

Purpose

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:

- promote active living that enables physical activity and exercise,
- strengthen social cohesion,
- enhance the local economy,
- increase property values and enhance local revenues, and
- improve safety for motorists, cyclists, and pedestrians.

Active Living

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 local community activity centers such as libraries, schools, parks, churches, and retail and commercial businesses. Planning and building infrastructure supporting physical activity will improve the quality of life, emotional well-being, and mental health for Hanover's residents. Treating walking and cycling as viable modes of transportation will greatly influence the manner in which people move about their neighborhoods and communities.

Much like roads, sidewalks, pedestrian paths, multi-use trails, and bicycle paths are intrinsically linked to the Land Use Plan, the Major Thoroughfare Plan, and the Community Facilities Plan, particularly as it relates to parks, libraries, and schools. Linking these community facilities to residential neighborhoods and business centers not only makes them more accessible to a wider population base, but also encourages more use of these facilities by County residents. Pedestrian and bicycle infrastructure also promotes the protection of environmental and cultural resources and enhances access to those resources further supporting recreation and leisure activities.

Active Living and Healthy Neighborhoods

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 balancing the needs of motorists, pedestrians, and cyclists.

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

Neighborhood Connectivity

Enhanced pedestrian and bicycle connectivity within a community offers a variety of benefits. There are economic and social benefits associated with improved walking and biking connections between neighborhoods, local businesses, and public facilities such as schools, libraries, parks, and recreation centers. In addition, these connections help to create community awareness and improve safety. According to the National Association of Realtors publication, On Common Ground (Winter 2017) which focused on walkable neighborhoods, neighborhoods that are walkable have higher property values, and market studies have shown a strong demand for walkable real estate product. The publication further stated that these amenities attract new residents and retain current residents, and that if a place is walkable, people will spend more money locally. In addition, it also noted that a walkable neighborhood creates more of a feeling of being part of a community.

The Existing and Approved Multi-Modal Facilities map shows existing and approved sidewalks and trails throughout the County and demonstrates the potential for connectivity throughout the Suburban Service Area.

The following “Select Public Facilities” maps focus in on public facilities and the surrounding residential communities located within a one-mile radius. While these maps represent scenarios that show the potential for connectivity throughout various communities, they also highlight areas with missed opportunities for connections. They show the importance of establishing policies related to pedestrian access to community facilities in areas planned for residential development. Planning for connections helps to achieve the desired results. Economic benefits are possible in making it easier to walk and bike throughout the community, by reinvigorating small businesses with increased connections to shops, restaurants, and services as well as job opportunities for those who cannot or do not drive.

