

Amendment 76 to Council Bill No. 28 -2023

BY: Deb Jung

Legislative Day 11

Date: 10/02/2023

Amendment No. 76

(This Amendment makes the following changes to HoCo by Design Chapter 7 and Chapter 11:

Chapter 7: Quality
By Design

- Removes all quotes;
- Removes language about planting obscuring sightlines;
- ~~Adds Harper's Choice and Hickory Ridge to the list of examples of Village Centers that follow conventional development patterns;~~
~~Removes language about development patterns~~
- Removes language about the process to amend New Town zoning and substitutes a description of how New Town zoning embodies the General Plan's intent;
- ~~Clarifies that conventional zoning is still appropriate for existing residential neighborhoods and commercial centers;~~
- Removes the sixth and seventh paragraphs of the section titled "Preserving Character in Future Development" and substitutes ~~a~~ paragraph language describing the history, regulatory framework and character of the New Town Zoning District;
- Amends the QBD-1 Policy Statement Implementing Actions to remove a requirement to build on the 2018 Development Regulations Assessment and incorporate opportunities to codify current practices, add a requirement to create a taskforce to determine evaluate and make recommendations on how to carry forward preserve New Town's planned community framework, fixed densities, and existing character, and remove a revision of the New Town Zoning District based on design guidelines and character based codes;
- Amends the QBD-2 Policy Statement Implementing Actions to clarify the FLUM may be used considered to guide redevelopment rather than must be used, add an incentivization for affordable home ownership, and add a new market study for retail demand;
- Amends the QBD-3 Policy Statement Implementing Actions to clarify the orientation of commercial buildings is prioritized;
- Removes language about accessing parking via an alley or front loaded driveway;
- Amends the QBD-4 Policy Statement Implementing Actions to remove the encouragement of infill housing typologies that create smaller more affordable units and add assurance that adequate parking exists for all infill development;
- Amends the QBD-1 Policy Statement Implementing Actions to

Chapter 11:

Leg 1799

I certify this is a true copy of

passed on 10/11/2023

Michael D. [Signature]
Council Admin

Implementation

*remove a requirement to build on the 2018 Development
Regulations Assessment and incorporate opportunities to codify*

current practices, add a requirement to create a taskforce to ~~determine evaluate and make recommendations on~~ how to ~~preserve~~ carry forward New Town's planned community framework, ~~fixed densities, and existing character~~, and remove a revision of the New Town Zoning District based on design guidelines and character based codes;

- Amends the QBD-2 Policy Statement Implementing Actions to clarify the FLUM ~~may be used~~ be considered to guide redevelopment rather than must be used, add an incentivization for affordable home ownership, provides that redevelopment will consider open space percentages; and add a new market study for retail demand;
- Amends the QBD-3 Policy Statement Implementing Actions to clarify the orientation of commercial buildings is prioritized; and
- Amends the QBD-4 Policy Statement Implementing Actions to remove the encouragement of infill housing typologies that create smaller more affordable units and add assurance that adequate parking exists for all infill development.)

1 In the *HoCo By Design* General Plan, attached to this Act as Exhibit A, amend the following
2 pages as indicated in this Amendment:

- 3 • Chapter 7: Quality By Design: 17, 21, 22, 25, 26, 27, 30, 31, 34, 38, 39, 40, 42, and 44;
- 4 • Chapter 11: Implementation: 46, 47, 48, and 49.

5 Correct all page numbers, numbering, and formatting within this Act to accommodate this
6 amendment.

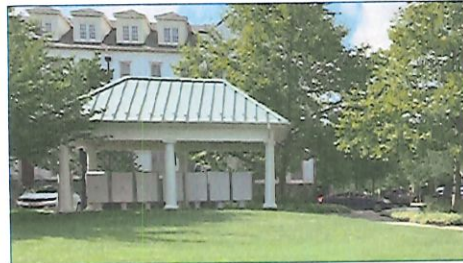
7

Open Space

Open space patterns influence community character and offer different benefits. Broad building setbacks, buffers between uses, and large parking lot islands can provide stormwater management and landscaping. These serve an aesthetic function and provide some environmental benefit but offer little social or recreational benefit. Stream valley open space networks located behind buildings offer environmental and recreational benefits but are not very visible and prominent. Community commons and open spaces located along street and building frontages and designed as community focal points provide social and aesthetic benefits as highly visible public spaces. Each of these open space patterns are appropriate for specific applications, and it will take careful consideration to determine the pattern best suited for each situation.

Howard County's geography, natural systems, protected areas, rigorous landscape requirements, and maturing landscape in developed areas have resulted in a community character where the landscape often predominates over the built form. As a result, the landscape becomes the major organizing and structural element in the neighborhood, a circumstance which may neutralize a variety of architectural styles. This emphasis on the landscape can be positive if architecture is not of a character that the community desires. ~~Conversely, too much planting can often obscure and negate superior architecture or important sightlines to major cultural or community-focused spaces.~~

The landscape in developed areas also reflects a shift from an emphasis on the amount of planting, to an emphasis on the use of native and non-invasive plants. These areas have also shifted from solely increasing tree canopy coverage to providing more ecologically-beneficial landscapes in the overall landscape design.



Roadways and Corridors

Transportation networks also contribute to community character, and the existing roadways are a prevalent feature of the County's defined character. From the interstate highways that convey travelers at great speeds, it is easy for people to move effortlessly across landforms and from one place to another. Individual details of the landscape become less important than the networks of forest, farmland, and broad views.

Howard County has created broad landscaped corridors along its major interstates and has begun to transform its secondary routes into more walkable environments. A shift to more walkable corridors—along with increased attention to pedestrian and cyclist connectivity—is supported by the Route 1 Manual, Route 40 Design Manual, and the Complete Streets Policy.

In the western portion of the County, there has been a desire to maintain the agrarian viewsheds from the roadway. Within the East, there is a similar focus on preserving the character of scenic roads (views of forests and stream valleys, and narrow, winding, and/or hilly roads) through recent regulatory changes that strengthen and protect viewsheds. Off the highways and along secondary and local roadways with lower speeds and tighter design, the crossing of a river, changes in landforms, and the details of adjacent buildings and the landscape become more apparent. On bike and on foot, these details are even more pronounced, and the presence of street trees along public and private roads has become an organizing element in the suburban landscape.

new town Columbia

New Town Columbia stands out as a carefully planned community initiated by a single developer with a vision to be carried out over time. In 1967, Columbia's founder, James Rouse, set out to design and build a city. A conscious, planned approach, this novel endeavor resulted in one of the most talked about New Towns of mid-20th century America, an inspiration for planned communities across the country. Rouse envisioned the planned community of Columbia as a socially responsible, environmentally friendly, and financially successful place in which people of all ages, incomes, and backgrounds could grow as individuals, neighbors, and citizens. Today, Columbia is a thriving unincorporated city with over 100,000 residents living in ten villages, each containing multiple neighborhoods. His strategic vision for what was to be a new kind of community that he applied to the development of New Town Columbia included the following objectives:

1. Provide a real, comprehensive, balanced city.
2. Respect the land and allow the land to impose itself as a discipline on the form of the community.
3. Provide the best possible environment for the growth of people.
4. Realize a profit.

Columbia includes ten villages, each containing multiple neighborhood clusters organized around a village center. The ten villages are organized around Town Center, which includes Downtown Columbia. As "Respect for the Land" was one of the four formative goals for Columbia, clustered development patterns and the curvilinear road network are informed by the open space system, which is defined by the natural drainage patterns. The open spaces and roads, therefore, serve a dual role in both connecting and separating the distinct components of Columbia. Because it follows natural drainage patterns, much of the open space network has historically been located behind structures.

Most of Columbia's village centers are inward-oriented and located on neighborhood-serving roads. However, River Hill, Harper's Choice, and Hickory Ridge Village Center is Centers are located on a busy roadway roadways and follows follow more conventional suburban retail development patterns. As Town Center and the village centers mature and, in some cases, redevelop, development patterns are following more recent trends that increase the visibility of retail uses and emphasize walkability. Other distinct characteristics of Columbia include the emphasis on landscape; the incorporation of lakes in Town Center and several villages, and the retention of historic features, such as former manor homes, barns, and hedgerows. Despite having an extensive pathway and sidewalk network, Columbia is generally auto-oriented. It is trending, however, toward redevelopment and has begun to incorporate infrastructure improvements that enhance bicycle accommodations and walkability.

DoWntoWn Columbia

In 2010, Howard County adopted the Downtown Columbia Plan following five years of debate, discussion, and dialogue with a wide array of stakeholders. The plan's goal is to revitalize downtown, creating a diverse, mixed-use, physically distinctive, and human-scaled place with a rich variety of housing choices, business opportunities, and recreational, civic, cultural, and educational amenities. The plan's implementation is well underway, with many investments completed or in process to realize this vision.

major provisions of new town zoning

In 2014, Columbia Association's planning staff (the late Jane Dembner) prepared a New Town Zoning Briefing Paper for the Columbia Association Board of Directors. This briefing paper noted that New Town zoning regulations were adopted in 1965 and remained relatively unchanged until 2009 and 2010, when changes were made to address village center redevelopment and Downtown Columbia revitalization. The briefing paper listed the following as major provisions of New Town zoning regulations:

- **District size:** a New Town zoning district must contain at least 2,500 contiguous acres. (Columbia is the County's only New Town district and comprises 14,272 acres.)
- **Flexibility in land use:** New Town permits all uses allowed in other county zoning districts except heavy manufacturing and mobile homes.
- **Open space preservation:** New Town zoning requires that 36 percent of the lands zoned New Town be for open space uses. This requirement, combined with the design of Columbia, has resulted in a distinctive tight weave of Columbia's open space areas, residential neighborhoods, and clustered housing sites. Columbia's open space is a defining and distinguishing feature of Columbia.
- **Overall housing density:** Overall density (gross density) may not exceed 2.5 dwelling units per acre of New Town zoned land. The maximum number of dwellings permitted by the Downtown Columbia redevelopment process is in addition to this density limit.
- **Mixed-use requirements:** New Town requires a mix of various land uses, with minimum and maximum percentages and allows flexibility in the geographic placement of those uses.

The General Plan does not propose to change these provisions. Any changes to New Town zoning would be considered through a public process to update the Zoning Regulations. New Town embodies much of HoCo By Design's intended goals: walkability, diverse housing options, and equitable access to open space. Continuity of neighborhoods is critical to the feel and success of New Town.



pReSeRving ChaRacteR in fuTuRe Development

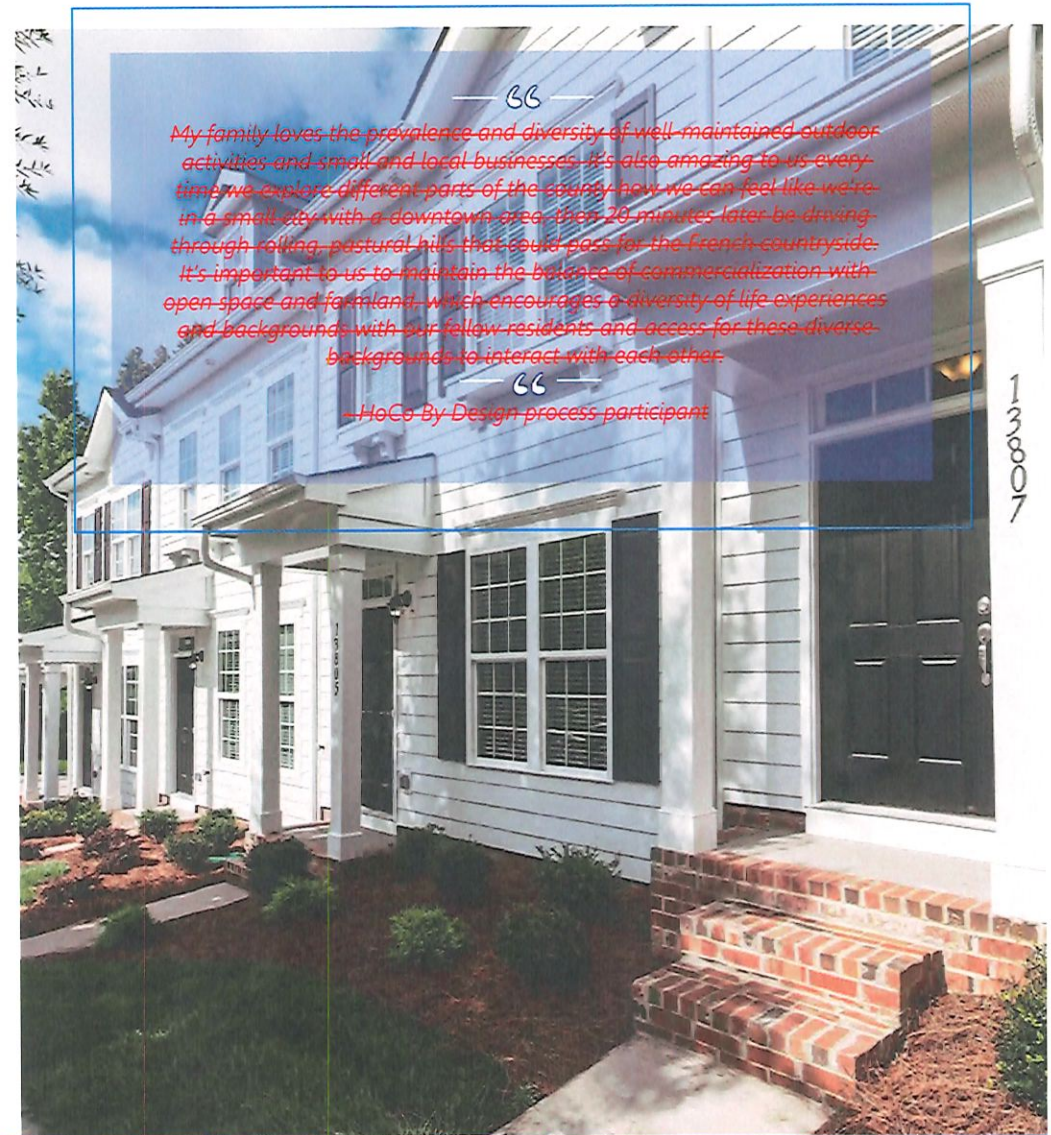
Development standards can and should encourage high-quality future development. These standards should clearly articulate the community's desired vision for an area targeted for development or redevelopment to help the County obtain the type and quality of development it seeks. New developments, redevelopments, and infill developments should use best practice placemaking and urban design principles to achieve high-quality built environments, preserve and incorporate natural features, and establish transitions between the built and natural realms. Key design elements could include the use of building articulation, building placement and site planning principles, building design transitions across landscapes, landscape design, plantings, stormwater management, and open spaces.

The County's existing ordinances regulate a largely-suburban built environment but could be enhanced to further protect the built and natural character of the County and to promote more walkable, high-quality development, where appropriate. The County's Zoning Regulations, Subdivision and Land Development Regulations, and design manuals will need to be reviewed and rewritten to support the vision and policies presented in the General Plan—especially provisions related to context-sensitive new construction in existing neighborhoods, and walkable, mixed-use development in new activity centers.

Conventional zoning ~~may still be~~ *is still may still be* appropriate for existing single-family residential neighborhoods and strip commercial centers. However, the adoption of an ordinance or guiding document that incorporates more character-based (or form-based) elements will assist in achieving high-quality development that is in keeping with the character of Howard County and the desires of the community.

In contrast with conventional zoning that emphasizes separating uses, a character-based (or form-based) code uses character, or the look and feel of a place, as the primary organizing principle for new development. Hybrid codes may also combine conventional zoning with character-based elements.

According to the Development Regulations Assessment, there could be opportunities to revise the historic district zones in the County. Currently, the Zoning Regulations describe the requirements and restrictions applicable to historic districts instead of generally addressing the allowable land uses or development standards. Frequently, in zoning regulations, historic districts are identified with an overlay zone or as a character-based district that more clearly defines the boundaries and helps demonstrate how historic preservation regulations interact with underlying zoning and subdivision regulations. Overlay zones with a clearly defined base zoning district can help provide predictability of permitted uses within a historic district, encourage development patterns that are consistent with the historic character, and create opportunities to establish future districts that may benefit from such designation criteria.



ChaRacteR-baseD Elements

Character-based code elements emphasize context of development and may apply to a designated area or more generally within the overall land use regulations and zoning codes. They could be used to regulate a number of factors, including building height and placement, parking locations, street frontage, sidewalks, planting areas, drainage, density, and the street itself. This information is conveyed with specific instructions and often includes easy-to-understand diagrams or other graphic illustrations.

While character-based concepts can be applied anywhere, they are most successful in: areas that have a mix of uses, historic communities, and Rural Crossroad areas. A character-based approach to land use regulation in Howard County may yield more walkable, compact, and diverse, mixed-use environments.

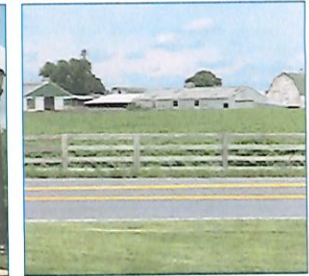
Character-based code elements are used to achieve the following:

1. Create neighborhoods where development is appropriately scaled to surrounding land uses and the public realm.
2. Encourage active transportation (e.g. walking, biking, etc.).
3. Foster social cohesion.

The New Town Zoning District represents more than 14,000 acres and 28,000 parcels in Columbia. The New Town District is comprised of 268 approved Final Development Plans (FDPs) and a regulatory structure that results in challenges for FDP amendments and is difficult to administer. Over time, ownership has changed and development has advanced making it challenging to reconcile the district's original goals and organizational structure. In 2018, Howard County completed a Development Regulations Assessment and Annotated Outline for its Zoning Ordinance. It recommended, in part, significant changes to the New Town Zoning District. Zoning experts cite vague, poorly defined language in some cases and much too detailed language in others as significant challenges to administering New Town zoning. They also claim that the absence of flexibility in New Town zoning and requirements for multiple rounds of approvals will put Columbia at a disadvantage when competing for desired future investment.

The New Town Zoning District represents more than 14,000 acres and 28,000 parcels in Columbia. Created as a planned community by a visionary developer over 50 years ago, it is today frequently cited as one of the best places to live in the Country. Columbia has a unique sense of place, much like an historic district, that its residents want to preserve and enhance, as reported by the Columbia Association's testimony to the County Council on June 28, 2023. Columbia's original master plan contained a focus on open space in proportion to other land uses housing units that has been preserved over the decades and results in a wooded suburban community. The architectural character, although representing an earlier era, is also part of the community's signature feel. One of Columbia's founding principles was to provide a full-spectrum of housing that still exists today and provides the majority of affordable housing options in the County. Older parts of Columbia have some of the County's highest proportion of multi-family units and more affordable older single-family homes and townhouses. This relationship should be acknowledged and considered when determining locations for new affordable housing.

The New Town Zoning District represents more than 14,000 acres and 28,000 parcels in Columbia. Created as a planned community by a visionary developer over 50 years ago, it is today frequently cited as one of the best places to live in the Country. Columbia has a unique sense of place that its residents want to preserve, enhance, and strengthen. As a complement to character-based or hybrid zoning, pattern books or design guidelines and manuals can serve as a framework for preferred architectural patterns, styles, and details in the community. They can provide guidelines and standards for building types, building composition and massing, building materials, roof types and details, windows, doors, porches, and other architectural elements. They can also include standards for landscaping, lighting, fences, walls, signage, and other outdoor elements. The scope is typically limited to specific districts, neighborhoods, or activity centers in the community. While pure form-based codes can be challenging to develop, form-based elements can be used to support more traditional zoning regulations using hybrid approaches to further achieve desired character outcomes. The HoCo By Design Character Areas technical appendix provides additional design-related guidance for future code updates.



The regulatory framework of New Town zoning establishes minimum and maximum proportions of open space, residential, commercial, industrial and other land uses in addition to an overall density cap. Past General Plans evaluated and recommended updates to this framework resulting in the 2009 Village Center Revitalization zoning process update and the 2010 Downtown Columbia Master Plan which added residential units above this cap and established different land use percentages for Downtown. The New Town District is comprised of 268 approved Final Development Plans (FDPs) that enumerate parcel-specific regulations and cross-reference use and bulk provisions of non-New Town zoning districts. The FDP structure was designed to provide significant flexibility to the master developer and majority land owner of this planned community as it was developing. This regulatory structure and associated processes could be evaluated to ensure more efficient administration of the New Town Zone.

A review of the New Town zoning district and its character-defining elements by a task force would provide an opportunity to ensure that the regulatory structure is calibrated to successfully carry forward New Town zoning.

hoWaRD County's Design aDvisoRy panel

The Design Advisory Panel (DAP) is a seven-member panel of professionals, including architects, landscape architects, planners, urban designers, and civil engineers, who provide recommendations regarding proposed plans for development or redevelopment that are subject to DAP review.

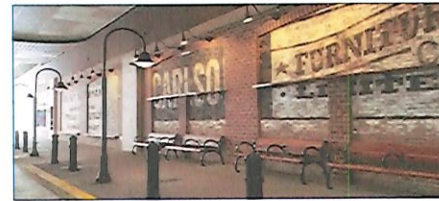
Created by the Howard County Council in 2009, the purpose of the DAP is to encourage excellence in site design and architecture, promote design compatibility with surrounding development, promote revitalization, and enhance property values.

The DAP provides design advice on proposed subdivisions and site development plans when they are subject to the Route 1 Manual, Route 40 Design Manual, New Town Village Center Design Guidelines, Downtown-wide Design Guidelines or Downtown Neighborhood Design Guidelines, Clarksville Pike Streetscape Plan and Design Guidelines, compatibility criteria for conditional use applications, or design guidelines consistent with the requirements of the County's adopted Zoning Regulations.

