provide amenitized access points at key locations. The trail crosses two existing major thoroughfares (Cedar Lane and Cobbs Road), along with some local roads.

Parking areas, benches, shaded rest areas, water fountains, fix-it stations, and other amenities could be provided at these crossings.

As rezoning requests and other development proposals next to the Fall Line Trail are reviewed, consideration should be given to how these projects could connect to the trail. Also consider how they can be designed to create attractive views from the trail and provide amenities to trail users. For example, vegetated buffers could be maintained along the trail and/or buildings within the development could be oriented towards the trail.

The Fall Line Trail will serve as a north/south spine for the regional pedestrian/bicycle network. In Hanover County, a connecting trail along the Chickahominy River was proposed in the 2017 Comprehensive Plan. No specific alignments or designs for the Chickahominy River Trail have been determined.



PEDESTRIAN/BICYCLE CAPITAL INVESTMENT FOCUS AREAS

To maximize the impact of public investment, some focus areas have been identified for pedestrian/bicycle improvements. These areas include a mix of uses in close proximity, higher population densities, and/or an existing pedestrian/bicycle “framework” that could be enhanced with strategic investments.

- **Pedestrian and Bicycle Spine Network**

Active living maps (included in map book) show a pedestrian and bicycle “spine network” within the Suburban Service Area (SSA) that could provide safe and connected facilities for walking and biking. The “spine network” links communities to necessities (such as schools, libraries, and grocery stores) and can be used as a starting point to guide further improvements to active living facilities. Specific sidewalk and pedestrian crossing improvements are recommended along the “spine network.”

- **Mechanicsville Village**

This area includes a mix of businesses and community destinations (churches, elementary school, etc.) in close proximity to established residential areas, providing an opportunity for residents to walk or bike for everyday needs and services. As much of the area is developed, improvements would likely involve redesigning existing streets and roadways.

- **Lee-Davis Road Corridor**

This area includes a mix of businesses and community destinations (library, schools, churches, etc.) in close proximity to established residential areas, providing an opportunity for residents to walk or bike for everyday needs and services. While some newer residential developments include sidewalks, many of these neighborhoods do not have any pedestrian/bicycle infrastructure. Improvements would likely involve redesigning existing streets and roadways.

- **Atlee Station Road Corridor + Rutland**

There are a mix of businesses and community destinations (library, YCMA, schools, etc.) in close proximity to established residential areas, providing an opportunity for residents to walk or bike for everyday needs and services. Many of the newer residential neighborhoods include sidewalks and other pedestrian/bicycle improvements, so efforts in this area should focus on closing gaps in the network to provide safe and convenient connections between destinations.

In this area, walk/bike audits have been completed and identify potential pedestrian/bicycle improvements that could make it safer and more convenient for students walking or biking to Cool Spring Elementary School, Chickahominy Middle School, and Atlee High School (Cool Spring Elementary School Walkabout Report: May 2021 and Chickahominy Middle School Walkabout Report: December 2021). These reports can provide guidance for potential improvements in that area.

- **Sliding Hill Road Corridor**

This area includes a mix of businesses and community destinations (library, schools, churches, etc.) in close proximity to established residential areas, providing an opportunity for residents to walk or bike for

everyday needs and services. While some newer residential developments include sidewalks, many of these neighborhoods do not have any pedestrian/bicycle infrastructure.

- **U.S. Route 1 Corridor (South of Ashland)**

There are existing businesses in this area, along with some existing residential development (including the Colonial Estates and Stoney Run Village mobile home parks). Even though there are a variety of destinations in this area, there is limited pedestrian/bicycle infrastructure. Due to high traffic volumes along U.S. Route 1 itself, it may be appropriate to provide alternative routes for pedestrians and cyclists along parallel routes with lower traffic volumes.

- **Woodside Lane Area**

Several existing residential neighborhoods that include pedestrian/bicycle infrastructure could be connected to Washington Lacy Park

- **Brown Grove Rural Historic District**

While more rural in nature, this residential development is near commercial uses that could provide services to residents. The residents of this community have expressed a desire for sidewalks. U.S. Bicycle Route 76 passes through the Brown Grove Rural Historic District along Ashcake Road and Sliding Hill Road.

- **Rural Villages**

Three rural villages (Beaverdam, Montpelier, and Hanover Courthouse) have a mix of uses within close proximity, including community destinations (schools, churches, government facilities, etc.). These areas could provide opportunities for walking and biking in more rural parts of the County, where there is limited existing pedestrian/bicycle infrastructure.

- **Cold Harbor Battlefield Sites**

During the Envision Hanover process, there has been a desire to create pedestrian and biking opportunities to connect the various Cold Harbor Battlefield sites for tourism engagement.

- **Near Regional Trail Networks and Public Facilities**

Invest in pedestrian/bicycle infrastructure to provide new connections and close gaps in the existing network within one mile of regional trails networks (such as the Fall Line Trail) and public facilities (schools, libraries, parks, etc.). Consideration should be given to providing a connection between the Fall Line Trail and Atlee Station Road Corridor. Kings Acres Road is a possible route.



OVERALL OBJECTIVES AND STRATEGIES FOR ACTIVE LIVING

OBJECTIVE AL.1: Support development of a regional trail network.

- Strategy AL.1a: Support development and construction of the Fall Line Trail, including connections to adjacent developments (existing and proposed) and the construction of amenitized access points.
- Strategy AL.1b: Evaluate the possibility for a linear park and shared-use path along the Chickahominy River that ultimately connects to the Fall Line Trail.
- Strategy AL.1c: Evaluate and plan for a shared-use path that connects battlefield sites in the Cold Harbor/Mechanicsville area.
- Strategy AL.1d: Consider improving accommodations for cyclists along roadways that are part of U.S. Bicycle Route 1 and/or U.S. Bicycle Route 76 as zoning cases are evaluated and roadway projects are under design.

OBJECTIVE AL.2: Encourage the creation of a built environment which provides residents with opportunities for active living.

- Strategy AL.2c: Evaluate proposed development during the zoning process to determine how effectively the proposed design promotes active living through the provision of safe, convenient, and comfortable pedestrian/bicycle infrastructure and the design/location of open space.

- Strategy AL.2d: Design roadway improvements and other public facilities to incorporate safe, convenient, and comfortable pedestrian/bicycle infrastructure that provides thoughtful and direct connections to residential areas and community destinations.
- Strategy AL.2e: Review zoning ordinance and subdivision regulations to create more walkable places.
- Strategy AL.2f: Encourage collaboration between County departments (including Health, Parks and Recreation, Public Works, Economic Development, and Planning) to align policies, design standards, and funding resources to promote healthy, active, and vibrant communities.
- Strategy AL.2g: Identify the feasibility (including possible funding sources) of retrofitting established neighborhoods to include pedestrian/bicycle infrastructure, traffic calming, pocket parks, street lighting, and/or other amenities that support active living within the Suburban Service Area (SSA).
- Strategy AL.2h: Pursue funding opportunities to close gaps in the pedestrian/bicycle network within the identified focus areas, including improved pedestrian/bicycle access to schools and along the recommended pedestrian and bicycle "spine network."

ACTIVE LIVING DESIGN CONCEPTS

These are examples of features that could be incorporated into new development, existing neighborhoods, and/or planned road projects to improve mobility for pedestrians and cyclists and support active living.

Example



Noteworthy Features

- o Clearly-marked curb ramps and crosswalks help ensure the safety of pedestrians and bicyclists when crossing roads.



- o A pedestrian refuge island is a refuge area that is intended to help protect pedestrians crossing a road, providing a place to wait as vehicular traffic passes. This pedestrian refuge island in Arlington features Rectangular Rapid Flashing Beacons (RRFBs), which further alert motorists that a pedestrian is crossing the street. When a pedestrian approaches the crosswalk, they press a button that activates a set of flashing lights, improving their visibility as they cross the street.



- o Pedestrian traffic signalization is an effective means of enhancing pedestrian safety when linking existing or planned neighborhoods with nearby business centers or public facilities.

Example



Noteworthy Features

- Shared-use paths can be located along major thoroughfares or be part of a larger linear park, providing pedestrian and bicycle access to amenities and environmental/cultural resources. Shared-use paths also enhance the safety and comfort of users.
- Access points can be provided along regional shared-use paths, such as the Fall Line Trail. They can include parking (for cars and bikes), benches and seating areas, maps, shelters, bike fix-it stations, and other amenities for pedestrians and cyclists using these facilities.
- A pedestrian cut-through at the end of a cul-de-sac provides a direct connection from neighborhood sidewalks to a shared-use path along a major thoroughfare.
- Pedestrian pathways should be provided to connect the main entrance of major destinations to sidewalks and shared-use paths along adjacent major thoroughfares, providing a clear, unobstructed path that is accessible to all users. Trees and landscaping along these paths provide shade and create a more attractive environment for walking.
- Sidewalks are provided along major thoroughfares, with pedestrian connections to adjacent businesses. Crosswalks are clearly marked and designate routes pedestrians can take between adjacent businesses.

Example



Noteworthy Features

- Strategic and convenient placement of bike racks adjacent to stores, restaurants, and other identified activity centers is a cost-effective strategy to encourage and promote biking within communities.
- Open spaces, including pocket parks, that are connected by sidewalks and pedestrian paths to surrounding development can create opportunities for active living and recreation.

TRANSPORTATION

GOAL

Hanover County will provide an efficient, safe, and attractive multi-modal transportation network that accommodates the needs of residents, visitors, and businesses.

WHY IT MATTERS

This section of the Comprehensive Plan provides guidance on how to create a safe and efficient transportation network that is able to accommodate the needs of residents, visitors, and businesses.

One major component of this section is the Major Thoroughfare Plan (MTP). The County adopted its first MTP in 1972. Using the existing roadway network as its basis, the MTP identifies needed improvements to the transportation system to accommodate anticipated development shown on the General Land Use Plan, creating a vision of the ultimate road network. In general, changes to the road network will involve improvements to existing facilities, along with new roads to create alternate routes and improve connectivity.

Land use and transportation are closely linked. Development has occurred where there is access to local roads and regional highways. As the County continues to grow, stakeholders will have to work together to address the safety, capacity, and efficiency of the transportation network. Since funding is limited, the County must set clear investment priorities.

The Comprehensive Plan and MTP focus on improving mobility for motorists, as well as for pedestrians and cyclists. Recommendations in this section, along with recommendations within *Chapter 7: Active Living*, offer guidance on how public and private partners could provide residents and visitors (particularly within the Suburban Service Area) with safe and convenient options to reach their destinations, whether they choose to walk, bike, or drive.

During the public engagement process, many participants commented on the need to improve the local roadway network, and increased traffic/congestion was identified as one of the biggest concerns looking into the future. Recommendations within this chapter provide guidance on how the local transportation network could be improved to address those concerns.

MEASURING OUR PROGRESS

- Total Number of Crashes and Injuries
- Number of High-Crash Road Segments and Intersections Identified in VDOT's Potential Safety Improvement Tool (PSI)
- Mileage of Public Roadways
- Number of Road Projects Improving Over-Capacity Roadways

QUICK FACTS

- All public roads and bridges (outside of the Town of Ashland) are operated and maintained by the Virginia Department of Transportation (VDOT). VDOT also maintains roadside ditches, performs snow removal functions, and builds new roads.
- In Hanover County, VDOT maintains 2,189.26 miles of roadway (as of December 31, 2021).



KEY CONSIDERATIONS

As Hanover County works collaboratively with public and private partners to improve the local transportation network, the following issues are considered:

Safety	Improve existing facilities and design new facilities to address safety concerns, creating a transportation network safe for motorists, pedestrians, and cyclists.
Capacity	Improve roadways where traffic volumes exceed design capacities.
Connectivity	Make travel more efficient for all users by providing better connections between (and within) key areas.
Community Character	Design roadway improvements to reflect the character of the surrounding area and planned land uses.
Economic Development	Provide adequate access to planned Economic Development Zones (EDZs), accommodating the transportation needs of new and existing businesses.
Funding	Prioritize planned improvements and leverage different funding sources, as there is not enough funding available to address all transportation needs. Due to funding constraints and criteria used to award state and federal funding, improvements are often not funded until there is a critical need.

KEY STAKEHOLDERS

Different stakeholders are involved in maintaining and improving the County’s transportation network:

VIRGINIA DEPARTMENT OF TRANSPORTATION (VDOT)

All public roads and bridges (outside of the Town of Ashland) are operated and maintained by VDOT. VDOT also maintains roadside ditches, performs snow removal functions, and builds new roads. As development occurs adjacent to public roads, VDOT approves the location of driveways and other entrances that provide access to properties along state-maintained roadways.

As part of the rezoning, site plan, and subdivision review processes, VDOT partners with the County to review plans for new roadways (and improvements to existing roadways) proposed as part of new development. VDOT also helps review any traffic impact analysis (TIA) submitted in conjunction with a development proposal.

HANOVER COUNTY

Hanover County adopts plans and policies that identify potential transportation improvements, which describe what infrastructure must be provided as part of new development.

Hanover County partners with VDOT to improve public roads, as the County does not maintain these roadways. The Department of Public Works submits applications to VDOT, the Central Virginia Transportation Authority (CVTA), and the Richmond Regional Transportation Planning Organization (RRPTO) seeking funding for transportation improvements and constructs many projects under local administration agreements with VDOT to advance local priorities. Local CVTA funds (which are generated from a regional gasoline tax and sales tax) are allocated to projects by the Board of Supervisors.

TOWN OF ASHLAND

The Town of Ashland maintains most public roads within its limits.

LANDOWNERS

Some properties in Hanover County are accessed by *private roads*. Private roads are not maintained by VDOT or Hanover County, but solely by adjoining property owners. In many instances, a *road maintenance agreement* identifies which property owners are responsible for maintaining and repairing the roadways. These agreements are recorded with the Clerk of the Court and are privately enforced by the associated property owners.

DEVELOPERS

Internal roads must be constructed within residential, commercial, and industrial development in accordance with standards set forth in the zoning and subdivision ordinances. Depending upon the type of development, internal roads may be

privately maintained or public roads constructed to VDOT standards. Not only must the internal roadway network be constructed, but entrances to the development from public roads must be built to VDOT standards. As part of the rezoning process, a traffic impact analysis (TIA) may be required to identify potential impacts a proposed development may have on the local transportation network. The developer may proffer (or guarantee) to build specific transportation improvements (such as installing turn lanes, installing a traffic signal, constructing additional lanes, etc.) and/or proffer cash contributions that the County can use to make transportation improvements. As a site is designed, additional right-of-way may be dedicated to the County or reserved to accommodate future roadway improvements (as indicated in the MTP). Developers may also construct concept roads (proposed thoroughfares) shown on the MTP that are internal to their projects.

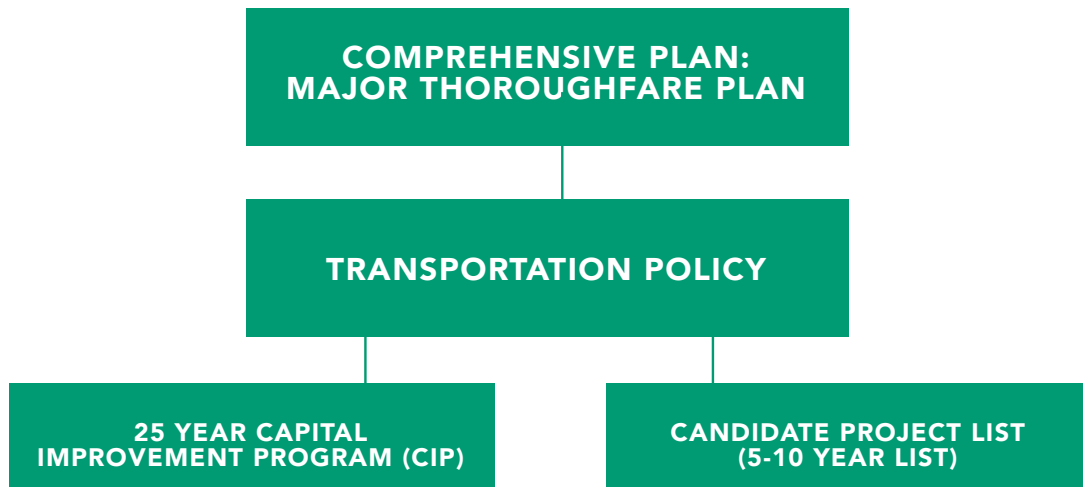
MEASURING CAPACITY AND IMPACTS TO LOCAL ROADWAYS

Level of service (LOS) is a term used to qualitatively describe the operating conditions of a roadway, based upon speed, travel time, maneuverability, delay, and safety. There are six LOS categories (A through F) used to evaluate roads. LOS A through D are generally considered acceptable, while LOS E and F are considered congested and undesirable. Achieving a LOS D or better during peak hours has been the standard for evaluating transportation impacts in Hanover County.

PLANNING FOR THE FUTURE

RELATIONSHIP BETWEEN THE MAJOR THOROUGHFARE PLAN (MTP) AND OTHER TRANSPORTATION POLICIES

The MTP establishes a high-level framework regarding development of the local roadway network. This framework informs more detailed transportation plans and policies.



The MTP addresses the following components of the local roadway network:

PLAN COMPONENT	OVERVIEW
Functional Road Classifications	<i>Functional Road Classifications</i> describe how different roadways are intended to serve adjacent properties and the community as a whole, based upon existing and future conditions.
Scenic Roads	<i>Scenic Roads</i> are locally-designated roadways that highlight unique aspects of the County's rural, natural, and/or historic character.
Focus Corridors	<i>Focus Corridors</i> include roadways that, based primarily upon existing and/or future traffic volumes, should be the focus of future roadway improvements and transportation planning efforts.
Concept Roads	<i>Concept Roads</i> are future roadways that could be constructed to improve connectivity, reduce congestion, and/or address other mobility issues.

More detail regarding these different components is provided on the following pages. Associated maps, including the Major Thoroughfare Plan (MTP), are included within the Map Book.

FUNCTIONAL ROAD CLASSIFICATIONS

Existing and future roads are classified and shown on the Major Thoroughfare Plan (MTP), based on the transportation function they serve. Different classes of roads must meet different standards of design.

Typical cross-sections have been developed for each type of roadway. There is an urban cross-section, which applies to roadway segments located within the Suburban Service Area (SSA) or along the boundary of the SSA. Urban roadways should typically be designed with curb and gutter, with sidewalks accommodating pedestrian travel. Rural cross-sections apply to roadway segments outside of the SSA. Rural roadways may be designed with open ditches. These typical-cross sections should be referenced when determining the width of right-of-way dedications and reservations. Additional right-of-way is usually needed at intersections to accommodate turn lanes and other improvements.

Note that the typical sections show a utility corridor. This area is intended to accommodate utilities that may need to be relocated as part of roadway widening projects. While this area may be within dedicated right-of-way, it is preferred that an easement be reserved and left undeveloped to accommodate future utility relocation. It is

included in the recommended right-of-way width listed below.

The following (on the next page) is a description of the road classifications used in the County. These classifications differ from functional classifications used by VDOT.



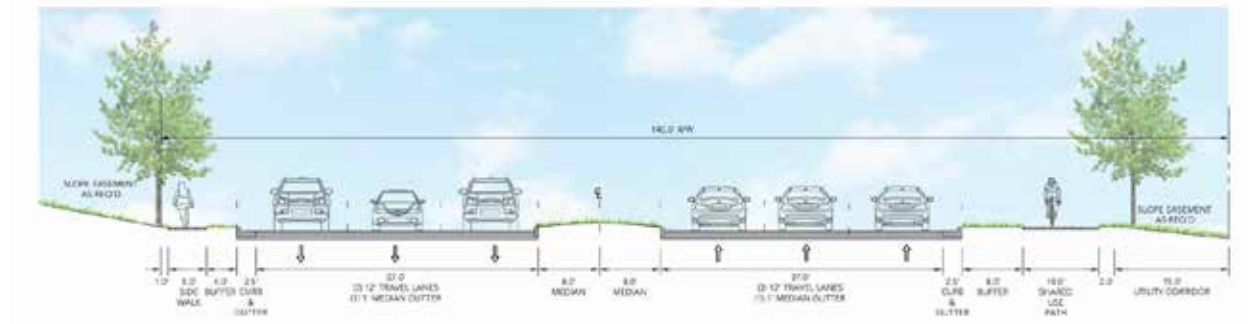
FUNCTIONAL ROAD CLASSIFICATIONS

CLASSIFICATION	DESCRIPTION	RECOMMENDED RIGHT-OF-WAY WIDTH
Interstate/Freeway	<p>This classification is intended to carry the largest volume of vehicular traffic over the greatest distances. Access to these roads is limited to minimize the interference of cross-street traffic, and road crossings are always grade separated.</p> <p>Interstate 95 and Interstate 295 are the only roads recommended for this classification.</p>	350 ft.
Major Arterial	<p>Major arterials are designed to carry vehicular traffic from one area of the County to another. Additionally, these roads carry traffic to other parts of the Richmond region. While access to these facilities is by at-grade intersections, they should be highly controlled to minimize the interference of cross-street traffic to the efficient flow-through traffic.</p> <p>Example Roadways: U.S. Route 33, U.S. Route 301, U.S. Route 360</p>	Urban: 140 ft. Rural: 127 ft.
Minor Arterial	<p>Minor arterials are intended to carry vehicular traffic from one part of the County to another. Access to these facilities is less restrictive than major arterials, but still controlled to facilitate the efficient movement of through traffic.</p> <p>Example Roadways: State Route 54, Sliding Hill Road, Ashland Road</p>	Urban: 120 ft. Rural: 127 ft.
Major Collector	<p>This road type collects vehicular traffic in the region and directs it towards the arterial road network. Access is less restrictive than arterials and functions primarily to serve local traffic. However, major collectors carry a significant volume of traffic, so some access control should be maintained.</p> <p>Example Roadways: Lee-Davis Road, Shady Grove Road, Cedar Lane</p>	Urban: 120 ft. Rural: 127 ft.
Minor Collector	<p>This road type collects vehicular traffic from the region and directs it towards the arterial road network. Because these roads are generally in less developed areas, access restrictions should be similar to local streets.</p> <p>Example Roadways: Old Church Road, Cool Springs Road, Greenwood Road</p>	Urban: 80 ft. Rural: 60 ft.
Local Road	<p>Local roads typically provide direct access to residential neighborhoods and businesses, providing the greatest access to adjacent properties. They typically carry lower traffic volumes at lower speeds.</p>	50 ft.