Active Living and Healthy Neighborhoods

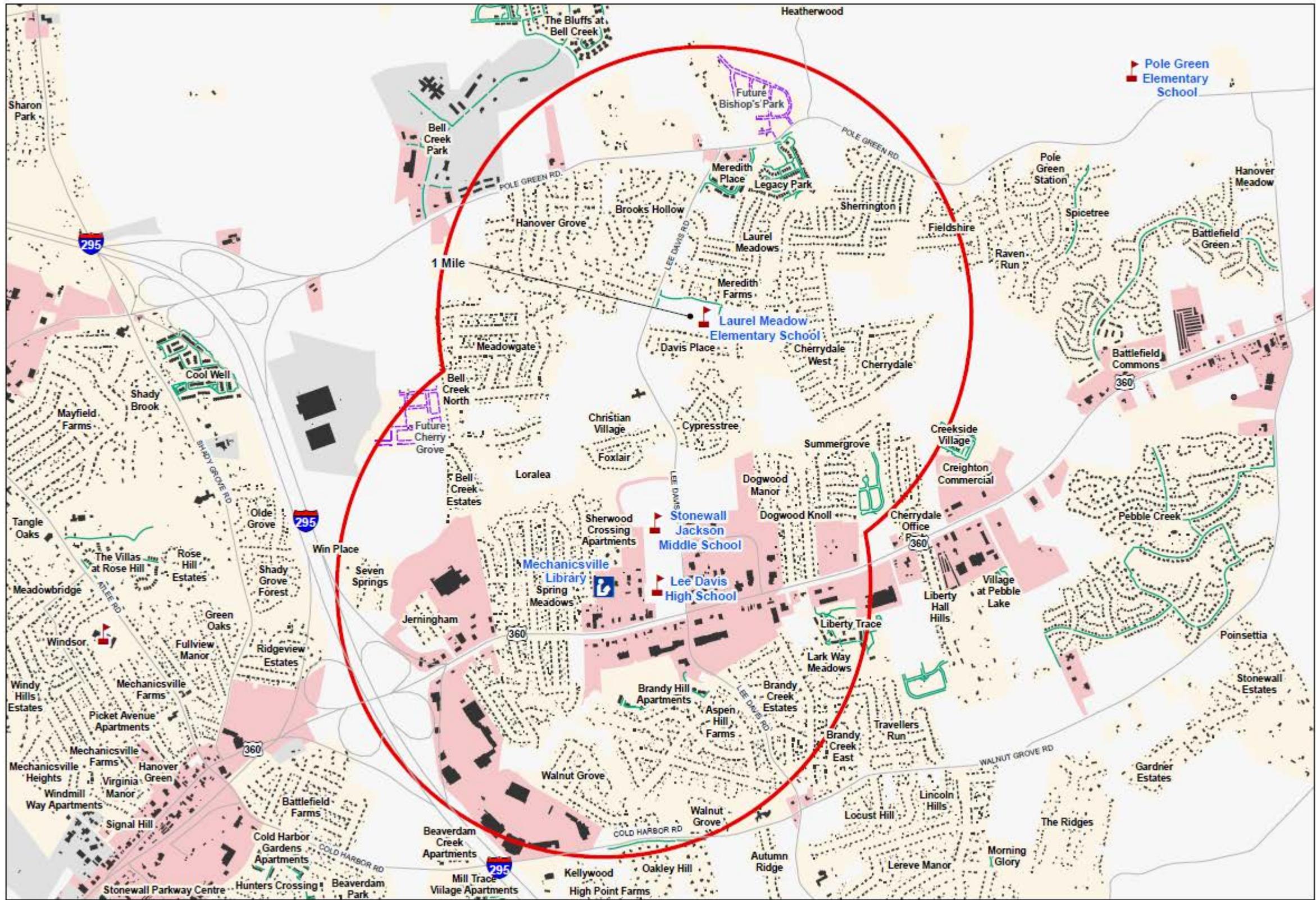
The first “Select Public Facilities” map provides a one-mile radius around the Mechanicsville Library as well as Laurel Meadow Elementary School. Sidewalks and trails are virtually nonexistent within the neighborhoods around the library and adjacent shopping centers. One of the few sidewalks in the vicinity of Laurel Meadow Elementary consists of a Safe Routes to School project, which was completed in 2009. The grant funded the construction of a new sidewalk and an educational campaign to promote safe walking and biking to school. Unfortunately, there appears to be limited opportunities for further pedestrian connections. Retrofitting these neighborhoods with robust pedestrian connections would be very difficult from a design and engineering perspective, and the fiscal reality of installing a retrofitted pedestrian system is also highly questionable. However, reducing pedestrian fatalities and improving pedestrian safety should still be taken into consideration on future road projects.

The second “Select Public Facilities” map shows a portion of the Atlee Station Road and U.S. Route 301 corridors and where they intersect. A one-mile radius has been drawn around the proposed Atlee Library in Rutland and around the three Atlee Station Road schools. This map demonstrates the potential to create pedestrian and bicycle connections for neighboring residents to the proposed library as well as the Rutland Shopping Center. Additionally, if safe and connected sidewalks were improved around the schools to the adjacent neighborhoods, more children would have an opportunity to walk to school, and school traffic could be decreased.

The Atlee Station Road/U.S. Route 301/Rutland Corridor map demonstrates how a robust pedestrian connectivity system can be implemented through the development process if there are clear policies supporting such a system. The sidewalk and pedestrian path network allows individuals to walk from U.S. Route 301 to Sliding Hill Road almost exclusively using a network of sidewalks. There are very few places along the corridor where individuals would be required to walk within the roadway.

The third “Select Public Facilities” map is around Elmont Elementary School and the Elmont community. Elmont is an area that presents new opportunities for pedestrian connections with new residential development as water and sewer connections become available to this part of the Suburban Service Area. Safe pedestrian and bicycle infrastructure along roads near schools should be prioritized.

Hanover has a significant opportunity to create future vibrant and active neighborhoods if it chooses to carefully plan for pedestrian connectivity. Of particular note within the Elmont community is proximity between Elmont Elementary School, to the historic Elmont commercial node, and to the future East Coast Greenway shared path system. The historic commercial node, combined with the East Coast Greenway and well planned future neighborhoods, have the potential to create a vibrant vision for this part of Hanover County.