The DAP also provides guidance regarding the following:

1. The design for buildings, vehicular circulation and access, pedestrian access and linkages, parking, loading, dumpsters, external mechanical units, existing trees, landscaping, hardscape, conceptual designs for graphic elements, and walls and fences.
2. Building scale and massing in relation to and compatible with the surrounding area and with significant and contextual adjacencies, and appropriate responses to existing site conditions, grading, and stormwater management.
3. Building architectural style, materials, entrances, windows, roof design, and colors.
4. Open space on the site including pathways, public spaces, street furniture, amenity areas, and similar features.
5. The design of exterior lighting devices and potential disturbances to the public and adjacent properties.
6. Principles of sustainability and green design.

4. Create a taskforce that is appointed by the County Council and the County Executive to determine, evaluate and make recommendations on how to preserve carry forward New Town's planned community framework, fixed densities, and existing character as defined through the while considering future redevelopment.



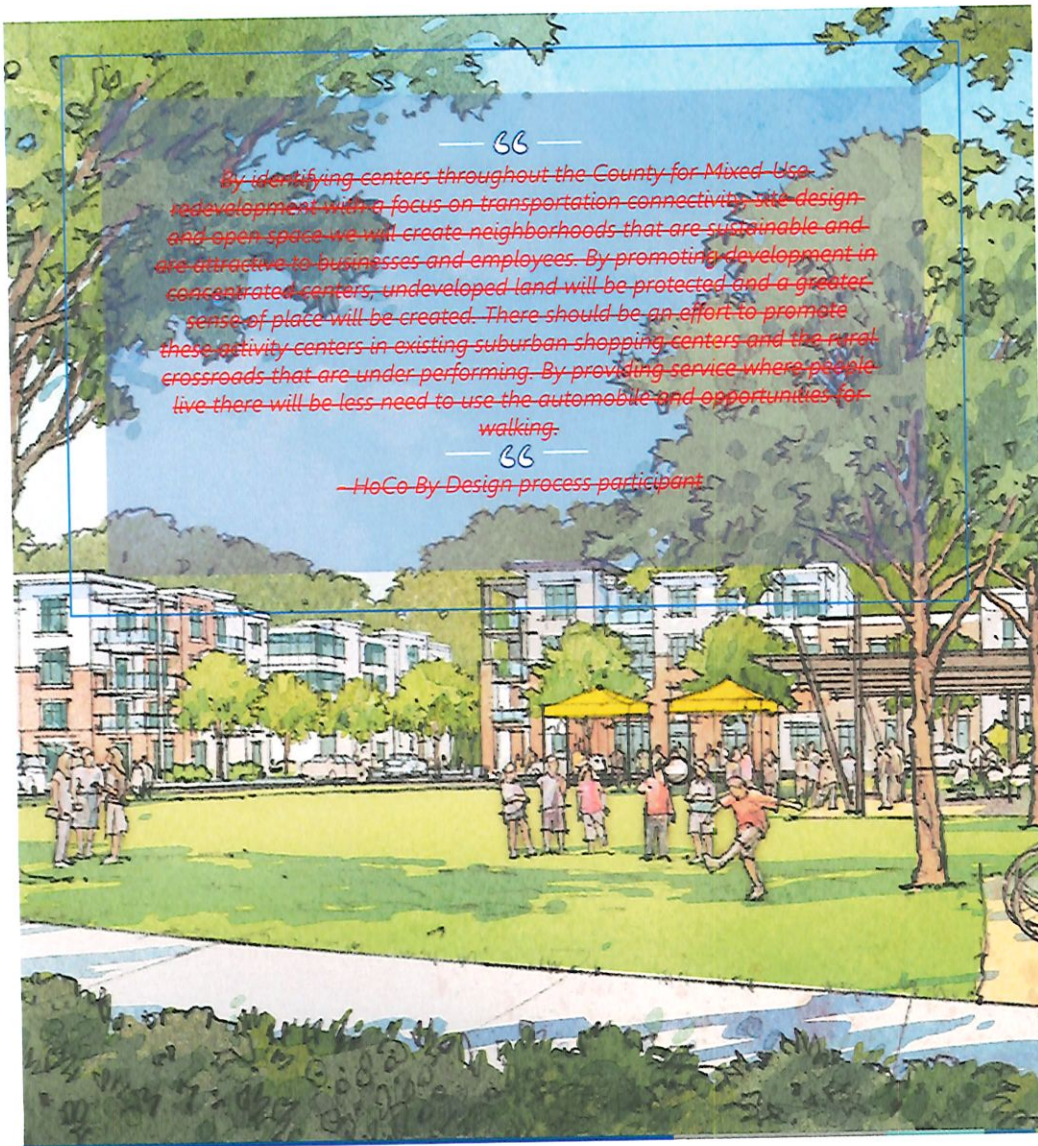
Regional examples of how character and design can be prioritized in new development.

QBD-1 Policy Statement

Prioritize character and design in future development, recognizing variations in Howard County's unique areas.

Implementing Actions

1. Identify areas to investigate character-based zoning concepts and consider the use of pattern books, design guidelines and manuals, or a hybrid approach to establish an intended character and design elements for different character areas in Howard County.
2. Build on the 2018 Development Regulations Assessment to update the County's Zoning Regulations and Subdivision and Land Development Regulations and policies. Incorporate opportunities to codify current practices and create regulations and design standards for new developments, infill developments, and redevelopments.
3. Evaluate the existing historic district zones and consider replacing them with new historic zoning district overlays or form-based districts.
4. Review the current Design Advisory Panel (DAP) review areas and approved guidelines for updates. Consider whether the role of the DAP should be expanded to other areas within Howard County.
4. Create a taskforce to determine how to preserve New Town's planned community framework, fixed densities, and existing character as defined through the master development plan while considering future redevelopment.
5. Revise the New Town Zoning District and investigate the use of enhanced design guidelines and character-based or form-based codes in Columbia:
 - a. Build upon the preferred development types, patterns, intensities, and design elements described in HoCo By-Design's Character Areas technical appendix.
 - b. Take into consideration the design and planning principles illustrated in HoCo By-Design's Focus Areas technical appendix.
 - c. Explore rules and requirements for design review by the Design Advisory Panel, or a combination of staff and the DAP.
 - d. Identify the appropriate purpose and timing of design review within the development review process.



Identifying and Transforming Activity Centers Throughout the County

Traditional suburban communities are changing. As land available for greenfield development runs out, communities, stakeholders, and County government will have to adjust to meet the social, economic, infrastructure, character, and environmental needs of the future. Positioning mature suburban communities for new opportunities requires considering market demands, demographics, regional forces, infrastructure capacity, community actions and reactions, physical planning, and phasing redevelopment in specific areas with fractured land ownership, as well as government rules and policies.

To accommodate growth and continue to provide a high level of service and infrastructure, the County will need to embrace redevelopment opportunities. Several decades of conventional suburban development, combined with land preservation efforts, have resulted in a community with very little developable land remaining, a wide spectrum of character typologies, and a population increasingly reliant on automobiles.

HoCo By Design seeks to identify activity centers that promote mixed-use, walkable development areas throughout the community as areas for transformation. These activity centers are depicted in the Future Land Use Map (FLUM) presented in the Growth & Conservation Framework Chapter. Character areas that provide opportunities for the County to grow and innovate with future activity centers include Downtown Columbia, Regional Activity Center (Gateway), Transit Activity Center, Industrial Mixed-Use Center, Village Activity Center, and Mixed-Use Activity Center. The FLUM and character areas aim to create more predictability around what type of development will occur in these targeted areas. These activity centers provide opportunities to reimagine Howard County's future and introduce new mixed-use employment centers, regional shopping centers, entertainment areas, and upper-story or adjacent residential units in appropriate locations.

The overall goal is to allow and promote compact mixed-use development patterns in county activity centers that create places where people live, work, shop, and play as a cohesive community—furthering the economic vitality and sustainability of the area. Mixed-use development also increases the efficiency of the utilities and transportation serving the area and enhances the sense of community experienced by residents, business owners, and visitors.

These new activity centers in the County will evolve over time in terms of land use mix, density and intensity, home choices, and transportation options. Each activity center's design will be unique, resulting in a variety of mixed-use places. These are the areas where the County should emphasize public and private investment—increasing allowable densities and intensities, adding infrastructure capacity (such as public schools, fire stations, and other public facilities), improving access from nearby neighborhoods, investing in streetscape improvements, and encouraging affordable housing.

When developing activity centers, integrating transportation design principles creates cohesive, fluid, and engaging experiences for cyclists and pedestrians. Many suburban rights-of-way (ROW) were designed for high-speed, auto-only travel. By narrowing travel lanes and adding on-street parking, sidewalks, and planting strips, streets can be made safer and more walkable, creating a more user-friendly, aesthetically-pleasing public realm. Redevelopment can also address barriers to non-motorized connectivity in places like aging shopping centers by enhancing pedestrian connections and creating internal drives with infill buildings fronting onto them. Rather than having large surface parking lots between the building and the street, this redevelopment approach relocates parking to the rear of buildings, thereby achieving better land use transition patterns.

Many of the activity centers identified in the FLUM are existing suburban shopping centers and office parks that contain large swaths of impermeable areas and often reflect outdated automobile-centric site designs. Retrofitting aging building sites allows developers to take advantage of existing infrastructure and services. Such redevelopment further helps to mitigate the effects of sprawl by providing better connections to transit and mobility corridors.

Green Redevelopment

Redevelopment of existing shopping centers provides significant environmental benefits by introducing open space, community gathering areas, and stormwater management where none currently exist. Examples of open space elements that can be added in redeveloped centers include small parks, squares, plazas, and community gardens. New or improved stormwater management, which incorporates environmental site design practices, reduces impervious area and adverse impacts to sensitive watersheds. The County currently reviews energy and water efficiency requirements in its Building Code every three years and during the Building Code update process. The County should continue to review these requirements to ensure they reflect the most recent best practices. To further these green initiatives, the County should explore integrating additional environmentally sustainable design standards in future updates for the Zoning Regulations, site design requirements, and environmental programs.

In 2020, Howard County added bird-friendly design standards to its pre-existing Green Building requirements (which apply to new public buildings of 10,000 square feet or larger and new private buildings of 50,000 square feet or larger). The purpose of bird-friendly design is to reduce the likelihood that birds will collide with buildings. Design techniques include use of façade materials that are more visible to birds and reduction of excessive artificial lights that can disorient migrating birds.



QBD-2 Policy Statement

~~Use the~~ The Future Land Use Map (FLUM) ~~may be used to~~ guide redevelopment in identified activity centers, which present opportunities for mixed-use development, mixed-income housing, small parks or community spaces, increased stormwater management, and multi-modal transportation options.

Implementing Actions

1. ~~Use~~ Consider using the Future Land Use Map (FLUM) during the rezoning process to create activity centers consistent with the character area descriptions.
2. Assess existing Subdivision and Land Development Regulations, Zoning Regulations, and Design Advisory Panel design review policies for opportunities to create or strengthen regulations and design standards for activity center development/redevelopment. Evaluate potential standards for frontage design, main entrance location, and parking calculations. Incorporate accessibility by including standards and guidance to ensure there is direct access to the building from the street.
3. Review the Zoning Regulations and design manuals to identify ways to mitigate the impacts of auto-oriented uses and minimize negative impacts, including odor, noise, light, air pollution, and diesel emissions.
4. Ensure redevelopment of suburban shopping centers and office parks reduces impervious surface, increases ~~and sets percentages for~~ open space, and provides adequate stormwater management, where none or little existed before.
5. Explore integrating additional environmentally sustainable design standards in future updates to the Zoning Regulations, site design requirements, and environmental programs to further green initiatives.
6. When retrofitting shopping centers and business parks, investigate opportunities to create mixed-income housing for all residents. ~~Incentivize affordable housing that can be purchased by low and moderate income buyers.~~
7. ~~Identify potential opportunities to realize~~ Ensure better retail success in the Village Centers by partnering to initiate a new market study to update the 2014 study that will clearly identify supportable retail types and quantities at each center. Non-retail uses, including civic and cultural, should be included. ~~This becomes a roadmap regarding support for and input into county and developer proposals.~~

Enhancing the public Realm and Walkability

The public realm is comprised of the spaces between the buildings, including the streets, sidewalks, parks, and other public spaces. Plans for these spaces ensure that community character remains at the forefront as development, redevelopment, and infill occurs.

The concept of accessibility and walkability is a thread that is woven throughout this document in character area descriptions, redevelopment recommendations, and policy statements. A walkable community achieves a balance between multiple modes of transportation and ensures equitable accessibility for persons of all ages and abilities. A walkable place reduces reliance on automobiles and not only encourages walking and biking, but also makes it safe and appealing to pedestrians and cyclists. In Howard County, sprawling development patterns and a disconnected network of pedestrian facilities can make it difficult to travel by foot in some areas, especially for those who may use mobility devices. Many of the existing commercial and suburban retail developments in Howard County remain automobile focused.

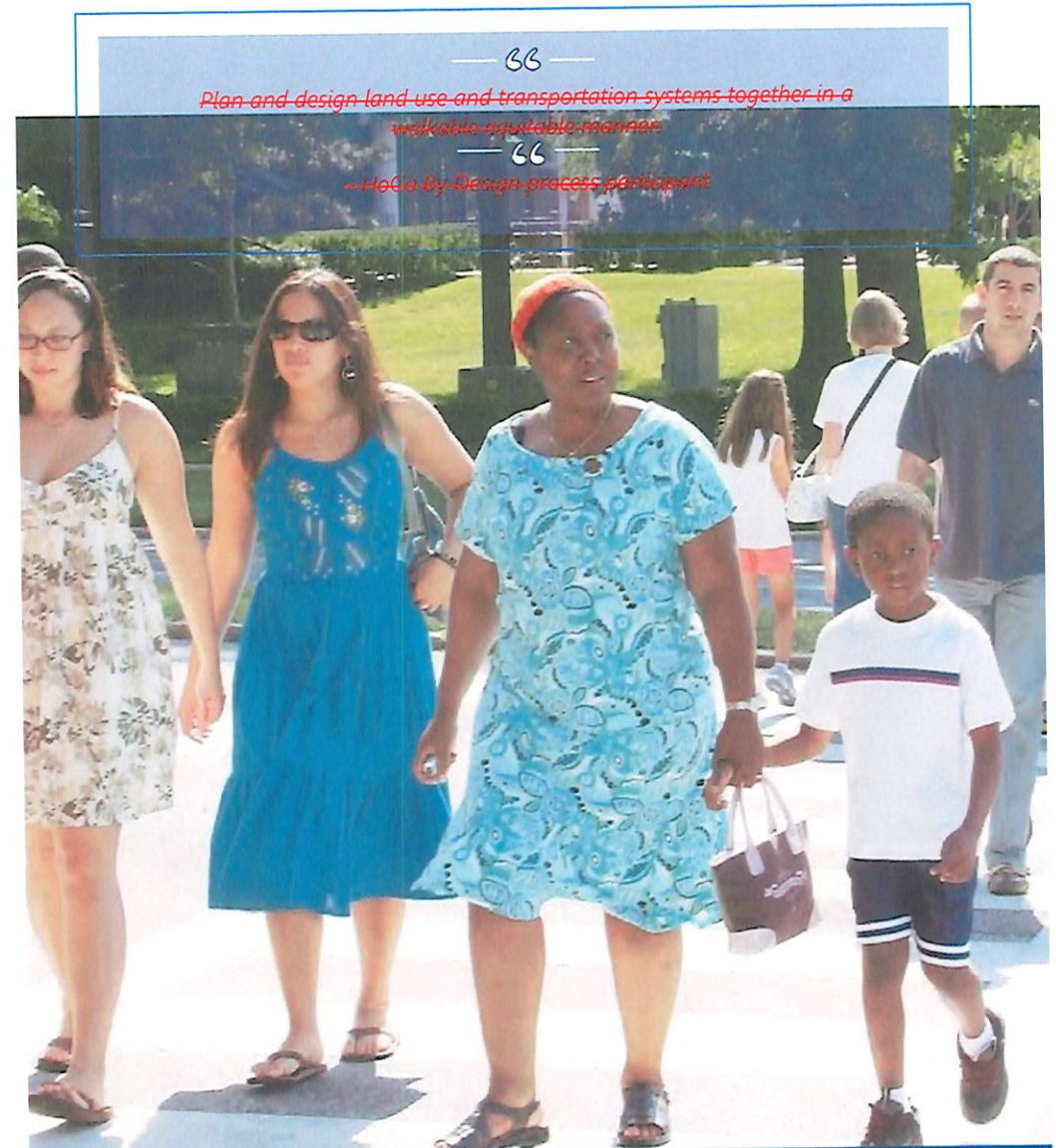
A comprehensive approach to design and investment in public spaces and transportation corridors creates opportunities to coordinate projects that reinforce a common community vision. The ability to create walkable environments through investments in the public realm can also influence travel behavior and nearby land uses and development densities.

In conventional development, commercial uses like gas stations, drive-through restaurants, and banks often place the building at the back of the lot and the vehicular circulation in the front. Flipping the two helps activate the

Benefits of a Walkable Community

- A walkable location with a mix of uses generates more foot traffic, which encourages retail sales.
- Mixed-use environments are generally more economically-resilient and able to evolve with changing demographics.
- The ability to walk and ride transit reduces the need for and costs of car ownership¹.
- Providing walkability throughout Howard County would be a benefit to lower-income families, who may be more reliant on walking.
- A walkable environment can help people incorporate exercise into their daily lives at no cost.
- Communities designed to be walkable have the potential to improve air quality by reducing short car trips.
- Walkable neighborhoods generally have lower rates of traffic fatalities—for both pedestrians and motorists.
- Seniors who choose to give up driving may be able to remain independent longer if they are able to walk to services.

¹The average cost of owning and operating a car in 2019 (per AAA) was more than \$9,000 per year.



Public Art and Planning

According to the American Planning Association, Planning Advisory Service report entitled Public Art and Planning, "Public art can be an engaging tool for creating a sense of place that reflects the character, history, and values of a community. Communities can use public art to further economic growth and sustainability, cultural identity, social cohesion, and public health. There are numerous ways to incorporate art into the built environment and everyday planning processes in a way that engages diverse stakeholders."

street and create a more pedestrian-friendly streetscape. Scale, shade, comfort, and commercial uses activating the street become as important as the infrastructure itself.

Redevelopment in Columbia's downtown and village centers, as well as recent planned mixed-use developments, emphasize design for pedestrians and bicyclists. The County already has some tools in place with the Route 1 Manual, Route 40 Design Manual, and the Clarksville Pike Streetscape Plan and Design Guidelines, which guide design of the public realm. HoCo By Design's County in Motion chapter also provides policies and recommendations related to walkability and bikeability.

Finally, the location of recreational open space in new developments and redevelopments impacts its usability. The County's Subdivision and Land Development Regulations should be updated to ensure the creation of usable and accessible community open space.

QBD-3 Policy Statement



Focus on creating active, walkable, and universally accessible public realms in all new development and redevelopment and include a broad range of community spaces, as appropriate to each character area.

Implementing Actions

1. Prioritize the orientation of **commercial** buildings toward the street in all new development and redevelopment to create more walkable places.
2. Work with stakeholders and community members to incorporate policies for diverse and inclusive public art and cultural expression throughout the County. Identify potential partnerships for strengthening public art programs and art education opportunities.
3. Continue to work with stakeholders of all ages and abilities to identify strategies for universal access to employment centers, stores, parks, and recreation and community amenities.
4. Establish goals and guidelines for providing community open spaces and park spaces to create more equitable access across different neighborhoods in Howard County. Ideally, residents should have a variety of open space choices within walking or biking distance of their home.
5. Evaluate the goals described in the Route 1 Manual, Route 40 Design Manual, Clarksville Pike Streetscape Plan and Design Guidelines, and Complete Streets Policy for updates and determine if there are items in these manuals that could be adapted more broadly within the County.
6. Use a holistic approach to incorporating transportation infrastructure into the public realm that focuses on connections and universal user experience.

Addressing Context-Sensitive Design

Future development in the County will be guided by character areas applied to the Future Land Use Map (FLUM). Transformative redevelopment in activity centers will become the primary means of change across different areas and places in the County. However, in some cases, neighborhoods may present opportunities for small-scale, context-sensitive infill development and redevelopment that complements the character and uses of surrounding homes and neighborhoods.

In conventional suburban patterns where different uses are separated, clear boundaries and buffers are established to mitigate the impacts of adjacent incompatible uses. A shift to redevelopment presents an opportunity to reimagine site design for both residential and nonresidential buildings. Redevelopment can incorporate best practice design principles that create complete streets, provide for high-quality architecture, construct meaningful open spaces, and maintain the character of existing neighborhoods. Incorporating smaller-scale housing and commercial and office activity centers in areas adjacent to existing residential neighborhoods creates both a challenge and an opportunity. By focusing on transitions in form and massing, the County can begin to infill around its single-use residential areas with contextually-appropriate mixed-use development.

Community character is shaped in large part by the way developments respond to the land, interface with other uses, relate to streets and civic spaces, and reinforce connections. These factors often have a greater impact on character than the use of the buildings themselves. Well-coordinated site and structure design provide an overarching context for a place that transcends its use.

There are many early subdivision neighborhoods in Howard County that may not be officially designated as historic but are older neighborhoods consisting of housing types that are no longer commonly built. Many such neighborhoods are characterized by large lots and mature trees. These neighborhoods have experienced more recent infill development with new houses placed behind existing homes, often accessed off pipestem driveways. In these situations, the new construction tends to follow market trends and is often not compatible with the existing neighborhood in site orientation, bulk, massing, and proportion. These developments can slowly change the character of the neighborhoods.

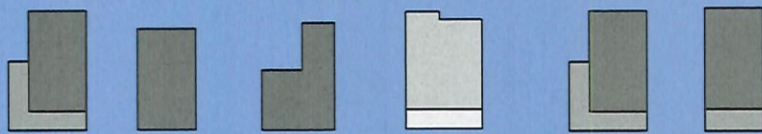
— ☞ —
The form (design/massing/site placement) of new housing types is more important than the type of housing. Architecture and site planning do more to shape how housing forms feel in a neighborhood and disparate forms create anxiety and opposition.