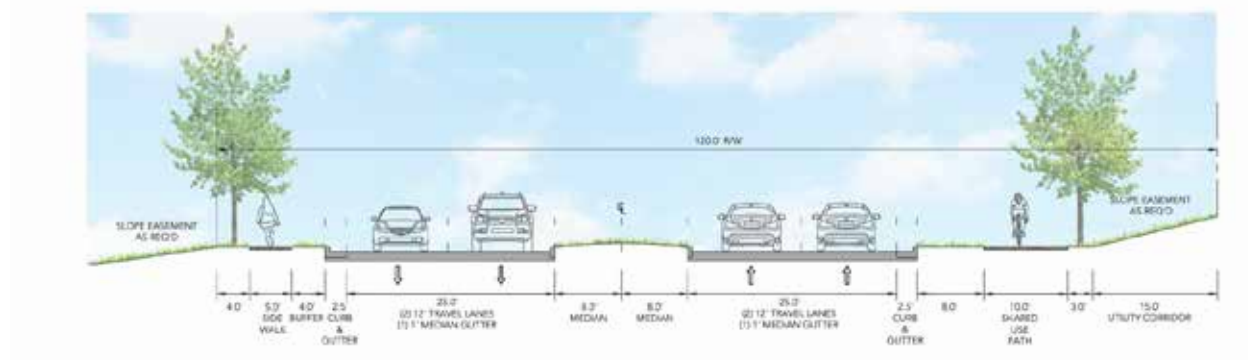
TYPICAL SECTIONS BY ROADWAY TYPE (FUNCTIONAL CLASSIFICATION)

Typical Sections for Urban Areas

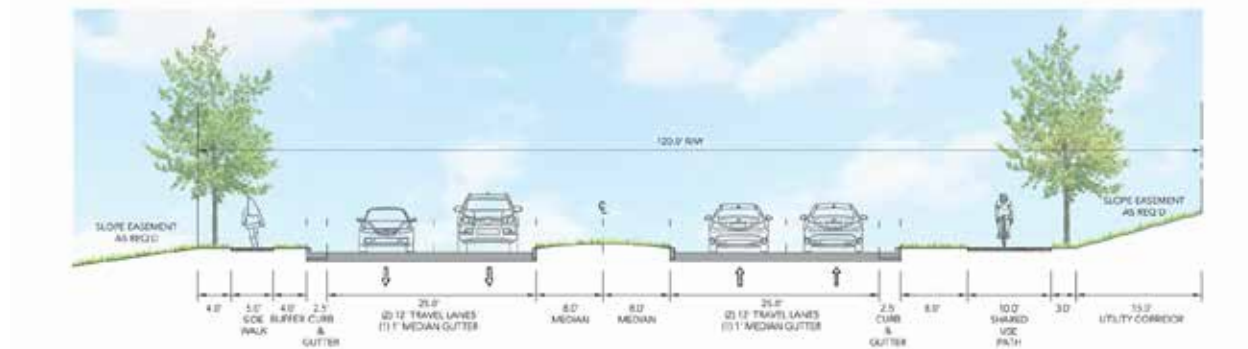
Major Arterial: Urban Section



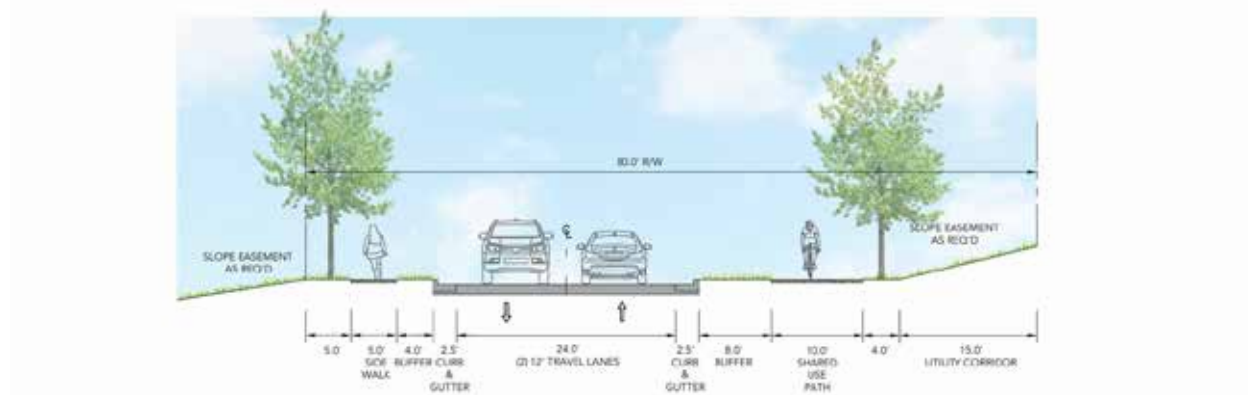
Minor Arterial: Urban Section



Major Collector: Urban Section

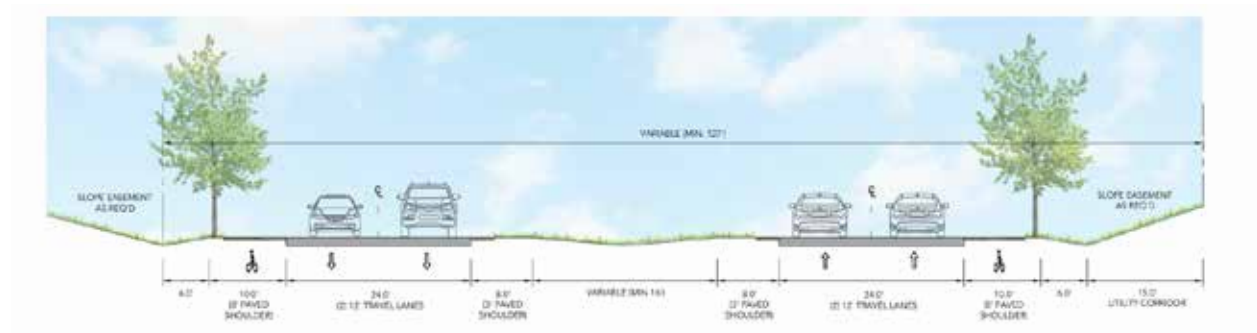


Minor Collector: Urban Section



Typical Sections for Rural Areas

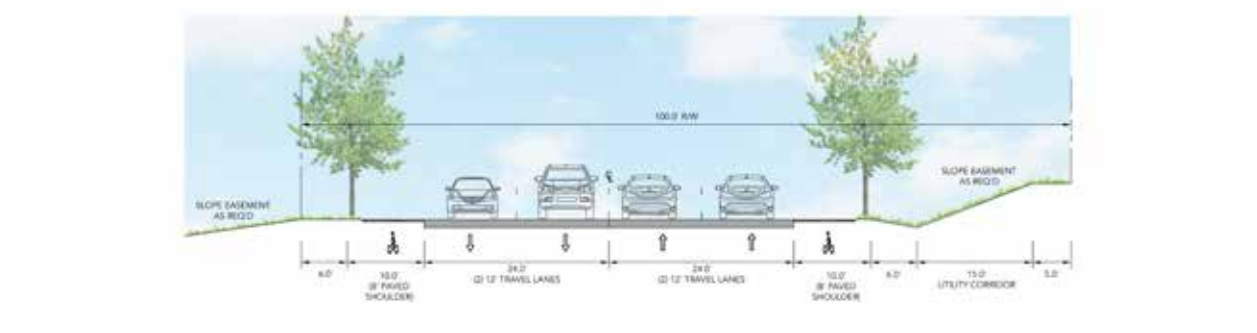
Major Arterial (Divided): Rural Section



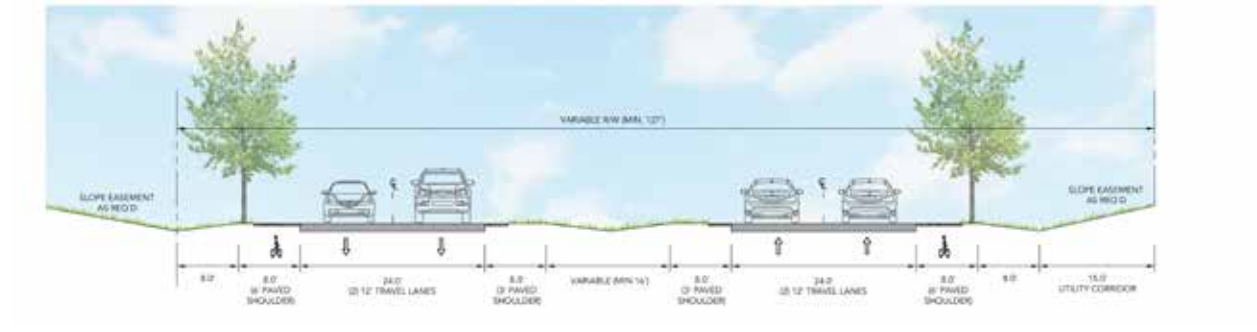
Minor Arterial (Divided): Rural Section



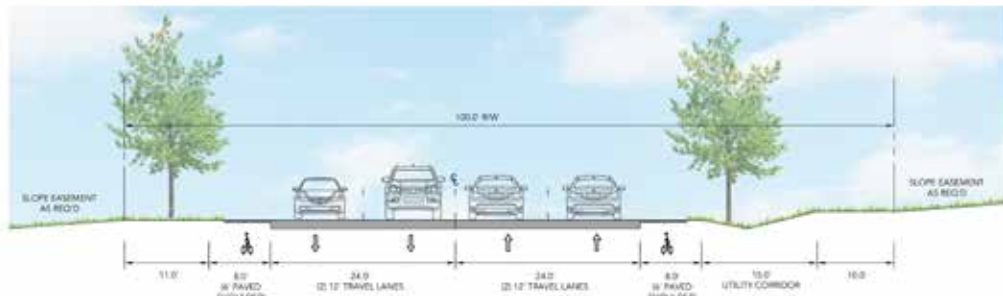
Minor Arterial (Undivided): Rural Section



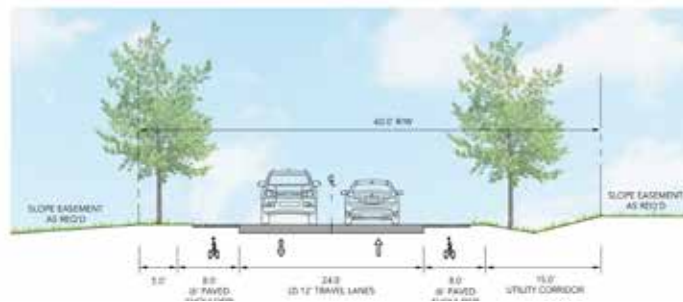
Major Collector (Divided): Rural Section



Major Collector (Undivided): Rural Section



Minor Collector: Rural Section



SCENIC ROADS

Scenic Roads are locally-designated roadways that highlight unique aspects of the County’s rural, natural, and/or historic character. For example, these roadways may:

- Provide access and views of battlefield sites and/or other historic resources;
- Offer views of large expanses of farmland;
- Provide unique views of forestland, with a mature tree canopy enveloping the roadway; and/or
- Offer views of rivers, streams, and other scenic waterways.

Chapter 3: Land Use + Growth Management provides recommendations on how new development along locally-designated Scenic Roads can be designed to help preserve the visual character of these corridors. Roadway improvements along these corridors should be thoughtfully designed to preserve and highlight unique characteristics and views of the surrounding area.

VDOT has not designated any State Scenic Byways in Hanover County, but locally-designated scenic roads are listed on the following page. A map of scenic roads is also included within the Map Book.



LOCALLY-DESIGNATED SCENIC ROADS	
Roadway	Segment Designated Scenic
Old Ridge Road	Beaver Dam Road to U.S. Route 1
Parsons Road	Entire Length
Shiloh Church Road	Rocky Ford Road to Woodsons Mill Road
Hollowing Creek Road	Entire Length
Tyler Station Road	Hollowing Creek Road to Beaver Dam Road
New Market Mill Road	Entire Length
Rocketts Mill Road	Entire Length
Scotchtown Road	Entire Length
Greenwood Church Road	Entire Length
Ashland Road	Entire Length
Ashcake Road	Greenwood Church Road to Elmont Road
Blunts Bridge Road	Old Ridge Road to Blunts Road
Hickory Hill Road	Entire Length
River Road	Entire Length
Williamsville Road	River Road to Studley Road
Rural Point Road	Entire Length
Old Church Road	Entire Length
Piping Tree Ferry Road	Entire Length
Crown Hill Road	Entire Length
Cold Harbor Road	Beaverdam Creek to Market Road

FOCUS CORRIDORS

As part of the planning process, traffic volumes were analyzed based upon existing conditions and potential future conditions in 2045 (as shown on the General Land Use Plan). Traffic volumes were compared to anticipated capacity (how much traffic a particular roadway type can typically handle). Additionally, VDOT's Potential Safety Improvement Tool (PSI) was used to identify roadways and intersections where there are safety issues. Based upon this analysis, the corridors listed below should be the focus of transportation improvements

through 2045. Rezoning requests and other land use proposals located along these corridors should be thoroughly reviewed and analyzed to identify potential transportation impacts and mitigating improvements. Along some of these corridors, specific road improvement projects are already funded and/or planned to address identified capacity and/or safety issues. The corridors are not listed in any particular order. A map showing these corridors is included within the Map Book.

CONCEPT ROADS (PROPOSED THOROUGHFARES)

The MTP identifies **concept roads**, which are proposed major thoroughfares that, once built, are intended to:

- Create an interconnected road network that offers motorists multiple alternative routes to destinations;
- Provide congestion relief by creating alternative routes parallel to existing roadways experiencing capacity issues; and/or
- Improve access to Economic Development Zones (EDZs).

Concept roads shown on the MTP include:

- Elmont Road/Vaughan Drive Connector
- Lakeridge Parkway Extension
- Lewistown Road Extension
- Sliding Hill Road/Cedar Lane Connector
- Woodside Lane Extension
- Woodside Lane Parallel Road
- Jamestown Road Extension
- Bell Creek Road/Academy Drive/Shady Grove Road Connector

- Creighton Parkway
- Connector Road at Future I-95 Interchange (North of Ashland)
- Richfood Road Extension

Detailed alignment studies have not been completed for all of these proposed roadways, so the MTP typically only shows a general alignment. Future studies could further define the specific route of each concept road. As development occurs, right-of-way should be reserved for these future roadways.

Note that the proposed Woodside Lane Parallel Road would be located on County-owned property, but is within the limits of the Town of Ashland. A joint Town/County study should be conducted to understand how this potential connection could impact traffic operations and safety in the area. If built, the design and final location of this road would have to be coordinated with the Town of Ashland.

LIST OF FOCUS CORRIDORS

Corridor	RATIONALE			
	Portions of Roadway Approaching Capacity or Overcapacity under Existing Conditions	Portions of Roadway Approaching Capacity or Overcapacity under Potential Future Conditions (2045)	Roadway Provides Access to an Economic Development Zone (EDZ)	Roadway Provides Key Connection
U.S. Route 33 (Montpelier to Henrico County Line)	X	X	X	
Ashland Road	X	X		
Blanton Road				X
Winns Church Road				X
Elmont Road	X	X		
Cedar Lane (Elmont Road to U.S. Route 1)	X	X		
U.S. Route 1 (Town of Ashland to Henrico County Line)		X		
Lewistown Road (Lakeridge Parkway to Ashcake Road)	X	X		
Ashcake Road		X		
Goddins Hill Road + Mount Hermon Road (Goddins Hill Road to Peaks Road/ Ashcake Road)				X
New Ashcake Road	X	X		
Atlee Station Road	X	X		
Atlee Road	X	X		
Shady Grove Road (U.S. Route 301 to Meadowbridge Road)	X	X		
Meadowbridge Road (Atlee Road to Henrico County Line)		X		

Corridor	RATIONALE			
	Portions of Roadway Approaching Capacity or Overcapacity under Existing Conditions	Portions of Roadway Approaching Capacity or Overcapacity under Potential Future Conditions (2045)	Roadway Provides Access to an Economic Development Zone (EDZ)	Roadway Provides Key Connection
Pole Green Road	X	X		
Lee-Davis Road (Pole Green Road to Cold Harbor Road/ Walnut Grove Road)	X	X		
Walnut Grove Road (Cold Harbor Road/ Lee-Davis Road to U.S. Route 360)	X	X		
Creighton Road	X	X	X	
W. Patrick Henry Road (Town of Ashland to Horseshoe Bend Road)		X		
E. Patrick Henry Road (Town of Ashland to Goddins Hill Road)		X		
Old Church Road (U.S. Route 360 to Piping Tree Ferry Road)		X		
Cold Harbor Road (U.S. Route 360 to Lee-Davis Road/ Walnut Grove Road)	X	X		
Cold Harbor Road (Henrico County Line to Market Road)	X	X		
Market Road (Cold Harbor Road to Fox Hunter Lane)	X	X		
Hickory Hill Road (Elletts Crossing Road to Old Ridge Road)			X	
Old Ridge Road (U.S. Route 1 to Hickory Hill Road)			X	

COMPLETED ALIGNMENT STUDIES

Specific roadway alignments have been developed for the following roadways. Some alignment studies address concept roads, while others address improvements to existing major thoroughfares:

U.S. ROUTE 360

Development of the road, between Interstate 295 and Walnut Grove Road (State Route 615), should be in accordance with the design specifications as recommended in a corridor study titled *Final Report Route 360 Corridor Study, Hanover County, Virginia*, prepared by Kimley Horn and Associates, Inc., and dated June 1998, adopted by the Board of Supervisors 10-22-03 (CPA-03-05). A copy of the study is kept at the Planning Department offices. Any changes to the specifications should be consistent with any changes approved by VDOT.

U.S. ROUTE 33

Development of the road, between the Henrico County Line and the Louisa County Line, should be in accordance with the design specifications as recommended in the corridor study titled *Final Report, US Route 33 (Mountain Road) Corridor Study, Hanover County Department of Public Works in cooperation with Virginia Department of Transportation* adopted by the Board of Supervisors 10-22-03 (CPA-03-05). A copy of the study is kept at the Planning Department offices. Any changes to the specifications should be consistent with any changes approved by VDOT.

ATLEE STATION ROAD

Development of the road should be in accordance with the design specifications titled *Atlee Station Road Ultimate Alignment Plan*. A copy of the plan is kept at the Planning Department offices.

CREIGHTON PARKWAY

Development of the future road alignment, between Rural Point Road (State Route 643) and Creighton Road (State Route 156) should be in accordance with the design specifications adopted by the Board of Supervisors September 25, 1996 (CPA-96-1, Creighton Road Corridor Study – Phase 1, Creighton Road to U.S. Route 360) and on September 28, 1998, (CPA-97-1, Five Year update to the Comprehensive Plan, Phase 2, Creighton Road Extended I-295 to Rural Point Road); with subsequent amendments to the alignment in the vicinity of Rural Point Road (State Route 643) at U.S. Route 301 (CPA-99-4), and in the vicinity of where the proposed alignment joins Rural Point Road at Totopotomoy Creek (CPA-12-01, Five Year update to the Comprehensive Plan). A copy of studies and drawings are kept at the Planning Department offices. Any changes to the specifications should be consistent with any changes approved by VDOT.