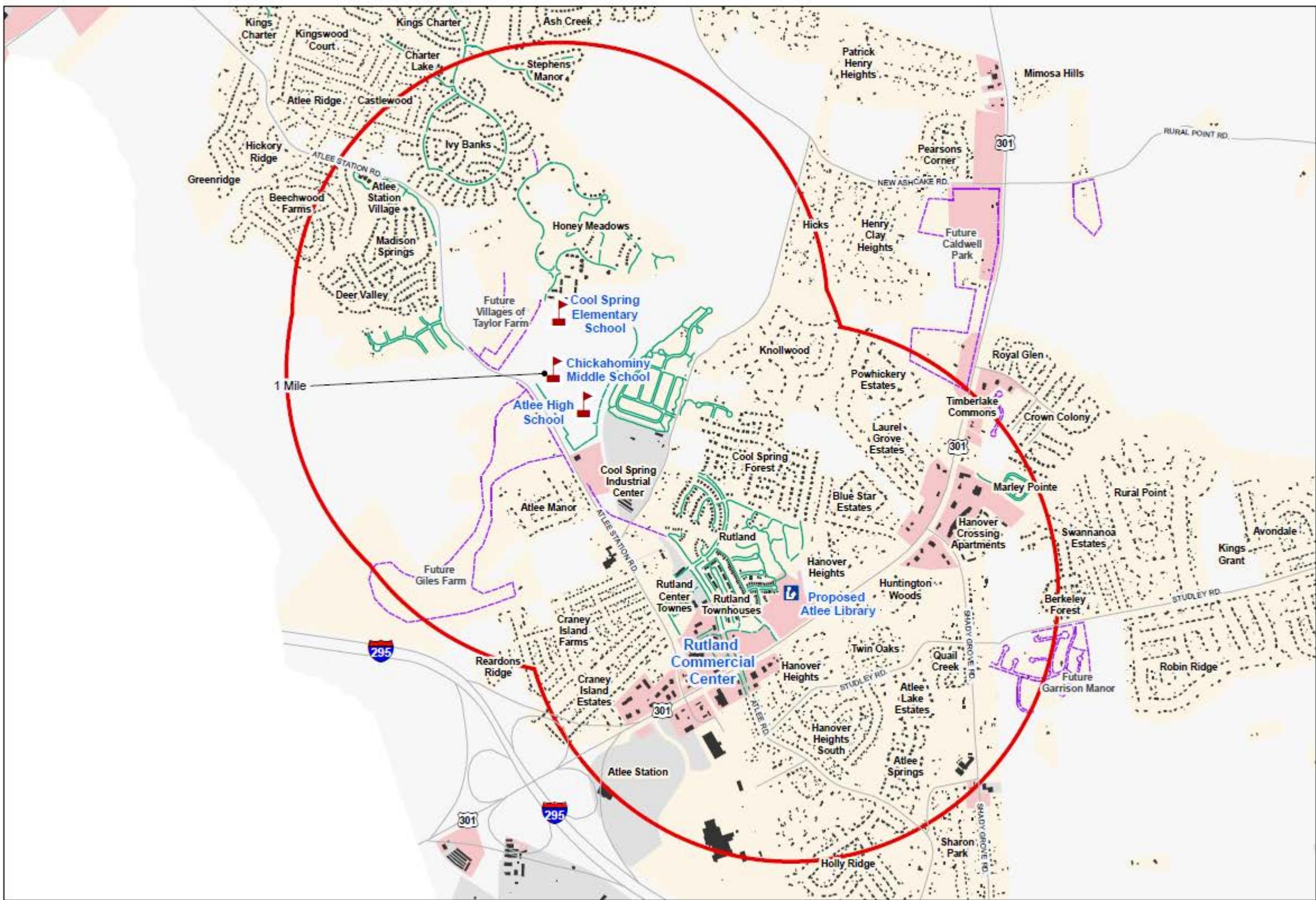


Select Public Facilities

Laurel Meadow Elementary School & Mechanicsville Library

- 1 Mile Buffer
- Major roads
- Subdivisions
- Buildings
- Commercial Zoning
- Industrial Zoning
- Residential Zoning
- County Boundary
- Sidewalks
- Existing Sidewalks
- Proposed Sidewalks
- Community Facilities
- Library
- ▲ Schools