— ☞ —
—HoCo By Design process participant

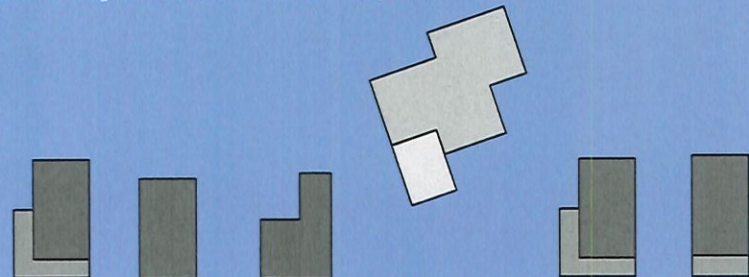
Context-Sensitive Design in Established Neighborhoods

New homes can blend into established neighborhoods through compatible site orientation, bulk, massing, and proportion.

In the following diagram, the new home in the center (shown in light gray) is oriented to the street, just like the existing homes (shown in dark gray). The new home follows the same setback from the street as the existing homes. While not identical to each home on the street, the new home's proportions (depth and width) are comparable to other existing homes. The porch on the new home spans the width of the home, like others on the street, and features similar proportions to existing porches.



Compared to the example above, the new home in the diagram below (shown in light gray) is less compatible with existing homes. The new home is oriented at an angle (rather than towards the street) and is set further back from the existing homes. The new home's proportions also differ from all the existing homes on the street, as does its porch.



Infill Development

It is important that future infill in mature existing communities respects the character of both the built and natural environments. New development should consider existing adjacent development early in the application and conceptual design process. It should be compatible with the scale, bulk, massing, and proportion of the surrounding community. Architectural features may also reflect existing character and can help new development assimilate with nearby buildings through similarly sized and patterned architectural features, such as windows, doors, awnings, arcades, cornices, facade materials, roof types, and other details.

Small infill sites where existing development patterns are established and expected to remain can use building form and placement to avoid incompatible adjacencies. For example, a quadplex with four units can be designed to look nearly the same as a single-family home, allowing it to fit seamlessly into the neighborhood. Allocating parking to the rear of the lot, ~~accessed from an alley or a front-loaded driveway~~, allows the occupancy of the building to appear comparable to adjacent houses. This infill approach provides an opportunity to include a variety of housing types and price points to address housing needs in Howard County.

On larger infill sites, new development across the street from existing development should be complementary in lot size and building massing and placement. New lots and buildings that differ significantly in massing and scale should be located towards the center of the development, with lots and building sizes gradually transitioning to the scale of existing surrounding development. Where these transitions are not possible due to existing neighborhood patterns, infill buildings should still maintain a consistent structure setback and provide a new massing and architecture that correlate to the adjacent building heights and architectural rhythms.

Similar treatments should be considered for small commercial or office buildings near existing neighborhoods. Commercial and industrial development near neighborhoods should be limited to operations that are low-intensity, unobtrusive, and at a scale and design compatible with nearby residential development. The design of these centers should transition effectively between residential and nonresidential uses, and include safe and convenient pedestrian and bicycle access for nearby residents. New development should focus density and intensity around major intersections and provide appropriate transitions to less intense edges of the neighborhood. Similarly, massing should consider the edge transitions as well. New, taller, more dense buildings may occur at one end of the new development block, with medium, less dense buildings mid-block, and smaller, low-density buildings meeting the scale of the existing neighborhood. Transitions may also take place over rear lot lines, where one side of an existing block may have a different character than the opposite side of the new development block. Illustrative approaches to infill development in different settings are described in Technical Appendix C: Focus Areas.

Context-sensitive infill may be further achieved through design guidelines that are specific to surrounding areas. Buildings and architecture in Howard County are highly varied and reflect several architectural styles, including Georgian, Federal, and Greek Revival styles and forms. Mid-century architecture was introduced with the development of Columbia, and new contemporary architecture is also prevalent throughout the County. These variations in architectural styles reinforce the character of different places, but often buildings and developments outside of historic areas, districts, and rural areas do not align with the character of the surrounding areas. Architectural compatibility can be achieved through design guidelines or pattern books to maintain the look and feel of mature neighborhoods; however, regulating architectural style would be challenging given the variety of styles present in the County.

Updates to development and redevelopment regulations can incorporate architectural and site design principles that better reflect unique areas, address pedestrian and transit-friendly opportunities in larger developments, and result in meaningful open spaces. Updates to the County Zoning Regulations should address infill development options in residential districts, which includes standards to ensure that new development is appropriate to the site and its surroundings. Architectural elements can also serve as important transitional features for new development. Where a clearly established building character is expected to remain, infill development should blend with nearby buildings by using similarly sized and patterned architectural features.

hOWaRD County lanDscape Manual

The Howard County Landscape Manual, which establishes standards of performance for preparing landscape plans, was last amended in 1998 (though a policy memorandum was added in 2010 to update recommended street tree and plant lists). As noted in the 2018 Development Regulations Assessment, there is a need to update the manual to better address issues related to quantities, species, spacing, and survival of plantings, as well as integration with solar technology. Updates could reconsider landscape standards for places in the County that are planned for a more walkable, mixed-use environment, such as planting calculations, screening requirements, placement design, and species mixes. The assessment also cited the need to review and strengthen landscape buffers along residential/commercial and residential/agricultural edges.



NatuRe and Context-Sensitive Design

As previously noted in this chapter, the natural landscape often serves as a unifying element in neighborhoods. Infill development and redevelopment can be designed to both respect natural features and accentuate them. For example, mature trees can be retained and new trees planted to enhance the existing landscape. Building setbacks (such as the space between buildings and the street) can be repeated in new development so existing patterns of green spaces (such as front yards) are maintained. Finally, the approach to design can emphasize adapting a building to a site (rather than adapting a site to a building), thereby reducing disturbance to natural features.

QBD-4 Policy Statement

Develop context-sensitive design standards appropriate for various scales of infill development to effectively transition between larger developments and established uses, and to encourage compatibility of small-scale infill within established neighborhoods.

Implementing Actions

1. Explore the implementation of form-based or character-based districts and neighborhood compatibility standards that emphasize massing and form over use type.
2. Investigate programs to preserve the community character of older neighborhoods that are not currently designated as historic or do not yet meet criteria to be designated as such.
3. ~~Encourage infill housing typologies that create smaller more affordable units, if they blend in with surrounding homes through context-sensitive design.~~
4. ~~3.~~ Review existing design manuals for updates to address contextual architecture design.
5. ~~4.~~ Assess existing land use and zoning policies for opportunities to incorporate best practice placemaking and urban design principles that create transitions between land uses and between the built and natural environments.
6. ~~5.~~ Update the Landscape Manual to reflect current best practices, and to provide clear direction on buffers that address the scale and mass of new development abutting existing development.
7. ~~6.~~ Ensure that adequate parking exists for all infill developments.

Table 10-1: Implementation Matrix

Policy and Implementing Actions	Lead Agency	Timeframe (Mid-Term five-year, Long-Term six+)
DN-15 - Increase access to and availability of affordable housing for people experiencing homelessness in Howard County.		
1. Seek out additional opportunities for partnerships on future housing developments to increase the number of homeless preference set-aside units developed in Howard County.	DCRS DHCD	Ongoing
2. Create awareness and advocacy around the needs of those experiencing homelessness whenever new housing developments are being planned and created.	DCRS DHCD	Ongoing
3. Evaluate the need for additional shelter/bed capacity, permanent supportive housing, and expanded public-private partnerships to address the needs of the County's chronically homeless and other individuals with special needs.	DCRS DHCD Private	Mid-Term
4. Explore opportunities for acquisition of blighted or under-utilized properties for the purposes of providing flexible shelter options and services for the homeless population.	DCRS DHCD	Ongoing
5. Seek opportunities to locate housing for the homeless or individuals with special needs in close proximity to jobs, amenities, and transportation connections.	DCRS DHC DPZ	Ongoing

Table 10-1: Implementation Matrix

Policy and Implementing Actions	Lead Agency	Timeframe
QBD-1 - Prioritize character and design in future development, recognizing variations in Howard County's unique areas.		
1. Identify areas to investigate character-based zoning concepts and consider the use of pattern books, design guidelines and manuals, or a hybrid approach to establish an intended character and design elements for different character areas in Howard County.	DPZ	Mid-term
2. Build on the 2018 Development Regulations Assessment to update the County's Zoning Regulations and Subdivision and Land Development Regulations and policies. Incorporate opportunities to codify current practices and create regulations and design standards for new developments, infill developments, and redevelopments.	DPZ	Mid-Term
3. 2. Evaluate the existing historic district zones and consider replacing them with new historic zoning district overlays or form-based districts.	DPZ	Mid-Term
4. 3. Review the Design Advisory Panel (DAP) review areas and approved guidelines for updates. Consider whether the role of the DAP should be expanded to other areas within Howard County.	DPZ	Long-term
5. Revise the New Town Zoning District and investigate the use of enhanced design guidelines and character-based or form-based codes in Columbia: a. Build upon the preferred development types, patterns, intensities, and design elements described in HoCo By-Design's Character Areas technical appendix. b. Take into consideration the design and planning principles illustrated in HoCo By-Design's Focus Areas technical appendix. c. Explore rules and requirements for design review by the Design Advisory Panel, or a combination of staff and the DAP. d. Identify the appropriate purpose and timing of design review within the development review process.	DPZ	Mid-Term
4. Create a taskforce to determine how to preserve New Town's planned community framework, fixed densities, and existing character as defined through the master development plan while considering future redevelopment.	DPZ	Mid-Term

4. Create a taskforce that is appointed by the County Council and the County Executive to determine evaluate and make recommendations on how to preserve carry forward New Town's planned community framework, fixed densities, and existing character as defined through the while considering future redevelopment.

Table 10-1: Implementation Matrix

Policy and Implementing Actions	Lead Agency	Timeframe (Mid-Term five-year, Long-Term six+ years, Ongoing)
QBD-2 - Use the The Future Land Use Map (FLUM) may be used to guide redevelopment in identified activity centers, which present opportunities for mixed-use development, mixed-income housing, small parks or community gathering spaces, increased stormwater management, and multi-modal transportation options.		
1. Use Consider using the Future Land Use Map (FLUM) during the rezoning process to create activity centers consistent with the character area descriptions.	DPZ	Mid-Term
2. Assess existing Subdivision and Land Development Regulations, Zoning Regulations, and Design Advisory Panel design review policies for opportunities to create or strengthen regulations and design standards for activity center development/redevelopment. Evaluate potential standards for frontage design, main entrance location, and parking calculations. Incorporate accessibility by including standards and guidance to ensure there is direct access to the building from the street.	DPZ	Mid-Term
3. Review the Zoning Regulations and design manuals to identify ways to mitigate the impacts of auto-oriented uses and minimize negative impacts, including odor, noise, light, air pollution, and diesel emissions.	DPZ	Mid-Term
4. Ensure redevelopment of suburban shopping centers and office parks reduces impervious surface, increases and sets percentages for open space, and provides adequate stormwater management, where none or little existed before.	DPZ	Ongoing
5. Explore integrating additional environmentally sustainable design standards in future updates to the Zoning Regulations, site design requirements, and environmental programs to further green initiatives.	DPZ OCS DILP	Ongoing
6. When retrofitting shopping centers and business parks, investigate opportunities to create mixed-income housing for all residents. Incentivize affordable housing that can be purchased by low and moderate income buyers.	DPZ DHCD	Long-term
7. Ensure better retail success in the Village Centers by initiating a new market study to update the 2014 study that will clearly identify supportable retail types and quantities at each center. Non-retail uses, including civic and cultural, should be included. This becomes a roadmap regarding support for and input into county and developer proposals.	HCEDA DPZ Private Partners Columbia Assn.	Mid-Term

7. ~~Identify potential opportunities to realize Ensure better retail success in the Village Centers by partnering to initiating a new market study to update the 2014 study that will clearly identify supportable retail types and quantities at each center. Non-retail uses, including civic and cultural, should be included. This becomes a roadmap regarding support for and input into county and developer proposals.~~

Table 10-1: Implementation Matrix

Policy and Implementing Actions	Lead Agency	Timeframe (Mid-Term five-year, Long-Term six+ years, Ongoing)
QBD-3 - Focus on creating active, walkable, and universally accessible public realms in all new development and redevelopment and include a broad range of community spaces, as appropriate to each character area.		
1. Prioritize the orientation of commercial buildings toward the street in all new development and redevelopment to create more walkable	DPZ	Ongoing
2. Work with stakeholders and community members to incorporate policies for diverse and inclusive public art and cultural expression throughout the County. Identify potential partnerships for strengthening public art programs and art education opportunities.	DPZ	Long-term
3. Continue to work with stakeholders of all ages and abilities to identify strategies for universal access to employment centers, stores, parks, and recreation and community amenities.	OOT DRP DCRS DILP	Ongoing
4. Establish goals and guidelines for providing community open spaces and park spaces to create more equitable access across different neighborhoods in Howard County. Ideally, residents should have a variety of open space choices within walking or biking distance of their home.	DRP DPZ	Mid-Term
5. Evaluate the goals described in the Route 1 Manual, Route 40 Design Manual, Clarksville Pike Streetscape Plan and Design Guidelines, and Complete Streets Policy for updates and determine if there are items in these manuals that could be adapted more broadly within the County.	DPZ OOT	Mid-Term
6. Use a holistic approach to incorporating transportation infrastructure into the public realm that focuses on connections and universal user experience.	OOT DPW	Long-term

Table 10-1: Implementation Matrix

Policy and Implementing Actions	Lead Agency	Timeframe (Mid-Term five-year, Long-Term six+ years, Ongoing)
QBD-4 - Develop context-sensitive design standards appropriate for various scales of infill development to effectively transition between larger developments and established uses, and to encourage compatibility of small-scale infill within established neighborhoods.		
1. Explore the implementation of form-based or character-based districts and neighborhood compatibility standards that emphasize massing and form over use type.	DPZ	Mid-Term
2. Investigate programs to preserve the community character of older neighborhoods that are not currently designated as historic or do not yet meet criteria to be designated as such.	DPZ	Mid-Term
3. Encourage infill housing typologies that create smaller more-affordable units, if they blend in with surrounding homes through context-sensitive design.	DPZ	Mid-Term
4. 3. Review existing design manuals for updates to address contextual architecture design.	DPZ	Long-Term
5. 4. Assess existing land use and zoning policies for opportunities to incorporate best practice placemaking and urban design principles that create transitions between land uses and between the built and natural environments.	DPZ	Mid-Term
6. 5. Update the Landscape Manual to reflect current best practices, and to provide clear direction on buffers that address the scale and mass of new development abutting existing development.	DRP OCS	Mid-Term
6. Ensure that adequate parking exists for all infill developments.	DPZ	Ongoing
QBD-5 - Pursue new historic designations to protect and preserve historic communities and sites through the creation of new single site historic districts, new multiple site historic districts, conservation districts, or other types of designations for historic communities.		
1. Research the various types of historic designations, beyond those currently used by Howard County.	DPZ	Long-Term
2. Provide outreach to the various communities to gauge their level of interest in historic designation options.	DPZ	Long-Term

Table 10-1: Implementation Matrix

Policy and Implementing Actions	Lead Agency	Timeframe (Mid-Term five-year, Long-Term six+ years, Ongoing)
QBD-6 - Strengthen existing historic preservation programs and initiatives in Howard County.		
1. Complete the update of the Ellicott City Historic District Design Guidelines to create a user-friendly document that responds to changing technologies while maintaining the character of the District.	DPZ	Mid-Term
2. Update the Lawyers Hill Historic District Design Guidelines.	DPZ	Long-term
3. Evaluate ways to strengthen preservation and maintenance of historic properties outside of historic districts.	DPZ	Long-term
4. Strengthen historic preservation programs both to prevent demolition and demolition by neglect, and to better incentivize restoration and adaptive reuse.	DPZ	Long-term
5. Continue to implement the 2014 Preservation Plan and update it as needed.	DPZ	Long-term
6. Encourage the design of new construction that is compatible with historic structures so that neighborhoods maintain a better sense of place and retain historic integrity.	DPZ	Ongoing
7. Explore the use of transfer of development rights programs, easements programs, or other development incentives to preserve historic sites and their environmental settings.	DPZ	Mid-Term
QBD-7 - Continue to provide incentives for the restoration and preservation of historic resources.		
1. Continue to promote use of county historic tax credits for properties located in local historic districts or listed on the Historic Sites Inventory.	DPZ	Ongoing
2. Continue to pursue and promote funding opportunities for historic property restoration and preservation.	DPZ DRP DPW Elected Officials OOB Private Property Owners	Ongoing
3. Support a grant program for the general upkeep and maintenance of historic cemeteries and tax-exempt properties.	DPZ Elected Officials OOB	Long-term
4. Continue partnerships supporting cemetery preservation that can provide funding, advocacy, and education.	DPZ	Ongoing

Amendment 76 to Council Bill No. 28 -2023

BY: Deb Jung

Legislative Day 11

Date: 10/02/2023

Amendment No. 76

(This Amendment makes the following changes to HoCo by Design Chapter 7 and Chapter 11:

*Chapter 7: Quality
By Design*

- Removes all quotes;
- Removes language about planting obscuring sightlines;
- Adds Harper's Choice and Hickory Ridge to the list of examples of Village Centers that follow conventional development patterns;
- Removes language about the process to amend New Town zoning and substitutes a description of how New Town zoning embodies the General Plan's intent;
- Clarifies that conventional zoning is still appropriate for existing residential neighborhoods and commercial centers;
- Removes the sixth and seventh paragraphs of the section titled "Preserving Character in Future Development" and substitutes a paragraph describing the history and character of the New Town Zoning District;
- Amends the QBD-1 Policy Statement Implementing Actions to remove a requirement to build on the 2018 Development Regulations Assessment and incorporate opportunities to codify current practices, add a requirement to create a taskforce to determine how to preserve New Town's planned community framework, fixed densities, and existing character, and remove a revision of the New Town Zoning District based on design guidelines and character based codes;
- Amends the QBD-2 Policy Statement Implementing Actions to clarify the FLUM may be used to guide redevelopment rather than must be used, add an incentivization for affordable home ownership, and add a new market study for retail demand;
- Amends the QBD-3 Policy Statement Implementing Actions to clarify the orientation of commercial buildings is prioritized;
- Removes language about accessing parking via an alley or front loaded driveway;
- Amends the QBD-4 Policy Statement Implementing Actions to remove the encouragement of infill housing typologies that create smaller more affordable units and add assurance that adequate parking exists for all infill development;

*Chapter 11:
Implementation*

- Amends the QBD-1 Policy Statement Implementing Actions to remove a requirement to build on the 2018 Development Regulations Assessment and incorporate opportunities to codify

current practices, add a requirement to create a taskforce to determine how to preserve New Town's planned community framework, fixed densities, and existing character, and remove a revision of the New Town Zoning District based on design guidelines and character based codes;

- *Amends the QBD-2 Policy Statement Implementing Actions to clarify the FLUM may be used to guide redevelopment rather than must be used, add an incentivization for affordable home ownership, and add a new market study for retail demand;*
- *Amends the QBD-3 Policy Statement Implementing Actions to clarify the orientation of commercial buildings is prioritized; and*
- *Amends the QBD-4 Policy Statement Implementing Actions to remove the encouragement of infill housing typologies that create smaller more affordable units and add assurance that adequate parking exists for all infill development.)*

1 In the *HoCo By Design* General Plan, attached to this Act as Exhibit A, amend the following
2 pages as indicated in this Amendment:

- 3 • Chapter 7: Quality By Design: 17, 21, 22, 25, 26, 27, 30, 31, 34, 38, 39, 40, 42, and 44;
- 4 • Chapter 11: Implementation: 46, 47, 48, and 49.

5 Correct all page numbers, numbering, and formatting within this Act to accommodate this
6 amendment.

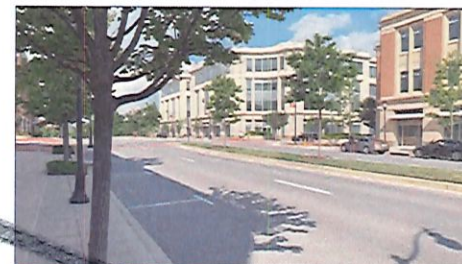
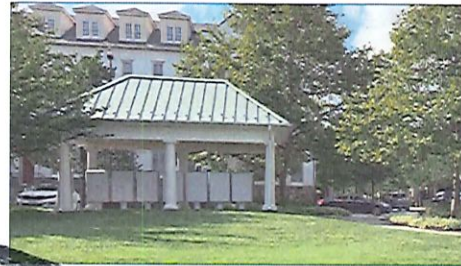
7

Open Space

Open space patterns influence community character and offer different benefits. Broad building setbacks, buffers between uses, and large parking lot islands can provide stormwater management and landscaping. These serve an aesthetic function and provide some environmental benefit but offer little ~~personal or recreational~~ benefit. Stream valley open space networks located behind buildings offer environmental and recreational benefits but are not very visible and prominent. Community commons and open spaces located along street and building frontages and designed as community focal points provide social and aesthetic benefits as highly visible public spaces. Each of these open space patterns are appropriate for specific applications, and it will take careful consideration to determine the pattern best suited for each situation.

Howard County's geography, natural systems, protected areas, rigorous landscape requirements, and maturing landscape in developed areas have resulted in a community character where the landscape often predominates over the built form. As a result, the landscape becomes the major organizing and structural element in the neighborhood, a circumstance which may neutralize a variety of architectural styles. This emphasis on the landscape can be positive if architecture is not of a character that the community desires. ~~Conversely, too much planting can often obscure and negate superior architecture or important sightlines to major cultural or community-focused spaces.~~

The landscape in developed areas also reflects a shift from an emphasis on the amount of planting, to an emphasis on the use of native and non-invasive plants. These areas have also shifted from solely increasing tree canopy coverage to providing more ecologically-beneficial landscapes in the overall landscape design.