LEWISTOWN ROAD EXTENDED

Development of the future road alignment, between Lewistown Road (State Route 783) and Cedar Lane (State Route 623) should be in accordance with the design specifications adopted by the Board of Supervisors December 16, 1998 (CPA-98-3) and depicted on drawings titled *Proposed Amendment to Thoroughfare Plan* prepared by Wingate and Kestner PLC (7/22/98). A copy of studies and drawings are kept at the Planning Department offices. Any changes to the specifications should be consistent with any changes approved by VDOT.



FUNDED TRANSPORTATION PROJECTS

The candidate project list identifies specific projects that the County is pursuing funding for. Many of these projects are located along *focus corridors* listed previously. The projects below are projects from the 2023 Candidate Project List (adopted July 2023). Note that the Candidate Project List (also referred to as the 10-Year Funding Plan) is updated annually, so this list may change during the planning horizon.

In addition to these site-specific roadway improvements, funding is also allocated for general projects throughout the County, including rural trench widening/overlay projects, traffic studies, and pedestrian/bicycle improvements.

Some of these projects are partially funded through funds allocated in the Secondary SixYear Plan (SSYP), including Pole Green Road Widening and Atlee Station Road Widening (Phase II). The SSYP is a fiscally-constrained plan updated annually to reflect current revenue estimates, project schedules, and project costs, with projects remaining in the plan until they are complete and have undergone financial close-out.

ACCESSIBILITY FOR SENIORS AND RESIDENTS WITH DISABILITIES

Seniors and residents with disabilities may use alternative transportation options to reach their destinations, as they may be unable to drive their own vehicles. Beginning in late 2019, Hanover County (with support from a grant from the Virginia Department of Rail and Transportation) began offering specialized transportation service to older adults and residents with a disability through Hanover DASH. This program offers direct, non-stop service (with an advanced booking) to residents age 65 or older and/or residents that have a demonstrated short-term or long-term disability.

The County is also working to expand pedestrian and bicycle connectivity, providing active seniors with opportunities to walk and bike to nearby destinations within suburban areas. Chapter 7: Active Living provides recommendations on how to connect neighborhoods with schools, libraries, grocery stores, and other daily necessities through the creation of a pedestrian and bicycle “spine network” within the Suburban Service Area (SSA).



OVERALL OBJECTIVES AND STRATEGIES FOR TRANSPORTATION

OBJECTIVE TR.1: Design road networks that provide alternative route options to help reduce congestion.

- Strategy TR.1a: Promote interconnections between existing and planned developments during the zoning process to minimize impacts to a single corridor.
- Strategy TR.1b: Encourage the creation of an interconnected internal street and pedestrian/bicycle network within new development, discouraging the use of dead-end streets and cul-de-sacs except in areas where topography and environmental constraints limit connectivity.

- Strategy TR.1c: Complete alignment studies for concept roads shown on the MTP, providing more detail and specificity as to where these roadways may ultimately be constructed.
- Strategy TR.1d: Conduct a study for a new possible interchange along Interstate 95 north of the Town of Ashland at or near Hickory Hill Road or Old Ridge Road.

OBJECTIVE TR.2: Consider the impacts of land use decisions on the transportation network.

- Strategy TR.2a: Require the submittal of traffic studies for rezoning requests in accordance with the latest version of the *Business and*

CANDIDATE PROJECT LIST (2023)

Project	Description	Cost Estimate	Status (Summer 2023)
U.S. Route 360/ Lee Davis Road	Widen U.S. Route 360 Improve Intersection	\$34,304,420	Construction Underway
U.S. 301 Southbound Lane	Convert southbound shoulder to a through lane/right-turn lane between Atlee Road and Atlee Station Road	\$1,329,858	PE Underway
U.S. Route 1/ State Route 30	Install traffic signal and turn lanes	\$6,419,689	PE Underway
Lewistown Road/ Ashcake Road	Construct a roundabout	\$6,785,000	PE Underway
U.S. Route 360/ Cold Harbor Road/ Atlee Road	Construct a roundabout	\$5,660,000	PE Underway
Pole Green Road Widening	Widen from 2 to 4 lanes between Bell Creek Road and Rural Point Road	\$26,267,937	PE Underway
Creighton Road/ Creighton Parkway/ Walnut Grove Road	Construct a roundabout	\$6,562,173	PE Underway
Atlee Station Road Widening (Ph. II)	Widening from 2 to 4 lanes between Warren Avenue and Kings Charter Drive	\$33,729,078	PE Underway
Atlee Station Road Widening (Ph. III)	Widening from 2 to 4 lanes between Kings Charter Drive and Sliding Hill Road	\$34,813,345	PE Expected in FY2025
U.S. Route 301/ State Route 54	Construct a roundabout	\$4,534,642	PE Expected in FY2024
Greenwood Church Road/ Blanton Road/Ashcake Road/Ashland Road	Construct a roundabout	\$11,249,000	PE Expected in FY2024
State Route 54/ Goddins Hill Road	Construct a left-turn lane on State Route 54 at Goddins Hill Road	\$7,891,372	PE Expected in FY2024
Creighton Road Intersection Improvements	Construct left-turn lanes on Creighton Road at Tammy Lane and Sledds Lake Road	\$4,217,000	PE Expected in FY2025
Atlee Road at Mechanicsville Elem. School	Construct left-turn lanes at school entrance	\$1,822,000	PE Expected in FY2025
Interstate 95/State Route 54	Construct a diverging diamond interchange	\$29,428,000	PE Expected in FY2025
Sliding Hill Road/ Peaks Road/ Ashcake Road Roundabout	Intersection Improvement (Roundabout)	\$7,502,000	PE Expected in FY2026
Meadowbridge Road/Atlee Road	Intersection Improvements	\$15,000,000	PE Expected in FY2027
Pouncey Tract Road/ Ashland Road	Intersection Improvements	\$10,000,000	PE Expected in FY2028
U.S. Route 360/ Walnut Grove Road	Intersection Improvements	\$10,000,000	PE Expected in FY2029
U.S. Route 33 (Phase I)	Widen from 2 to 4 lanes between existing 4-lane section and Ashland Road	\$100,000,000	PE Expected in FY2029
State Route 54	Widen from 2 to 4 lanes between Mount Hermon Road and Woodside Lane	\$5,000,000	Not Yet Determined

*PE = Preliminary Engineering

Residential Development Road Improvements Transportation Policy and/or VDOT requirements, especially for proposals located along or near identified Focus Corridors.

- Strategy TR.2b: Seek to obtain roadway improvements where development creates a need (or an identifiable portion of a need) for capacity and/or safety improvements, and coordinate other sources of funding to implement projects that will minimize the adverse effect of new development on level of service along major thoroughfares. Achieving a LOS D or better during peak hours should be the standard for evaluating transportation impacts.
- Strategy TR.2c: Maintain the efficient functioning of roadways through development and implementation of access management guidelines (in partnership with VDOT).
- Strategy TR.2d: Work to minimize the number of access points along major thoroughfares, maximize spacing between access points, and ensure adequate entrance design (e.g. appropriate radii for use type/expected traffic, adequate turn lanes/tapers, etc.) during the rezoning process.
- Strategy TR.2e: Discourage “road stripping” (multiple individual driveways and access points) along rural roadways as part of rural residential development to enhance safety, maintain roadway functionality, and improve aesthetics.
- Strategy TR.2f: Ensure that adequate right-of-way is reserved along existing and proposed major thoroughfares to accommodate future improvements (both mainline improvements and intersection improvements).
- Strategy TR.2g: Review local policies regarding transportation proffers.

OBJECTIVE TR.3: Create a multimodal transportation network that satisfies all user needs.

- Strategy TR.3a: Design roads in accordance with the typical cross-sections included within the MTP in balance with transportation needs, existing roadway conditions, and available right-of-way.
- Strategy TR.3b: Design roadway improvements and other public facilities to incorporate safe, convenient, and comfortable pedestrian/bicycle infrastructure that provides thoughtful and direct connections to residential areas and community destinations.

- Strategy TR.3c: Identify the feasibility (including possible funding sources) of retrofitting established neighborhoods to include pedestrian/bicycle infrastructure, traffic calming, street lighting, and/or other amenities that support pedestrian/bicycle mobility within the Suburban Service Area (SSA).
- Strategy TR.3d: Continue to support transportation options for seniors and residents with disabilities, such as Hanover DASH.

OBJECTIVE TR.4: Design roadways to reflect the character of the surrounding area and create attractive community gateways.

- Strategy TR.4a: Consider how the design of proposed development and transportation improvements located along Scenic Roads preserves and highlights unique characteristics and views of the surrounding area.
- Strategy TR.4b: Consider the character of the surrounding community when designing roadway improvements, with special consideration given to preserve and highlight critical environmental, historic, and cultural resources in the immediate area.
- Strategy TR.4c: Investigate funding mechanisms that could be used to support the installation and maintenance of landscaping in medians along key gateway corridors.

COMMUNITY FACILITIES

GOAL

Hanover County will provide superior services in a cost-effective manner by strategically locating community facilities to most effectively serve public needs and foster a superior quality of life.

WHY IT MATTERS

The Comprehensive Plan has been developed with a 20-year horizon for guiding development and provides a course for predicting the need for future public facilities. This section of the plan assesses existing facilities and future demand for those facilities using the following growth assumptions (which were used throughout the planning process):

- 1% annual growth rate
- 2.61 persons per household (gradually decreasing to 2.56 by 2045)
- 70% of residential growth will occur within the Suburban Service Area (SSA)

The Comprehensive Plan provides general, high-level recommendations regarding the provision of public services and the general location of existing and proposed public facilities. These high-level recommendations are further developed and detailed in other local facilities planning documents:

- Capital Improvement Program (CIP)
- Water and Wastewater Facilities Master Plan
- Parks and Recreation Master Plan
- Airport Master Plan
- Space Needs Analysis and Facilities Assessment

The recommendations in all of these planning documents are intended to provide the Board of Supervisors and staff with direction on how to provide high-quality public services in a fiscally-responsible and effective manner, improving residents' quality of life and meeting the needs of the business community.

METRICS

- Utility Capacity Above Current Demand
- % of Calls Meeting Fire Response Goals
- % of Calls Meeting Emergency Medical Response (EMS) Goals

- Acreage of Parkland
- Library Square Footage Per Capita
- Percentage Over/Under School Capacity
- Percentage of Households with Broadband Access

QUICK FACTS

- The Department of Public Utilities (DPU) owns, operates, and maintains public water and wastewater systems within the Suburban Service Area (SSA), along with a limited number of isolated rural water systems inside and outside of the SSA. As of June 2022, DPU provided water service to approximately 22,930 customers and wastewater (sewer) services to approximately 22,370 customers.
- The Fire-EMS Department responds to emergency calls in the County. There are 17 stations countywide (including Laurel Meadow: Station 17 that is under construction in the Mechanicsville area), along with a training facility.
- The Parks and Recreation Department administers over 1,228 acres of public parks and has a cooperative agreement with the Hanover County School Board for the shared use of school facilities for recreational purposes after school hours.
- The Pamunkey Regional Library serves Hanover, King and Queen, Goochland, and King William counties and is overseen by the Board of Trustees, which includes representatives from each county. Hanover County is currently served by six libraries.
- In 2022, Hanover County Public Schools had over 17,000 students in pre-K through Grade 12. There are fifteen elementary schools, four middle schools, four high schools, an online school, an alternative education center, and a center for trades and technology.

PUBLIC UTILITIES (WATER AND WASTEWATER FACILITIES)

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

THE SYSTEM AND THE SUBURBAN DEVELOPMENT PLAN

DPU invests in the following types of improvements to serve areas within the SSA:

- Water and wastewater treatment capacity;
- Major regional water and wastewater pump stations;
- Trunk sewers;
- Water storage tanks; and
- Water transmission mains.

DPU typically does not invest in smaller facilities serving specific areas or neighborhoods. Individual property owners are expected to design, construct, and pay for local improvements that connect to major infrastructure constructed by DPU. Historically, both existing and new development have paid for the local water and sewer infrastructure necessary to serve them, and when appropriate, also pay for County-planned improvements that must be accelerated to meet the needs of these activities. Typically, each individual lot connected to the public sewer system is required to be served by a publicly-owned gravity sewer lateral located on or immediately adjacent to the lot. Exceptions to this requirement can be approved by the Director of Public Utilities in limited and unique situations.

Public water and sewer are allowed to be extended into areas within the SSA (as shown on the *Growth Management, Conservation, and Suburban Development Plan* map included within the Map Book). Projects or individual properties outside of the SSA will not be served by public water and sewer, except in very limited circumstances described below:

Serving Public or Private Development/Communities Outside of the SSA

Expanding the public utility system to serve public projects, private development, or existing communities outside of the SSA could be considered if any of the following conditions exist:

1. For economic development purposes where a private applicant is willing to fund public improvements;
2. 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/or
3. For Hanover County public sites and facilities.

In the instances listed above, public water and/or sewer will only be extended outside of the SSA with approval of the Board of Supervisors.

Individual Service Connections Outside of the SSA

Individual service connections to the County's public water and sewer system for individual lots may be allowed beyond the boundaries of the SSA in limited circumstances, such as when an existing home or business has a failing well and/or septic system or a new singlefamily home (located on an individual lot that is not part of a larger development) is constructed within 200 feet of an existing service line. 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 SSA. In these instances, public water and/or sewer will only be extended outside of the SSA with approval of the Director of Public Utilities and Director of Planning.

Except as stated above, there are no other provisions for public water and sewer to be provided outside of the SSA or outside other areas presently served by DPU.

The provision of public utilities is conceptually

AREAS WITHIN THE SSA UNSERVICEABLE BY GRAVITY SEWER

Public Utilities normally requires that a gravity lateral, owned by Hanover County, be constructed to each individual lot to be served by the public sewer system. Private on-site sewer systems that pump to the County's gravity lateral are currently allowed.

A few small areas within the SSA have been identified where properties cannot be served by a gravity lateral from the existing sewer system or the anticipated future sewer system.

Hanover County will explore developing policies that would allow the use of low-pressure sewer systems to serve these small limited areas within the Suburban Service Area.

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 updates this plan as required in response to changes in the Comprehensive Plan.

PUBLIC WATER SYSTEM

As of June 2022, DPU provided water service to approximately 22,930 customers. This includes approximately 1,850 commercial, industrial, and municipal accounts.

Water is provided from the following sources:

- Doswell Water Treatment (Hanover County): 4 Million Gallons Per Day (MGD) Capacity
- City of Richmond (Long-Term Contract): 20 MGD Capacity
- Henrico County (Long-Term Contract): 0.775 MGD Capacity
- Wells: 0.2 MGD Capacity

In total, the System has a capacity of 25.0 MGD. Average daily water demand in FY22 was 8.6 MGD and peak daily demand was 13.5 MGD.

The County also owns the 2.0 MGD South Anna Water Treatment Plant on the South Anna River. This plant has not operated since the 1990s 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 provider, Aqua Virginia, Inc., owns and operates systems that serve twelve residential subdivisions.

LONG-TERM WATER SUPPLY

The need for future water supplies to support the Comprehensive Plan and growth of the system has been recognized since the 1970s. 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.

A new source of water is projected to be needed sometime around 2050. Based on current regulations and anticipated construction timelines, permitting activities and detailed design should start around 2030. This schedule may need to be accelerated if an industry requiring large amounts of water were to locate or expand in Hanover County.

Several alternatives have been reviewed to meet

the System's long-term water supply needs. The County has identified a reservoir located at the existing Verdon Quarry as its most viable source of water. This reservoir could be supplied with water pumped from the Pamunkey River.

PUBLIC WASTEWATER SYSTEM

As of June 2022, DPU provided wastewater services to approximately 22,370 customers. This includes approximately 1,730 commercial, industrial, and municipal accounts.

Wastewater treatment is provided at the following facilities:

- Totopotomoy Wastewater Treatment Plant: 7 Million Gallons Per Day (MGD) Capacity
- Ashland Wastewater Treatment Plant: 2 MGD Capacity
- Doswell Wastewater Treatment Plant: 1 MGD Capacity
- Hanover Courthouse Sewage Treatment Plant: 0.08 MGD Capacity
- Long-Term Contract with Henrico County: 5.4 MGD

In total, the System has a capacity of 15.48 MGD. Average daily wastewater demand in FY22 was 6.7 MGD.

PRIVATE WASTEWATER SYSTEMS

Cascades' Containerboard Packaging – Bear Island 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. Other private facilities are located at the Hanover Learning Center, Barrett Learning Center, and Mountain Run subdivision.

LONG-TERM WASTEWATER TREATMENT NEEDS

In the future, additional wastewater treatment capacity will be needed as the County continues to grow. In addition to requiring additional capacity, the County's wastewater treatment plants will need to be updated to meet nutrient limits required by the Chesapeake Bay Total Maximum Daily Load (TDML) and the associated Virginia Watershed Implementation Plan. DPU is constantly evaluating its options in an ever-changing regulatory environment. Improvements at all four existing facilities may be required during the planning period covered by this Comprehensive Plan Update. An expansion of the Totopotomoy Wastewater Treatment Plant may also be required during the planning period.

FIRE AND EMERGENCY MANAGEMENT SERVICES (EMS)

Hanover County Fire-EMS (Department) is a combination system with a diverse team of dedicated career and volunteer members. It provides an all-hazards approach that considers the full scope of emergencies or disasters to protect the lives of citizens and visitors. Training and preparedness are key to provide high-quality service and create a safer community. In addition, the Department partners with regional stakeholders to receive and provide resources through a Regional Mutual Aid Emergency Response Agreement.

The Chief of Fire-EMS and administrative staff are located at the Courthouse Fire Station (Station 5). The administrative staff provides strategic oversight of the Department by handling administrative tasks, volunteer recruitment and programs, training, emergency management, fire prevention,

and life safety functions. The Department’s training programs are coordinated through the Harman-Taylor Training Center located adjacent to Poor Farm Park. Programs provide critical training to career and volunteer staff in addition to regional partners from Hanover County Public Schools and Reynolds Community College.

The Department aims to provide adequate facilities, equipment, and staffing to meeting the response goals listed below.

The Department’s facilities have been strategically located to serve the needs of the rural and suburban communities of Hanover County. Each facility works in concert with one another to provide fire and emergency medical services (EMS) to the greater community.

FIRE RESPONSE GOALS	
<ul style="list-style-type: none"> • Arrive at an emergency inside the Suburban Service Area in less than nine (9) minutes, eighty (80%) percent of the time. 	<ul style="list-style-type: none"> • Arrive at an emergency outside the Suburban Service Area in less than fifteen (15) minutes, eighty (80%) percent of the time.
EMERGENCY MEDICAL RESPONSE (EMS) GOALS	
<ul style="list-style-type: none"> • Arrive at an emergency for Priority One (1) calls in less than nine (9) minutes, eighty (80%) of the time. • Arrive at an emergency for Priority Two (2) calls in less than thirteen (13) minutes, eighty (80%) of the time. 	<ul style="list-style-type: none"> • Arrive at an emergency for Priority Three (3) calls in less than fifteen (15) minutes, eighty (80%) of the time. • Adequately staff Fire-EMS facilities with trained personnel to meet the current and future needs of Hanover County.

FIRE AND EMS FACILITIES

Ashland	Station 1	501 Archie Cannon Road, Ashland, VA 23005
Beaverdam	Station 2	16150 Trainham Road, Beaverdam, VA 23015
Eastern Hanover	Station 3	4428 Mechanicsville Turnpike, Mechanicsville 23111
Doswell	Station 4	16242 Washington Highway, Doswell, VA 23047
Courthouse	Station 5	13326 Hanover Courthouse Road, Hanover, VA 23069
Henry	Station 6	9634 Chamberlayne Road, Mechanicsville, VA 23116
Mechanicsville	Station 7	7161 Stonewall Parkway, Mechanicsville, VA 23111
Montpelier	Station 8	16861 Mountain Road, Montpelier, VA 23111
Rockville	Station 9	11445 Rockville Road, Rockville, VA 23146
Chickahominy	Station 10	10414 S. Leadbetter Road, Ashland, VA 23005

Farrington	Station 11	14582 Mountain Road, Glen Allen, VA 23059
Black Creek	Station 12	6397 McClellan Road, Mechanicsville, VA 23111
Ashcake	Station 13	8375 New Ashcake Road, Mechanicsville, VA 23116
East Hanover	Station 14	8105 Walnut Grove Road, Mechanicsville, VA 23111
West Hanover	Station 15	17005 Beaverdam Road, Beaverdam, VA 23015
Ashland	Station 16	203 Duncan Street, Ashland, VA 23005
Laurel Meadow	Station 17	Lee Davis Road, Mechanicsville, VA 23111 (<i>Under Construction</i>)
Training Center	Training	13038 Winston Road, Ashland, VA 23059

A **facilities assessment** was conducted to identify critical needs for maintaining existing facilities and expanding services to accommodate forecast population growth. This assessment evaluated the condition and functionality of these facilities to meet current and future needs for additional staffing, gender-appropriate facilities, and Fire-EMS apparatus space. As a result, four Fire-EMS facilities were identified as a priority for renovation:

- Doswell Station 4
- Montpelier Station 8
- Rockville Station 9
- Chickahominy Station 10

New facilities are planned and/or under construction to help meet response goals:

- The construction of Station 17 off of Lee-Davis Road will provide additional resources in the Mechanicsville area. The addition of this station will have an immediate impact and have a call response volume exceeding 3,200 calls. This station will improve response goals and enhance resources available to citizens. Station 17's innovative construction will focus on the health and safety of first responders through cancer prevention techniques.
- The construction of a Public Safety Building will improve efficiency and interoperability between Fire-EMS and the Sheriff's Office. The new facility will co-locate the administrative and training functions for Fire-EMS and the Sheriff's Office. Additionally, the Public Safety Building will provide space for Hanover County's Emergency Operations Center (EOC). This building will be located at the County Administration Complex at Hanover Courthouse.