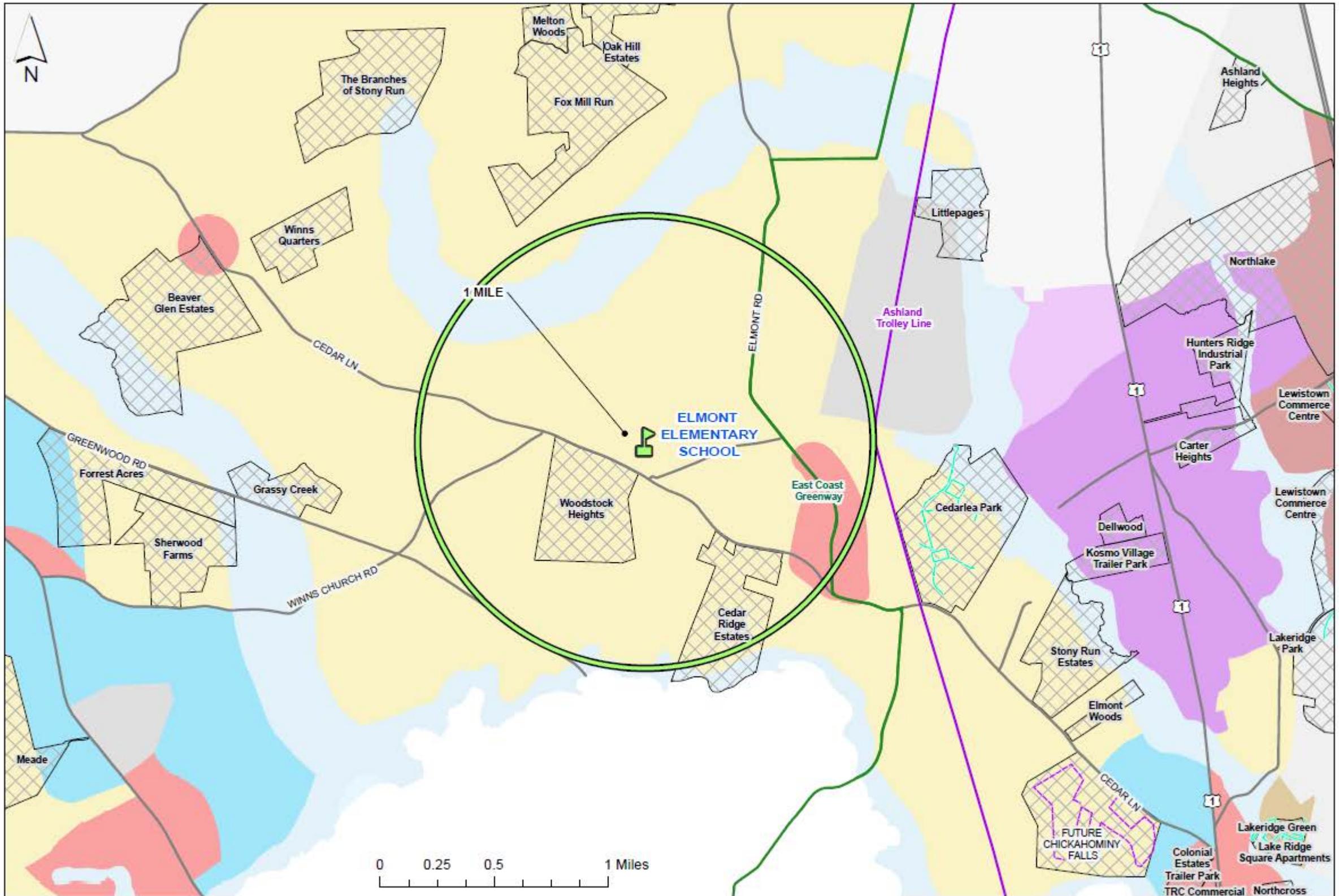


Select Public Facilities

Atlee Road Area

- 1 Mile Buffer
- Major roads
- Subdivisions
- Buildings
- Commercial Zoning
- Industrial Zoning
- Residential Zoning
- County Boundary
- Sidewalks**
- Existing Sidewalks
- Proposed Sidewalks
- Community Facilities**
- Library
- Schools





Relationship of Land Use and Multi-Modal Facilities

Elmont Elementary School

- Ashland Trolley Line
- East Coast Greenway
- Major roads
- Sidewalks**
 - Existing Sidewalks
 - Proposed Sidewalks
- Subdivisions
- Land Use**
 - Agricultural
 - Rural Village
 - Suburban General
 - Suburban High
 - Multi-Family
 - Commercial
 - Multi-Use
 - Business-Industrial
 - Industrial
 - Limited Industrial
 - Planned Business
 - Destination Commerce
 - Flood Plain
 - County Boundary