Roadways and Corridors

Transportation networks also contribute to community character, and the existing roadways are a prevalent feature of the County's defined character. From the interstate highways that convey travelers at great speeds, it is easy for people to move effortlessly across landforms and from one place to another. Individual details of the landscape become less important than the networks of forest, farmland, and broad views.

Howard County has created broad landscaped corridors along its major interstates and has begun to transform its secondary routes into more walkable environments. A shift to more walkable corridors—along with increased attention to pedestrian and cyclist connectivity—is supported by the Route 1 Manual, Route 40 Design Manual, and the Complete Streets Policy.

In the western portion of the County, there has been a desire to maintain the agrarian viewsheds from the roadway. Within the East, there is a similar focus on preserving the character of scenic roads (views of forests and stream valleys, and narrow, winding, and/or hilly roads) through recent regulatory changes that strengthen and protect viewsheds. Off the highways and along secondary and local roadways with lower speeds and tighter design, the crossing of a river, changes in landforms, and the details of adjacent buildings and the landscape become more apparent. On bike and on foot, these details are even more pronounced, and the presence of street trees along public and private roads has become an organizing element in the suburban landscape.

new toWn Columbia

New Town Columbia stands out as a carefully planned community initiated by a single developer with a vision to be carried out over time. In 1967, Columbia's founder, James Rouse, set out to design and build a city. A conscious, planned approach, this novel endeavor resulted in one of the most talked about New Towns of mid-20th century America, an inspiration for planned communities across the country. Rouse envisioned the planned community of Columbia as a socially responsible, environmentally friendly, and financially successful place in which people of all ages, incomes, and backgrounds could grow as individuals, neighbors, and citizens. Today, Columbia is a thriving unincorporated city with over 100,000 residents living in ten villages, each containing multiple neighborhoods. His strategic vision for what was to be a new kind of community that he applied to the development of New Town Columbia included the following objectives:

1. Provide a real, comprehensive, balanced city.
2. Respect the land and allow the land to impose itself as a discipline on the form of the community.
3. Provide the best possible environment for the growth of people.
4. Realize a profit.

Columbia includes ten villages, ~~each containing multiple neighborhood clusters organized around a village center.~~ The ten villages are organized around Town Center, which includes Downtown Columbia. As "Respect for the Land" was one of the four formative goals for Columbia, clustered development patterns and the curvilinear road network are informed by the open space system, which is defined by the natural drainage patterns. The open spaces and roads, therefore, serve a dual role in both connecting and separating the distinct components of Columbia. Because it follows natural drainage patterns, much of the open space network has historically been located behind structures.

Most of Columbia's village centers are inward-oriented and located on neighborhood-serving roads. However, River Hill, Harper's Choice, and Hickory Ridge Village Center ~~is~~ Centers are located on a busy roadway ~~roadways~~ and follows ~~follow~~ more conventional suburban retail development patterns. As Town Center and the village centers mature and, in some cases, redevelop, development patterns are following more recent trends that increase the visibility of retail uses and emphasize walkability. Other distinct characteristics of Columbia include the emphasis on landscape; the incorporation of lakes in Town Center and several villages, and the retention of historic features, such as former manor homes, barns, and hedgerows. Despite having an extensive pathway and sidewalk network, Columbia is generally auto-oriented. It is trending, however, toward redevelopment and has begun to incorporate infrastructure improvements that enhance bicycle accommodations and walkability.

DoWntoWn Columbia

In 2010, Howard County adopted the Downtown Columbia Plan following five years of debate, discussion, and dialogue with a wide array of stakeholders. The plan's goal is to revitalize downtown, creating a diverse, mixed-use, physically distinctive, and human-scaled place with a rich variety of housing choices, business opportunities, and recreational, civic, cultural, and educational amenities. The plan's implementation is well underway, with many investments completed or in process to realize this vision.

majoR pRovisions of neW toWn zoning

In 2014, Columbia Association's planning staff (the late Jane Dembner) prepared a New Town Zoning Briefing Paper for the Columbia Association Board of Directors. This briefing paper noted that New Town zoning regulations were adopted in 1965 and remained relatively unchanged until 2009 and 2010, when changes were made to address village center redevelopment and Downtown Columbia revitalization. The briefing paper listed the following as major provisions of New Town zoning regulations:

- District size: a New Town zoning district must contain at least 2,500 contiguous acres. (Columbia is the County's only New Town district and comprises 14,272 acres.)
- Flexibility in land use: New Town permits all uses allowed in other county zoning districts except heavy manufacturing and mobile homes.
- Open space preservation: New Town zoning requires that 36 percent of the lands zoned New Town be for open space uses. This requirement, combined with the design of Columbia, has resulted in a distinctive tight weave of Columbia's open space areas, residential neighborhoods, and clustered housing sites. Columbia's open space is a defining and distinguishing feature of Columbia.
- Overall housing density: Overall density (gross density) may not exceed 2.5 dwelling units per acre of New Town zoned land. The maximum number of dwellings permitted by the Downtown Columbia redevelopment process is in addition to this density limit.
- Mixed-use requirements: New Town requires a mix of various land uses, with minimum and maximum percentages and allows flexibility in the geographic placement of those uses.

The General Plan does not propose to change these provisions. Any changes to New Town zoning would be considered through a public process to update the Zoning Regulations. New Town embodies much of HoCo By Design's intended goals: walkability, diverse housing options, and equitable access to open space. Continuity of neighborhoods is critical to the feel and success of New Town.



pReSeRving ChaRacteR in futuRe Development

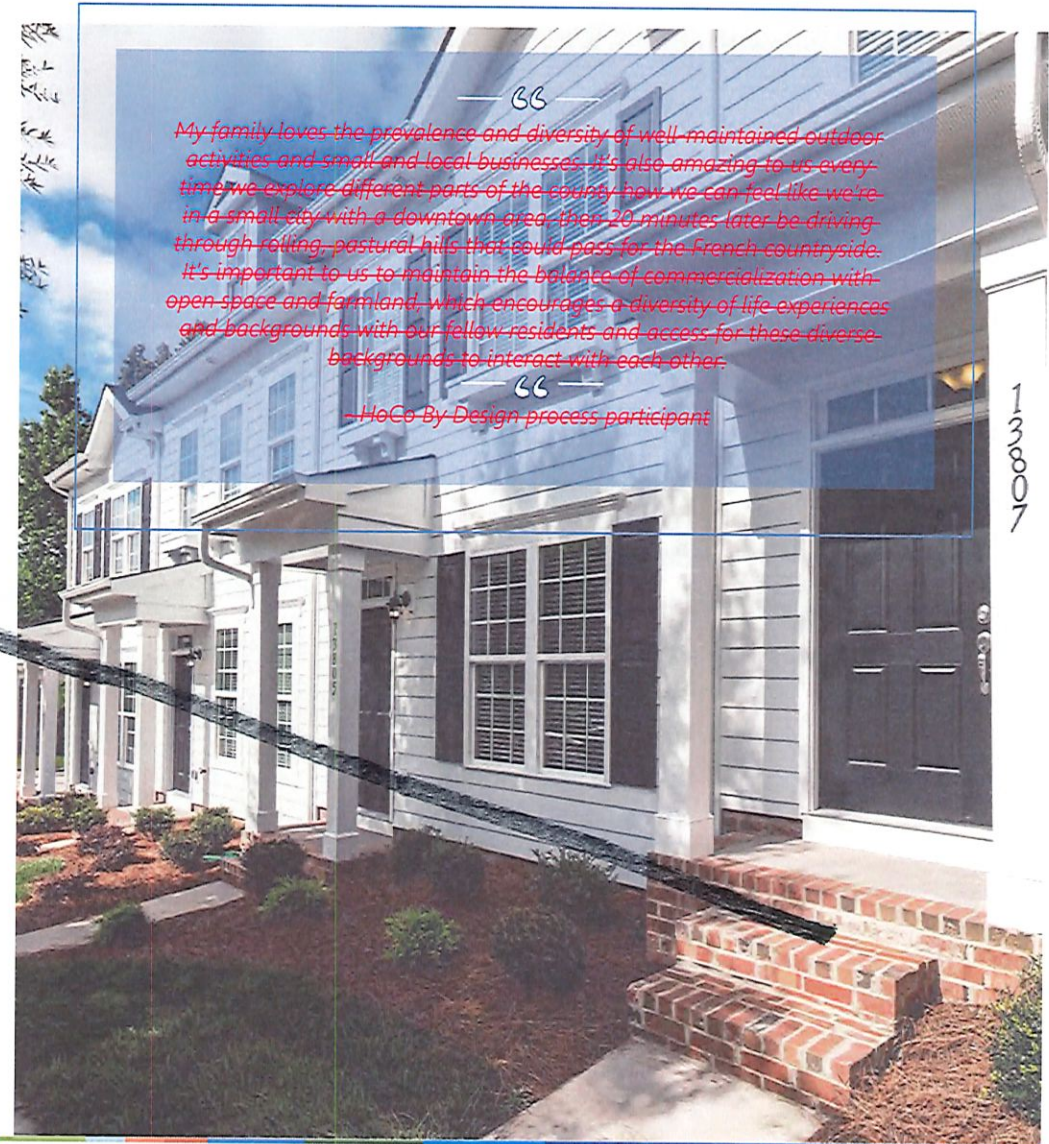
Development standards can and should encourage high-quality future development. These standards should clearly articulate the community's desired vision for an area targeted for development or redevelopment to help the County obtain the type and quality of development it seeks. New developments, redevelopments, and infill developments should use best practice placemaking and urban design principles to achieve high-quality built environments, preserve and incorporate natural features, and establish transitions between the built and natural realms. Key design elements could include the use of building articulation, building placement and site planning principles, building design transitions across landscapes, landscape design, plantings, stormwater management, and open spaces.

The County's existing ordinances regulate a largely-suburban built environment but could be enhanced to further protect the built and natural character of the County and to promote more walkable, high-quality development, where appropriate. The County's Zoning Regulations, Subdivision and Land Development Regulations, and design manuals will need to be reviewed and rewritten to support the vision and policies presented in the General Plan—especially provisions related to context-sensitive new construction in existing neighborhoods, and walkable, mixed-use development in new activity centers.

Conventional zoning ~~may still be~~ is still appropriate for existing single-family residential neighborhoods and strip commercial centers. However, the adoption of an ordinance or guiding document that incorporates more character-based (or form-based) elements will assist in achieving high-quality development that is in keeping with the character of Howard County and the desires of the community.

In contrast with conventional zoning that emphasizes separating uses, a character-based (or form-based) code uses character, or the look and feel of a place, as the primary organizing principle for new development. Hybrid codes may also combine conventional zoning with character-based elements.

According to the Development Regulations Assessment, there could be opportunities to revise the historic district zones in the County. Currently, the Zoning Regulations describe the requirements and restrictions applicable to historic districts instead of generally addressing the allowable land uses or development standards. Frequently, in zoning regulations, historic districts are identified with an overlay zone or as a character-based district that more clearly defines the boundaries and helps demonstrate how historic preservation regulations interact with underlying zoning and subdivision regulations. Overlay zones with a clearly defined base zoning district can help provide predictability of permitted uses within a historic district, encourage development patterns that are consistent with the historic character, and create opportunities to establish future districts that may benefit from such designation criteria.



CharActer-baseD Elements

Character-based code elements emphasize context of development and may apply to a designated area or more generally within the overall land use regulations and zoning codes. They could be used to regulate a number of factors, including building height and placement, parking locations, street frontage, sidewalks, planting areas, drainage, density, and the street itself. This information is conveyed with specific instructions and often includes easy-to-understand diagrams or other graphic illustrations.

While character-based concepts can be applied anywhere, they are most successful in: areas that have a mix of uses, historic communities, and Rural Crossroad areas. A character-based approach to land use regulation in Howard County may yield more walkable, compact, and diverse, mixed-use environments.

Character-based code elements are used to achieve the following:

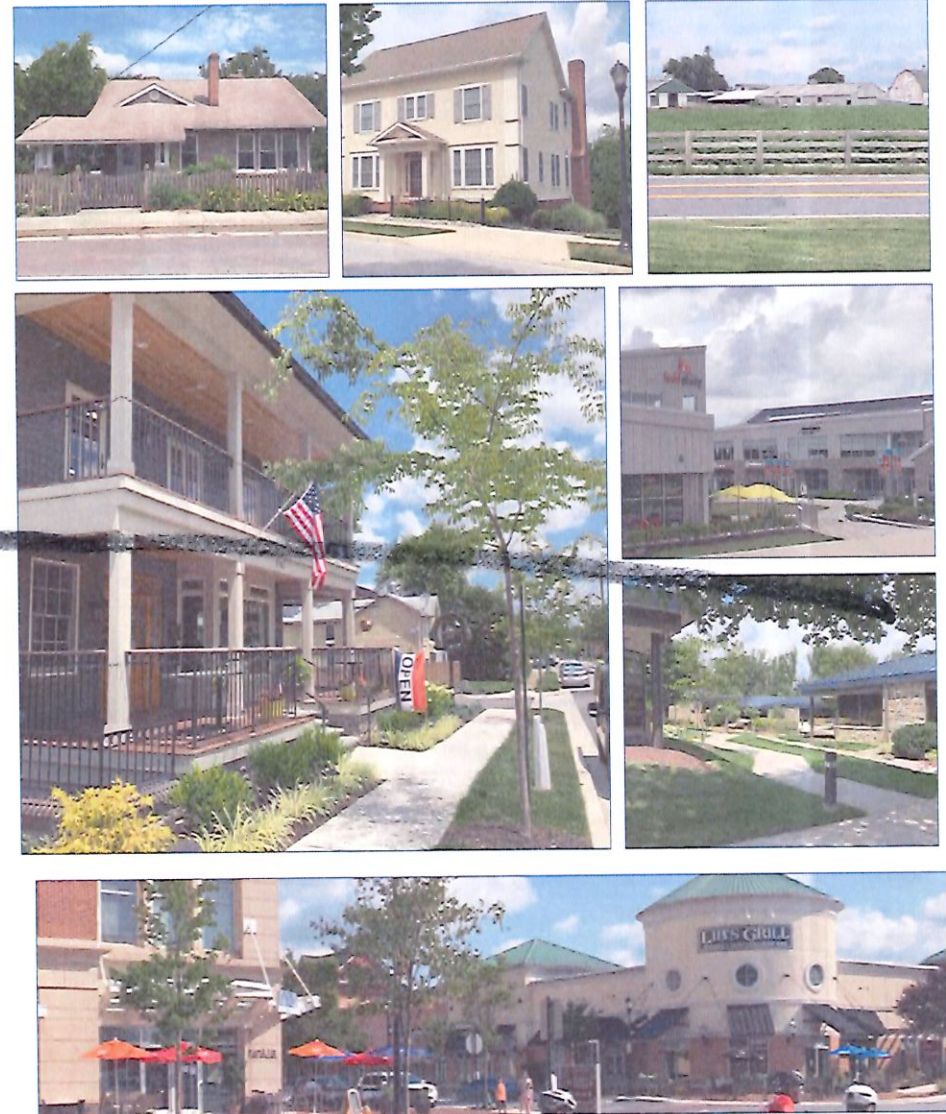
1. Create neighborhoods where development is appropriately scaled to surrounding land uses and the public realm.
2. Encourage active transportation (e.g. walking, biking, etc.).
3. Foster social cohesion.

~~The New Town Zoning District represents more than 14,000 acres and 28,000 parcels in Columbia. The New Town District is comprised of 268 approved Final Development Plans (FDPs) and a regulatory structure that results in challenges for FDP amendments and is difficult to administer. Over time, ownership has changed and development has advanced making it challenging to reconcile the district's original goals and organizational structure. In 2018, Howard County completed a Development Regulations Assessment and Annotated Outline for its Zoning Ordinance. It recommended, in part, significant changes to the New Town Zoning District. Zoning experts cite vague, poorly defined language in some cases and much too detailed language in others as significant challenges to administering New Town zoning. They also claim that the absence of flexibility in New Town zoning and requirements for multiple rounds of approvals will put Columbia at a disadvantage when competing for desired future investment.~~

The New Town Zoning District represents more than 14,000 acres and 28,000 parcels in Columbia. Created as a planned community by a visionary developer over 50 years ago, it is today frequently cited as one of the best places to live in the Country. Columbia has a unique sense of place, much like an historic district, that its residents want to preserve and enhance, as reported by the Columbia Association's testimony to the County Council on June 28, 2023. Columbia's original master plan contained a focus on open space in proportion to housing units that has been preserved over the decades and results in a wooded suburban community. The architectural character, although representing an earlier era, is also part of the community's signature feel. One of Columbia's founding principles was to provide a full-spectrum of housing that still exists today and provides the majority of affordable housing options in the County. Older parts of Columbia have some of the County's highest proportion of multi-family units and more affordable older single-family homes and townhouses. This relationship should be acknowledged and considered when determining locations for new affordable housing.

As a complement to character-based or hybrid zoning, pattern books or design guidelines and manuals can serve as a framework for preferred architectural patterns, styles, and details in the community. They can provide guidelines and standards for building types, building composition and massing, building materials, roof types and details, windows, doors, porches, and other architectural elements. They can also include standards for landscaping, lighting, fences, walls, signage, and other outdoor elements. The scope is typically limited to specific districts, neighborhoods, or activity centers in the community. While pure form-based codes can be challenging to develop, form-based elements can be used to support more traditional zoning regulations using hybrid approaches to further achieve desired character outcomes.

The HoCo By Design Character Areas technical appendix provides additional design-related guidance for future code updates.



hoWaRD County's Design aDvisoRy panel

The Design Advisory Panel (DAP) is a seven-member panel of professionals, including architects, landscape architects, planners, urban designers, and civil engineers, who provide recommendations regarding proposed plans for development or redevelopment that are subject to DAP review.

Created by the Howard County Council in 2009, the purpose of the DAP is to encourage excellence in site design and architecture, promote design compatibility with surrounding development, promote revitalization, and enhance property values.

The DAP provides design advice on proposed subdivisions and site development plans when they are subject to the Route 1 Manual, Route 40 Design Manual, New Town Village Center Design Guidelines, Downtown-wide Design Guidelines or Downtown Neighborhood Design Guidelines, Clarksville Pike Streetscape Plan and Design Guidelines, compatibility criteria for conditional use applications, or design guidelines consistent with the requirements of the County's adopted Zoning Regulations.

The DAP also provides guidance regarding the following:

1. The design for buildings, vehicular circulation and access, pedestrian access and linkages, parking, loading, dumpsters, external mechanical units, existing trees, landscaping, hardscape, conceptual designs for graphic elements, and walls and fences.
2. Building scale and massing in relation to and compatible with the surrounding area and with significant and contextual adjacencies, and appropriate responses to existing site conditions, grading, and stormwater management.
3. Building architectural style, materials, entrances, windows, roof design, and colors.
4. Open space on the site including pathways, public spaces, street furniture, amenity areas, and similar features.
5. The design of exterior lighting devices and potential disturbances to the public and adjacent properties.
6. Principles of sustainability and green design.



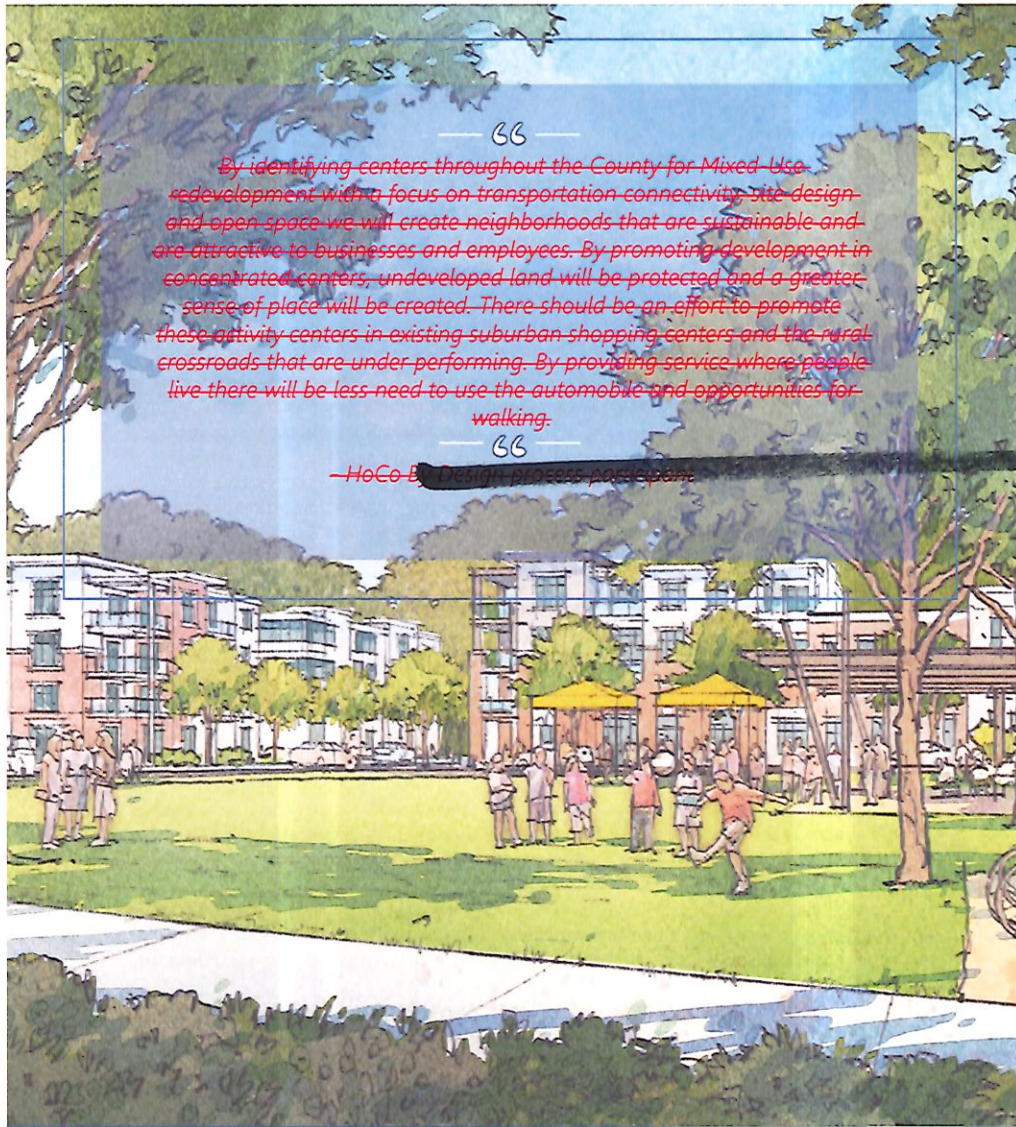
Regional examples of how character and design can be prioritized in new development.