Additional facilities may be needed to address future growth during the planning horizon:

- Based upon forecasted growth, an additional facility may be needed near the Lewistown Road corridor. A new facility will support future commercial growth and increased traffic along Interstate 95. Additional facilities were identified in the 25-year outlook, including construction of Station 18 and Station 19 to meet expected call volume growth.
- The Harman-Taylor Training Center is located on 23 acres adjacent to Poor Farm Park and houses several temporary training facilities and an administrative office. In addition, a permanent burn training prop simulates actual fire operations under a variety of circumstances. To meet the future training needs of career and volunteer staff, a permanent facility needs to be constructed at that location.

The goal is to strategically staff every facility to provide 24-hour all-hazards emergency service coverage to Hanover County. This can be accomplished by continuing to recruit and foster a combination work environment comprised of career and volunteer staff. The County should continue to provide up-to-date, cutting-edge training programs to all members through local, regional, state, and national standards. Moving towards accreditation will not only help Fire-EMS benchmark against national standards, but leverage data analysis to become more efficient and effective. In FY23, the Department was awarded a SAFER grant to conduct a Standards of Cover study to develop a comprehensive staffing plan.

PARKS + RECREATION

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

HANOVER COUNTY PARK CLASSIFICATIONS	
Regional Parks + District Parks	<p>Regional Parks (Min. 100 acres) offer 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 (Min. 50 acres) 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> <p>Examples of existing regional and district parks include:</p> <ul style="list-style-type: none"> • Cold Harbor Battlefield Park (50 acres) • Courthouse Park (120 acres) • Montpelier Park (50 acres) • North Anna Battlefield Park (172 acres) • Pole Green Park (217 acres) • Poor Farm Park (254 acres) • Taylor Park (53 acres) • Washington Lacy Park (216 acres) <p>These parks total 1,132 acres.</p>
Community Parks	<p>Community Parks (Min. 20 acres) offer a wide variety of recreational activities with intensive use (e.g. ball fields, tennis courts, basketball courts, natural areas, trails).</p> <p>Examples of existing and planned community parks include:</p> <ul style="list-style-type: none"> • Hanover Wayside Park (36 acres) • Little River Park (Undeveloped County-Owned Land: 22 acres) • Winding Brook Park (Undeveloped County-Owned Land: 39 acres) <p>These parks and County-owned lands total 97 acres.</p>
Neighborhood Parks	<p>Neighborhood Parks (Min. 5 acres) offer a 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>Examples of publicly- and privately-managed neighborhood parks include:</p> <ul style="list-style-type: none"> • Doswell: Ruritan Park (Non-Profit) • Bethany Park (Non-Profit) • Town of Ashland Parks • Private Residential Parks within Subdivisions (HOA Managed)
Water Access + Blueways	<p>Water Access + Blueways (Up to 3 acres) are developed for the purpose of providing public launching points for small, non-motorized watercraft and fishing opportunities.</p> <p>Existing boat ramps and water access points include:</p> <ul style="list-style-type: none"> • Littlepage (Pamunkey River at U.S. Route 301) • North Anna (North Anna River at U.S. Route 1) • South Anna (South Anna River at State Route 54) • Ground Squirrel (South Anna River at U.S. Route 33)
Greenways/ Trails (> 1 mile in length)	<p>Greenways/Trails (greater than 1 mile in length) generally utilize watercourses (streams, rivers, and canals) and rights-of-way (transportation and utility) to provide recreational opportunities. The Fall Line Trail is currently under development.</p>
National Battlefield Parks	<p>Civil War battlefields managed by the National Park Service (NPS) in the County are connected by Cold Harbor Road, which runs from Mechanicsville east to the crossing of the Chickahominy River where it enters Henrico County. These parks 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. Specific sites include:</p> <ul style="list-style-type: none"> • Beaverdam Creek • Cold Harbor • Gaines Mill • Garthwright House • Rural Plains/Totopotomoy

resources, affording the population a greater opportunity to appreciate them. During the Envision Hanover planning process, many

participants expressed interest in having greater access to amenitized public parks, particularly within the Suburban Service Area (SSA).

PRD currently administers over 1,228 acres of public parks and has a cooperative agreement with the Hanover County School Board for the shared use of school facilities for recreational purposes after school hours. The County also has 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 complement County-sponsored parks and recreational activities.

The location of park facilities is dependent upon many factors. The primary factors considered include convenient access and land conducive to the types of activities for which the park will be used. 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*. That plan, which was last updated in 2010, serves as a planning guide for ensuring recreational facilities continue to meet residents’ needs into the future. In developing service level standards, PRD relies on a variety of sources, including the Virginia Department of Conservation and Recreation (DCR) and the National Recreation and Parks Association (NRPA). Each organization has standards regarding the number of acres for types of parks and/or the amenities that such parks should have (e.g., ball fields).

The following chart summarizes the existing acreage of different park classifications compared with the Virginia Outdoors Plan (VOP) recommendations for the ratio of park acreage to forecasted population. The recommended appropriate park acreage ratio/population is based on 4 acres per 1,000 residents for district and regional parks and 3 acres per 1,000 residents for community and neighborhood parks.

PARK CLASS	2025	2030	2035	2040	2045
	POP: 114,690	POP: 120,152	POP: 125,613	POP: 131,075	POP: 136,536
Regional + District Parks (2023: 1,132 acres)	RECOMMENDED: 459 acres Exceeded by 673 acres	RECOMMENDED: 481 acres Exceeded by 651 acres	RECOMMENDED: 503 acres Exceeded by 629 acres	RECOMMENDED: 525 acres Exceeded by 607 acres	RECOMMENDED: 547 acres Exceeded by 585 acres
Community + Neighborhood Parks (2023: 97 acres)	RECOMMENDED: 345 acres Deficient by 248 acres	RECOMMENDED: 361 acres Deficient by 264 acres	RECOMMENDED: 377 acres Deficient by 280 acres	RECOMMENDED: 394 acres Deficient by 297 acres	RECOMMENDED: 410 acres Deficient by 313 acres

The County does not currently administer any neighborhood parks, but will continue to seek opportunities to develop this park classification in the future. There are other types of facilities that provide similar recreation opportunities:

- Privately-maintained residential development parks and common areas;
- Doswell-Ruritan and Bethany Parks (maintained by non-profit organizations);
- Public schools that offer recreational and sport facilities after school hours; and
- Neighborhood parks owned and/or maintained by the Town of Ashland.

While the acreage within County-owned regional and district parks exceeds minimum recommendations outlined in the Virginia Outdoors Plan (VOP), some of the existing facilities in this classification (particularly Washington Lacy Park and Taylor Park) have limited recreational amenities. As resources become available, the County could develop underutilized acreage to provide additional active and passive recreation opportunities. While Pole Green Park and some of the other regional parks include athletic fields, the large demand for athletic fields within the heavily-populated Mechanicsville area exceeds the quantity available.

Based upon national trends and community input, the focus of future park development will include a greater emphasis on passive recreational amenities, in addition to athletic field construction. During the Envision Hanover planning process, there was significant interest in providing more parks and recreational opportunities, particularly amenitized neighborhood parks within the Suburban Service Area (SSA). Additionally, there is interest in having more athletic fields in closer proximity to suburban neighborhoods, particularly in the Mechanicsville and Atlee areas.



LIBRARIES

In 2023, the Pamunkey Regional Library serves the counties of Hanover, King and Queen, Goochland and King William. The Pamunkey Regional Library is overseen by the Board of Trustees, which includes members appointed to represent Hanover County and other member localities. Hanover County is served by six library branches. These libraries currently occupy 59,730 square feet.

EXISTING LIBRARIES		
Library	Square Footage (2023)	Square Footage (2024)
Gillis (Ashland)	10,000	10,000
Atlee	20,835	20,835
Courthouse	3,000	3,000
Mechanicsville	16,000	16,000
Wickham (Montpelier)	2,500	5,212*
Cochrane (Rockville)	7,395	7,395
Total	59,730	62,442
*Wickham (Montpelier Library) will increase in size upon completion of the Montpelier Recreation Center.		

Based upon a 2022 population estimate from the Weldon Cooper Center, the libraries' square footage per capita ratio is approximately 0.5. The County has traditionally been in a range between 0.4 – 0.5 sf/capita. The State Library of Virginia (SLV), in its *Planning for Library Excellence: Standards for Virginia Public Libraries 2019*, has established service level rankings for various measures. The minimum measure is "E" (Essential) services meeting the basic needs and expectations of a public library, including circulation, internet access, and basic reference assistance, as mandated in the Code of Virginia. For facilities, "E" correlates to 0.6 sf/capita for a county of Hanover's population. The Pamunkey Regional Library Board has long agreed with the 0.6 sf/capita as a minimum target.

The following table illustrates in five-year increments (through 2045) forecasted 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/capita ratio target established by the SLV and the PRLB. Completion of the Montpelier Recreation Center and Library, which is expected in 2024, will move library space to approximately 91% of the 0.6 sf/capita goal. Based upon forecast population growth and level service expectations, a new library facility could be warranted during the planning horizon.



LIBRARY FACILITY SPACE AND PER CAPITA FORECASTS			
Year	Forecasted Population	SF/Ratio = 0.5	SF/Ratio = 0.6 (LVA + PRLB Service Target)
2025	114,690	57,345 sf	68,814 sf
2030	120,152	60,076 sf	72,091 sf
2035	125,613	62,807 sf	75,368 sf
2040	131,075	65,538 sf	78,645 sf
2045	136,536	68,268 sf	91,922 sf

SCHOOLS

Hanover County Public Schools (HCPS) 2022 student enrollment is over 17,000 students in pre-K-12. There are fifteen elementary schools, four middle schools, four high schools, an online school, an alternative education center and a center for trades and technology. HCPS is the fifteenth largest of the 132 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.

The HCPS facility construction philosophy and planning can be found in the *School 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/facilities. In the event these measures will not relieve overcrowding, additions to current facilities or the 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 www.hcps.us or by contacting the Hanover County Public Schools.



The following chart includes a school enrollment forecast through 2042. It is based upon ten-year enrollment projections developed through 2032. For subsequent years, a growth rate of 1.5% was used. Compared to previous Comprehensive Plan data, school enrollment is not anticipated to grow as quickly as in previous planning periods.

As part of the Capital Improvements Program (CIP), the County is planning to fund the replacement of aging schools, as some facilities are nearly 90 years old and do not meet current needs. While some replacement facilities will be built on the same site as the existing school, others will be built at new locations nearby.

STUDENT ENROLLMENT FORECAST (2022 – 2042)				
Elementary Schools				
Year	# of Elementary School Students	Existing Capacity	(Over)/Under Capacity	% (Over)/Under Capacity
2022	7,196	9,794	2,598	26.53%
2026	7,228	9,794	2,566	26.20%
2032	7,609	9,794	2,185	22.31%
2037	8,197	9,794	1,597	16.31%
2042	8,830	9,794	964	9.84%
Middle Schools				
Year	# of Middle School Students	Existing Capacity	(Over)/Under Capacity	% (Over)/Under Capacity
2022	3,917	4,797	880	18.34%
2026	4,027	4,797	770	16.05%
2032	3,985	4,797	812	16.93%
2037	4,293	4,797	504	10.51%
2042	4,625	4,797	172	3.59%
High Schools				
Year	# of High School Students	Existing Capacity	(Over)/Under Capacity	% (Over)/Under Capacity
2022	5,630	6,788	1,158	17.06%
2026	5,369	6,788	1,419	20.90%
2032	5,578	6,788	1,210	17.83%
2037	6,009	6,788	779	11.48%
2042	6,473	6,788	315	4.64%

GENERAL GOVERNMENT, ADMINISTRATION, AND JUDICIAL

General government, administration, and judicial facilities provide offices and meeting space for the County's workforce, so that they can provide high-quality customer service to residents, businesses, and other community members.

Most County offices are located at the Hanover County Government Complex on U.S. Route 301. Additional offices are located at:

- Human Services Building on U.S. Route 1
- Fire Administration Offices at the Courthouse Fire Station (Station 5)
- General Services at the Lakeridge Parkway Fleet Facility
- Economic Development Department at Rutland off of Atlee Road

While not a County-maintained facility, Pamunkey Regional Jail is located near the Hanover County Government Complex adjacent to Courthouse Park (off of U.S. Route 301). The jail is operated by a regional authority.

The future office/facility requirements for the County's workforce are difficult to project. Space to provide new and expanded services is dependent upon factors such as State or Federal mandates and citizen/Board of Supervisor initiatives that influence the extent and function of the County's workforce. The 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 its workforce, with the most recent analysis completed in Summer 2023. To address anticipated growth, workforce needs, and customer service expectations, that study recommends a variety of improvements, including:

- Construction of a dedicated public safety building, providing a single facility that is safe and secure for Fire-EMS Administration and the Sheriff's Office.
- Upgraded training facilities for both Fire-EMS and the Sheriff's Office.
- Renovations and an addition at the Animal Control Building.
- Replacement and renovation of multiple fire stations.
- Additions at the current Courthouse building to accommodate growth in Court Services.
- Additional maintenance facilities for the Parks and Recreation Department; and
- Additions and/or renovations to accommodate several government departments.

TELECOMMUNICATIONS + BROADBAND INFRASTRUCTURE

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 16-site, twelve-channel 800 MHz trunked radio system, enhanced wireline and wireless 911 systems, a computer aided dispatch system (CAD) which includes mapping, digital recording system, and interoperable communications systems.

PRIVATE TELECOMMUNICATIONS NETWORKS

Growth in the industry providing mobile telephones 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, security, access, aesthetics, and technological needs for the area in close proximity to the facility or structure and the County as a whole.

BROADBAND

Hanover County understands that universal high-speed internet access is essential for residents and businesses. It is necessary to support businesses, education, public safety, and everyday life. Therefore, we support the development and implementation of a broadband internet plan to extend high-speed internet to the unserved areas of the County. *Unserved* is defined by the federal government as not having access to internet service

at a minimum bandwidth. The majority of homes and businesses in the County have access to broadband internet service. This is due to the fact that the vast majority of residents live within the Suburban Service Area (SSA), where Comcast has provided high-speed internet service for 25 years. The unserved population, representing approximately 15% of residents, is in the mostly rural/agricultural areas of the County. All providers are welcome and encouraged to expand broadband internet service

to Hanover County citizens.

As part of the **Connect Hanover** initiative, the County is using a combination of state grants, federal funding, and private corporate investment to make broadband service available (by the end of 2024) to almost 6,200 residents and businesses that do not currently have sufficient internet access.

AIRPORT

The Hanover County Airport opened in 1971 and is located on approximately 250 acres east of Interstate 95, between the Atlee/Elmont and Lewistown Road interchanges. As part of the National Transportation System, the airport provides general aviation service to both corporate clientele and the recreational pilot. The airport serves small single-engine and multi-engine aircraft, as well as corporate business jets.

The airport has been identified by the Federal Aviation Administration National Plan of Integrated Airport Systems (NPIAS) as a vital link to air service in the Richmond Metropolitan area. The airport has been designated as a reliever airport to Richmond International Airport (RIC) in the Virginia Air Transportation System. The function of a reliever airport is to reduce the amount of general aviation air traffic at airports such as RIC that receive commercial air service.

The airport also serves medical and law enforcement agencies, as well as agricultural spray

operations. During a disaster or crisis situation, the airport contributes to the relief effort by assisting agencies performing damage assessments, medical evacuations, air ambulance, delivery of emergency supplies, as well as a base/staging areas for search/rescue, media coverage, and other disaster response teams.

An Airport Master Plan is the primary document used by airports to determine the long-range planning needs for the development and modernization of the airport. It is a plan that is sequenced into the Airport Capital Improvement Plan and is eligible for federal funding. The latest master planning effort for the airport dates back to 2006. Since adoption of that master plan, the Federal Aviation Administration (FAA) has made significant changes to its standards regarding the design of airports. To address these new requirements, Hanover County is currently pursuing an update to its Airport Master Plan.

OBJECTIVES AND STRATEGIES

OBJECTIVE CF.1 (PUBLIC UTILITIES): Provide reliable, quality water and wastewater service in a fiscally-responsible manner to support residents' needs, economic development, and the Comprehensive Plan.

- Strategy CF.1a: Explore additional water supplies to support the Comprehensive Plan and the growth of the public utilities system, including the Verdon Quarry Water Supply.
- Strategy CF.1b: Increase wastewater treatment capacity as required to meet future demands and upgrade facilities to meet nutrient limits required by the Chesapeake Bay Total Maximum Daily Load and the associated Virginia Watershed Implementation Plan.

- Strategy CF.1c: Assess the need to update the Water and Wastewater Facilities Master Plan.
- Strategy CF.1d: Identify funding mechanisms (including public/private partnerships) that could be used to make strategic infrastructure investments in public utilities within the EDZs to support economic development.

OBJECTIVE CF.2 (FIRE AND EMERGENCY MANAGEMENT SERVICES): Strategically maintain, renovate, and locate fire and EMS facilities to provide optimal services to residents, businesses, and visitors by achieving adopted response benchmarks.

- Strategy CF.2a: Renovate existing fire and EMS facilities identified in the most recent facilities assessment to meet current and future needs related to staffing, gender-appropriate facilities, and Fire-EMS apparatus space.
- Strategy CF.2b: Construct new fire and EMS facilities at appropriate locations to improve response times, efficiency, and interoperability between public safety personnel, including additional fire stations, a public safety building, and a burn building for training.

OBJECTIVE CF.3 (PARKS AND RECREATION): Provide a balance of high-quality recreational programs and facilities to meet the needs of the present and anticipated population of Hanover County.

- Strategy CF.3a: Continue to offer a safe, well-maintained, and diverse park system that provides both passive and active recreational opportunities for all community members.
- Strategy CF.3b: Expand the park system to include additional neighborhood, community, and specialty athletic parks in response to community demand, especially within the Suburban Service Area (SSA).
- Strategy CF.3c: Plan for the expansion of indoor recreation facilities to improve service levels through diverse program offerings and increased healthy lifestyle opportunities.
- Strategy CF.3d: Continue to maintain partnerships with stakeholders who support the mission of Parks and Recreation, including Hanover County Public Schools, youth athletic associations, and the National Park Service.
- Strategy CF.3e: Update the Parks and Recreation Master Plan (last updated in 2010).

OBJECTIVE CF.4 (LIBRARIES): Provide convenient locations to access library materials and services, maintaining current service levels and exploring opportunities to achieve target recommendations established by the State Library of Virginia and the Pamunkey Regional Library Board.

- Strategy CF.4a: Prioritize replacement of the Montpelier Branch Library. Hanover County and the Pamunkey Regional Library Board (PRLB) expect the future library to be located on a site in the Montpelier Park. Groundbreaking was held on April 14, 2023 and the construction process is expected to be completed in 2024.

- Strategy CF.4b: Following replacement of the Montpelier Branch Library, prioritize improvements to the aging Ashland Branch Library.
- Strategy CF.4c: Explore the possibility of pursuing construction of a new library facility during the planning horizon to meet level of service expectations.
- Strategy CF.4d: Explore the innovative use of technology at libraries that can yield greater efficiencies and have the potential of reducing building or facility square footage.
- Strategy CF.4e: Strive to achieve the library standards established by The State Library of Virginia and the Pamunkey Regional Library Board.

OBJECTIVE CF.5 (PUBLIC SCHOOLS): Provide facilities of the kind, size, and quality that will best support and accommodate the school division's educational program and the number of students enrolled, offering the best possible physical environment for learning and teaching.

- Strategy CF.5a: 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 public school facilities that will meet additional service demands.
- Strategy CF.5b: Accommodate and facilitate new organizational and instructional patterns in new and renovated school buildings that support the division's educational philosophy and instructional goals.
- Strategy CF.5c: Meet all safety requirements through the remodeling of older structures.
- Strategy CF.5d: Provide building renovations as needed to meet requirements regarding the availability of public school facilities to persons with disabilities.
- Strategy CF.5e: Design and construct new schools and support buildings to reduce maintenance costs and conserve energy. These two factors will also be given special consideration in the renovation of buildings.
- Strategy CF.5f: Decisions pertaining to educational specifications of new public school facilities and those undergoing extensive remodeling will be developed with the benefit of viewpoints of teachers, students, and the community.