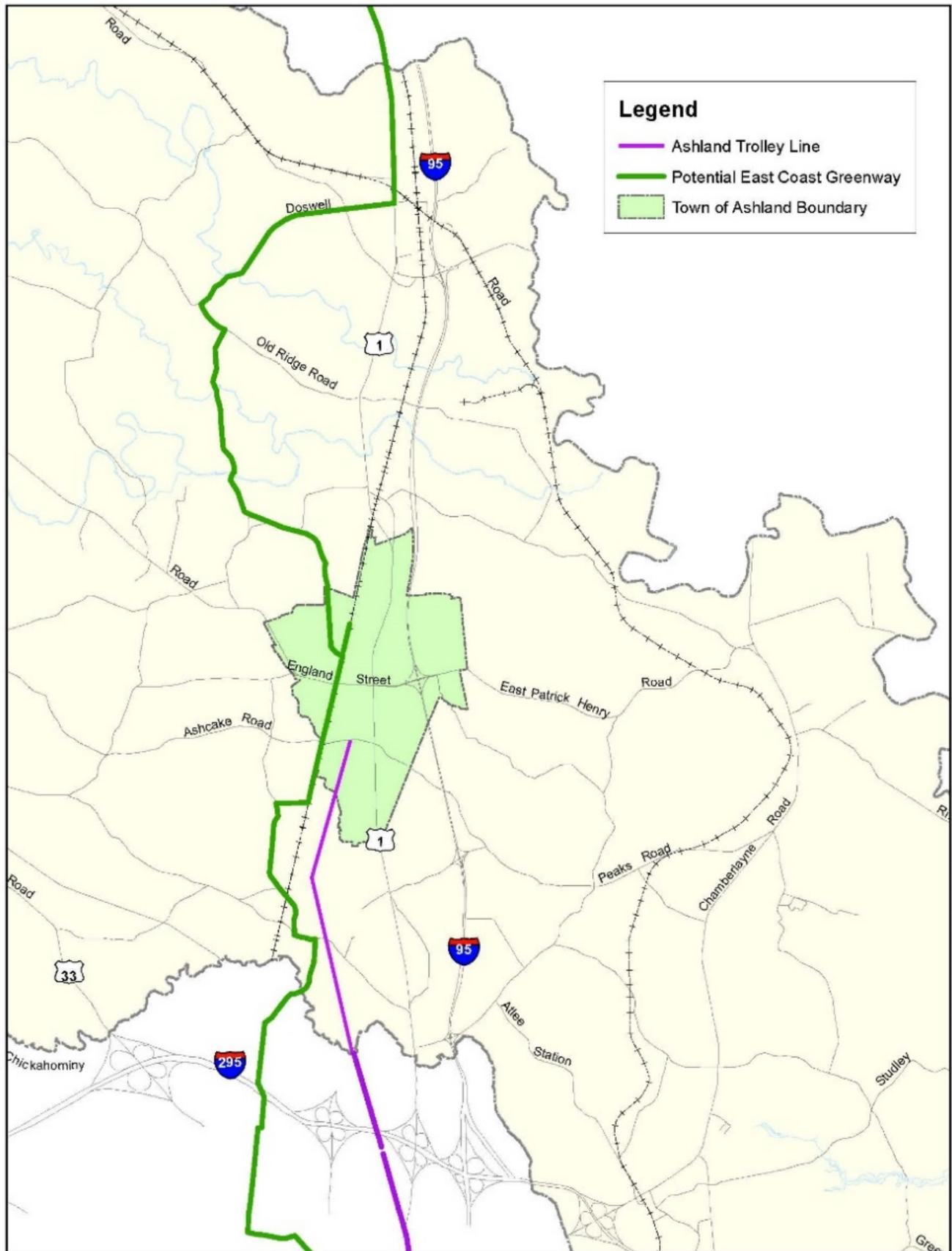


Multi-use Trail Opportunities

As part of a regional trail effort, the Richmond Regional Transportation Planning Organization (TPO) is currently assisting with a feasibility study on the construction of a shared use path along the former Ashland Trolley Line street car corridor in collaboration with the Town of Ashland and Hanover County. The Ashland Trolley Line has also been recently selected as a technical assistance project by the National Park Service to work towards the development of a corridor concept plan and action strategy for trail development. The Town has funded a portion of the trolley line improvement as part of their Capital Improvement Program. Development of a Trolley Line Trail represents an alternative for residents of Hanover County who currently drive to Downtown Richmond to walk, run, or bike the Virginia Capital Trail, which has become an attraction statewide and revitalized local businesses. In addition, the current alignment of the East Coast Greenway, a national trail effort to connect a 3,000 mile trail system from Maine to Florida, is located just west of the former trolley line along U.S. Bicycle Route 1. If constructed, the trail could align with the trolley line.