QBD-1 Policy Statement

Prioritize character and design in future development, recognizing variations in Howard County's unique areas.

Implementing Actions

1. Identify areas to investigate character-based zoning concepts and consider the use of pattern books, design guidelines and manuals, or a hybrid approach to establish an intended character and design elements for different character areas in Howard County.
2. ~~Build on the 2018 Development Regulations Assessment to update the County's Zoning Regulations and Subdivision and Land Development Regulations and policies. Incorporate opportunities to codify current practices and create regulations and design standards for new developments, infill developments, and redevelopments.~~
3. ~~2. Evaluate the existing historic district zones and consider replacing them with new historic zoning district overlays or form-based districts.~~
4. ~~3. Review the current Design Advisory Panel (DAP) review areas and approved guidelines for updates. Consider whether the role of the DAP should be expanded to other areas within Howard County.~~
4. ~~Create a taskforce to determine how to preserve New Town's planned community framework, fixed densities, and existing character as defined through the master development plan while considering future redevelopment~~
5. ~~Revise the New Town Zoning District and investigate the use of enhanced design guidelines and character-based or form-based codes in Columbia:~~
 - a. ~~Build upon the preferred development types, patterns, intensities, and design elements described in HoCo By-Design's Character Areas technical appendix.~~
 - b. ~~Take into consideration the design and planning principles illustrated in HoCo By-Design's Focus Areas technical appendix.~~
 - c. ~~Explore rules and requirements for design review by the Design Advisory Panel, or a combination of staff and the DAP.~~
 - d. ~~Identify the appropriate purpose and timing of design review within the development review process.~~



Identifying and Transforming Activity Centers Throughout the County

Traditional suburban communities are changing. As land available for greenfield development runs out, communities, stakeholders, and County government will have to adjust to meet the social, economic, infrastructure, character, and environmental needs of the future. Positioning mature suburban communities for new opportunities requires considering market demands, demographics, regional forces, infrastructure capacity, community actions and reactions, physical planning, and phasing redevelopment in specific areas with fractured land ownership, as well as government rules and policies.

To accommodate growth and continue to provide a high level of service and infrastructure, the County will need to embrace redevelopment opportunities. Several decades of conventional suburban development, combined with land preservation efforts, have resulted in a community with very little developable land remaining, a wide spectrum of character typologies, and a population increasingly reliant on automobiles.

HoCo By Design seeks to identify activity centers that promote mixed-use, walkable development areas throughout the community as areas for transformation. These activity centers are depicted in the Future Land Use Map (FLUM) presented in the Growth & Conservation Framework Chapter. Character areas that provide opportunities for the County to grow and innovate with future activity centers include Downtown Columbia, Regional Activity Center (Gateway), Transit Activity Center, Industrial Mixed-Use Center, Village Activity Center, and Mixed-Use Activity Center. The FLUM and character areas aim to create more predictability around what type of development will occur in these targeted areas. These activity centers provide opportunities to reimagine Howard County's future and introduce new mixed-use employment centers, regional shopping centers, entertainment areas, and upper-story or adjacent residential units in appropriate locations.

The overall goal is to allow and promote compact mixed-use development patterns in county activity centers that create places where people live, work, shop, and play as a cohesive community—furthering the economic vitality and sustainability of the area. Mixed-use development also increases the efficiency of the utilities and transportation serving the area and enhances the sense of community experienced by residents, business owners, and visitors.

These new activity centers in the County will evolve over time in terms of land use mix, density and intensity, home choices, and transportation options. Each activity center's design will be unique, resulting in a variety of mixed-use places. These are the areas where the County should emphasize public and private investment—increasing allowable densities and intensities, adding infrastructure capacity (such as public schools, fire stations, and other public facilities), improving access from nearby neighborhoods, investing in streetscape improvements, and encouraging affordable housing.

When developing activity centers, integrating transportation design principles creates cohesive, fluid, and engaging experiences for cyclists and pedestrians. Many suburban rights-of-way (ROW) were designed for high-speed, auto-only travel. By narrowing travel lanes and adding on-street parking, sidewalks, and planting strips, streets can be made safer and more walkable, creating a more user-friendly, aesthetically-pleasing public realm. Redevelopment can also address barriers to non-motorized connectivity in places like aging shopping centers by enhancing pedestrian connections and creating internal drives with infill buildings fronting onto them. Rather than having large surface parking lots between the building and the street, this redevelopment approach relocates parking to the rear of buildings, thereby achieving better land use transition patterns.

Many of the activity centers identified in the FLUM are existing suburban shopping centers and office parks that contain large swaths of impermeable areas and often reflect outdated automobile-centric site designs. Retrofitting aging building sites allows developers to take advantage of existing infrastructure and services. Such redevelopment further helps to mitigate the effects of sprawl by providing better connections to transit and mobility corridors.

Green Redevelopment

Redevelopment of existing shopping centers provides significant environmental benefits by introducing open space, community gathering areas, and stormwater management where none currently exist. Examples of open space elements that can be added in redeveloped centers include small parks, squares, plazas, and community gardens. New or improved stormwater management, which incorporates environmental site design practices, reduces impervious area and adverse impacts to sensitive watersheds. The County currently reviews energy and water efficiency requirements in its Building Code every three years and during the Building Code update process. The County should continue to review these requirements to ensure they reflect the most recent best practices. To further these green initiatives, the County should explore integrating additional environmentally sustainable design standards in future updates for the Zoning Regulations, site design requirements, and environmental programs.

In 2020, Howard County added bird-friendly design standards to its pre-existing Green Building requirements (which apply to new public buildings of 10,000 square feet or larger and new private buildings of 50,000 square feet or larger). The purpose of bird-friendly design is to reduce the likelihood that birds will collide with buildings. Design techniques include use of façade materials that are more visible to birds and reduction of excessive artificial lights that can disorient migrating birds.



QBD-2 Policy Statement

Use the The Future Land Use Map (FLUM) may be used to guide redevelopment in identified activity centers, which present opportunities for mixed-use development, mixed-income housing, small parks or community gathering spaces, increased stormwater management, and multi-modal transportation options.

Implementing Actions

1. Use-Consider using the Future Land Use Map (FLUM) during the rezoning process to create activity centers consistent with the character area descriptions.
2. Assess existing Subdivision and Land Development Regulations, Zoning Regulations, and Design Advisory Panel design review policies for opportunities to create or strengthen regulations and design standards for activity center development/redevelopment. Evaluate potential standards for frontage design, main entrance location, and parking calculations. Incorporate accessibility by including standards and guidance to ensure there is direct access to the building from the street.
3. Review the Zoning Regulations and design manuals to identify ways to mitigate the impacts of auto-oriented uses and minimize negative impacts, including odor, noise, light, air pollution, and diesel emissions.
4. Ensure redevelopment of suburban shopping centers and office parks reduces impervious surface, increases open space, and provides adequate stormwater management, where none or little existed before.
5. Explore integrating additional environmentally sustainable design standards in future updates to the Zoning Regulations, site design requirements, and environmental programs to further green initiatives.
6. When retrofitting shopping centers and business parks, investigate opportunities to create mixed-income housing for all residents. Incentivize affordable housing that can be purchased by low and moderate income buyers. Ensure better retail success in the Village Centers by initiating a new market study to update the 2014 study that will clearly identify supportable retail types and quantities at each center. Non-retail uses, including civic and cultural, should be included. This becomes a roadmap regarding support for and input into county and developer proposals.

Enhancing the public Realm and Walkability

The public realm is comprised of the spaces between the buildings, including the streets, sidewalks, parks, and other public spaces. Plans for these spaces ensure that community character remains at the forefront as development, redevelopment, and infill occurs.

The concept of accessibility and walkability is a thread that is woven throughout this document in character area descriptions, redevelopment recommendations, and policy statements. A walkable community achieves a balance between multiple modes of transportation and ensures equitable accessibility for persons of all ages and abilities. A walkable place reduces reliance on automobiles and not only encourages walking and biking, but also makes it safe and appealing to pedestrians and cyclists. In Howard County, sprawling development patterns and a disconnected network of pedestrian facilities can make it difficult to travel by foot in some areas, especially for those who may use mobility devices. Many of the existing commercial and suburban retail developments in Howard County remain automobile focused.

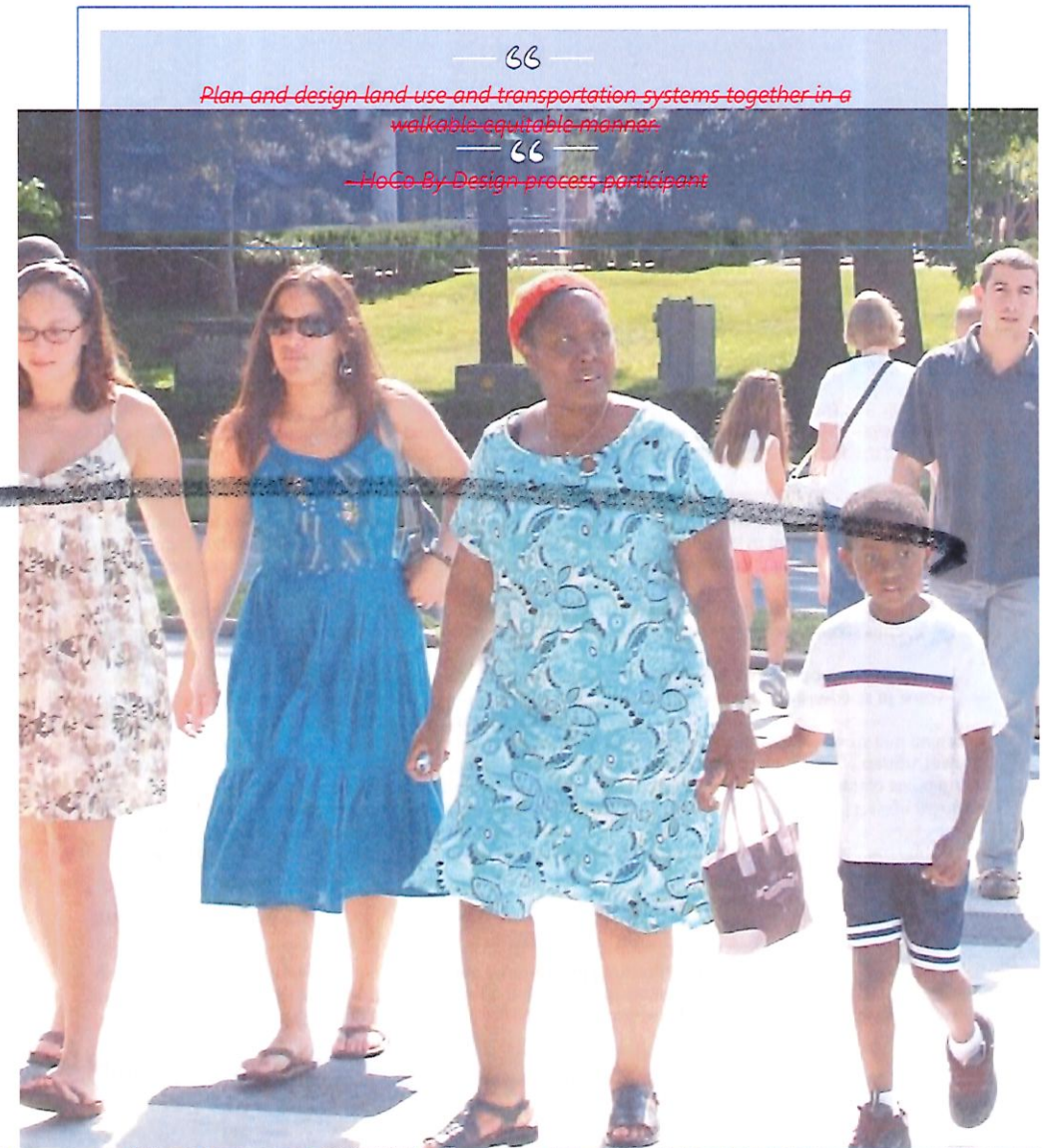
A comprehensive approach to design and investment in public spaces and transportation corridors creates opportunities to coordinate projects that reinforce a common community vision. The ability to create walkable environments through investments in the public realm can also influence travel behavior and nearby land uses and development densities.

In conventional development, commercial uses like gas stations, drive-through restaurants, and banks often place the building at the back of the lot and the vehicular circulation in the front. Flipping the two helps activate the

Benefits of a Walkable Community

- A walkable location with a mix of uses generates more foot traffic, which encourages retail sales.
- Mixed-use environments are generally more economically-resilient and able to evolve with changing demographics.
- The ability to walk and ride transit reduces the need for and costs of car ownership¹.
- Providing walkability throughout Howard County would be a benefit to lower-income families, who may be more reliant on walking.
- A walkable environment can help people incorporate exercise into their daily lives at no cost.
- Communities designed to be walkable have the potential to improve air quality by reducing short car trips.
- Walkable neighborhoods generally have lower rates of traffic fatalities—for both pedestrians and motorists.
- Seniors who choose to give up driving may be able to remain independent longer if they are able to walk to services.

¹The average cost of owning and operating a car in 2019 (per AAA) was more than \$9,000 per year.



Public Art and Planning

According to the American Planning Association, Planning Advisory Service report entitled Public Art and Planning, "Public art can be an engaging tool for creating a sense of place that reflects the character, history, and values of a community. Communities can use public art to further economic growth and sustainability, cultural identity, social cohesion, and public health. There are numerous ways to incorporate art into the built environment and everyday planning processes in a way that engages diverse stakeholders."

street and create a more pedestrian-friendly streetscape. Scale, shade, comfort, and commercial uses activating the street become as important as the infrastructure itself.

Redevelopment in Columbia's downtown and village centers, as well as recent planned mixed-use developments, emphasize design for pedestrians and bicyclists. The County already has some tools in place with the Route 1 Manual, Route 40 Design Manual, and the Clarksville Pike Streetscape Plan and Design Guidelines, which guide design of the public realm. HoCo By Design's County in Motion chapter also provides policies and recommendations related to walkability and bikeability.

Finally, the location of recreational open space in new developments and redevelopments impacts its usability. The County's Subdivision and Land Development Regulations should be updated to ensure the creation of usable and accessible community open space.

QBD-3 Policy Statement

Focus on creating active, walkable, and universally accessible public realms in all new development and redevelopment and include a broad range of community spaces, as appropriate to each character area.

Implementing Actions

1. Prioritize the orientation of **commercial** buildings toward the street in all new development and redevelopment to create more walkable places.
2. Work with stakeholders and community members to incorporate policies for diverse and inclusive public art and cultural expression throughout the County. Identify potential partnerships for strengthening public art programs and art education opportunities.
3. Continue to work with stakeholders of all ages and abilities to identify strategies for universal access to employment centers, stores, parks, and recreation and community amenities.
4. Establish goals and guidelines for providing community open spaces and park spaces to create more equitable access across different neighborhoods in Howard County. Ideally, residents should have a variety of open space choices within walking or biking distance of their home.
5. Evaluate the goals described in the Route 1 Manual, Route 40 Design Manual, Clarksville Pike Streetscape Plan and Design Guidelines, and Complete Streets Policy for updates and determine if there are items in these manuals that could be adapted more broadly within the County.
6. Use a holistic approach to incorporating transportation infrastructure into the public realm that focuses on connections and universal user experience.

Addressing Context-Sensitive Design

Future development in the County will be guided by character areas applied to the Future Land Use Map (FLUM). Transformative redevelopment in activity centers will become the primary means of change across different areas and places in the County. However, in some cases, neighborhoods may present opportunities for small-scale, context-sensitive infill development and redevelopment that complements the character and uses of surrounding homes and neighborhoods.

In conventional suburban patterns where different uses are separated, clear boundaries and buffers are established to mitigate the impacts of adjacent incompatible uses. A shift to redevelopment presents an opportunity to reimagine site design for both residential and nonresidential buildings. Redevelopment can incorporate best practice design principles that create complete streets, provide for high-quality architecture, construct meaningful open spaces, and maintain the character of existing neighborhoods. Incorporating smaller-scale housing and commercial and office activity centers in areas adjacent to existing residential neighborhoods creates both a challenge and an opportunity. By focusing on transitions in form and massing, the County can begin to infill around its single-use residential areas with contextually-appropriate mixed-use development.

Community character is shaped in large part by the way developments respond to the land, interface with other uses, relate to streets and civic spaces, and reinforce connections. These factors often have a greater impact on character than the use of the buildings themselves. Well-coordinated site and structure design provide an overarching context for a place that transcends its use.

There are many early subdivision neighborhoods in Howard County that may not be officially designated as historic but are older neighborhoods consisting of housing types that are no longer commonly built. Many such neighborhoods are characterized by large lots and mature trees. These neighborhoods have experienced more recent infill development with new houses placed behind existing homes, often accessed off pipestem driveways. In these situations, the new construction tends to follow market trends and is often not compatible with the existing neighborhood in site orientation, bulk, massing, and proportion. These developments can slowly change the character of the neighborhoods.

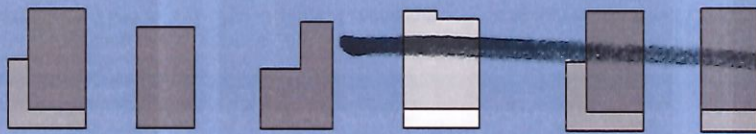
— CC —
The form (design/massing/site placement) of new housing types is more important than the type of housing. Architecture and site planning do more to shape how housing forms feel in a neighborhood and disparate forms create anxiety and opposition.

— CC —
—HoCo By Design process participant

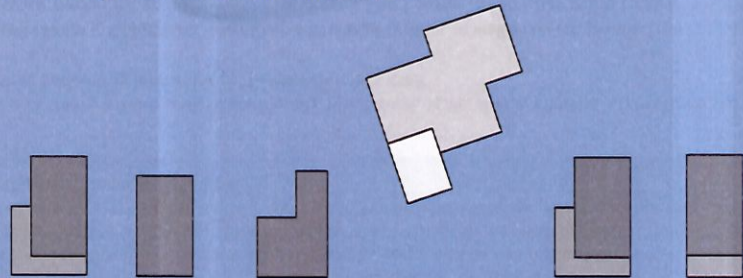
Context-Sensitive Design in Established Neighborhoods

New homes can blend into established neighborhoods through compatible site orientation, bulk, massing, and proportion.

In the following diagram, the new home in the center (shown in light gray) is oriented to the street, just like the existing homes (shown in dark gray). The new home follows the same setback from the street as the existing homes. While not identical to each home on the street, the new home's proportions (depth and width) are comparable to other existing homes. The porch on the new home spans the width of the home, like others on the street, and features similar proportions to existing porches.



Compared to the example above, the new home in the diagram below (shown in light gray) is less compatible with existing homes. The new home is oriented at an angle (rather than towards the street) and is set further back from the existing homes. The new home's proportions also differ from all the existing homes on the street, as does its porch.



Infill Development

It is important that future infill in mature existing communities respects the character of both the built and natural environments. New development should consider existing adjacent development early in the application and conceptual design process. It should be compatible with the scale, bulk, massing, and proportion of the surrounding community. Architectural features may also reflect existing character and can help new development assimilate with nearby buildings through similarly sized and patterned architectural features, such as windows, doors, awnings, arcades, cornices, facade materials, roof types, and other details.

Small infill sites where existing development patterns are established and expected to remain can use building form and placement to avoid incompatible adjacencies. For example, a quadplex with four units can be designed to look nearly the same as a single-family home, allowing it to fit seamlessly into the neighborhood. Allocating parking to the rear of the lot, ~~accessed from an alley or a front-loaded driveway~~, allows the occupancy of the building to appear comparable to adjacent houses. This infill approach provides an opportunity to include a variety of housing types and price points to address housing needs in Howard County.

On larger infill sites, new development across the street from existing development should be complementary in lot size and building massing and placement. New lots and buildings that differ significantly in massing and scale should be located towards the center of the development, with lots and building sizes gradually transitioning to the scale of existing surrounding development. Where these transitions are not possible due to existing neighborhood patterns, infill buildings should still maintain a consistent structure setback and provide a new massing and architecture that correlate to the adjacent building heights and architectural rhythms.

Similar treatments should be considered for small commercial or office buildings near existing neighborhoods. Commercial and industrial development near neighborhoods should be limited to operations that are low-intensity, unobtrusive, and at a scale and design compatible with nearby residential development. The design of these centers should transition effectively between residential and nonresidential uses, and include safe and convenient pedestrian and bicycle access for nearby residents. New development should focus density and intensity around major intersections and provide appropriate transitions to less intense edges of the neighborhood. Similarly, massing should consider the edge transitions as well. New, taller, more dense buildings may occur at one end of the new development block, with medium, less dense buildings mid-block, and smaller, low-density buildings meeting the scale of the existing neighborhood. Transitions may also take place over rear lot lines, where one side of an existing block may have a different character than the opposite side of the new development block. Illustrative approaches to infill development in different settings are described in Technical Appendix C: Focus Areas.