OBJECTIVE CF.6 (GENERAL GOVERNMENT, ADMINISTRATION, AND JUDICIAL SERVICES): Provide suitable office space and facilities for the County's workforce to foster high-quality customer service for residents, businesses, and other members of the public.

- Strategy CF.6a: Implement recommendations in the latest Space Needs Analysis and Facilities Assessment.
- Strategy CF.6b: Conduct future space needs analysis recognizing population changes, sound financial practices, and the changing dynamics of providing superior service.
- Strategy CF.6c: Explore the innovative use of technology that can yield greater efficiencies and have the potential of reducing building or facility square footage.

OBJECTIVE CF.7 (TELECOMMUNICATIONS AND BROADBAND INFRASTRUCTURE): Increase the availability of highspeed data connections and broadband internet access.

- Strategy CF.7a: Establish a public/private partnership with third-party private internet service provider(s) to provide fiber to the home broadband internet service to unserved areas.
- Strategy CF.7b: Develop a comprehensive fiber-to-the-home broadband internet program that ensures all homes and businesses have access to broadband internet service.
- Strategy CF.7c: Implement the findings and strategies of Hanover's Blueprint to Broadband Internet.
- Strategy CF.7d: Support cost-saving plans for low- to moderate-income households to access broadband internet service.

OBJECTIVE CF.8 (AIRPORT): Continue to operate Hanover County Municipal Airport to serve as a general aviation reliever airport.

- Strategy CF.8a: Update the Airport Master Plan (last updated in 2006).
- Strategy CF.8b: Consider acquiring land near the airport to protect existing and future aircraft approach surfaces, provide for land use control, and/or facilitate planned improvements with the least impact to surrounding residential areas.
- Strategy CF.8c: Engage nearby residents to obtain feedback on any updates to the Airport Master Plan and any operational changes that may have potential impacts on surrounding neighborhoods.

HISTORY + CULTURE

GOAL

Hanover County is a community that preserves the physical links to its past and shares the stories of its people, enhancing understanding of its multi-faceted history.

WHY IT MATTERS

The people and places of Hanover County have a unique story to tell. The events that have happened here have influenced the state and the nation, and residents and visitors can learn from experiencing historic places and hearing stories about the County's residents. Preserving historic places creates opportunities for economic development, while maintaining the character of the County that residents and visitors so highly value.

This section of the Comprehensive Plan provides guidance for the identification and protection of historic and cultural resources. It also identifies policies to help ensure that development decisions are made in a manner that will preserve these resources whenever possible.

MEASURING OUR PROGRESS

- Number of special events highlighting the history, people, and places of Hanover County's past
- Limited demolitions within all historic districts
- Continued engagement with Historical Commission on development proposals impacting historic properties

QUICK FACTS

- More than 2,400 historic sites and 475 archaeological sites have been surveyed in Hanover County, including 3 National Historic Landmarks, 45 sites listed on the National Register of Historic Places, and 49 sites listed on the Virginia Landmarks Register.
- There are 37 Century Farms in Hanover County.
- The Historical Commission provides guidance and recommendations regarding the promotion and preservation of historic sites. The Commission reviews zoning requests that may impact surveyed historic resources, especially Category 1 and Category 2 sites

(see descriptions on following page).

- 13 Historic Preservation Overlay Districts (local zoning tool) help preserve the character of historic areas. The Architectural Review Board reviews proposed development (including exterior changes to existing buildings) within locally-designated Historic Preservation Overlay Districts.
- Hanover County has been a Certified Local Government (CLG) since 1994. The CLG program was created by the National Historic Preservation Act of 1966 (as amended in 1980). The CLG designation recognizes localities that have established an architectural review board and adopted key ordinances and policies aimed at preserving historic resources.



LOCAL CATEGORIZATION OF HISTORIC SITES

All historic sites that have been surveyed help tell the story of Hanover County’s history and culture, but certain sites warrant additional focus due to their significance, integrity, and context:

- **Significance** means that the site is associated with a person or event that considerably influenced local, state, and/or national history. **Significance** also refers to sites that include distinctive physical characteristics.
- **Integrity** means that the site retains physical characteristics that existed in its era of historic significance, which help convey a story regarding people associated with the site.
- **Context** refers to how the site relates to the surrounding community, and if its setting (including surrounding landscapes and viewsheds) is similar to the site’s period of historic significance.

Categorizing sites helps direct limited resources to places that are of critical importance. Category 1 sites warrant more focus than Category 2 and 3 sites. Hanover County began using a framework for categorizing sites with adoption of the 2007 Comprehensive Plan.

The Historical Commission reviews zoning cases that have the potential to impact Category 1 and Category 2 sites.

CATEGORY 1

- National Historic Landmarks: Hanover Courthouse, Scotchtown, and Marlbourne (Edmund Ruffin Plantation)
- Exceptional Resources: Hanover Tavern, Polegreen Church (Hanover Meeting House), Garthwright-Kelley House, Gaines Mill Battlefield, Cold Harbor Battlefield, and Rural Plains

CATEGORY 2

- Sites and districts listed on the National Register of Historic Places
- Sites determined eligible or potentially eligible for listing on the National Register of Historic Places
- Century Farms
- Battlefield sites which are not included in Category 1 but determined by the National Park Service to have a significant degree of integrity
- Documented historic cemeteries

CATEGORY 3

- Remaining surveyed sites

HISTORIC DISTRICTS

Portions of the County are located within national, state, and/or local historic districts:

- State and National Districts: Several historic districts are recognized on the Virginia Landmarks Register and/or National Register of Historic Places. These are voluntary districts that recognize historically-significant places, but they do not restrict the use of property, require conformance with design guidelines

(unless the property is rehabilitated using specific preservation incentives), or prohibit demolition. The largest and newest district is the Brown Grove Rural Historic District, and others include the Hanover County Courthouse Historic District and Montpelier Historic District. These districts are described in greater detail at the end of this section.

Local Districts:

- There are 13 Historic Preservation Overlay Districts, which are locally-designated districts voluntarily established by property owners to create special zoning requirements intended to preserve the character of these areas.
- These districts include:
 - Old Courthouse Historic Overlay District
 - Courthouse Transition Historic Overlay District
 - Laurel Meadow
 - Doswell-Darnell's Store (Village of Doswell)
 - Montpelier-Dr. Stanley's Office
 - Sharps
 - Flanningan Mill
 - Scotchtown
 - Church View
 - Norway and Isabell's Store
 - Doswell School
 - Beaverdam Motor Company and Tri-County Bank
 - Polegreen Church

The Architectural Review Board reviews proposed development (including exterior changes to existing buildings) within locally-designated Historic Preservation Overlay Districts. The Historical Commission reviews proposed zoning changes within and near historic districts, advising the Planning Commission and Board of Supervisors on potential impacts proposed development may have on the character of the area.

DESIGN GUIDANCE FOR ALL HISTORIC DISTRICTS

While each of these districts has unique characteristics and features that should be considered as development proposals are evaluated, the following should be considered within all historic districts:

PUBLIC INVESTMENT

- **Streetscapes:** Hanover County should consider investing in decorative street lighting, gateway signage, street signs, and/or street trees that reflect the character of the historic districts (where appropriate), based upon guidance from the surrounding community. These features should be consistent throughout the district.
- **Public Buildings:** Design public buildings with the appropriate scale, massing, materials, setbacks, and other design features that reflect the character of the historic district.

SITE DESIGN

- **Preserve and Reuse Historic Buildings:** Preserve and reuse buildings that contribute to the character of the historic district. Demolition is discouraged.
- **Siting New Buildings:** Site new buildings to preserve views from adjacent roadways and historic properties, with similar setbacks as historic structures within the district.
- **Grading:** Minimize grading by working with

the existing contours of the landscape.

- **Tree Preservation:** Preserve healthy mature trees.
- **Exterior Lighting:** Use light fixtures that are dark-sky compliant and compatible with the character of historic buildings and the surrounding area. Minimize the height of freestanding lighting.
- **Parking:** Minimize the size and visibility of parking areas from adjacent roadways and historic properties. Screen parking areas with buildings, landscaping, and/or decorative fencing and use landscaping to divide parking areas into smaller bays. The use of gravel, decorative pavers, or other alternative surfaces may be appropriate to help parking areas blend with the historic areas.





- **Signage:** Use small-scale freestanding signage. Use external illumination only on freestanding and building-mounted signage.

BUILDING DESIGN

- **Scale and Massing:** Design new buildings (and additions to existing buildings) to reflect the massing and scale of historic buildings within the district. Design new buildings to have a similar height and footprint as existing buildings, or design larger buildings to appear as a collection of smaller buildings.
- **Materials and Colors:** Buildings should feature materials and colors historically found within the district.



- **Façade Articulation:** Avoid long, monotonous facades. Windows, wall offsets, awnings, changes in color or material, changes in roofline, and other architectural features commonly found within the historic district should be used to add visual interest and break long facades.
- **Avoid Street-Facing Garages and Loading Bays:** Orient garages and loading bays to the side or rear of the building, so that they do not directly face the street.



Specific Guidance Regarding Historic Districts on the National Register of Historic Places

The chart below provides guidance regarding the three historic districts listed on the National Register of Historic Places: Brown Grove Rural Historic District, Hanover County Courthouse Historic District, and Montpelier Historic District.

BROWN GROVE RURAL HISTORIC DISTRICT	
Overview	<p>The Brown Grove Rural Historic District is a historically African American community located south of the Town of Ashland. The district’s boundaries encompass two noncontiguous areas, which are separated by Interstate 95. This community was established during the Reconstruction Era by families that included formerly enslaved individuals. The community that emerged at the turn of the twentieth century featured a landscape of small subsistence farms, which were connected by a network of paths to each other and community hubs, including general stores and the centrally-located Baptist church and schoolhouse. It is an excellent example of a rural landscape of Black heritage that grew from an antebellum plantation economy to a self-sufficient agricultural community, and transitioned in the 20th century into a middle-class residential neighborhood. Slash Church is individually listed on the VLR and NHRP.</p>
Listing Date	<ul style="list-style-type: none"> • Virginia Landmarks Register (VLR) Listing Date: April 27, 2023 • National Register of Historic Places (NRHP) Listing Date: June 16, 2022
Character and Design Considerations	<p>In addition to the general design guidance for historic districts listed in this chapter, the following implementation strategies are recommended for the Brown Grove Rural Historic District:</p> <ul style="list-style-type: none"> • Adopt an Overlay District with development standards that address the scale, materials, and overall design of commercial and industrial buildings and sites, including both new development and the expansion/redevelopment of existing uses. The Architectural Review Board (ARB) would review all new development within the Overlay District (except for single-family residential development) • Consider identification signage or other features noting the location of the Brown Grove community. • Consider environmental impacts as zoning requests, private investments, and public investments are reviewed, including potential impacts to air quality and water quality. • Ensure that historically-significant structures and gravesites are preserved and integrated into new development in a thoughtful and sensitive manner. • Encourage new residential development to incorporate design features that reflect the rural character of the community. Examples include preserving wooded buffers along Ashcake Road and other thoroughfares, incorporating community gardens and agricultural uses into new development, and incorporating architectural features traditionally found in the community into new buildings. • Encourage new residential development to incorporate different housing options (including affordable housing and ADA-compliant units) into their design. • Provide sidewalks, trails, and/or other pedestrian amenities along at least one side of major thoroughfares and other streets as part of new development, public infrastructure improvements, and through other public and private efforts.



HANOVER COUNTY COURTHOUSE HISTORIC DISTRICT

<p>Overview</p>	<p>The Hanover County Courthouse Historic District includes buildings that date to the 1700s, most notably the Hanover County Courthouse. While the village has evolved over the past two centuries, it retains many of the structures typically found in a rural Virginia county seat. The focal point is the arcaded courthouse (ca. 1737 – 1742), a major monument of Virginia’s colonial public architecture. On the surrounding courthouse green, there is the stone jail (1835) and a brick clerk’s office of the same period. Across the road is Hanover Tavern, a rambling hostelry from the late 18th century, one of the largest and best preserved of Virginia’s early courthouse taverns. During the Civil War, there was significant activity in the area.</p> <ul style="list-style-type: none"> • Hanover County Courthouse is individually listed on the VLR and NHRP, and it is also recognized as a National Historic Landmark. • The Old Courthouse Historic Overlay District and the Courthouse Transition Historic Overlay District apply additional zoning standards in this area.
<p>Listing Date</p>	<ul style="list-style-type: none"> • Virginia Landmarks Register (VLR) Listing Date: July 6, 1971 • National Register of Historic Places (NRHP) Listing Date: Sept. 22, 1971
<p>Character and Design Considerations</p>	<p>In addition to the general design guidance for historic districts listed in this chapter, new construction and redevelopment should consider the following recommendations:</p> <ul style="list-style-type: none"> • Incorporate guidance described in the description for the <i>Rural Village</i> land use designation (Chapter 3: Land Use). • Consider guidance provided in the <i>Hanover County Old Courthouse Historic District Design Guidelines</i> (1999). • Maintain U.S. Route 301 (Hanover Courthouse Road) as a two-lane roadway. • Protect approaches to the designated <i>Rural Village</i> along U.S. Route 301 and State Route 54, since these approaches retain their rural setting, with highways bordered by open fields and wooded areas.



MONTPELIER HISTORIC DISTRICT	
Overview	<p>Montpelier Historic District is a linear settlement along Old Mountain Road (now U.S. Route 33: Mountain Road) in western Hanover County. The settlement grew from a colonial-era stagecoach stop at Sycamore Tavern, the oldest building surviving in the district (dating to 1732). By the early 1900s, Montpelier had become a thriving commercial village serving the surrounding agricultural areas. Buildings within the district reflect three centuries of history and include houses, farm structures, stores, and civic uses. The district is linear along U.S. Route 33 and surrounded by farms and rural landscapes.</p> <ul style="list-style-type: none"> • Sycamore Tavern is individually listed on the VLR and NHRP. • Three locally-designated Historic Preservation Overlay Districts are located within the Montpelier Historic District (Montpelier-Dr. Stanley's Office, Church View, and Norway and Isabell's Store).
Listing Date	<ul style="list-style-type: none"> • Virginia Landmarks Register (VLR) Listing Date: March 14, 2001 • National Register of Historic Places (NRHP) Listing Date: May 16, 2002
Character and Design Considerations	<p>In addition to the general design guidance for historic districts listed in this chapter, new construction and redevelopment should consider the following recommendations:</p> <ul style="list-style-type: none"> • Incorporate guidance described in the description for the Rural Village land use designation (see Chapter 3: Land Use). • Strive to maintain the surrounding farmland and rural landscape to protect the historic qualities of the district. • Buildings should be oriented towards U.S. Route 33 (Mountain Road). • Encourage new uses that are compatible with the existing character of the historic district and serve the surrounding community.

OBJECTIVES AND STRATEGIES

OBJECTIVE HC.1: Raise awareness of the people and places of Hanover County's past.

- Strategy HC.1a: Promote special events highlighting the people and places of Hanover County's past (at least one event annually).
- Strategy HC.1b: Promote National Historic Preservation month (May), Virginia Archaeology Month (October), and other major events that highlight the history of Hanover County.
- Strategy HC.1c: Continue to support the Hanover Museum of History and Culture.
- Strategy HC.1d: Work collaboratively with public agencies, non-profit organizations, and businesses to install signage (including identification signs, information plaques, interpretative signage, and wayfinding signage) that highlights important historic sites, cultural sites, and people throughout the County.
- Strategy HC.1e: Evaluate and plan for a shared-use path that connects battlefield sites in the Cold Harbor/Mechanicsville area to support tourism.

OBJECTIVE HC.2: Identify culturally-, historically-, and architecturally-significant sites in Hanover County.

- Strategy HC.2a: Maintain a GIS database of surveyed historic sites, providing ready access to staff, residents, developers, and others as development decisions are made.
- Strategy HC.2b: Partner with public agencies, non-profit organizations, and other entities to continue historic survey documentation, recording the age, architecture, and cultural importance of sites countywide.
- Strategy HC.2c: Identify segments of historic road corridors that approach National Historic Landmarks (NHL) and investigate the adoption of development standards that could preserve the character of those road segments, enhancing the experience of residents and visitors.

OBJECTIVE HC.3: Protect culturally-, historically-, and architecturally-significant sites as development occurs.

- Strategy HC.3a: Continue the application of Overlay Historic Preservation (HP) districts, with each district having context-appropriate

standards that protect important structures from irreversible exterior alteration or demolition.

- Strategy HC.3b: Work with applicants during the rezoning process to preserve historic sites as development occurs (see below for different strategies that can be used).
- Strategy HC.3c: Impose conditions regarding the preservation of historic sites in connection with the issuance of Conditional Use Permits (CUPs) and Special Exceptions (SEs).
- Strategy HC.3d: Practice good stewardship of historic and cultural resources under County control by using recognized practices for the preservation of these resources.

OBJECTIVE HC.4: Provide the owners and stewards of historic and cultural sites with resources to help them preserve and maintain these sites.

- Strategy HC.4a: Provide opportunities for owners of historic properties to learn about different financial and technical resources that are available to help them preserve their properties.
- Strategy HC.4b: Provide financial support to owners of historic properties, such as grant programs for rehabilitation/restoration projects and/or local tax abatements.
- Strategy HC.4c: Review zoning regulations for provisions that inhibit the adaptive re-use of historic properties to support tourism or other uses compatible with their character, allowing owners to generate income to support the preservation and maintenance of their properties.





TECHNIQUES FOR PRESERVING DEVELOPMENT SITES

DEVELOPMENT REVIEW: HISTORIC RESOURCES ON-SITE OR NEARBY

As rezoning requests and other development proposals are reviewed, the following design techniques and approaches should be considered where there are historic resources on-site and/or in the surrounding area.

HISTORIC STRUCTURES & ARCHAEOLOGICAL SITES

Historic and cultural resources may be located on sites where development is planned. Through the zoning review process, the following strategy should be used:

1. Preserve historic structures, sites, and archaeological features in their original location.
2. If preservation of a historic structure in its original location is not feasible, relocate the structure to a nearby site.
3. If preserving or moving the structure is not feasible, document the structure prior to demolition and allow architectural features to be salvaged. For historic sites and/or archaeological features, conduct a cultural resource or archaeological study as appropriate.

Design techniques can be used to integrate historic structures, archaeological sites, and other resources into development projects:

- Design the proposed development so that historic structures, sites, and archaeological features are prominently situated within the development:
 - Design streets so that historic structures serve as a “terminating vista” at a street intersection.
 - Include single-loaded streets that allow historic structures, sites, and archaeological features, and landscapes to be prominently visible from public roadways (and not hidden behind buildings).
- Locate historic structures and archaeological sites within open space.
- Protect viewsheds from historic structures and archaeological sites:
 - Establish buffers that enhance the historic landscape and utilize compatible screening material (existing vegetation, context-sensitive walls or fences, new native trees and shrubs in a naturalistic, informal pattern, etc.).
 - Locate nearby parking areas in locations that are out of view and screened by landscaping, topography, and/or buildings.
- Reuse historic structures as community amenities.
- Encourage the placement of interpretative signage commemorating people and places that have influenced local history and are associated with the site.



HISTORIC BATTLEFIELDS

Hanover County’s location made it the scene of several battles and skirmishes during the Civil War, and American Revolutionary War activity. Although some of these resources have been documented, many have yet to be identified. Some battlefields have been protected or remain relatively undistributed, but the integrity of others has been compromised. Preserving battlefield features helps current and future generations better understand the connection between military conflicts and important social and political changes that have occurred in American history.

- Consider conducting cultural resource studies and/or archaeological studies as appropriate within battlefield areas to identify critical battlefield features on proposed development sites seeking a rezoning, conditional use permit, or other zoning action.
- Preserve earthworks, historic road traces, and similar features within open space and/or with protective easements.
- Where possible, preserve contiguous blocks of open space that protect critical battlefield features, viewsheds, and core battlefield areas.
- Preserve viewsheds from historic roadways and scenic byways that approach battlefield sites.
- Avoid grading within 25 feet of earthworks, except to the extent necessary to construct trails or interpretative signage.
- Encourage the placement of interpretative signage describing earthworks and/or other battlefield features. If possible, include a publicly-accessible parking/turnoff area to allow visitors to read the signage.
- Consult the National Park Service regarding significant development proposals near protected battlefields.

Resources have been developed that provide more detailed information about critical Civil War battlefields, including *A Survey of Civil War Sites in Hanover County, VA*.

HISTORIC CEMETERIES

Historic cemeteries in Hanover County include both family cemeteries and larger community and church cemeteries. Some cemeteries are significant as memorials or cultural narratives, while others take on additional significance for unique funerary art or artistic landscape features. Although cemeteries are important cultural resources, they



are often endangered due to lack of identification, lack of proper boundary demarcation, misuse, and neglect.

The Code of Virginia includes regulations that protect human burials, burial markers, and other above-ground cemetery features from destruction. State law also requires that subdivision plats and site plans show the location of cemeteries; unfortunately, cemeteries marked on plats may not take into account unmarked burials or those marked with unfamiliar markers, like field stones, cedar trees, or ornamental plants.