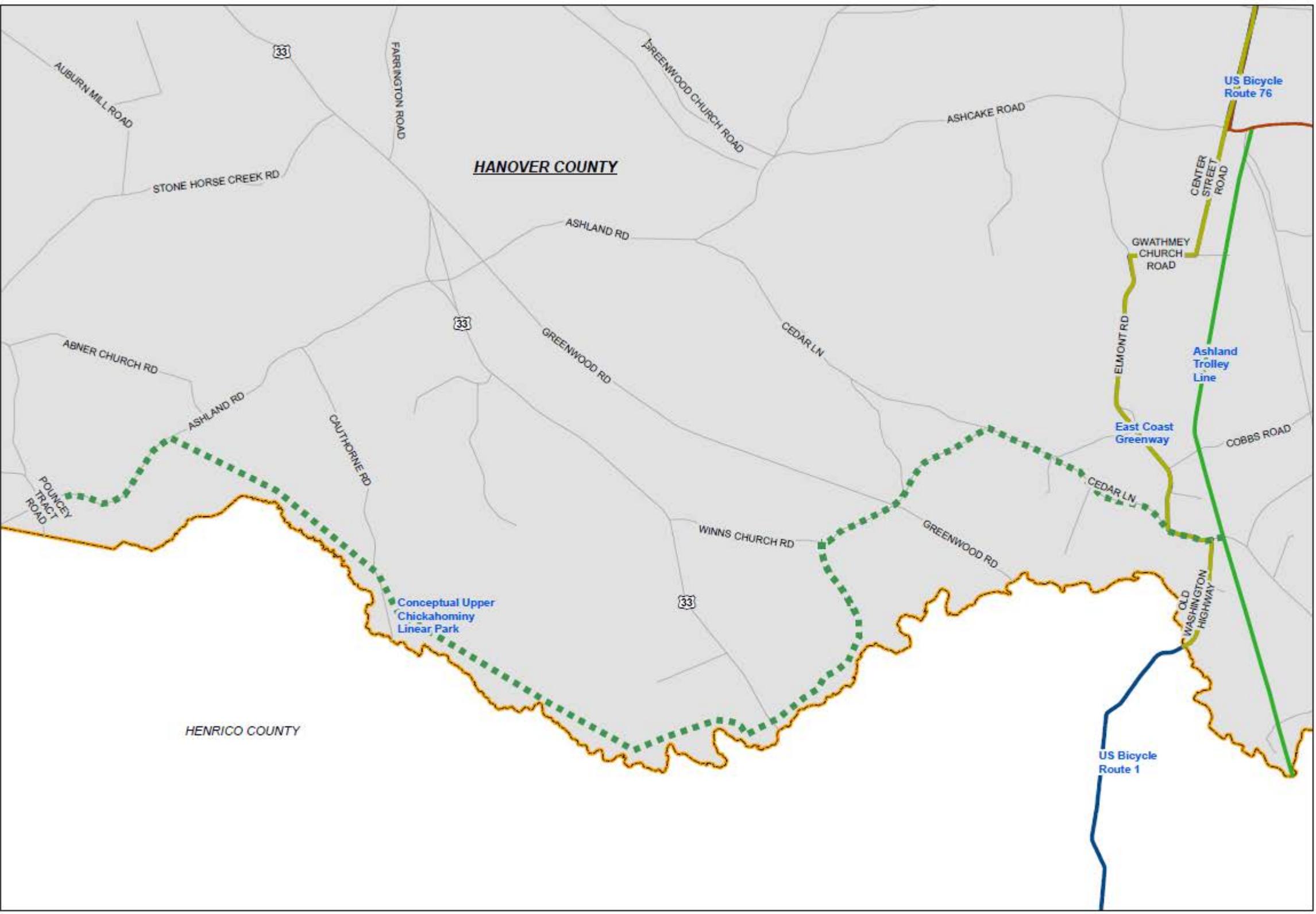
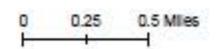
Another opportunity for a multi-use trail within the County is a concept for an Upper Chickahominy Linear Park and Multi-Use Trail. This conceptual trail as proposed would generally run along the Chickahominy River from Pouncey Tract Road to the Ashland Trolley Line that could potentially result in a multi-use trail network connecting western Hanover to Ashland. This trail is located within an area where future public utility extensions and rights of way are planned, thus creating new opportunities for new residential development. The County would work with landowners and developers at the time of rezoning to show the proposed trail on the conceptual plan and reserve area for a future linear park.

Active Living and Healthy Neighborhoods



Concept Map:
Upper Chickahominy
Linear Park
and
Multi-Use Trail

- Conceptual Upper Chickahominy Linear Park
- Proposed East Coast Greenway
- US Bicycle Route 76
- US Bicycle Route 1
- Ashland Trolley Line
- Existing Roads
- County Boundary



HANOVER COUNTY

HENRICO COUNTY

Conceptual Upper
Chickahominy
Linear Park

US Bicycle
Route 76

CENTER
STREET
ROAD

GWATHMEY
CHURCH
ROAD

Ashland
Trolley
Line

East Coast
Greenway

COBBS ROAD

CEDAR LN

OLD
WASHINGTON
HIGHWAY

US Bicycle
Route 1

GREENWOOD CHURCH ROAD

ASHCAKE ROAD

FARRINGTON ROAD

STONE HORSE CREEK RD

ASHLAND RD

GREENWOOD RD

CEDAR LN

ASHLAND RD

CAUTHORNE RD

ABNER CHURCH RD

POUNCEY
TRACT
ROAD

WINNS CHURCH RD

GREENWOOD RD

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Design Roles, Processes and Strategies

Like any form of transportation improvement, the installation of a pedestrian and bicycle facility can be challenging, especially in the absence of significant advance planning and forethought. Therefore, this chapter is intended to serve as a starting point to this planning process. Pedestrian and bicycle facilities have several hierarchies ranging from local neighborhood sidewalks to multiregional linear trails. The following describes expectations for the planning, design, and construction for each type of facility. Following each pathway to implementation, which includes the design process for neighborhood scale pedestrian accommodations, betterment projects involving communities and neighborhoods, VDOT policies, and location considerations for public facilities, are policy statements found elsewhere in Hanover's Comprehensive Plan. The purpose of repeating these policy statements is to emphasize the interrelationship between land use, transportation modes, community facilities, and VDOT's role in the realm of transportation planning, funding, and road maintenance.