Context-sensitive infill may be further achieved through design guidelines that are specific to surrounding areas. Buildings and architecture in Howard County are highly varied and reflect several architectural styles, including Georgian, Federal, and Greek Revival styles and forms. Mid-century architecture was introduced with the development of Columbia, and new contemporary architecture is also prevalent throughout the County. These variations in architectural styles reinforce the character of different places, but often buildings and developments outside of historic areas, districts, and rural areas do not align with the character of the surrounding areas. Architectural compatibility can be achieved through design guidelines or pattern books to maintain the look and feel of mature neighborhoods; however, regulating architectural style would be challenging given the variety of styles present in the County.

Updates to development and redevelopment regulations can incorporate architectural and site design principles that better reflect unique areas, address pedestrian and transit-friendly opportunities in larger developments, and result in meaningful open spaces. Updates to the County Zoning Regulations should address infill development options in residential districts, which includes standards to ensure that new development is appropriate to the site and its surroundings. Architectural elements can also serve as important transitional features for new development. Where a clearly established building character is expected to remain, infill development should blend with nearby buildings by using similarly sized and patterned architectural features.

hoWaRD County lanDscape Manual

The Howard County Landscape Manual, which establishes standards of performance for preparing landscape plans, was last amended in 1998 (though a policy memorandum was added in 2010 to update recommended street tree and plant lists). As noted in the 2018 Development Regulations Assessment, there is a need to update the manual to better address issues related to quantities, species, spacing, and survival of plantings, as well as integration with solar technology. Updates could reconsider landscape standards for places in the County that are planned for a more walkable, mixed-use environment, such as planting calculations, screening requirements, placement design, and species mixes. The assessment also cited the need to review and strengthen landscape buffers along residential/commercial and residential/agricultural edges.



NatuRe anD Context-Sensitive Design

As previously noted in this chapter, the natural landscape often serves as a unifying element in neighborhoods. Infill development and redevelopment can be designed to both respect natural features and accentuate them. For example, mature trees can be retained and new trees planted to enhance the existing landscape. Building setbacks (such as the space between buildings and the street) can be repeated in new development so existing patterns of green spaces (such as front yards) are maintained. Finally, the approach to design can emphasize adapting a building to a site (rather than adapting a site to a building), thereby reducing disturbance to natural features.

QBD-4 Policy Statement

Develop context-sensitive design standards appropriate for various scales of infill development to effectively transition between larger developments and established uses, and to encourage compatibility of small-scale infill within established neighborhoods.

Implementing Actions

1. Explore the implementation of form-based or character-based districts and neighborhood compatibility standards that emphasize massing and form over use type.
2. Investigate programs to preserve the community character of older neighborhoods that are not currently designated as historic or do not yet meet criteria to be designated as such.
3. ~~Encourage infill housing typologies that create smaller more affordable units, if they blend in with surrounding homes through context-sensitive design.~~
4. ~~Review existing design manuals for updates to address contextual architecture design.~~
5. ~~Assess existing land use and zoning policies for opportunities to incorporate best practice placemaking and urban design principles that create transitions between land uses and between the built and natural environments.~~
6. ~~Update the Landscape Manual to reflect current best practices, and to provide clear direction on buffers that address the scale and mass of new development abutting existing development.~~
7. ~~Ensure that adequate parking exists for all infill developments.~~

Table 10-1: Implementation Matrix

Policy and Implementing Actions	Lead Agency	Timeframe (Mid-Term five-year, Long-Term six+)
DN-15 - Increase access to and availability of affordable housing for people experiencing homelessness in Howard County.		
1. Seek out additional opportunities for partnerships on future housing developments to increase the number of homeless preference set-aside units developed in Howard County.	DCRS DHCD	Ongoing
2. Create awareness and advocacy around the needs of those experiencing homelessness whenever new housing developments are being planned and created.	DCRS DHCD	Ongoing
3. Evaluate the need for additional shelter/bed capacity, permanent supportive housing, and expanded public-private partnerships to address the needs of the County's chronically homeless and other individuals with special needs.	DCRS DHCD Private	Mid-Term
4. Explore opportunities for acquisition of blighted or under-utilized properties for the purposes of providing flexible shelter options and services for the homeless population.	DCRS DHCD	Ongoing
5. Seek opportunities to locate housing for the homeless or individuals with special needs in close proximity to jobs, amenities, and transportation connections.	DCRS DHC DPZ	Ongoing

Table 10-1: Implementation Matrix

Policy and Implementing Actions	Lead Agency	Timeframe
QBD-1 - Prioritize character and design in future development, recognizing variations in Howard County's unique areas.		
1. Identify areas to investigate character-based zoning concepts and consider the use of pattern books, design guidelines and manuals, or a hybrid approach to establish an intended character and design elements for different character areas in Howard County.	DPZ	Mid-term
2. Build on the 2018 Development Regulations Assessment to update the County's Zoning Regulations and Subdivision and Land Development Regulations and policies. Incorporate opportunities to codify current practices and create regulations and design standards for new developments, infill developments, and redevelopments.	DPZ	Mid-Term
3. Evaluate the existing historic district zones and consider replacing them with new historic zoning district overlays or form-based districts.	DPZ	Mid-Term
4. Review the Design Advisory Panel (DAP) review areas and approved guidelines for updates. Consider whether the role of the DAP should be expanded to other areas within Howard County.	DPZ	Long-term
5. Revise the New Town Zoning District and investigate the use of enhanced design guidelines and character-based or form-based codes in Columbia: <ul style="list-style-type: none"> a. Build upon the preferred development types, patterns, intensities, and design elements described in HoCo By Design's Character Areas technical appendix. b. Take into consideration the design and planning principles illustrated in HoCo By Design's Focus Areas technical appendix. c. Explore rules and requirements for design review by the Design Advisory Panel, or a combination of staff and the DAP. d. Identify the appropriate purpose and timing of design review within the development review process. 	DPZ	Mid-Term
4. <u>Create a taskforce to determine how to preserve New Town's planned community framework, fixed densities, and existing character as defined through the master development plan while considering future redevelopment.</u>	DPZ	Mid-Term

Table 10-1: Implementation Matrix

Policy and Implementing Actions	Lead Agency	Timeframe (Mid-Term five-year, Long-Term six+ years, Ongoing)
QBD-2 - Use the The Future Land Use Map (FLUM) <u>may be used</u> to guide redevelopment in identified activity centers, which present opportunities for mixed-use development, mixed-income housing, small parks or community gathering spaces, increased stormwater management, and multi-modal transportation options.		
1. <u>Use-Consider using</u> the Future Land Use Map (FLUM) during the rezoning process to create activity centers consistent with the character area descriptions.	DPZ	Mid-Term
2. Assess existing Subdivision and Land Development Regulations, Zoning Regulations, and Design Advisory Panel design review policies for opportunities to create or strengthen regulations and design standards for activity center development/redevelopment. Evaluate potential standards for frontage design, main entrance location, and parking calculations. Incorporate accessibility by including standards and guidance to ensure there is direct access to the building from the street.	DPZ	Mid-Term
3. Review the Zoning Regulations and design manuals to identify ways to mitigate the impacts of auto-oriented uses and minimize negative impacts, including odor, noise, light, air pollution, and diesel emissions.	DPZ	Mid-Term
4. Ensure redevelopment of suburban shopping centers and office parks reduces impervious surface, increases open space, and provides adequate stormwater management, where none or little existed before.	DPZ	Ongoing
5. Explore integrating additional environmentally sustainable design standards in future updates to the Zoning Regulations, site design requirements, and environmental programs to further green initiatives.	DPZ OCS DILP	Ongoing
6. When retrofitting shopping centers and business parks, investigate opportunities to create mixed-income housing for all residents. <u>Incentivize affordable housing that can be purchased by low and moderate income buyers.</u>	DPZ DHCD	Long-term
7. <u>Ensure better retail success in the Village Centers by initiating a new market study to update the 2014 study that will clearly identify supportable retail types and quantities at each center. Non-retail uses, including civic and cultural, should be included. This becomes a roadmap regarding support for and input into county and developer proposals.</u>	HCEDA DPZ Private Partners Columbia Assn.	Mid-Term

Table 10-1: Implementation Matrix

Policy and Implementing Actions	Lead Agency	Timeframe (Mid-Term five-year, Long-Term six+ years, Ongoing)
QBD-3 - Focus on creating active, walkable, and universally accessible public realms in all new development and redevelopment and include a broad range of community spaces, as appropriate to each character area.		
1. Prioritize the orientation of <u>commercial</u> buildings toward the street in all new development and redevelopment to create more walkable	DPZ	Ongoing
2. Work with stakeholders and community members to incorporate policies for diverse and inclusive public art and cultural expression throughout the County. Identify potential partnerships for strengthening public art programs and art education opportunities.	DPZ	Long-term
3. Continue to work with stakeholders of all ages and abilities to identify strategies for universal access to employment centers, stores, parks, and recreation and community amenities.	OOT DRP DCRS DILP	Ongoing
4. Establish goals and guidelines for providing community open spaces and park spaces to create more equitable access across different neighborhoods in Howard County. Ideally, residents should have a variety of open space choices within walking or biking distance of their home.	DRP DPZ	Mid-Term
5. Evaluate the goals described in the Route 1 Manual, Route 40 Design Manual, Clarksville Pike Streetscape Plan and Design Guidelines, and Complete Streets Policy for updates and determine if there are items in these manuals that could be adapted more broadly within the County.	DPZ OOT	Mid-Term
6. Use a holistic approach to incorporating transportation infrastructure into the public realm that focuses on connections and universal user experience.	OOT DPW	Long-term

Table 10-1: Implementation Matrix

Policy and Implementing Actions	Lead Agency	Timeframe (Mid-Term five-year, Long-Term six+ years, Ongoing)
QBD-4 - Develop context-sensitive design standards appropriate for various scales of infill development to effectively transition between larger developments and established uses, and to encourage compatibility of small-scale infill within established neighborhoods.		
1. Explore the implementation of form-based or character-based districts and neighborhood compatibility standards that emphasize massing and form over use type.	DPZ	Mid-Term
2. Investigate programs to preserve the community character of older neighborhoods that are not currently designated as historic or do not yet meet criteria to be designated as such.	DPZ	Mid-Term
3. Encourage infill housing typologies that create smaller more-affordable units, if they blend in with surrounding homes through context-sensitive design.	DPZ	Mid-Term
4. Review existing design manuals for updates to address contextual architecture design.	DPZ	Long-Term
5. Assess existing land use and zoning policies for opportunities to incorporate best practice placemaking and urban design principles that create transitions between land uses and between the built and natural environments.	DPZ	Mid-Term
6. Update the Landscape Manual to reflect current best practices, and to provide clear direction on buffers that address the scale and mass of new development abutting existing development.	DPZ DRP OCS	Mid-Term
6. Ensure that adequate parking exists for all infill developments.	DPZ	Ongoing
QBD-5 - Pursue new historic designations to protect and preserve historic communities and sites through the creation of new single site historic districts, new multiple site historic districts, conservation districts, or other types of designations for historic communities.		
1. Research the various types of historic designations, beyond those currently used by Howard County.	DPZ	Long-Term
2. Provide outreach to the various communities to gauge their level of interest in historic designation options.	DPZ	Long-Term

Table 10-1: Implementation Matrix

Policy and Implementing Actions	Lead Agency	Timeframe (Mid-Term five-year, Long-Term six+ years, Ongoing)
QBD-6 - Strengthen existing historic preservation programs and initiatives in Howard County.		
1. Complete the update of the Ellicott City Historic District Design Guidelines to create a user-friendly document that responds to changing technologies while maintaining the character of the District.	DPZ	Mid-Term
2. Update the Lawyers Hill Historic District Design Guidelines.	DPZ	Long-term
3. Evaluate ways to strengthen preservation and maintenance of historic properties outside of historic districts.	DPZ	Long-term
4. Strengthen historic preservation programs both to prevent demolition and demolition by neglect, and to better incentivize restoration and adaptive reuse.	DPZ	Long-term
5. Continue to implement the 2014 Preservation Plan and update it as needed.	DPZ	Long-term
6. Encourage the design of new construction that is compatible with historic structures so that neighborhoods maintain a better sense of place and retain historic integrity.	DPZ	Ongoing
7. Explore the use of transfer of development rights programs, easements programs, or other development incentives to preserve historic sites and their environmental settings.	DPZ	Mid-Term
QBD-7 - Continue to provide incentives for the restoration and preservation of historic resources.		
1. Continue to promote use of county historic tax credits for properties located in local historic districts or listed on the Historic Sites Inventory.	DPZ	Ongoing
2. Continue to pursue and promote funding opportunities for historic property restoration and preservation.	DPZ DRP DPW Elected Officials OOB Private Property Owners	Ongoing
3. Support a grant program for the general upkeep and maintenance of historic cemeteries and tax-exempt properties.	DPZ Elected Officials OOB	Long-term
4. Continue partnerships supporting cemetery preservation that can provide funding, advocacy, and education.	DPZ	Ongoing

Amendment 2 to Amendment No. 76 to Council Bill No. 28 -2023

**BY: The Chairperson at the Request
of the County Executive**

**Legislative Day 12
Date: 10/11/2023**

Amendment No. 2 to Amendment No. 76

(This Amendment to Amendment No. 76 makes the following changes:

1. *QBD 21: Removes the sentence that reads "However River Hill, Harper's Choice, and Hickory Ridge Village Centers are located on busy roadways and follow more conventional suburban retail development patterns."*
2. *QBD 25: Under Preserving Character in Future Development, in the 3rd paragraph, strike the removal of "may still be" and strike the addition of "is still" and re-insert "may still be" to remain consistent with action items and recommendations for evaluating "character-based or hybrid zoning, pattern books, or design guidelines and manuals".*
3. *QBD 27: Under Preserving Character in Future Development:
Strikethrough narrative amendment text added by Am 76 that begins "The New Town Zoning District" and replaces it with narrative that describes the regulatory framework of New Town zoning, past General Plan policies and zoning that made changes to the framework, challenges with administering the framework, and provides narrative support for policies to evaluate the framework and consider issues of character.*
4. *QBD 30: Under QBD-1 Policy Statement, adding implementing action to create a taskforce to evaluate the New Town planned community framework (note that implementing action 4 appears on page 29 because of formatting)*
5. *QBD 34, under QBD Policy Statement 2:*
 - a) *Revises narrative and text to clarify the role of General Plan Future Land Use Maps is guiding implementation.*
 - b) *Revises action item 4 to clarify that redevelopment shall ensure that percentages are set for open space.*
 - b) *Revises action item 7 with language adjustments to the market study action item.*
6. *In Chapter 11, makes corresponding changes to Policy Statements 1 and 2.)*

- 1 Substitute pages 1 and 2 of Amendment 76 with the attachment to this Amendment to
- 2 Amendment.
- 3

A2A76CB28-2023

1

I certify this is a true copy of
Am 2 A 76 CB28-2023
passed on 10/11/2023
Michelle Dwyer
Council Administrator

- 1 In Chapter 7, Quality by Design, substitute pages QBD 21, 25, 27, 30 and 34 attached to
- 2 Amendment No. 76 with the pages QBD 21, 25, 27, 30 and 34 attached to this Amendment to
- 3 Amendment.
- 4
- 5 In Chapter 11, Implementation, substitute pages IMP 46 and 47 attached to Amendment No. 76
- 6 with the pages IMP 46 and 47 attached to this Amendment to Amendment.

Amendment 76 to Council Bill No. 28 -2023

BY: Deb Jung

Legislative Day 11

Date: 10/02/2023

Amendment No. 76

(This Amendment makes the following changes to HoCo by Design Chapter 7 and Chapter 11:

Chapter 7: Quality
By Design

- Removes all quotes;
- Removes language about planting obscuring sightlines;
- ~~Adds Harper's Choice and Hickory Ridge to the list of examples of Village Centers that follow conventional development patterns;~~
- ~~Removes language about development patterns~~
- Removes language about the process to amend New Town zoning and substitutes a description of how New Town zoning embodies the General Plan's intent;
- ~~Clarifies that conventional zoning is still appropriate for existing residential neighborhoods and commercial centers;~~
- Removes the sixth and seventh paragraphs of the section titled "Preserving Character in Future Development" and substitutes ~~a~~ paragraph language describing the history, regulatory framework and character of the New Town Zoning District;
- Amends the QBD-1 Policy Statement Implementing Actions to remove a requirement to build on the 2018 Development Regulations Assessment and incorporate opportunities to codify current practices, add a requirement to create a taskforce to determine evaluate and make recommendations on how to carry forward preserve New Town's planned community framework, fixed densities, and existing character, and remove a revision of the New Town Zoning District based on design guidelines and character based codes;
- Amends the QBD-2 Policy Statement Implementing Actions to clarify the FLUM may be used considered to guide redevelopment rather than must be used, add an incentivization for affordable home ownership, and add a new market study for retail demand;
- Amends the QBD-3 Policy Statement Implementing Actions to clarify the orientation of commercial buildings is prioritized;
- Removes language about accessing parking via an alley or front loaded driveway;
- Amends the QBD-4 Policy Statement Implementing Actions to remove the encouragement of infill housing typologies that create smaller more affordable units and add assurance that adequate parking exists for all infill development;

Chapter 11:

- Amends the QBD-1 Policy Statement Implementing Actions to

Implementation

*remove a requirement to build on the 2018 Development
Regulations Assessment and incorporate opportunities to codify*

current practices, add a requirement to create a taskforce to ~~determine evaluate and make recommendations on~~ how to ~~preserve~~ carry forward New Town's planned community framework, ~~fixed-densities, and existing character~~, and remove a revision of the New Town Zoning District based on design guidelines and character based codes;

- Amends the QBD-2 Policy Statement Implementing Actions to clarify the FLUM ~~may be used~~ be considered to guide redevelopment rather than must be used, add an incentivization for affordable home ownership, provides that redevelopment will consider open space percentages; and add a new market study for retail demand;
- Amends the QBD-3 Policy Statement Implementing Actions to clarify the orientation of commercial buildings is prioritized; and
- Amends the QBD-4 Policy Statement Implementing Actions to remove the encouragement of infill housing typologies that create smaller more affordable units and add assurance that adequate parking exists for all infill development.)

1 In the *HoCo By Design* General Plan, attached to this Act as Exhibit A, amend the following
2 pages as indicated in this Amendment:

- 3 • Chapter 7: Quality By Design: 17, 21, 22, 25, 26, 27, 30, 31, 34, 38, 39, 40, 42, and 44;
- 4 • Chapter 11: Implementation: 46, 47, 48, and 49.

5 Correct all page numbers, numbering, and formatting within this Act to accommodate this
6 amendment.

7

new town Columbia

New Town Columbia stands out as a carefully planned community initiated by a single developer with a vision to be carried out over time. In 1967, Columbia's founder, James Rouse, set out to design and build a city. A conscious, planned approach, this novel endeavor resulted in one of the most talked about New Towns of mid-20th century America, an inspiration for planned communities across the country. Rouse envisioned the planned community of Columbia as a socially responsible, environmentally friendly, and financially successful place in which people of all ages, incomes, and backgrounds could grow as individuals, neighbors, and citizens. Today, Columbia is a thriving unincorporated city with over 100,000 residents living in ten villages, each containing multiple neighborhoods. His strategic vision for what was to be a new kind of community that he applied to the development of New Town Columbia included the following objectives:

1. Provide a real, comprehensive, balanced city.
2. Respect the land and allow the land to impose itself as a discipline on the form of the community.
3. Provide the best possible environment for the growth of people.
4. Realize a profit.

Columbia includes ten villages, each containing multiple neighborhood clusters organized around a village center. The ten villages are organized around Town Center, which includes Downtown Columbia. As "Respect for the Land" was one of the four formative goals for Columbia, clustered development patterns and the curvilinear road network are informed by the open space system, which is defined by the natural drainage patterns. The open spaces and roads, therefore, serve a dual role in both connecting and separating the distinct components of Columbia. Because it follows natural drainage patterns, much of the open space network has historically been located behind structures.

Most of Columbia's village centers are inward-oriented and located on neighborhood-serving roads. ~~However, River Hill, Harper's Choice, and Hickory Ridge Village Center is Centers are located on a busy roadway roadways and follows follow more conventional suburban retail development patterns.~~ As Town Center and the village centers mature and, in some cases, redevelop, development patterns are following more recent trends that increase the visibility of retail uses and emphasize walkability. Other distinct characteristics of Columbia include the emphasis on landscape; the incorporation of lakes in Town Center and several villages, and the retention of historic features, such as former manor homes, barns, and hedgerows. Despite having an extensive pathway and sidewalk network, Columbia is generally auto-oriented. It is trending, however, toward redevelopment and has begun to incorporate infrastructure improvements that enhance bicycle accommodations and walkability.

DoWntoWn columbia

In 2010, Howard County adopted the Downtown Columbia Plan following five years of debate, discussion, and dialogue with a wide array of stakeholders. The plan's goal is to revitalize downtown, creating a diverse, mixed-use, physically distinctive, and human-scaled place with a rich variety of housing choices, business opportunities, and recreational, civic, cultural, and educational amenities. The plan's implementation is well underway, with many investments completed or in process to realize this vision.

major provisions of new town zoning

In 2014, Columbia Association's planning staff (the late Jane Dembner) prepared a New Town Zoning Briefing Paper for the Columbia Association Board of Directors. This briefing paper noted that New Town zoning regulations were adopted in 1965 and remained relatively unchanged until 2009 and 2010, when changes were made to address village center redevelopment and Downtown Columbia revitalization. The briefing paper listed the following as major provisions of New Town zoning regulations:

- **District size:** a New Town zoning district must contain at least 2,500 contiguous acres. (Columbia is the County's only New Town district and comprises 14,272 acres.)
- **Flexibility in land use:** New Town permits all uses allowed in other county zoning districts except heavy manufacturing and mobile homes.
- **Open space preservation:** New Town zoning requires that 36 percent of the lands zoned New Town be for open space uses. This requirement, combined with the design of Columbia, has resulted in a distinctive tight weave of Columbia's open space areas, residential neighborhoods, and clustered housing sites. Columbia's open space is a defining and distinguishing feature of Columbia.
- **Overall housing density:** Overall density (gross density) may not exceed 2.5 dwelling units per acre of New Town zoned land. The maximum number of dwellings permitted by the Downtown Columbia redevelopment process is in addition to this density limit.
- **Mixed-use requirements:** New Town requires a mix of various land uses, with minimum and maximum percentages and allows flexibility in the geographic placement of those uses.