Several cemeteries in the County are listed on the National Register of Historic Places, including:

- Civil War-Era National Cemeteries
- Cold Harbor National Cemetery
- Hickory Hill Slave and African American Cemetery

Where possible, cemeteries should remain in their original location. As development occurs, the following techniques should be considered to protect and highlight these features:

- Consider incorporating conditions into zoning cases regarding the long-term protection and maintenance of on-site cemeteries.

- Design the proposed development so cemeteries are prominently situated and located within protected open space that is easily accessible to descendants.
- Ensure that descendants have long-term access to the cemetery.
- Preserve mature and healthy vegetation in and around the cemetery.
- Avoid grading within 25 feet of a cemetery, except to the extent necessary to provide access.
- Avoid constructing new buildings within 30 feet of a cemetery.

If it is not feasible to keep the cemetery in its original location, the graves may be moved in accordance with state and Federal regulations. Owners and developers should document the original location of the cemetery, the names of all interred within the cemetery, and the location of the new cemetery, and provide this information to the Historical Commission. Conduct a cultural resource or archaeological study as appropriate. The placement of interpretative signage commemorating those that were buried there should be placed on or near the site of the cemetery upon removal of the graves.

ENVIRONMENT + RESILIENCY

GOAL

Hanover County is a community that strategically preserves critical natural resources for the health and enjoyment of its current residents and future generations, creating a resilient community.

WHY IT MATTERS

Protecting forests, streams, wetlands, riparian buffers, prime agricultural soils, and critical wildlife habitat provides significant benefits to the community. Appropriate stewardship practices provide clean air, potable water, and a safe food supply for residents, contributing to Hanover County's high quality of life and helping create a resilient community.

QUICK FACTS

- Hanover County is located along the Fall Line, which separates the Coastal Plain from the Piedmont Plateau. The Fall Line generally follows the right-of-way of the Richmond, Fredericksburg, and Potomac Railroad, with areas east of the Fall Line within the Coastal Plain and areas to the west in the Piedmont Plateau. Soil types, geology, and landscapes vary from the Coastal Plain to the Piedmont Plateau.
- Elevations in the County range from about sea level along eastern portions of the Pamunkey River to about 370 feet above sea level on the highest ridges to the west. Most areas with steep slopes occur along streams and rivers, especially near the Fall Line.
- Hanover County is within the Humid Subtropical Climate Zone, which is characterized by hot, humid summers and cool winters. Average temperatures vary from 36.2 degrees in January to 76.5 degrees in July, with an average precipitation of 42.05 inches. February tends to be the driest month, with August being the wettest.
- All of Hanover County is within the Chesapeake Bay watershed. There are two major drainage areas. About 15% of the County drains southward to the Chickahominy River, which eventually drains into the James River. The remaining area drains to the Pamunkey River

Basin, which is a tributary of the York River. Most wetland areas are along stream corridors, particularly along portions of the Chickahominy River, Pamunkey River, Newfound River, Totopotomy Creek, Beaverdam Creek, and Mechumps Creek.

- The Chickahominy River from U.S. Route 360 to the terminus of the Henrico County/Hanover County border is designated a State Scenic River (Code of Virginia § 10.1-410.1).
- Areas east of Interstate 95 are within the Eastern Virginia Groundwater Management Area.
- There are 31 unique natural heritage sites (per the Virginia Department of Conservation and Recreation). These sites include rare, threatened, or endangered plant and animal species and/or unique natural communities.
- Approximately 63% of the County (over 180,000 acres) is forested (per U.S. Forest Service: Forest Inventory and Analysis Application "EVALIDator").

MEASURING OUR PROGRESS

- Percentage of County Forested
- Number of High Ozone Days





CHAPTER CONTENT

This chapter of the plan is divided into different sections that address environmental resources and resiliency:

Inventory of Environmental Resources

- Land Resources
- Water Resources
- Air Resources
- Natural Heritage Resources

Environmental Policies:

Current Policies, Plans, and Regulations

- Hanover-Caroline Soil and Water Conservation District (H-CSWCD)
- Long-Range Water Resources Plan
- Federal Clean Water Act: National Pollutant Discharge Elimination System (NPDES)
- Total Maximum Daily Loads (TMDLs)

- Chesapeake Bay Preservation Act (CBPA) Program
- Stormwater Management + Erosion/Sediment Control
- Floodplain Management
- Dam Inundation Zones
- Comprehensive Coastal Resource Management

Resiliency

- Hazard Mitigation
- Renewable Energy
- Efficient Resource Management
- Historic and Culturally-Sensitive Communities

Objectives and Strategies

INVENTORY OF ENVIRONMENTAL RESOURCES

Due to its location along the Fall Line, Hanover County has unique topography, landscapes, and ecosystems that contribute to its scenic beauty and overall rural character. These resources (land, water, air, and natural heritage resources) are described on the following pages.

LAND RESOURCES

PHYSIOGRAPHY

Hanover County lies astride the Fall Line, which generally runs along the right-of-way of the Richmond, Fredericksburg and Potomac Railroad. The Coastal Plain is to the east of the Fall Line and the Piedmont Plateau is to the west. Therefore, Hanover County and the Town of Ashland are within both the Coastal Plain and Piedmont Plateau physiographic provinces.

Within Hanover County, elevation ranges from about sea level on the eastern end of the Pamunkey River to about 370 feet above sea level on the highest ridges (Hanover County Soil Survey, 1980). Most of the steep slopes are found along rivers and streams. Around the Fall Line, the banks of several rivers (particularly the South Anna River) have fairly steep bluffs characterized by exposed rock. Further to the east, there are some steep slopes along tributaries to the Pamunkey River.

CLIMATE

Hanover County is within the Humid Subtropical Climate Zone, which is characterized by hot, humid summers and cool winters. Significant amounts of precipitation occur in all seasons within this zone. Precipitation in the winter months is associated with large storms that the westerlies steer from west to east. Most precipitation in the summer months occurs during thunderstorms or the occasional hurricane or tropical storm.

The average temperature for Hanover County varies from 36.2 degrees Fahrenheit in January to 76.5 degrees Fahrenheit in July. The average annual precipitation for Hanover County is 42.05 inches. On average, February is the driest month with an average precipitation of 2.87 inches and August is the wettest month with an average precipitation of 4.34 inches. In terms of snowfall, January and February are nearly even with averages of 4.8 and 4.7 inches of snowfall, respectively. Annually, Hanover County receives approximately 14.6 inches of snowfall (Southeast Regional Climate Center, 2010).

A changing climate may result in more extreme

weather events. According to the Georgetown Climate Center, Virginia has experienced a 33% increase in heavy rainstorms and snowstorms over the past 60 years, with an 11% increase in precipitation from the largest storms. There are more instances of extreme heat, with 2000 – 2010 being the hottest decade on record. Some of the strategies listed in this chapter can be implemented to help mitigate potential climate changes and improve resiliency.

SOILS

Hanover County is characterized by gently rolling hills that are heavily wooded (in undeveloped areas) and bisected by streams and small rivers. There are two distinct geologic and hydrogeologic settings in Hanover County: the eastern portion of the County is located within the Coastal Plain Physiographic Province and the western portion of the County is in the Piedmont Physiographic Province. The Coastal Plan Physiographic Province is comprised of unconsolidated marine and non-marine sediments overlying a crystalline rock complex. A major fault zone, the Fall Line, separates the Coastal Plan Physiographic Province from the Piedmont Physiographic Province. The Piedmont Physiographic Province is comprised of massive igneous and metamorphic rocks.

The western third and eastern third of the County have significant areas of highly-erodible soils (soils that have an Erodibility Index of 8.0 or higher). Most areas with steep slopes occur along streams and rivers, especially where these watercourses traverse the Fall Line. At the Fall Line, the banks of several rivers, particularly the South Anna River, have relatively steep bluffs formed of exposed rock. In the eastern part of the County, steep slopes are concentrated along tributaries that feed the Pamunkey River (Totopotomoy Creek, Mechumps Creek, Crump Creek, and Parsleys Creek).

MINERAL EXTRACTION

There are active sand, clay, and granite mines in the County. Martin Marietta's Verdon Quarry (granite)

and U.S. Silica's Rockville Quarry (aplite) are two of the larger operations.

While mineral extraction can provide economic benefits, it is important to regulate impacts related to noise, vibration, and dust on neighboring land uses.

SEPTIC SUITABILITY

Much of the County will not be served by public sewer, so many homes and businesses (especially in rural areas) use septic systems for on-site wastewater treatment. The Virginia Department of Health (VDH) issues permits for these systems. Since 2015, the median number of septic permit

applications submitted per year is 365. On average, 75% of applications (282 per year) are intended to serve new construction, and 12% of applications (44 per year) are for alternative systems. VDH estimates there are approximately 21,000 septic systems in the County, with 959 of those being alternative systems.

Physical features of the site, along with soil characteristics, affect the ability of septic systems to treat and disperse wastewater. Some soils present in Hanover County are more suitable for septic systems than others. The soils most suitable for septic systems are generally located along the ridges and high points of the County, with soils with less suitability located near rivers and streams.

WATER RESOURCES

WATERSHEDS

All of Hanover County is within the Chesapeake Bay watershed. Most of the County drains to the Pamunkey River Basin, which is a tributary of the York River. About 15% of the County drains southward to the Chickahominy River, which eventually drains into the James River. Although small by comparison to the Pamunkey River Basin, this southern drainage areas contains a majority of the Suburban Service Area (SSA).

SCENIC RIVERS

The Chickahominy River from U.S. Route 360 to the terminus of the Henrico County/Hanover County border is designated a State Scenic River (Code of Virginia §10.1-410.1). Other rivers and streams may be eligible for designation as a State Scenic River, including segments of the North Anna, South Anna, and Pamunkey rivers. Waterways may be eligible for this designation if there are scenic landscapes along the river corridor with minimal development; historic features; unique flora and fauna; high water quality; strong fisheries; public access to the river; and overall aesthetic appeal. After designation of a scenic river, no dam or other structure that impedes natural flow may be constructed unless authorized by the General Assembly.

WETLANDS

Wetlands are transitional areas between dry uplands and bodies of water. Local wetland complexes, whether tidal or non-tidal, consist of vegetated marshes, swamps, bogs, bottomlands, shallow open waters, non-vegetated beaches, sandflats, and mudflats. Wetlands provide a multitude of benefits, including:

- Filtering pollutants and sediment;

- Serving as a barrier and to absorb floodwaters;
- Buffering and stabilizing shorelines and stream banks from erosion;
- Recharging groundwater resources; and
- Serving as breeding and nesting grounds for plants and wildlife.

Most of the County's wetlands exist along stream corridors. The majority of the wetlands are found along the middle and lower Pamunkey, Newfound River, Totopotomy Creak, Beaverdam Creek, and Mechumps Creek, with wide expanses of wetlands along lower portions of the Chickahominy River. Additional wetlands are found in concentrated areas in the center of the County.

In general, wetlands cannot be disturbed without receiving necessary permits. These permits are regulated by the Virginia Department of Environmental Quality (DEQ) and the Army Corps of Engineers.

FLOODPLAINS

Floodplains are located along many of Hanover County's major rivers and streams. These important areas help reduce the impacts of flooding by slowing and temporarily storing floodwaters during large storm events. They also serve as important wildlife habitats and migratory corridors. Local regulations aimed at managing development in floodplains are described later in this chapter.

GROUNDWATER

The quality and availability of groundwater resources varies between the western part of the County (within the Piedmont) and the eastern part of the County (Coastal Plain):

RELATIONSHIP BETWEEN LAND USE, GROWTH MANAGEMENT, AND WATER QUALITY

Increased development and changes in land use can impact water quality:

- During construction, trees and other vegetation that had intercepted rainfall are removed and natural depressions that temporarily held water are filled in, increasing runoff (which can carry pollutants).
- New development increases impervious cover, which reduces rainwater infiltration and increases runoff.

Hanover County uses a variety of tools to help minimize the negative impacts new development may have on water quality:

- Most development is directed to the Suburban Service Area (SSA), which makes up 22% of the County's area and is where public utilities are provided. The remaining 78% of the County is intended to remain rural with very low-density development.

- Riparian buffers are required along rivers, streams, and contiguous wetlands identified as Resource Protection Areas (RPAs). Natural vegetation must remain in these areas, helping filter runoff before it reaches local waterways.
- New development must implement measures to minimize the amount of sediment that leaves construction sites, protecting downstream properties and waterways.
- As part of new development, stormwater management facilities must be designed and installed to manage/reduce runoff and remove pollutants.

Floodplains, wetlands, and steep slopes limit development in certain areas. During the development process, site-specific inventories identify these features on a particular parcel. Additionally, the availability of public utilities limits where higher-intensity development may occur. Outside of the SSA, private wells and septic systems must be used, limiting the intensity of development.

- Groundwater sources vary widely in the Piedmont for water quality and quantity. High iron levels and acidity are the two most common problems. Due to these variances, well monitoring and well site evaluation are two important actions to ensure the water source is available and not contaminated.
- There are both shallow and deep water aquifers in the Coastal Plain. The shallow aquifers have more interaction with surface water and contaminants. The deep aquifers are recharged miles away and present a much more complex problem when contaminated (College of William and Mary, Department of Geology, Coastal Plain Province: The Geology of Virginia, 2010). Areas east of Interstate 95 are within the Eastern Virginia Groundwater Management Area, which establishes additional permitting requirements for certain types of groundwater withdrawals.

Small diameter wells have been drilled to a depth of as much as 200 feet into the Piedmont and as much as 350 feet into the Coastal Plain. Some of these wells yield as much as 50 gallons per minute. Several wells in the eastern part of the County yield more than 100 gallons per minute (Hanover County Soil Survey, 1980).

Large diameter wells, generally larger than six inches, have been dug or drilled into the soil and weathered rock of the Piedmont, and into the fluvio-marine sediments of the Coastal Plain. These wells are commonly less than 60 feet deep. They yield small quantities of groundwater that is moderately soft, sometimes slightly turbid, and are susceptible to contamination. Maps showing the depth to the water table in Hanover County, the available water supply in Hanover County, and the groundwater withdrawals by county in Virginia can be found in the Long-Range Water Resources Plan (LRWRP).

AIR RESOURCES

The Clean Air Act is a federal law that provides for the protection of human health and the environment. The original Clean Air Act was passed in 1963, and the 1970 version of the law resulted in the creation of the U.S. Environmental Protection Agency (EPA), which was charged with setting and enforcing ambient air quality standards. The law

was amended in 1977, and most recently in 1990. Most of the activities of the Virginia Department of Environmental Quality's Air Division come from mandates of the Clean Air Act and are overseen by the EPA.

The Virginia Department of Environmental Quality

(DEQ) monitors air pollution at many locations throughout the state and the Richmond region. At high levels, ground-level ozone and particle pollution may raise health concerns in some people. According to the American Lung Association's latest State of the Air report (2023), Hanover County

had no high ozone days in 2019 through 2021, with the organization providing Hanover County with a grade of A for its air quality. Hanover County's air quality has improved significantly since the 1990s; since 1996, there are (on average) 45.7 fewer days with high ozone annually.

NATURAL HERITAGE RESOURCES

Natural heritage resources, as defined by the Virginia Department of Conservation and Recreation – Division of Natural Heritage (DCR –DNH), include the habitat of documented occurrences of rare, threatened, or endangered plant and animal species; unique or exemplary natural communities; and significant geologic formations, such as caves and karst features. Hanover County is currently home to 31 unique natural heritage resources. In addition, DCR has identified 23 terrestrial and aquatic conservation sites as areas within the County necessary for their survival. These conservation sites are recommended for protection because of the natural heritage resources and habitat they support.

Some of the plant and animal species that are listed as natural heritage resources include:

- Yellow Lampmussel (*Lampsilis cariosa*)
- Eastern Lampmussel (*Lampsilis radiata*)
- Dwarf Wedgemussel (*Alasmidonta heterodon*)
- Yellow Lance (*Elliptio lanceolata*)
- Virginia Piedmont Water Boatman (*Sigara depressa*)
- Green Floater (*Lasmigona subviridis*)
- Barrens Dagger Moth (*Acronicta albarufa*)
- Tiger Salamander (*Ambystoma tigrinum*)
- Lesser Siren (*Siren intermedia*)
- Little-Leaf Sensitive-Brier (*Mimosa microphylla*)
- Lesser Marsh St. John's-Wort (*Triadenum tubulosum*)
- Squarehead (*Tetragonotheca helianthoides*)
- Small Whorled Pogonia (*Isotria medeoloides*)

- Purple Pitcher Plant (*Sarracenia purpurea*)
- Short-Leaf Sneezeweed (*Helenium brevifolium*)

Many of the conservation sites where these species are located can be found along the County's major waterways and include the following areas:

- North Anna Bluffs
- Vontay Bottomlands
- Vontay Forest
- Millwood Landing
- South Anna Bluffs
- Normans Bridge Floodplain
- Upper Pamunkey Wetlands: Macon Creek Marshes
- Totopotomoy
- Bloody Run
- Grapevine Bridge
- Elder Swamp
- Chickahominy Flats

A number of species have been classified by either the Virginia Department of Wildlife Resources (VDWR) through the Biota of Virginia (BOVA) survey or VDCR-DNH as a rare, threatened, or endangered species meriting special concern to ensure their long-term health. A Wildlife Action Plan has been prepared by VDWR for a number of these species.

ENVIRONMENTAL POLICIES: CURRENT POLICIES, PLANS, AND REGULATIONS

Hanover County, in partnership with other local and state agencies, has implemented different policies and programs aimed at protecting critical natural resources. These initiatives are described on the following pages.

HANOVER-CAROLINE SOIL AND WATER CONSERVATION DISTRICT (H-CWCD)

The Hanover-Caroline Soil and Water Conservation District (H-CWCD), which is a political subdivision of state government, is responsible for developing programs to conserve soil, water, and related natural resources within its boundaries. A Board of Directors, composed of four elected directors and two appointed directors, governs the business and activities of the District. H-CWCD administers the following programs:

- **Chesapeake Bay Preservation Act, TMDL and Tributary Strategies Implementation**
The District administers the agricultural regulations of the state-mandated Chesapeake Bay Preservation Act (CBPA). This is accomplished by helping agricultural landowners and operators install and maintain riparian buffers, manage fertilizer and chemical use through the implementation of Soil and Water Quality Conservation Plans, and reduce sediment to waterways through the implementation of Best Management Practices (BMPs).
- **Virginia Agriculture BMP Cost-Share and Tax-Credit Program**
The District receives funds from the Virginia Department of Conservation and Recreation to administer the Virginia Agriculture BMP Cost-Share and Tax-Credit Program (VACS) Program in Hanover and Caroline counties. The program provides incentives to agricultural landowners and producers to apply BMPs to their land. Through this program, farmers have been able to install waste management systems for dairy and poultry manure, grazing systems for cattle, permanent vegetation on cropland, stabilization of critical erosion areas, nutrient management on cropland, and riparian and field buffers.
- **Agricultural Technical Assistance**
The District works closely with Hanover County Public Works to address Erosion and Sediment (E & S) Control on properties undertaking land conversions from forestry to agricultural uses. The District also provides conservation

planning assistance on new farms/farmettes in Hanover and Caroline counties.

- **Agricultural Stewardship Act Implementation**
The H-CWCD works closely with the Virginia Department of Agriculture and Consumer Services (VDACS), who administers the Act, on local water quality problems, including the investigation and resolution of both formal and informal water quality complaints.

LONG-RANGE WATER RESOURCES PLAN

In July 2011, the County (in conjunction with the Town of Ashland) adopted a Long-Range Water Resources Plan (LRWRP) to identify existing and future water resources. A regional planning effort is underway to update this plan.

FEDERAL CLEAN WATER ACT: NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) REQUIREMENTS

Hanover County and the Town of Ashland are subject to the requirements of the federally mandated NPDES program related to discharges from publicly-owned and operated municipal separate storm sewer systems (MS-4). State oversight responsibility for the program rests with the Virginia Department of Environmental Quality (DEQ). To comply with this mandate, the County has maintained its coverage under the State’s MS-4 general discharge permit regulations in five-year periods since 2003. The current permit expires in October 2023, with the County working with DEQ to renew the permit for another five-year period.



The County maintains a Program Plan, which is updated in accordance with requirements of the State’s MS-4 general plan (Latest Program Plan Revision: October 2022). This MS4 Program Plan contains the EPA’s required six minimum control measures, along with specific measurable goals and interim milestone completion dates for each. It also identifies who is responsible for their

implementation. In addition to the minimum control measures, the County is required to address a number of other pollution reduction requirements, including new provisions for addressing Total Maximum Daily Loads (TMDLs).