Neighborhood Sidewalks and Pedestrian Paths

Sidewalks and pedestrian paths are typically designed as part of a development proposal, whether it is residential, commercial, or a mixed-use project. Hanover's residential and mixed use zoning ordinances that apply to the Suburban Service Area contain provisions for the inclusion of sidewalks and pedestrian paths. This infrastructure is designed and constructed by the developer, and the long-term maintenance is assigned to a homeowner's association. Alternatively, maintenance may be provided by VDOT if the sidewalks are located within the public right of way and designed and constructed in accordance with VDOT standards and specifications.

Within this policy framework, the need and desirability of the location of pedestrian facilities would primarily be evaluated during the zoning process. This process recognizes current evaluation practices and does not alter the expectation of what is required or recommended of the developer in terms of infrastructure requirements. It is important to note that this strategy primarily focuses on pedestrian access, but bicycle facilities enter the equation when new or expanded roads are being considered as part of the project. Policies to address the design, construction, and maintenance of sidewalks and pedestrian paths are typically associated with Land Use and Transportation strategies.

Other design elements that may be used to support active and healthy lifestyles include the purposeful placement of open spaces, which provide opportunities for passive and active recreation. Open spaces should be located in areas accessible to the broader community, and their placement and design in areas that provide for isolation or limited access should be discouraged.

Related Strategies Within Other Chapters of the Comprehensive Plan:

Land Use

- Encourage compact and contiguous development to maximize existing and planned infrastructure and improve opportunities to enhance bicycle and pedestrian mobility
- Community design should incorporate facilities to encourage active living

Transportation

- Maintain Major Thoroughfare functional classifications and typical sections
- Provide options for multi-modal transportation networks to reduce dependency on motorized vehicles
- Ensure future development reserves/dedicates sufficient right of way to accommodate Major Thoroughfare transportation network

County / Neighborhood Partnerships

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.

The types of infrastructure improvements may consist of pedestrian paths, sidewalks, and/or bicycle facilities. Examples of the type 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.

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 matches.

Related Strategies Within Other Chapters of the Comprehensive Plan:

Land Use

- Ensure future development reserves/dedicates sufficient right of way to accommodate Major Thoroughfare transportation network

Transportation

- Provide convenient and accessible multimodal networks that allow the movement of people and goods efficiently
- Provide options for multimodal transportation networks through land development design that reduces dependency on motorized vehicles

Parks and Recreation

- Promote, advocate and provide quality park and recreation resources and leisure services
- Provide a balance of recreational programs and facilities to meet the needs of the present and planned population of Hanover County
- Encourage the use of existing recreational and scenic areas

Libraries

- Construct and locate new facilities that will meet the additional service demands

VDOT Road Projects

When planning and designing road improvements, VDOT's ***Bicycle and Pedestrian Accommodation Decision Process*** must be incorporated into the process. 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 and utilization of this policy does not represent a change in road planning and design operational strategy, but rather recognizes the VDOT's scoping and funding requirements.

Active Living and Healthy Neighborhoods

For VDOT to consider exceptions, the potential accommodation must fall into one of six categories established in the policy:

1. Scarcity of population, travel, and attractors, both existing and future, indicate an absence of need for such accommodations;
2. Environmental or social impacts outweigh the need for these accommodations;
3. Safety would be compromised;
4. Total cost of bicycle and pedestrian accommodations to the appropriate fund (i.e., Interstate, primary, secondary, or urban system) would be excessively disproportionate to the need for the facility;
5. Purpose and scope of the specific project do not facilitate the provision of such accommodations (e.g., projects for the Rural Rustic Road Program are defined as paving unpaved (gravel) roads, which are considered to be a bicycle accommodation); and,
6. Bicycle and pedestrian travel is prohibited by state or federal law.

VDOT's *Bicycle and Pedestrian Accommodation Decision Process* outlines the process and procedures which are to be followed when considering pedestrian and bicycle accommodations.

Related Strategies Within Other Chapters of the Comprehensive Plan:

Transportation

- Provide convenient and accessible multimodal networks that allow the movement of people and goods efficiently
- Provide options for multimodal transportation networks through land development design that reduces dependency on motorized vehicles

Community Facilities

Pedestrian and bicycle facilities are not the only means by which Hanover can facilitate active living. Public parks play a vital role in the wellbeing of citizens as well. With nearly 1,300 acres of existing and planned parks, these facilities and other programs sponsored by Parks and Recreation provide extensive opportunities for physical activity and social interaction for all age groups.

This strategy places a focus on the County to evaluate the desirability and feasibility of enhancing pedestrian and bicycle facilities within County parks and to identify other opportunities to develop or enhance other non-county operated recreational opportunities. Such an opportunity could involve entering into a partnership with the Town and other appropriate entities to improve and maintain the Ashland Trolley Line. Further, this strategy may include identifying other linear trail opportunities such as a Chickahominy River linear park/trail and partnering with land owners and developers to reserve right-of-way during the zoning process if property to be rezoned contains a planned trail or park.