The General Plan does not propose to change these provisions. Any changes to New Town zoning would be considered through a public process to update the Zoning Regulations. New Town embodies much of HoCo By Design's intended goals: walkability, diverse housing options, and equitable access to open space. Continuity of neighborhoods is critical to the feel and success of New Town.



pReseRving ChaRacter in futuRe Development

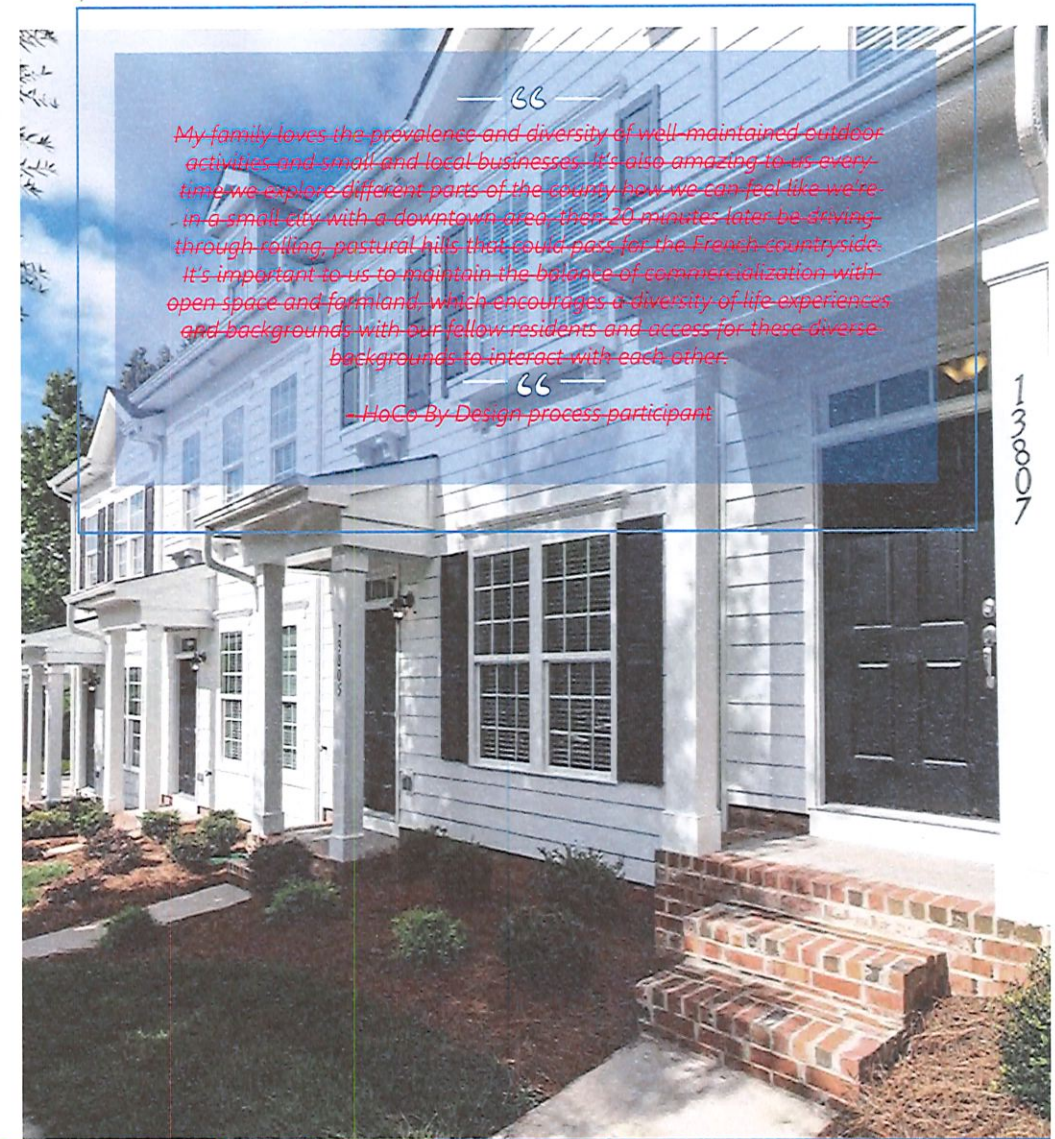
Development standards can and should encourage high-quality future development. These standards should clearly articulate the community's desired vision for an area targeted for development or redevelopment to help the County obtain the type and quality of development it seeks. New developments, redevelopments, and infill developments should use best practice placemaking and urban design principles to achieve high-quality built environments, preserve and incorporate natural features, and establish transitions between the built and natural realms. Key design elements could include the use of building articulation, building placement and site planning principles, building design transitions across landscapes, landscape design, plantings, stormwater management, and open spaces.

The County's existing ordinances regulate a largely-suburban built environment but could be enhanced to further protect the built and natural character of the County and to promote more walkable, high-quality development, where appropriate. The County's Zoning Regulations, Subdivision and Land Development Regulations, and design manuals will need to be reviewed and rewritten to support the vision and policies presented in the General Plan—especially provisions related to context-sensitive new construction in existing neighborhoods, and walkable, mixed-use development in new activity centers.

Conventional zoning ~~may still be~~ is still may still be appropriate for existing single-family residential neighborhoods and strip commercial centers. However, the adoption of an ordinance or guiding document that incorporates more character-based (or form-based) elements will assist in achieving high-quality development that is in keeping with the character of Howard County and the desires of the community.

In contrast with conventional zoning that emphasizes separating uses, a character-based (or form-based) code uses character, or the look and feel of a place, as the primary organizing principle for new development. Hybrid codes may also combine conventional zoning with character-based elements.

According to the Development Regulations Assessment, there could be opportunities to revise the historic district zones in the County. Currently, the Zoning Regulations describe the requirements and restrictions applicable to historic districts instead of generally addressing the allowable land uses or development standards. Frequently, in zoning regulations, historic districts are identified with an overlay zone or as a character-based district that more clearly defines the boundaries and helps demonstrate how historic preservation regulations interact with underlying zoning and subdivision regulations. Overlay zones with a clearly defined base zoning district can help provide predictability of permitted uses within a historic district, encourage development patterns that are consistent with the historic character, and create opportunities to establish future districts that may benefit from such designation criteria.



ChaRacter-Based Elements

Character-based code elements emphasize context of development and may apply to a designated area or more generally within the overall land use regulations and zoning codes. They could be used to regulate a number of factors, including building height and placement, parking locations, street frontage, sidewalks, planting areas, drainage, density, and the street itself. This information is conveyed with specific instructions and often includes easy-to-understand diagrams or other graphic illustrations.

While character-based concepts can be applied anywhere, they are most successful in: areas that have a mix of uses, historic communities, and Rural Crossroad areas. A character-based approach to land use regulation in Howard County may yield more walkable, compact, and diverse, mixed-use environments.

Character-based code elements are used to achieve the following:

1. Create neighborhoods where development is appropriately scaled to surrounding land uses and the public realm.
2. Encourage active transportation (e.g. walking, biking, etc.).
3. Foster social cohesion.

The New Town Zoning District represents more than 14,000 acres and 28,000 parcels in Columbia. The New Town District is comprised of 268 approved Final Development Plans (FDPs) and a regulatory structure that results in challenges for FDP amendments and is difficult to administer. Over time, ownership has changed and development has advanced making it challenging to reconcile the district's original goals and organizational structure.

In 2018, Howard County completed a Development Regulations Assessment and Annotated Outline for its Zoning Ordinance. It recommended, in part, significant changes to the New Town Zoning District. Zoning experts cite vague, poorly defined language in some cases and much too detailed language in others as significant challenges to administering New Town zoning. They also claim that the absence of flexibility in New Town zoning and requirements for multiple rounds of approvals will put Columbia at a disadvantage when competing for desired future investment.

The New Town Zoning District represents more than 14,000 acres and 28,000 parcels in Columbia. Created as a planned community by a visionary developer over 50 years ago, it is today frequently cited as one of the best places to live in the Country. Columbia has a unique sense of place, much like an historic district, that its residents want to preserve and enhance, as reported by the Columbia Association's testimony to the County Council on June 28, 2023. Columbia's original master plan contained a focus on open space in proportion to other land uses housing units that has been preserved over the decades and results in a wooded suburban community. The architectural character, although representing an earlier era, is also part of the community's signature feel. One of Columbia's founding principles was to provide a full-spectrum of housing that still exists today and provides the majority of affordable housing options in the County. Older parts of Columbia have some of the County's highest proportion of multi-family units and more affordable older single-family homes and townhouses. This relationship should be acknowledged and considered when determining locations for new affordable housing.

The New Town Zoning District represents more than 14,000 acres and 28,000 parcels in Columbia. Created as a planned community by a visionary developer over 50 years ago, it is today frequently cited as one of the best places to live in the Country. Columbia has a unique sense of place that its residents want to preserve, enhance, and strengthen. As a complement to character-based or hybrid zoning, pattern books or design guidelines and manuals can serve as a framework for preferred architectural patterns, styles, and details in the community. They can provide guidelines and standards for building types, building composition and massing, building materials, roof types and details, windows, doors, porches, and other architectural elements. They can also include standards for landscaping, lighting, fences, walls, signage, and other outdoor elements. The scope is typically limited to specific districts, neighborhoods, or activity centers in the community. While pure form-based codes can be challenging to develop, form-based elements can be used to support more traditional

zoning regulations using hybrid approaches to further achieve desired character outcomes. The HoCo By Design Character Areas technical appendix provides additional design-related guidance for future code updates.



The regulatory framework of New Town zoning establishes minimum and maximum proportions of open space, residential, commercial, industrial and other land uses in addition to an overall density cap. Past General Plans evaluated and recommended updates to this framework resulting in the 2009 Village Center Revitalization zoning process update and the 2010 Downtown Columbia Master Plan which added residential units above this cap and established different land use percentages for Downtown. The New Town District is comprised of 268 approved Final Development Plans (FDPs) that enumerate parcel-specific regulations and cross-reference use and bulk provisions of non-New Town zoning districts. The FDP structure was designed to provide significant flexibility to the master developer and majority land owner of this planned community as it was developing. This regulatory structure and associated processes could be evaluated to ensure more efficient administration of the New Town Zone.

A review of the New Town zoning district and its character-defining elements by a task force would provide an opportunity to ensure that the regulatory structure is calibrated to successfully carry forward New Town zoning.

hoWard County's Design aDvisoRy panel

The Design Advisory Panel (DAP) is a seven-member panel of professionals, including architects, landscape architects, planners, urban designers, and civil engineers, who provide recommendations regarding proposed plans for development or redevelopment that are subject to DAP review.

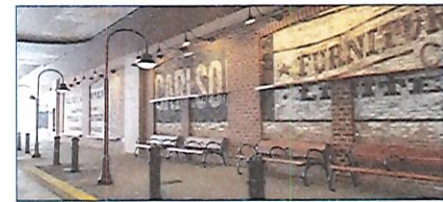
Created by the Howard County Council in 2009, the purpose of the DAP is to encourage excellence in site design and architecture, promote design compatibility with surrounding development, promote revitalization, and enhance property values.

The DAP provides design advice on proposed subdivisions and site development plans when they are subject to the Route 1 Manual, Route 40 Design Manual, New Town Village Center Design Guidelines, Downtown-wide Design Guidelines or Downtown Neighborhood Design Guidelines, Clarksville Pike Streetscape Plan and Design Guidelines, compatibility criteria for conditional use applications, or design guidelines consistent with the requirements of the County's adopted Zoning Regulations.

The DAP also provides guidance regarding the following:

1. The design for buildings, vehicular circulation and access, pedestrian access and linkages, parking, loading, dumpsters, external mechanical units, existing trees, landscaping, hardscape, conceptual designs for graphic elements, and walls and fences.
2. Building scale and massing in relation to and compatible with the surrounding area and with significant and contextual adjacencies, and appropriate responses to existing site conditions, grading, and stormwater management.
3. Building architectural style, materials, entrances, windows, roof design, and colors.
4. Open space on the site including pathways, public spaces, street furniture, amenity areas, and similar features.
5. The design of exterior lighting devices and potential disturbances to the public and adjacent properties.
6. Principles of sustainability and green design.

4. Create a taskforce to evaluate and make recommendations on how to carry forward New Town's planned community framework.



Regional examples of how character and design can be prioritized in new development.

QBD-1 Policy Statement

Prioritize character and design in future development, recognizing variations in Howard County's unique areas.

Implementing Actions

1. Identify areas to investigate character-based zoning concepts and consider the use of pattern books, design guidelines and manuals, or a hybrid approach to establish an intended character and design elements for different character areas in Howard County.
2. ~~Build on the 2018 Development Regulations Assessment to update the County's Zoning Regulations and Subdivision and Land Development Regulations and policies. Incorporate opportunities to codify current practices and create regulations and design standards for new developments, infill developments, and redevelopments.~~
3. ~~2. Evaluate the existing historic district zones and consider replacing them with new historic zoning district overlays or form-based districts.~~
4. ~~3. Review the current Design Advisory Panel (DAP) review areas and approved guidelines for updates. Consider whether the role of the DAP should be expanded to other areas within Howard County.~~
4. ~~Create a taskforce to determine how to preserve New Town's planned community framework, fixed densities, and existing character as defined through the master development plan while considering future redevelopment~~
5. ~~Revise the New Town Zoning District and investigate the use of enhanced design guidelines and character-based or form-based codes in Columbia:~~
 - a. ~~Build upon the preferred development types, patterns, intensities, and design elements described in HoCo By-Design's Character Areas technical appendix;~~
 - b. ~~Take into consideration the design and planning principles illustrated in HoCo By-Design's Focus Areas technical appendix;~~
 - c. ~~Explore rules and requirements for design review by the Design Advisory Panel, or a combination of staff and the DAP;~~
 - d. ~~Identify the appropriate purpose and timing of design review within the development review process;~~

When developing activity centers, integrating transportation design principles creates cohesive, fluid, and engaging experiences for cyclists and pedestrians. Many suburban rights-of-way (ROW) were designed for high-speed, auto-only travel. By narrowing travel lanes and adding on-street parking, sidewalks, and planting strips, streets can be made safer and more walkable, creating a more user-friendly, aesthetically-pleasing public realm. Redevelopment can also address barriers to non-motorized connectivity in places like aging shopping centers by enhancing pedestrian connections and creating internal drives with infill buildings fronting onto them. Rather than having large surface parking lots between the building and the street, this redevelopment approach relocates parking to the rear of buildings, thereby achieving better land use transition patterns.

Many of the activity centers identified in the FLUM are existing suburban shopping centers and office parks that contain large swaths of impermeable areas and often reflect outdated automobile-centric site designs. Retrofitting aging building sites allows developers to take advantage of existing infrastructure and services. Such redevelopment further helps to mitigate the effects of sprawl by providing better connections to transit and mobility corridors.

Green Redevelopment

Redevelopment of existing shopping centers provides significant environmental benefits by introducing open space, community gathering areas, and stormwater management where none currently exist. Examples of open space elements that can be added in redeveloped centers include small parks, squares, plazas, and community gardens. New or improved stormwater management, which incorporates environmental site design practices, reduces impervious area and adverse impacts to sensitive watersheds. The County currently reviews energy and water efficiency requirements in its Building Code every three years and during the Building Code update process. The County should continue to review these requirements to ensure they reflect the most recent best practices. To further these green initiatives, the County should explore integrating additional environmentally sustainable design standards in future updates for the Zoning Regulations, site design requirements, and environmental programs.

In 2020, Howard County added bird-friendly design standards to its pre-existing Green Building requirements (which apply to new public buildings of 10,000 square feet or larger and new private buildings of 50,000 square feet or larger). The purpose of bird-friendly design is to reduce the likelihood that birds will collide with buildings. Design techniques include use of façade materials that are more visible to birds and reduction of excessive artificial lights that can disorient migrating birds.



QBD-2 Policy Statement

~~Use the~~ The Future Land Use Map (FLUM) ~~may be used to~~ guide redevelopment in identified activity centers, which present opportunities for mixed-use development, mixed-income housing, small parks or community spaces, increased stormwater management, and multi-modal transportation options.

Implementing Actions

1. ~~Use~~ Consider using the Future Land Use Map (FLUM) during the rezoning process to create activity centers consistent with the character area descriptions.
2. Assess existing Subdivision and Land Development Regulations, Zoning Regulations, and Design Advisory Panel design review policies for opportunities to create or strengthen regulations and design standards for activity center development/redevelopment. Evaluate potential standards for frontage design, main entrance location, and parking calculations. Incorporate accessibility by including standards and guidance to ensure there is direct access to the building from the street.
3. Review the Zoning Regulations and design manuals to identify ways to mitigate the impacts of auto-oriented uses and minimize negative impacts, including odor, noise, light, air pollution, and diesel emissions.
4. Ensure redevelopment of suburban shopping centers and office parks reduces impervious surface, increases and sets percentages for open space, and provides adequate stormwater management, where none or little existed before.
5. Explore integrating additional environmentally sustainable design standards in future updates to the Zoning Regulations, site design requirements, and environmental programs to further green initiatives.
6. When retrofitting shopping centers and business parks, investigate opportunities to create mixed-income housing for all residents. Incentivize affordable housing that can be purchased by low and moderate income buyers.
7. Identify potential opportunities to realize ~~Ensure better retail success in the Village Centers by partnering to initiate~~ a new market study to update the 2014 study that will clearly identify supportable retail types and quantities at each center. Non-retail uses, including civic and cultural, should be included. This becomes a roadmap regarding support for and input into county and developer proposals.

Table 10-1: Implementation Matrix

Policy and Implementing Actions	Lead Agency	Timeframe (Mid-Term five-year, Long-Term six+)
DN-15 - Increase access to and availability of affordable housing for people experiencing homelessness in Howard County.		
1. Seek out additional opportunities for partnerships on future housing developments to increase the number of homeless preference set-aside units developed in Howard County.	DCRS DHCD	Ongoing
2. Create awareness and advocacy around the needs of those experiencing homelessness whenever new housing developments are being planned and created.	DCRS DHCD	Ongoing
3. Evaluate the need for additional shelter/bed capacity, permanent supportive housing, and expanded public-private partnerships to address the needs of the County's chronically homeless and other individuals with special needs.	DCRS DHCD Private	Mid-Term
4. Explore opportunities for acquisition of blighted or under-utilized properties for the purposes of providing flexible shelter options and services for the homeless population.	DCRS DHCD	Ongoing
5. Seek opportunities to locate housing for the homeless or individuals with special needs in close proximity to jobs, amenities, and transportation connections.	DCRS DHC DPZ	Ongoing

Table 10-1: Implementation Matrix

Policy and Implementing Actions	Lead Agency	Timeframe
QBD-1 - Prioritize character and design in future development, recognizing variations in Howard County's unique areas.		
1. Identify areas to investigate character-based zoning concepts and consider the use of pattern books, design guidelines and manuals, or a hybrid approach to establish an intended character and design elements for different character areas in Howard County.	DPZ	Mid-term
2. Build on the 2018 Development Regulations Assessment to update the County's Zoning Regulations and Subdivision and Land Development Regulations and policies. Incorporate opportunities to codify current practices and create regulations and design standards for new developments, infill developments, and redevelopments.	DPZ	Mid-Term
3. 2. Evaluate the existing historic district zones and consider replacing them with new historic zoning district overlays or form-based districts.	DPZ	Mid-Term
4. 3. Review the Design Advisory Panel (DAP) review areas and approved guidelines for updates. Consider whether the role of the DAP should be expanded to other areas within Howard County.	DPZ	Long-term
5. Revise the New Town Zoning District and investigate the use of enhanced design guidelines and character-based or form-based codes in Columbia: a. Build upon the preferred development types, patterns, intensities, and design elements described in HoCo By Design's Character Areas technical appendix. b. Take into consideration the design and planning principles illustrated in HoCo By Design's Focus Areas technical appendix. c. Explore rules and requirements for design review by the Design Advisory Panel, or a combination of staff and the DAP. d. Identify the appropriate purpose and timing of design review within the development review process.	DPZ	Mid-Term
4. Create a taskforce to determine how to preserve New Town's planned community framework, fixed densities, and existing character as defined through the master development plan while considering future redevelopment.	DPZ	Mid-Term

4. Create a taskforce to evaluate and make recommendations on how to carry forward New Town's planned community framework.

Table 10-1: Implementation Matrix

Policy and Implementing Actions	Lead Agency	Timeframe (Mid-Term five-year, Long-Term six+ years, Ongoing)
QBD-2 - Use the The Future Land Use Map (FLUM) may be used to guide redevelopment in identified activity centers, which present opportunities for mixed-use development, mixed-income housing, small parks or community gathering spaces, increased stormwater management, and multi-modal transportation options.		
1. Use Consider using the Future Land Use Map (FLUM) during the rezoning process to create activity centers consistent with the character area descriptions.	DPZ	Mid-Term
2. Assess existing Subdivision and Land Development Regulations, Zoning Regulations, and Design Advisory Panel design review policies for opportunities to create or strengthen regulations and design standards for activity center development/redevelopment. Evaluate potential standards for frontage design, main entrance location, and parking calculations. Incorporate accessibility by including standards and guidance to ensure there is direct access to the building from the street.	DPZ	Mid-Term
3. Review the Zoning Regulations and design manuals to identify ways to mitigate the impacts of auto-oriented uses and minimize negative impacts, including odor, noise, light, air pollution, and diesel emissions.	DPZ	Mid-Term
4. Ensure redevelopment of suburban shopping centers and office parks reduces impervious surface, increases <u>and sets percentages for</u> open space, and provides adequate stormwater management, where none or little existed before.	DPZ	Ongoing
5. Explore integrating additional environmentally sustainable design standards in future updates to the Zoning Regulations, site design requirements, and environmental programs to further green initiatives.	DPZ OCS DILP	Ongoing
6. When retrofitting shopping centers and business parks, investigate opportunities to create mixed-income housing for all residents. <u>Incentivize affordable housing that can be purchased by low and moderate income buyers.</u>	DPZ DHCD	Long-term
7. <u>Ensure better retail success in the Village Centers by initiating a new market study to update the 2014 study that will clearly identify supportable retail types and quantities at each center. Non-retail uses including civic and cultural should be included. This becomes a roadmap regarding support for and input into county and developer proposals.</u>	HCEDA DPZ Private Partners Columbia Assn.	Mid-Term

7. Identify potential opportunities to realize Ensure better retail success in the Village Centers by partnering to initiate a new market study to update the 2014 study that will clearly identify supportable retail types and quantities at each center. Non-retail uses including civic and cultural should be included. This becomes a roadmap regarding support for and input into county and developer proposals.