TOTAL MAXIMUM DAILY LOADS (TMDLS)

When water quality monitoring data shows that rivers, streams, and other waterways do not meet water quality standards, clean-up plans called Total Maximum Daily Loads (TMDLs) or TMDL alternatives are developed by DEQ to determine the total amount of a pollutant that a waterbody can receive and still meet water quality standards. These waters are called “impaired” and are listed in the Virginia Water Quality Assessment Integrated Report.

The overall goal of a clean-up plan is to restore and maintain water quality standards. Following development of a clean-up plan, pollutant reductions from point sources are implemented through the Water Permit programs. Pollutant reductions from nonpoint sources are implemented through TMDL Implementation Plans and nonpoint source grant programs that fund voluntary practices.

There are current TMDL Implementation Plans for the Chesapeake Bay (October 2019), Chickahominy River (April 2020), and the Pamunkey River (April 2021), all of which include policies and programs implemented by Hanover County. Example implementation strategies include:

- Septic System Pump-Out Program
- Pet Waste Educational Program
- Stormwater Management Projects (including stream restoration projects)
- Commercial Site Stormwater Inspections

H-CWCD administers the agricultural regulations of the state-mandated Chesapeake Bay Preservation Act (CBPA). This is accomplished by helping agricultural landowners and operators install and maintain riparian buffers, manage fertilizer and chemical use through the implementation of Soil and Water Quality Conservation Plans, and reduce sediment to waterways through the implementation of Best Management Practices (BMPs).

CHESAPEAKE BAY PRESERVATION ACT (CBPA) PROGRAM

The Virginia General Assembly enacted the Chesapeake Bay Preservation Act in 1988, requiring local governments to include water quality protection measures in their development-related ordinances and within their comprehensive plans. Local programs were adopted by the Town

of Ashland in 1990 and Hanover County in 1992. This program was a precursor to the requirements of MS-4 and includes other environmental requirements; however, there are some overlapping elements. This Program has been revised a number of times in response to state law changes.

Chesapeake Bay Preservation Areas consist of the following:

- **Resource Protection Areas** are buffers adjacent to waterways which are intended to help protect water quality. Resource Protection Areas (RPA) include tidal wetlands, tidal shores, nontidal wetlands (connected by surface flow and contiguous to tidal wetlands or to perennial streams), and a 100-foot buffer adjacent to and landward of other RPA components. All existing vegetation within the RPA is to remain in its natural undisturbed state, except vegetation weakened by age, storm, fire, or other natural causes. Development within RPAs is limited to water-dependent uses and redevelopment. Although localities have an option to designate Intensely Developed Areas (IDAs) in locations where development has severely altered the natural state of the RPA, Hanover County has not identified any areas where IDAs are appropriate.

Site-specific locations of RPAs are verified during the development review process.

- **Resource Management Areas (RMA)** include areas with highly-erodible soils, highly permeable soils, flood plains, and nontidal wetlands not included in RPAs. If these components are not adjacent to RPAs, the Resource Management Areas (RMA) consists of an area 150 feet contiguous to and landward of the RPA. Development within an RMA is allowed provided that certain development standards, as set forth in the Hanover County Code, are followed to ensure water quality is protected.

The Chesapeake Bay Act regulations require that new development and redevelopment minimize non-point source pollution from stormwater runoff, erosion and sedimentation, as well as maximize rainwater infiltration. This is addressed in eleven (11) management measures and is accomplished by use of a variety of Best Management Practices (BMPs), such as:

- Minimizing land disturbance
- Preserving indigenous vegetation
- Minimization of impervious cover
- Erosion and sedimentation control measures
- Control of stormwater run-off and quality

STORMWATER MANAGEMENT AND REDEVELOPMENT

Chesapeake Bay regulations indicate that intensely-developed areas include existing development and infill sites where little of the natural environment remains. These conditions do not exist in the County, as the more intensely-developed areas generally border natural areas. Therefore, no intensely-developed areas have been designated. Programs are implemented Countywide to improve water quality as new development and redevelopment occur:

- State regulations require redevelopment to reduce nutrient pollution, and (in some cases) to reduce the runoff from the site. Newly-developed sites must also address nutrient pollution and runoff.
- The County has established a velocity standard to require developers to show that their project does not have a detrimental effect on natural stream corridors.
- Under the County's MS4 program, projects and programs aimed at improving water quality have been completed in already-developed areas, including improvements to Cherrydale Lake.
- The County ensures that stormwater facilities are properly maintained to ensure their long-term functionality.

The CBPA also requires localities to address nonpoint source pollution related to agricultural and forestry in their ordinances. Hanover County partners with the Hanover Caroline Soil and Water Conservation District, U.S.D.A. Natural Resource Conservation Service, Virginia Cooperative Extension, and the Virginia Department of Forestry to implement these requirements.

There are some CBPA implementation measures that affect existing development. For example, there is a requirement to pump out septic tanks once every five (5) years when located within Chesapeake Bay Preservation Areas. Alternatively, residents can have a sewage handler inspect the tank and certify it does not need to be pumped, or a filter approved by the Virginia Department of Health may be installed. The Hanover County Department of Public Works is required under the Act to monitor and enforce these requirements.

STORMWATER MANAGEMENT + EROSION/SEDIMENT CONTROL

The Department of Public Works enforces regulations set forth in Chapter 10 of the County Code related to stormwater management and erosion/sediment control. These regulations are intended to mitigate the impacts of development on water quality. The *Hanover County Drainage Design Handbook* prescribes certain design standards and specifications regarding measures that should be taken to manage stormwater runoff and erosion.

- **Erosion and Sediment Control:** Most land disturbing activities, such as clearing and construction, require an erosion and sediment control plan, which must be approved by the Department of Public Works. These

regulations are intended to minimize the amount of sediment that leaves construction sites, protecting downstream properties and waterways.

- **Stormwater Management:** Stormwater occurs after precipitation and consists of runoff from streets, lawns, parking lots, construction sites, and other impervious surfaces. New development must be designed with features that control the amount of stormwater flowing from a site. These regulations are intended to protect water quality and prevent downstream flooding. Managing stormwater runoff also helps prevent shoreline and streambank erosion problems.

The Department of Public Works will continue working collaboratively with the Planning Department and other local and state entities to enforce these regulations.

FLOODPLAIN MANAGEMENT

Floodplain areas are protected from development and other activities that would compromise their usefulness as a flood conveyance system. The primary way this is accomplished is through the County's floodplain management regulations, which are included in Chapter 12 of the County Code and require additional review and permitting for development that occurs within floodplains. Floodplains are identified in Flood Insurance Rate Maps (FIRMs) developed by FEMA. These maps illustrate local flood risk to help keep people and property safe from flooding.

Hanover County has participated in the National Flood Insurance Program (NFIP) since the 1980s. This program enables property owners to purchase

flood insurance, provided that the County adopts and implements local floodplain management regulations.

Hanover County has four existing public boat ramps and water access points located within floodplain areas along the North Anna, South Anna, and Pamunkey rivers. Due to their limited size and number, public access points have a limited impact on water quality or flooding, and many of these sites are located adjacent to major roadways and bridges.

DAM INUNDATION ZONES

The Virginia Department of Conservation and Recreation (DCR) regulates most dams statewide to help ensure that these facilities are safely designed, built, and maintained. For certain types of dams, owners must conduct a dam break analysis. That analysis identifies areas downstream from a dam that would be inundated (flooded) if the dam fails.

Significant dam break inundation zones identified by DCR include the following areas:

- Portions of the South Anna River and Mill Creek in the southwestern part of the County downstream from Springfield Lake and South Anna River Site #52B Dam;
- Portions of Dog Branch downstream from Lakeview Lake;
- Portions of Opposum Creek downstream from Rutland;
- Portions of Totopotomoy Creek downstream from Charter Lake (west of U.S. Route 301);
- Portions of Beaverdam Creek downstream from Cherrydale Dam;
- Portions of Totopotomoy Creek and its tributaries downstream from the Hartford Lake Dam and Mattawan Dam;
- Portions of Kersey Creek downstream of Forest Lake Hills;
- Portions of Kersey Creek downstream of Carter's and Walden's Ponds;
- Portions of an unnamed tributary downstream of Rose Hill;
- Portions of a unnamed tributary downstream of Dabney Lake;
- Portions of an unnamed tributary downstream of Honey Meadows; and
- Portions of an unnamed tributary downstream of Pebble Creek.

The zoning ordinance generally requires that dam break inundation zones be mapped as part of zoning requests and master plan documents.

COMPREHENSIVE COASTAL RESOURCE MANAGEMENT

Coastal ecosystems reside at the interface between the land and water, and are naturally very complex. They perform a vast array of functions by way of shoreline stabilization, improved water quality, and habitat for fishes. While Hanover County is not located directly on the Chesapeake Bay or Atlantic Ocean, its tidal rivers (found east of the Fall Line) are considered coastal resources.

The science behind coastal ecosystem resource management has revealed that traditional resource management practices limit the ability of the coastal ecosystem to perform many of these essential functions. The loss of these services has already been noted throughout coastal communities in Virginia as a result of development in coastal zone areas coupled with common erosion control practices. Beaches and dunes are diminishing due to a reduction in a natural sediment supply. Wetlands are drowning in place as sea level rises and barriers to inland migration have been created by construction of bulkheads and revetments. There is great concern on the part of the Commonwealth that the continued armoring of shorelines and construction within the coastal area will threaten the long-term sustainability of coastal ecosystems under current and projected sea level rise.

In the 1980s, interest arose in the use of planted wetlands to provide natural shoreline erosion control. Today, living shoreline design options are available to address the various energy settings and erosion problems found. Depending on the site characteristics, they range from marsh plantings to the use of rock sills in combination with beach nourishment.

Research continues to support that these approaches combat shoreline erosion, minimize impacts to the natural coastal ecosystem, and reinforce the principle that an integrated approach for managing tidal shorelines enhances the probability that the resources will be sustained. Therefore, adoption of new guidance and shoreline best management practices for coastal communities is now necessary to insure that functions performed by coastal ecosystems will be preserved and the benefits derived by humans from coastal ecosystems will be maintained into the future.

In 2011, the Virginia Assembly passed legislation to codify a new directive for shoreline management in Tidewater Virginia. In accordance with §15.2-2223.2 of the Code of Virginia, all local governments must consider guidance prepared by the Virginia



MAPPING RESOURCES

Interested in learning more about the location of different environmental features? Countywide maps of critical environmental resources are included in the Map Book, with more detailed GIS data available on Hanover County's GIS Data Hub (<https://data-hanovercounty.hub.arcgis.com/>).



Institute of Marine Science (VIMS) regarding coastal resource management and, more specifically, guidance for the appropriate selection of living shoreline management practices. The legislation establishes the policy that living shorelines are the preferred alternative for stabilizing eroding shorelines.

Guidance has been developed by VIMS: Center for Coastal Resources Management for localities within the Tidewater region of Virginia (which includes Hanover County). A variety of different tools are available to advise local governments and landowners:

- The *Shoreline Decision Support Tool* is an interactive guidance system that provides users with a recommended shoreline erosion control strategy within coastal areas.
- The *Shoreline Management Model*, which is run in ArcGIS, also provides a recommended approach for shoreline erosion control based upon current conditions. It is best used for desktop reviews, regulatory compliance, and comprehensive planning.

In 2017, VIMS completed a Shoreline Inventory Report. That inventory includes a survey of 102 miles of shoreline along the North Anna, South Anna, and Pamunkey rivers. The majority of the shoreline along these rivers (64 miles) is forested, with 22 miles of the shoreline used for agriculture. In most instances, when there is land cover other than forests along these rivers, there almost always tends to be at least a line of trees along the shoreline. There are relatively few docks along the shoreline, with 18 docks and 3 boathouses surveyed along the 102 miles of riverfront.

The siting of docks, piers, and similar water-oriented facilities requires a plan for site development:

- Measures must be implemented to minimize the amount of sediment leaving the site during construction, protecting downstream properties and waterways.
- Studies must be completed to demonstrate that changes to floodplains have no impact to floodways.
- The Department of Environmental Quality, the U.S. Army Corps of Engineers, and the Virginia Marine Resource Commission require approval of these facilities prior to any local permitting.
- The siting of these facilities must be consistent with the Virginia Marine Resource Commission: Subaqueous Guidelines. These guidelines help protect state-owned bottomlands, tidal wetlands, submerged aquatic vegetation, fisheries, surrounding properties, and overall water quality.

RESILIENCY

Reducing the County's vulnerability to natural and manmade disasters where possible will improve residents' safety and quality of life. Creating a resilient community requires collaboration and coordination among different stakeholders and community members.

HAZARD MITIGATION

Mitigation is commonly defined as sustained actions taken to reduce or eliminate longterm risk to people and property from hazards and their effects. Mitigation planning involves identifying specific actions a community intends to follow to reduce vulnerability and exposure to future hazards.

RENEWABLE ENERGY

The rapid deployment of Solar Photovoltaic Electric Power Generation facilities (Solar), Battery Energy Storage Systems (BESS) and other alternative energy-producing technologies in Virginia is a direct result of federal and state government responses to climate change and the goal of reducing harmful greenhouse gases. The General Assembly passed the Clean Economy Act in 2020, which was signed into law by Governor Northam on April 11, 2020. This legislation requires 100 percent of Virginia's electricity to come from carbon-free sources by 2050, which include solar, wind, hydro, waste to energy/landfill gas, and biomass fired facilities. That transition is well underway.



Hanover County participates in regional hazard mitigation planning and has adopted the 2022 Richmond-Crater Multi-Region Hazard Mitigation Plan as a participating local government. That plan identifies and analyzes key environmental and other hazards, then lists actions regional and local entities can take to minimize those hazards to protect public safety.

The 2020 Virginia Clean Economy Act ("VCEA") (Va. Code § 56-585.5) requires Dominion Energy and Appalachian Power Company to construct or acquire significant solar and storage resources by 2035. Importantly, the statute requires that the majority of these new resources be located in the Commonwealth.

One of the greatest challenges with solar energy production is that it is very land-intensive, requiring approximately 5-10 acres to produce one megawatt of electricity. A 25-megawatt solar generating installation requires between 125 and 250 acres. By contrast, Dominion’s Greensville Power Station, which uses natural gas to generate electricity, has a rated capacity of 1,588 megawatts and a footprint of approximately 55 acres. Due to the impacts to land use, local policies must balance the future need for solar facilities with the County’s desire to maintain its largely rural and agricultural character.

On August 23, 2023, the County adopted its first Solar and Energy Storage Policy, which provides recommendations regarding the classification, siting, and design of renewable energy facilities (along with applicable fiscal policies). While that document is the primary reference document regarding local policies applicable to these facilities, the Comprehensive Plan provides complementary guidance as it relates to the review of small-scale and utility-scale solar facilities that generate and distribute electricity to off-site users, as those types of facilities have greatest impact on future growth and development. Those facility types are classified as follows:

- Utility-Scale Solar: Greater than 5 megawatts (MW)
- Small-Scale Solar: 2-5 MW or less

Certain recommendations are applicable to all facility types, while others are more general. See the following page for detailed guidance on each type.

EFFICIENT RESOURCE MANAGEMENT

Promoting efficient resource management will help ensure that the County has ample resources to support a growing population and economic base. Energy and water are limited resources, and the supply can be strained during extreme weather conditions, such as



drought or extreme heat. To create a resilient and fiscally-responsible community, efforts could be made to implement energy- and water-efficiency measures to decrease the use of electricity and water. Decreasing water use could extend the time needed before public improvements to water and wastewater systems are necessary, decreasing costs. It also results in lower operating costs for building users. There are voluntary efforts and programs that the private and public sectors are already taking advantage of to improve energy efficiency. For examples, builders and developers can participate in green certification programs, such as EarthCraft, LEED (Leadership in Energy and Environmental Design), and National Green Building Standards (NGBS).

The County offers opportunities for household recycling, which helps reduce the amount of waste sent to landfills:

- Drop-off recycling containers are located at all county convenience centers and the transfer station.
- Certain subdivisions (primarily in the Atlee area) have been approved and established as a service district for curbside recycling.

HISTORIC AND CULTURALLY-SENSITIVE COMMUNITIES

Due to historic racial disparities and segregation, some communities were disproportionately impacted (in a negative way) by public policies and decisionmaking. Decisions related to land use, transportation, public investment, and other issues may have caused some communities to experience decreased air quality, decreased water quality, increased noise, and other harm to a greater extent than other communities, limiting residents’ opportunities and degrading their quality of life.

These areas are some of the local communities that have been significantly impacted by public policy decisions:

- Brown Grove: This community was divided by construction of Interstate 95 and has been impacted by industrial encroachment.
- Cobbs Road (Stoney Run to U.S. Route 1): This community has been impacted by industrial encroachment.
- Pleasant Grove Road: This community has been impacted by construction of I-295, commercial encroachment, and construction of a regional medical facility.

SOLAR ENERGY FACILITY: UTILITY SCALE STANDARDS	
Megawatts	Greater than 5 megawatts
Comprehensive Plan Designation	Use may be considered throughout the County except for areas intended primarily for commercial and industrial uses in the Suburban Service Area; areas designated Parks and Natural Conservation on the General Land Use Plan; and areas that are approved Agricultural and Forestry Districts.
Zoning	May only be permitted in the A-1, Agricultural District, and requires a conditional use permit
Maximum Size	No facility shall be larger than 1,000 acres (within the fenced area)
Distance Separation	To avoid clustering of principal solar facilities, special consideration should be given to providing adequate spacing between solar energy facilities
Farmland Preservation	Site shall be evaluated to determine the impacts to Prime Agricultural Lands and/ or Lands of Statewide Significance. Solar energy facilities should limit the amount of facilities in these locations
Locations	Alternative and innovative locations are encouraged. Locating on less desirable lands such as closed landfills or other constrained sites are encouraged.

SOLAR ENERGY FACILITY: SMALL SCALE STANDARDS	
Megawatts	Five megawatts or less
Comprehensive Plan Designation	Use may be considered throughout the County except for areas intended primarily for commercial and industrial uses in the Suburban Service Area; areas designated Parks and Natural Conservation on the General Land Use Plan; and areas that are approved Agricultural and Forestry Districts.
Zoning	May only be permitted in the A-1, Agricultural District, and requires a conditional use permit
Distance Separation	To avoid clustering of principal solar facilities, special consideration should be given to providing adequate spacing between solar energy facilities
Locations	Alternative and innovative locations are encouraged. Locating on less desirable lands such as closed landfills or other constrained sites are encouraged.



SITE DESIGN STANDARDS: UTILITY, COMMUNITY, AND SMALL-SCALE SOLAR ENERGY FACILITIES	
Setbacks	To minimize impacts to existing residential properties and environmental features, solar facilities should have greater setbacks recommended as follows: <ul style="list-style-type: none"> • 150' from any property line or road • 100' from RPA wetlands, rivers, streams, or other environmentally-sensitive features • 50' from any wetland not associated with an RPA • 25' from any required buffer
Buffers and Landscaping	To minimize visual impacts to the surrounding community, buffers at least 50 feet in width should be provided along the perimeter of the site. Within the buffer areas, it is recommended that the site design: <ul style="list-style-type: none"> • Minimize clearing or grading • Maintain existing healthy vegetation • Include existing vegetation and supplementary plantings to that includes a mix of large trees, understory trees, and shrubs planted in a naturalistic pattern, with a mix of evergreen and deciduous species. • Incorporate pollinators and other ecologically-friendly and beneficial ground covers that promote wildlife habitats and forage on at least 30 percent of the total site area.
Access	Access should be provided throughout the site to allow for the passage of emergency vehicles.
Underground Utilities	All new transmission and distribution lines should generally be placed underground, except for lines which are solely the subject of the State Corporation Commission jurisdiction or otherwise required by the Commission, and except where necessary to connect to the existing utility lines.
Security Fencing	Fencing should generally be located on the inner edge of the buffer (edge furthest from the property line) when possible and include wildlife-friendly design where appropriate.
Lighting	Lighting should be designed to minimize impacts to the surrounding property and the character of the area, with the use of full cutoff lighting recommended and off-site light trespass minimized.
Phasing	Solar applications should include a phasing plan if the project is to be phased.
Decommissioning	A Decommissioning Plan and Performance Agreement should be prepared in accordance with County policies.

Encouraging collaboration and public involvement from all communities, including those that have historically been underrepresented in public decisionmaking, could help create a more resilient and innovative community. As policy decisions are made, there should be efforts to ensure that all people are treated fairly and given the opportunity to participate in public processes. When policy decisions have a localized impact on a historic and/or culturally-sensitive communities, additional focus should be given to potential environmental and quality-of-life impacts. With increased participation,

collaboration, and consideration of potential impacts, communities will have the tools needed to be informed and involved in the future of their area, resulting in more collaboration with decisionmakers and sound policy decisions.

OBJECTIVES AND STRATEGIES

OBJECTIVE EN.1: Protect and improve water quality.