In addition, consideration should be given to providing pedestrian and bicycle access to all types of community facilities including libraries, schools, as well as parks. Use of schools and other public facilities (as permitted by law) provide additional opportunities for recreation.

Related Strategies Within Other Chapters of the Comprehensive Plan:

Parks and Recreation

- **Promote, advocate, and provide quality park and recreation resources and leisure services**
- **Provide a balance of recreational programs and facilities to meet the needs of the present and planned population of Hanover County**
- **Encourage the use of existing recreational and scenic areas**

Libraries

- **Construct and locate new facilities that will meet the additional service demands**

Pedestrian and Bicycle Access Planning Considerations

The Transportation section of the Comprehensive Plan depicts typical road sections for major thoroughfares within the County. However, in designing local roads, developers should consider including features described and illustrated in this section to create neighborhoods that provide safe travel opportunities for motorists, bicyclists, and pedestrians. Other elements may also be included to enhance the community such as the use of landscaping, trees, buffers, and where located near activity centers, street furniture such as benches and pocket parks.

Facilities promoting safe travel for all users:	Safe road crossings improved by:	Street design options promoting safety and comfort:	Additional features for improving biking and walking comfort:
Sidewalks	Accessible curb ramps	Buffers/separation between vehicles and path	Pedestrian-scale lighting
Shared use paths	Crosswalks	Narrow vehicle lanes	Benches and street furniture
Bike lanes	Refuge islands	Road diets	Bike parking facilities
Paved shoulders	Pedestrian signals	Street connectivity	Street trees
	Signage	Traffic-calming circles	Landscaping

Elements that may be incorporated into street design to encourage the development of safe streets for all users will largely be based on the contextual design of the neighborhood or project. The following are examples of key elements in the planning and design of pedestrian and bicycle facilities, but they are included for illustrative purposes only. As has been stated elsewhere, 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 *Bicycle and Pedestrian Accommodation Decision Process* should be implemented.

Active Living and Healthy Neighborhoods

Design Concepts



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

- Neighborhood roads that are expected to carry relatively high traffic volumes may incorporate traffic calming features at critical intersections such as traffic circles



Active Living and Healthy Neighborhoods



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



- 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 bicycling within communities

Active Living and Healthy Neighborhoods



- Open spaces that including pocket parks and that are connected by sidewalks and pedestrian paths to the development that they serve help to provide a more comfortable and attractive human-scale environment



- Shared use paths that may be considered as part of a larger linear park is an effective means of providing bicycle and pedestrian access to environmental and cultural resources and amenities. Shared use paths also greatly enhance the safety of the user

(Photographs included in this section were provided by the following sources: www.pedbikeimages.org (Dan Burden), www.grindtv.com, www.aviewfromthecyclepath.com, and Bike Walk RVA.)

Implementation Options and Strategies

Subject to VDOT approval and funding availability, current nationally-approved design standards and best practices should be considered in conjunction with the design and construction of road improvement projects. It is recommended that the planning, design, and implementation processes for appropriate roads and multimodal corridors include:

- Involving the local community and stakeholders,
- Consideration of the function of the road,
- Integration of innovative and non-traditional design options as appropriate,
- Assessment of the current and future needs of corridor users,
- Documentation of efforts to accommodate all modes and all users, and
- Reviewing the existing system plans to identify opportunities for safer streets.

Community Benefits

Communities that accommodate active residents tend to be safer and offer a great sense of community pride. Neighborhoods with a high level of recreational and social activity also tend to minimize isolation, particularly for elderly and disabled residents.

Designing neighborhoods with centrally located and accessible open spaces also has several benefits. These open areas provide opportunities for both passive and active recreation, as well as preserving natural resources and wildlife habitats. These preservation strategies not only benefit the environment, but they also offer attractive community amenities, while incorporating elements of the County's rural characteristics into the suburban area.

Designing communities that allow for easy access to local food sources helps to boost Hanover's agricultural economy. Hanover contains many farms that make fresh and healthy produce available seasonally. Hanover's Cannery located adjacent to Taylor Park on Route 54 provides residents the opportunity to can fruits and vegetables to be stored for use when fresh produce is not available. Community gardens and farmers' markets should be supported throughout the County to not only promote the agricultural economy, but to improve access to healthy foods.

Goal

Hanover County will be a community that supports the physical, social, and mental well-being of all its citizens to help create vibrant and safe places to live.

Objectives

- Encourage the creation of a built environment which provides residents with opportunities for active living
- Foster interaction among residents to promote social cohesion
- Promote easy access between neighborhoods, business centers, community facilities, and environmental and cultural resources

Strategies

- Consider street designs that promotes road infrastructure that is safe and accommodating for all users
- Provide technical assistance and engage citizens in the development of an Ashland Trolley Line Trail concept plan and action strategy for trail development in association with a National Park Service Technical Assistance Grant
- Evaluate and plan for a linear park that generally aligns with the Chickahominy River, and that incorporates a shared use path
- 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