- Strategy EN.1a: Continue to require the protection of Chesapeake Bay Resource Protection Areas (RPAs) as new development occurs.
- Strategy EN.1b: Continue to review, update, and enforce Chapter 10 (Environmental Management) of the County Code, which includes local requirements regarding erosion and sediment control, stormwater management, Chesapeake Bay preservation, and the municipal separate storm sewer system (MS-4) management program.
- Strategy EN.1c: Promote forestland conservation and sustainable forest management, especially along waterbodies.
- Strategy EN.1d: Ensure land use regulations and development proposals are designed to protect the potable water supply from existing and potential pollution sources. Measures should be taken to protect existing and proposed water sources shown in **Chapter 9: Community Facilities** and groundwater resources.
- Strategy EN.1e: Plan a community clean-up event, where community volunteers help pick up trash to beautify the community and prevent debris from washing into (and polluting) local waterways.

OBJECTIVE EN.2: Protect tidal rivers and streams in accordance with statewide shoreline management guidance.

- Strategy EN.2a: Refer to the guidance presented in the locality's Comprehensive Coastal Resource Management Portal (CCRMP) prepared by VIMS to guide regulation and policy decisions regarding shoreline erosion control.
- Strategy EN.2b: Utilize VIMS' CCRMP Shoreline Best Management Practices for management recommendation for all tidal shorelines.
- Strategy EN.2c: Consider a policy where the above Shoreline Best Management Practices become the recommended adaptation strategy for erosion control, and where a departure from these recommendations by an applicant wishing to alter the shoreline must be justified at a hearing of the board(s).

- Strategy EN.2d: Encourage staff training on decisionmaking tools developed by the Center for Coastal Resources Management at VIMS.
- Strategy EN.2e: Follow the development of the state-wide General Permit being developed by Virginia Marine Resources Commission (VMRC).
- Strategy EN.2f: Ensure that local policies are consistent with the provisions of the permit.
- Strategy EN.2g: Evaluate and consider a locality-wide permit to expedite shoreline applications that request actions consistent with the VIMS recommendation.
- Strategy EN.2h: Seek public outreach opportunities to educate citizens and stakeholders on new shoreline management strategies including Living Shorelines.
- Strategy EN.2i: Follow the development of integrated shoreline guidance under development by VMRC.
- Strategy EN.2j: Evaluate and consider a locality-wide regulatory structure that encourages a more integrated approach to shoreline management.
- Strategy EN.2k: Consider preserving available open spaces adjacent to marsh lands to allow for inland retreat of the marshes under rising sea level.
- Strategy EN.2l: Evaluate and consider cost share opportunities for construction of living shorelines.

OBJECTIVE EN.3: Work collaboratively with public and private entities to protect natural habitats in order to protect and enhance air and water quality.

- Strategy EN.3a: Encourage the protection of healthy mature trees within new development and as part of capital projects.
- Strategy EN.3b: Encourage the use of native plant species within new development and as part of capital projects.
- Strategy EN.3c: Investigate ways to reforest public property (including roadway medians) to create wildlife habitat, limit the urban heat island affect, and provide green space for residents (Example Program: Henrico County, Henrico County Public Schools, and Capital Trees Partnership).
- Strategy EN.3d: Encourage the preservation

of wildlife corridors within larger-scale development proposals that exceed 250 acres in area.

- Strategy EN.3e: Encourage the protection of natural heritage resources identified by the Virginia Department of Conservation and Recreation (DCR) as part of the development review process.
- Strategy EN.3f: Support the work of conservation organizations in acquiring conservation easements or purchasing property in areas with critical environmental resources.

OBJECTIVE EN.4: Minimize light pollution.

- Strategy EN.4a: Continue to pursue measures to reduce light pollution in the County caused by uplighting and excessive lighting, such as maintaining requirements that outdoor light at commercial, industrial, and institutional development sites use full cut-off fixtures.

OBJECTIVE EN.5: Help protect residents and businesses from potential hazards.

- Strategy EN.5a: Implement recommendations within the 2022 Richmond-Crater Multi-Region Hazard Mitigation Plan (and any subsequent hazard mitigation plans adopted by the Board of Supervisors).

OBJECTIVE EN.6: Promote efficient resource management, including energy, water, and solid waste.

- Strategy EN.6a: Encourage the implementation of environmentally-sustainable certification programs, such as LEED or Earthcraft, within development projects.
- Strategy EN.6b: Investigate the feasibility of designing public facilities to meet LEED standards.
- Strategy EN.6c: Consider incorporating design features into public facilities that reduce the amount of treated water needed for irrigation, such as the use of drought-tolerant native plantings and rainwater recycling techniques.
- Strategy EN.6d: Investigate ways the County could partner with non-profits to support weatherization assistance programs and other efficiency-related initiatives that assist residents with energy improvements to their homes.
- Strategy EN.6e: Consider a property tax exemption or partial rebate to encourage owners of existing commercial and residential buildings to make energy-efficiency

improvements.

- Strategy EN.6f: Promote different recycling-related programs and events.

OBJECTIVE EN.7: Consider continued development of appropriate alternative energy production.

- Strategy EN.7a: Regularly evaluate policies regarding renewable energy facilities (including land use and fiscal policies) to address the latest technology and ensure these facilities have a positive impact on residents' quality of life.
- Strategy EN.7b: Work collaboratively with the private sector to improve access to electric vehicle charging stations.

OBJECTIVE EN.8: Consider the impacts that County policies, programs, capital investments, and land use decisions may have on historic and culturally-sensitive communities, including (but not limited to) Brown Grove, Pleasant Grove Road, and Cobbs Road.

- Strategy EN.8a: Create trust within these communities for ongoing advocacy and accountability in County policies.
- Strategy EN.8b: Provide easily-accessible information on community and public services.
- Strategy EN.8c: Prioritize capital investment (including infrastructure improvements) in these areas.

IMPLEMENTATION

HOW IS THE COMPREHENSIVE PLAN IMPLEMENTED?

The Comprehensive Plan provides guidance regarding growth, development, and the provision of public facilities. Since Hanover County is a dynamic community that is constantly evolving and changing, planning is an ongoing process. Once the Comprehensive Plan is adopted, stakeholders must work collaboratively to help realize the community's vision described in this document. Each chapter has specific implementation strategies, which will help realize the goal for that specific chapter. While some implementation strategies require direct action by the Planning Commission and Board of Supervisors (with the support of County staff), others require collaboration and coordination with residents, businesses, developers, and other stakeholders.

The different topics and chapters are interrelated, so implementation strategies associated with various issues are found throughout the Comprehensive Plan. For example, the following issues are discussed in multiple chapters:

- **Pedestrian/Bicycle Mobility** is discussed in Chapter 3: Land Use + Growth Management, Chapter 7: Active Living, and Chapter 8: Transportation.
- **Development Design** (including landscaping, buffering, open space design, and architecture) is discussed in Chapter 3: Land Use + Growth Management, Chapter 4: Rural + Agriculture, Chapter 7: Active Living, Chapter 8: Transportation, and Chapter 11: Environment + Resiliency.
- **Housing** (including the design of residential development) is discussed in Chapter 3: Land Use and Growth Management, Chapter 4: Rural + Agriculture, Chapter 5: Economic Vitality, Chapter 6: Housing, Chapter 7: Active Living, and Chapter 11: Environment + Resiliency.
- **Agriculture and Agri-Businesses** are discussed in Chapter 3: Land Use + Growth Management, Chapter 4: Rural + Agriculture, and Chapter 5: Economic Vitality.

As the Comprehensive Plan is used to evaluate different programs, policies, and development proposals, recommendations throughout the plan should be considered.

CONTINUING PUBLIC ENGAGEMENT

The Envision Hanover planning process involved significant public engagement and feedback. Public engagement and education regarding the Comprehensive Plan and its role in decision making should not end with plan adoption. The following tools can be used to raise awareness regarding the Comprehensive Plan, its recommendations, and its role in Hanover County:

- Educational videos
- Information and updates in County newsletters
- Community events and information sessions
- Social media updates
- Regular reports regarding the status of plan implementation
- Coursework included within the Citizens Planning Academy

IMPLEMENTATION TOOLS

If the Comprehensive Plan is to be effective, it must guide each and every development decision made. The County, in its daily decisions pertaining to transportation improvements, amending the zoning ordinance, constructing new utility lines, etc., should always refer to the basic concepts outlined within the plan. Likewise, developers should recognize the broad concepts and policies outlined in the Comprehensive Plan, so that their investments become a part of a meaningful whole in planning of the County.

A variety of tools can be used to implement the plan, including the following:

- Board of Supervisors Strategic Plan
- Department Master Plans
 - Water and Wastewater Facilities Master Plan
 - Parks and Recreation Master Plan
 - Airport Master Plan
 - Economic Development Strategic Plan
- Capital Improvements Program (CIP)
- County Annual Budget
- Transportation Policies and Plans
 - Business and Residential Development Road Improvements Transportation Policy
 - Secondary Six-Year Plan (SSYP)
 - Candidate Road Project List
- Zoning Ordinance
- Subdivision Ordinance
- Land Use Decisions by the Planning Commission and Board of Supervisors

Some of these programs and policies are updated annually, while others may only be reviewed once every several years. As updates occur, recommendations within the Comprehensive Plan should be carefully considered. Interdepartmental coordination and collaboration will be necessary to ensure effective programs and policies are developed.

RELATIONSHIP TO OTHER PLANS

The Comprehensive Plan should serve as the foundation for more specific planning initiatives and other plans adopted by the County. The vision and goals of this document should be included in other department goals and planning documents. This will allow the County to maintain a clear and consistent direction for public and private development.

ANNUAL REVIEW AND MONITORING

A review of the plan should be performed annually to help stakeholders determine the County’s progress at realizing identified goals and related implementation strategies. This review could include the following information:

- Progress on Plan Implementation Strategies
- Identification of Additional Strategies to Achieve Plan Goals
- Changes in County Plans and Policies
- Changes in State Law

Each chapter includes a *Measuring Our Progress* section, which can guide this review.

GAME CHANGERS: PRIORITY INITIATIVES TO IMPLEMENT PLAN RECOMMENDATIONS

There are numerous strategies identified within the Comprehensive Plan. Due to limited resources (staffing, financial constraints, etc.), not all strategies can be implemented at once. Game Changers, or priority strategies and initiatives, have been identified to support the priority issues identified during by the community engagement process. During the Annual Review, implementation strategies will be added as other strategies are completed.

LAND USE GAME CHANGER #1: Revise staff reports to analyze how proposals address design-based standards and other elements recommended in the Comprehensive Plan.	
Overview	Staff reports provide critical analysis of zoning cases. This game changer involves revising how the staff reports analyze consistency with the Comprehensive Plan.
Key County Departments	Planning
Estimated Project Timeline	3 months
Resources Needed	Planning staff
Related Objectives and/or Strategies	Objective LU.2 Recommended Land Use Designations



LAND USE GAME CHANGER #2: Conduct Small Area Plans	
Overview	<p>The Comprehensive Plan is a high-level document that establishes an overall plan for all of Hanover County. Certain parts of the County may require additional study and planning, due to unique conditions and/or exceptional growth pressures in those areas. Small area plans help guide and direct growth in key locations throughout the County. These location-specific plans include detailed planning, visioning, economic development, and design, along with significant public engagement, so that each study area has its own character and implementation strategy. Communities that have been discussed as potential candidates for small area plans include the U.S. Route 33 corridor within the Suburban Service Area (SSA), the U.S. Route 1 corridor south of Ashland, and the State Route 30 corridor in the Doswell area. The Hanover County FY2022 – FY2026 Strategic Plan recommends that small area plans be developed (Strategy 4.9).</p>
Key County Departments	<ul style="list-style-type: none"> Planning Public Works Public Utilities Economic Development
Key Stakeholders	<ul style="list-style-type: none"> Residents Landowners Businesses Construction Industry (Developers, Homebuilders, etc.)
Estimated Project Timeline	6 – 18 months per study (depending on size and complexity of study area)
Resources Needed	<p>Significant staff resources would be needed, as each planning effort would require significant public engagement and technical expertise. An outside consultant may be needed to provide technical support and help identify best practices from peer communities.</p>
Related Objectives and/or Strategies	Strategy LU.2a

LAND USE GAME CHANGER #3: Consider a Board of Supervisors Initiated Rezoning for Cobbs Road Community	
Overview	In the Comprehensive Plan, Cobbs Road is identified as a historic and culturally-sensitive community. This area was subject to a County-initiated industrial rezoning in 1973. This area still has a residential character, and some residents are unable to obtain loans for their homes due to industrial zoning.
Key County Departments	Planning
Key Stakeholders	Residents Landowners
Estimated Project Timeline	6 – 12 months
Resources Needed	Planning staff
Related Objectives and/or Strategies	Objective LU.2 Objective EN.8

LAND USE GAME CHANGER #4: Relaunch of the Citizens Planning Academy	
Overview	Citizens play a critical role in land use planning. The Citizens Planning Academy, which had been offered annually prior to 2020, is a multi-week course that provides participants with information regarding planning processes in Hanover County. With this information, participants are better prepared to partake in deliberations regarding development proposals and land use policies.
Key County Departments	Administration Planning County Attorney
Key Stakeholders	Residents
Estimated Project Timeline	This program could be offered annually, with each session lasting several months.
Resources Needed	Each course could be taught by staff and/or planning experts.
Related Objectives and/or Strategies	Objective LU.2



**LAND USE AND ENVIRONMENTAL/RESILIENCY GAME CHANGER #5:
Review Zoning and Subdivision Ordinances**

<p>Overview</p>	<p>Two primary tools are used to regulate land use and development in Hanover County. Together these regulatory tools have a significant impact on the look, feel, and functionality of new development. The zoning and subdivision ordinances have not undergone a comprehensive review and update in decades, so they may not reflect current community expectations, building practices, and development trends. Updating and revising these documents, while a significant and complex undertaking, will help implement recommendations in this plan. Key initiatives will include creating new zoning districts appropriate for the Suburban Transitional Residential and Rural Village land use designations, as well as reviewing the landscaping ordinance to address buffer standards, charging stations, and native trees (as was emphasized during community engagement).</p>
<p>Key County Departments</p>	<p>Planning Public Works County Attorney</p>
<p>Estimated Project Timeline</p>	<p>24-36 months</p>
<p>Resources Needed</p>	<p>Significant staff resources would be needed as this effort would require significant public engagement and technical expertise.</p>
<p>Related Objectives and/or Strategies</p>	<p>Strategy LU.2b Strategy EV.3b Strategy AL.2c Strategy HN.2a Strategy HN.2d Strategy HN.2e Recommended Land Use Designations</p>

<p style="text-align: center;">LAND USE GAME CHANGER #6: Evaluate the County's Cash Proffer Policy</p>	
Overview	The County's cash proffer policy was modified in 2018 to only address transportation items. The transportation cash proffer policy is out of date and should be updated. Consideration should be given towards other cash proffer categories in compliance with State law.
Key County Departments	Planning Public Works Parks and Recreation County Attorney
Estimated Project Timeline	12-24 months
Resources Needed	An outside consultant would be required for assistance with this project.
Related Objectives and/or Strategies	Strategy LU.1e Strategy TR.2g

<p style="text-align: center;">HISTORY AND CULTURE GAME CHANGER #1: Work with the Brown Grove Community to Implement Recommendations for the Brown Grove Rural Historic District</p>	
Overview	The Brown Grove community was recently added to the National Register of Historic Places. An Overlay District similar to our other Overlay Districts for National Register Districts (Montpelier Village and Hanover Courthouse) will help ensure new development is sensitive to the character of this area.
Key County Departments	Planning County Attorney
Estimated Project Timeline	12-24 months
Resources Needed	Planning staff
Related Objectives and/or Strategies	Strategy HC.3a Specific Guidance for the Brown Grove Rural Historic District

<p style="text-align: center;">ECONOMIC VITALITY GAME CHANGER #1: Update the Economic Development Strategic Plan</p>	
Overview	<p>The Economic Development Strategic Plan should be updated to reference changes of the Comprehensive Plan. The Plan should include:</p> <ul style="list-style-type: none"> ○ Identification of target industries based on citizen engagement and market analysis (and update the list regularly as conditions change). ○ Complete a study of the impact agriculture plays in the County’s economy in order to determine how this economic sector may be best supported, encouraged, and promoted. <p>The Hanover County FY2022 – FY2026 Strategic Plan recommends that the Economic Strategic Plan be updated (Strategy 1.4).</p>
Key County Departments	Economic Development Planning
Estimated Project Timeline	12-24 months
Resources Needed	An outside consultant may be needed for this project.
Related Objectives and/or Strategies	Strategy EV.2a Strategy EV.4b

<p style="text-align: center;">ACTIVE LIVING GAME CHANGER #1: Support the development of the Fall Line Trail</p>	
Overview	<p>The Fall Line Trail is completely funded and engineering plans are underway. This project will provide a focus for the County and be a cultural and economic driver. Wayfinding signage and other amenities such as restroom facilities, parking areas, and bike racks should be explored.</p>
Key County Departments	Parks and Recreation Public Works Planning
Estimated Project Timeline	12-24 months
Resources Needed	Funding will be needed and should be evaluated in upcoming budgets.
Related Objectives and/or Strategies	Strategy AL.1a

ACTIVE LIVING GAME CHANGER #2: Support the development of pedestrian trails and sidewalks	
Overview	<p>Community engagement expressed desires for enhanced pedestrian amenities within the County. A variety of things can be done to achieve this including:</p> <ul style="list-style-type: none"> ○ Evaluate proposed development proposals with consideration given to pedestrian/bicycle infrastructure ○ Encourage collaboration between County Departments to ensure strategies for pedestrian mobility are included in County projects ○ Identify additional funding sources for pedestrian facilities
Key County Departments	<p>Parks and Recreation</p> <p>Public Works</p> <p>Planning</p>
Estimated Project Timeline	6-24 months
Resources Needed	Funding will be needed and should be evaluated in upcoming budgets.
Related Objectives and/or Strategies	<p>Strategy AL.2a</p> <p>Strategy AL.2b</p> <p>Strategy AL.2d</p> <p>Strategy AL.2f</p> <p>Strategy TR.3b</p> <p>Strategy TR.3c</p>

<p style="text-align: center;">HOUSING GAME CHANGER #1: Promote County programs related to housing</p>	
Overview	The County currently has programs related to housing that are underutilized. The County should work to promote the residential rehabilitation tax incentives, property tax exemption for seniors, and services offered by the Community Services Board.
Key County Departments	Commissioner of Revenue Social Services Communications
Estimated Project Timeline	3-12 months
Resources Needed	Staff resources
Related Objectives and/or Strategies	Strategy HN.1a Strategy HN.3a

<p style="text-align: center;">RURAL/AGRICULTURAL GAME CHANGER #1: Promote County programs related to agriculture</p>	
Overview	The County currently has programs related to land preservation. Increased awareness of these programs would help maintain additional rural lands. These programs include the land use taxation program and the Agricultural and Forestry Districts.
Key County Departments	Commissioner of Revenue Communications
Estimated Project Timeline	3-12 months
Resources Needed	Staff resources
Related Objectives and/or Strategies	Strategy R.1d Strategy R.1e

TRANSPORTATION GAME CHANGER #1: Update the County's Transportation Policy	
Overview	The Plan includes a number of recommendations related to transportation policies. The Policy should be updated to include the review of focus corridors and an updated Cash Proffer Methodology based on the Plan. Also funding sources should be looked at to develop engineered drawings for concept roads.
Key County Departments	Public Works
Estimated Project Timeline	12-24 months
Resources Needed	A consultant may be need for this project and funding would be required for engineering.
Related Objectives and/or Strategies	Strategy TR.2a Strategy TR.2g

COMMUNITY FACILITIES GAME CHANGER #1: Implement the strategies of the Blueprint to Broadband	
Overview	Broadband is needed throughout the County and the County has developed an initiative that would have the majority of households served by 2025. The Hanover County FY2022 – FY2026 Strategic Plan recommends that broadband service be improved (Strategy 4.12).
Key County Departments	IT County Administration
Estimated Project Timeline	12 – 60 months
Resources Needed	Funding for this project is in place but cooperation is required with private companies.
Related Objectives and/or Strategies	Strategy EV.5a Strategy CF.7a Strategy CF.7b Strategy CF.7c Strategy CF.7d

COMMUNITY FACILITIES GAME CHANGER #2: Update various county plans to implement strategies of the Comprehensive Plan	
Overview	<p>A variety of County Departments have their own master plans that should be updated to address the guiding principles of this document. Plans include:</p> <ul style="list-style-type: none"> ○ Update Parks and Recreation Master Plan ○ Update the Utilities Master Plan ○ Update the Airport Master Plan <p>The Hanover County FY2022 – FY2026 Strategic Plan recommends that some of these plans be updated as well.</p>
Key County Departments	<p>Parks and Recreation</p> <p>Public Utilities</p> <p>Public Works</p>
Estimated Project Timeline	0-48 months
Resources Needed	Consultants and funding may be needed for these projects.
Related Objectives and/or Strategies	<p>Strategy EV.1c</p> <p>Strategy CF.1c</p> <p>Strategy CH.3e</p> <p>Strategy CH.8a</p>



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