Table 10-1: Implementation Matrix

Policy and Implementing Actions	Lead Agency	Timeframe (Mid-Term five-year, Long-Term six+ years, Ongoing)
QBD-3 - Focus on creating active, walkable, and universally accessible public realms in all new development and redevelopment and include a broad range of community spaces, as appropriate to each character area.		
1. Prioritize the orientation of <u>commercial</u> buildings toward the street in all new development and redevelopment to create more walkable	DPZ	Ongoing
2. Work with stakeholders and community members to incorporate policies for diverse and inclusive public art and cultural expression throughout the County. Identify potential partnerships for strengthening public art programs and art education opportunities.	DPZ	Long-term
3. Continue to work with stakeholders of all ages and abilities to identify strategies for universal access to employment centers, stores, parks, and recreation and community amenities.	OOT DRP DCRS DILP	Ongoing
4. Establish goals and guidelines for providing community open spaces and park spaces to create more equitable access across different neighborhoods in Howard County. Ideally, residents should have a variety of open space choices within walking or biking distance of their home.	DRP DPZ	Mid-Term
5. Evaluate the goals described in the Route 1 Manual, Route 40 Design Manual, Clarksville Pike Streetscape Plan and Design Guidelines, and Complete Streets Policy for updates and determine if there are items in these manuals that could be adapted more broadly within the County.	DPZ OOT	Mid-Term
6. Use a holistic approach to incorporating transportation infrastructure into the public realm that focuses on connections and universal user experience.	OOT DPW	Long-term

Amendment 1 to Amendment 76 to Council Bill No. 28 -2023

BY: Deb Jung

Legislative Day 12

Date: 10/11/2023

(This Amendment to Amendment 76 amends the taskforce created in the QBD-1 Policy Statement Implementing Actions to be appointed by the County Council and County Executive and requires that the taskforce determine how to preserve New Town through the Final Development Plan and the Zoning Regulations.)

- 1 Substitute the page QBD-30 and IMP-46 attached to Amendment 76 with the page QBD-30 and
- 2 IMP-46 attached to this Amendment to Amendment.

I certify this is a true copy of

Am 1 Am 76 CB28-2023

passed on 10/11/2023

Nicholas D. Carr
Council Administrator

hoWaRD County's Design aDvisoRy panel

The Design Advisory Panel (DAP) is a seven-member panel of professionals, including architects, landscape architects, planners, urban designers, and civil engineers, who provide recommendations regarding proposed plans for development or redevelopment that are subject to DAP review.

Created by the Howard County Council in 2009, the purpose of the DAP is to encourage excellence in site design and architecture, promote design compatibility with surrounding development, promote revitalization, and enhance property values.

The DAP provides design advice on proposed subdivisions and site development plans when they are subject to the Route 1 Manual, Route 40 Design Manual, New Town Village Center Design Guidelines, Downtown-wide Design Guidelines or Downtown Neighborhood Design Guidelines, Clarksville Pike Streetscape Plan and Design Guidelines, compatibility criteria for conditional use applications, or design guidelines consistent with the requirements of the County's adopted Zoning Regulations.

The DAP also provides guidance regarding the following:

1. The design for buildings, vehicular circulation and access, pedestrian access and linkages, parking, loading, dumpsters, external mechanical units, existing trees, landscaping, hardscape, conceptual designs for graphic elements, and walls and fences.
2. Building scale and massing in relation to and compatible with the surrounding area and with significant and contextual adjacencies, and appropriate responses to existing site conditions, grading, and stormwater management.
3. Building architectural style, materials, entrances, windows, roof design, and colors.
4. Open space on the site including pathways, public spaces, street furniture, amenity areas, and similar features.
5. The design of exterior lighting devices and potential disturbances to the public and adjacent properties.
6. Principles of sustainability and green design.



Regional examples of how character and design can be prioritized in new development.

QBD-1 Policy Statement

Prioritize character and design in future development, recognizing variations in Howard County's unique areas.

Implementing Actions

1. Identify areas to investigate character-based zoning concepts and consider the use of pattern books, design guidelines and manuals, or a hybrid approach to establish an intended character and design elements for different character areas in Howard County.
2. ~~Build on the 2018 Development Regulations Assessment to update the County's Zoning Regulations and Subdivision and Land Development Regulations and policies. Incorporate opportunities to codify current practices and create regulations and design standards for new developments, infill developments, and redevelopments.~~
3. ~~2. Evaluate the existing historic district zones and consider replacing them with new historic zoning district overlays or form-based districts.~~
4. ~~3. Review the current Design Advisory Panel (DAP) review areas and approved guidelines for updates. Consider whether the role of the DAP should be expanded to other areas within Howard County.~~
4. ~~Create a taskforce that is appointed by the County Council and the County Executive to determine evaluate and make recommendations on how to preserve carry forward New Town's planned community framework, fixed densities, and existing character as defined through the while considering future redevelopment.~~
5. ~~Revise the New Town Zoning District and investigate the use of enhanced design guidelines and character-based or form-based codes in Columbia:~~
 - a. ~~Build upon the preferred development types, patterns, intensities, and design elements described in HoCo By Design's Character Areas technical appendix.~~
 - b. ~~Take into consideration the design and planning principles illustrated in HoCo By Design's Focus Areas technical appendix.~~
 - c. ~~Explore rules and requirements for design review by the Design Advisory Panel or a combination of staff and the DAP.~~
 - d. ~~Identify the appropriate purpose and timing of design review within the development review process.~~

Table 10-1: Implementation Matrix

Policy and Implementing Actions	Lead Agency	Timeframe (Mid-Term five-year, Long-Term six+)
DN-15 - Increase access to and availability of affordable housing for people experiencing homelessness in Howard County.		
1. Seek out additional opportunities for partnerships on future housing developments to increase the number of homeless preference set-aside units developed in Howard County.	DCRS DHCD	Ongoing
2. Create awareness and advocacy around the needs of those experiencing homelessness whenever new housing developments are being planned and created.	DCRS DHCD	Ongoing
3. Evaluate the need for additional shelter/bed capacity, permanent supportive housing, and expanded public-private partnerships to address the needs of the County's chronically homeless and other individuals with special needs.	DCRS DHCD Private	Mid-Term
4. Explore opportunities for acquisition of blighted or under-utilized properties for the purposes of providing flexible shelter options and services for the homeless population.	DCRS DHCD	Ongoing
5. Seek opportunities to locate housing for the homeless or individuals with special needs in close proximity to jobs, amenities, and transportation connections.	DCRS DHC DPZ	Ongoing

Table 10-1: Implementation Matrix

Policy and Implementing Actions	Lead Agency	Timeframe
QBD-1 - Prioritize character and design in future development, recognizing variations in Howard County's unique areas.		
1. Identify areas to investigate character-based zoning concepts and consider the use of pattern books, design guidelines and manuals, or a hybrid approach to establish an intended character and design elements for different character areas in Howard County.	DPZ	Mid-term
2. Build on the 2018 Development Regulations Assessment to update the County's Zoning Regulations and Subdivision and Land Development Regulations and policies. Incorporate opportunities to codify current practices and create regulations and design standards for new developments, infill developments, and redevelopments.	DPZ	Mid-Term
3. 2. Evaluate the existing historic district zones and consider replacing them with new historic zoning district overlays or form-based districts.	DPZ	Mid-Term
4. 3. Review the Design Advisory Panel (DAP) review areas and approved guidelines for updates. Consider whether the role of the DAP should be expanded to other areas within Howard County.	DPZ	Long-term
5. Revise the New Town Zoning District and investigate the use of enhanced design guidelines and character-based or form-based codes in Columbia: <ul style="list-style-type: none"> a. Build upon the preferred development types, patterns, intensities, and design elements described in HoCo By-Design's Character Areas technical appendix. b. Take into consideration the design and planning principles illustrated in HoCo By-Design's Focus Areas technical appendix. c. Explore rules and requirements for design review by the Design Advisory Panel, or a combination of staff and the DAP. d. Identify the appropriate purpose and timing of design review within the development review process. 	DPZ	Mid-Term
4. Create a taskforce that is appointed by the County Council and the County Executive to determine evaluate and make recommendations on how to preserve carry forward New Town's planned community framework - fixed densities, and existing character as defined through the while considering future redevelopment.	DPZ	Mid-Term

Amendment 77 to Council Bill No. 28 -2023

BY: Deb Jung

Legislative Day 11

Date: 10/02/2023

Amendment No. 77

(This Amendment makes the following changes to HoCo by Design Chapter 6:

Chapter 6: Dynamic Neighborhoods - Amends the "Equity in Action" subsection of "What We Heard" by adding a bullet point "Increase MIHU requirements by 5% for all new apartment developments".)

1 In the *HoCo By Design* General Plan, attached to this Act as Exhibit A, amend the following
2 pages as indicated in this Amendment:

- 3 • Chapter 6: Dynamic Neighborhoods, page 6.
4

5 Correct all page numbers, numbering, and formatting within this Act to accommodate this
6 amendment.
7

I certify this is a true copy of

Am 77 CB28-2023

passed on

10/11/2023

Michelle Davis
Council Administrator

What We heard

Throughout the engagement process, the character of housing and neighborhoods were prominent themes communicated by participants. Community members cited concerns regarding the impact of new housing on county infrastructure (including schools and roads), yet also acknowledged that there is both a high demand to live in the County and a growing need for more financially attainable quality housing.



Community members also grappled with the lack of developable land in the County and were interested in redevelopment opportunities to offer a variety of housing choices, from high-density housing to moderate-density options like missing middle housing (defined later in this chapter). They also considered strategies that would allow detached accessory dwelling units on existing residential lots and opportunities for missing middle housing through residential infill development. Many said that if housing were integrated in the redevelopment of activity centers, design should recognize the uniqueness of each community and the scale should fit the context of the existing built environment. This recognition of context included the Rural West, where there was mixed feedback about whether any additional housing should be constructed. Most agreed new housing in the West should respect the rural nature of the area and not infringe upon, but compliment, agricultural uses by offering housing affordable to workers of local agribusinesses and farms.

Some community members expressed concerns about adding housing in the County given the existing school capacity challenges, while others shared concerns with new housing types. Many suggested that missing middle housing and accessory dwelling units should be compatible with existing housing and contribute to a cohesive neighborhood design. Furthermore, many supported developing appropriate guidelines for the design of housing, with an emphasis on ensuring guideline compliance. It was also emphasized that any new housing should be sensitive to the natural environment and sustainable building practices.

There was general agreement that new housing should be attainable for a diversity of income levels. Some mentioned challenges with the existing Moderate Income Housing Unit (MIHU) program and suggested it be reevaluated to ensure it is meeting its intended objectives.

Housing was viewed as a part of a holistic community. Many remarked that the County should be intentional about the location of future development so it is well connected to amenities, planned improvements to public facilities, and employment centers—all assets that make Howard County's neighborhoods so desirable.

Diversity, Equity, and Inclusion Focus Groups Findings

- Housing in Howard County is not financially attainable for many people—need greater variety of housing types at various price points (for both rental and homeownership).
- Need more housing units that serve persons of all age and ability levels, especially the older adult population
- Housing is connected to concerns regarding school overcrowding and redistricting.
- Need for common/open space to be integrated into all neighborhoods

Equity in Action

The following are equity best practices. Housing is inextricably linked with equity in Howard County, so many of the policies and associated implementing actions in this chapter have been identified as equity best practices. Each policy or implementing action that directly advances equitable outcomes will be noted with a 🏡 symbol.

- Remove barriers to affordable housing in zoning and subdivision regulations.
- Provide a range of housing types.
- Preserve affordability of existing homes and neighborhoods for rental and homeownership opportunities for low- and moderate-income households.
- Increase connected multi-modal infrastructure that provides access to jobs and amenities, particularly for low-income and transit-dependent community members.
- Identify housing needs for the entire community, as well as specific populations, including low-income, older adults, disabled, and homeless families and individuals.
- Increase MIHU requirements by 5% for all new apartment developments.

Strategic Advisory Group Input

Since housing affordability was identified as one of the most critical challenges currently facing the County, a Housing and Neighborhoods Strategic Advisory Group (SAG) was formed to discuss how to diversify housing options throughout the County. The SAG focused on housing typologies referred to as missing middle and discussed several factors: what missing middle housing could look like, where it should be located, and what zoning changes need to occur to make it possible. The group recognized that missing middle housing has the potential to foster racial and socioeconomic diversity, provide more entry-level housing options, help address the downsizing needs of the older adult community, and contribute additional housing for persons with disabilities. There was consensus that to support a diversity of housing types and strong neighborhoods in the County, there must be policies that ensure affordable and attainable units are created, zoning tools that support diverse housing development, and infill development/redevelopment opportunities for missing middle housing that respect the character and integrity of a neighborhood—all while recognizing that limited land is available for new development. The work of the SAG informed many of the policies in the Dynamic Neighborhoods chapter and complemented recommendations found in the Howard County Housing Opportunities Master Plan (HOMP).

Amendment 78 to Council Bill No. 28 -2023

BY: Deb Jung

Legislative Day 11

Date: 10/02/2023

Amendment No. 78

(This Amendment makes the following changes to HoCo by Design Chapters 6 and 11:

Chapter 6: Dynamic Neighborhoods - Amends DN-14 Policy Statement 3 by adding after the period: "Expand our landlord-tenant division and the enforcement component to support the maintenance and revitalization of multi-family communities."; and

Chapter 11: Implementation - Amends DN-14 Policy and Implementing Action 3 in Table 10-1: Implementation Matrix by adding after the period "Expand our landlord-tenant division and the enforcement component to support the maintenance and revitalization of multi-family communities.")

In the *HoCo By Design* General Plan, attached to this Act as Exhibit A, amend the following pages as indicated in this Amendment:

- Chapter 6: Dynamic Neighborhoods, page 66; and
- Chapter 11: Implementation, page 44.

Correct all page numbers, numbering, and formatting within this Act to accommodate this amendment.

I certify this is a true copy of

Am 78 CB 28-2023
passed on 10/11/2023

Nichelle Darryl
Council Administrator

66

Housing affordability is critical to this conversation. As older communities and Village Centers are revitalized, existing residents must not be priced out and there need to be intentional efforts to make these higher-density areas more affordable. More missing middle housing in these targeted revitalization areas is key.

HoCo By Design process participant

DN-13 Policy Statement



Preserve affordability of existing housing stock and create opportunities for context-sensitive infill development, especially in Preservation-Revitalization Neighborhoods.

Implementing Actions

1. Identify neighborhoods and properties for preservation.
2. Continue to support the County's housing preservation programs, which are designed to preserve existing affordable housing and assist low- and moderate-income homeowners and renters to remain in their homes.
3. Explore options and partnerships for acquisition/rehabilitation programs for older single-family homes that would support homeownership opportunities for moderate-income households.
4. Encourage the development of missing middle housing types that conform to existing neighborhood character and contribute to the creation of mixed-income communities.
5. Develop strategies for employing the right of first refusal policy to ensure no loss of affordable units when there are opportunities for redevelopment of multi-family properties.

DN-14 Policy Statement



Support existing neighborhoods and improve community infrastructure and amenities as needed, especially in older or under-served neighborhoods and multi-family communities.

Implementing Actions

1. Assess existing community facilities and the neighborhoods that they serve, and upgrade or retrofit as needed to support changing neighborhood needs. Engage communities in the identification of neighborhood needs.
2. Identify older communities in need of a comprehensive revitalization strategy and work with those communities to develop revitalization plans to assist those communities.
3. Work with the multi-family rental community to understand barriers to reporting and resolving issues related to multi-family property maintenance. Expand our landlord-tenant division and the enforcement component to support the maintenance and revitalization of multi-family communities.

Table 10-1: Implementation Matrix		
Policy and Implementing Actions	Lead Agency	Timeframe (Mid-Term five-year, Long-Term six+ years, Ongoing)
DN-11 - Provide a range of affordable, accessible, and adaptable housing options for older adults and persons with special needs.		
1. Use zoning tools and incentives that increase the supply of missing middle housing and accessory dwelling units, as identified in Policy Statements DN-1 and DN-2.	DPZ DHCD	Mid-Term
2. Provide flexibility in the Zoning Regulations and the Subdivision and Land Development Regulations for adult group homes/ communal living and for accessibility modifications for persons with disabilities who wish to live independently or older adults who wish to age in place or downsize and age in their community at affordable price points.	DPZ DILP	Mid-Term
3. Encourage Age-Restricted Adult Housing (ARAH) developments to build small- to medium-scale housing units to include apartments, condominiums, townhomes, and missing middle housing types that allow seniors to downsize and are affordable to low- and moderate-income households. Evaluate if current ARAH Zoning Regulations allow sufficient density increases to incentivize missing middle housing types, such as cottage clusters, duplexes, and multiplexes.	DPZ DHCD	Ongoing
4. Explore options for additional Continuing Care Retirement Communities in the County.	DPZ	Mid-Term
5. Update the County's Universal Design Guidelines to enhance the capacity for individuals to remain safe and independent in the community through universal design in construction.	DPZ	Mid-Term
6. Require builders and homeowners to follow, when practicable, the updated Universal Design Guidelines for new and rehabilitated, remodeled, or redesigned age-restricted housing.	DPZ	Mid-Term
DN-12 - Create greater opportunities for multi-generational neighborhoods, especially in character areas identified as activity centers.		
1. Design new activity centers to accommodate the needs of various ages, abilities, and life stages. Ensure design of neighborhoods and their amenities provide accessibility using universal design guidelines with sidewalks, wayfinding, and safe connections.	DPZ	Ongoing
2. Bring multi-modal transportation options to locations planned for new multi-generational neighborhoods.	OOT DPZ	Ongoing

Table 10-1: Implementation Matrix		
Policy and Implementing Actions	Lead Agency	Timeframe (Mid-Term five-year, Long-Term six+ years, Ongoing)
DN-13 - Preserve affordability of existing housing stock and create opportunities for context-sensitive infill development, especially in Preservation-Revitalization Neighborhoods.		
1. Identify neighborhoods and properties for preservation.	DPZ DHCD	Mid-Term
2. Continue to support the County's housing preservation programs, which are designed to preserve existing affordable housing and assist low- and moderate-income homeowners and renters to remain in their homes.	DHCD DPZ	Ongoing
3. Explore options and partnerships for an acquisition/rehabilitation program for older single-family homes that would support homeownership opportunities for moderate-income households.	DHCD	Ongoing
4. Encourage the development of missing middle housing types that conform to existing neighborhood character and contribute to the creation of mixed-income communities.	DPZ	Ongoing
5. Develop strategies for employing the right of first refusal policy to ensure no loss of affordable units when there are opportunities for redevelopment of multi-family properties.	DHCD	Mid-Term
DN-14 - Support existing neighborhoods and improve community infrastructure and amenities as needed, especially in older or under-served neighborhoods and multi-family communities.		
1. Assess existing community facilities and the neighborhoods that they serve, and upgrade or retrofit as needed to support changing neighborhood needs. Engage communities in the identification of neighborhood needs.	DPW	Ongoing
2. Identify older communities in need of a comprehensive revitalization strategy and work with those communities to develop revitalization plans to assist those communities.	DPZ	Long-term
3. Work with the multi-family rental community to understand the barriers to reporting and resolving issues related to multi-family property maintenance. <u>Expand our landlord-tenant division and the enforcement component to support the maintenance and revitalization of multi-family communities.</u>	DHCD DILP HCHC	Mid-Term

Amendment 79 to Council Bill No. 28 -2023

BY: Deb Jung and Liz Walsh

Legislative
Day 11 Date:
10/02/2023

Amendment No.79

(This Amendment makes the following changes to HoCo by Design Chapter 3 and Chapter 11:

Chapter 3: Ecological Health

- ~~— Removes all quotes;~~
- Includes health hazards caused by airplanes in equity considerations;
- Amends the EH-1 Policy Statement Implementing Actions to track outcomes of ecological health investments and provide maintenance and enforcement, ~~and adds an action to develop open space percentage requirements for activity centers;~~
- Adds language regarding 2020 bird-friendly amendments to design standards;
- Amends the EH-2 Policy Statement to integrate climate change goals as specified in the Howard County Climate Action and Resiliency Plan and the Implementing Actions to include resiliency in the title of the Climate Action Plan, ensure County departments align policies with ecological health goals, and adopt the International Green Construction Code and review and update Green Building requirements;
- ~~— Deletes Within the Green Neighborhood Program description section from the section~~ Incentivizing Natural Resource Protection and Restoration section including removes reference to the Green Neighborhood program and removes Implementing Action #3 regarding Green Neighborhoods from EH-4 Policy Statement and remove all the implementing actions;
- Amends the EH-5 Policy Statement Implementing Actions to incentivize existing commercial centers to provide stormwater management systems, reduce stormwater runoff and incorporate water quality management practices, increase the use of green stormwater infrastructure, ~~and add the requirement that redevelopment meets new development stormwater requirements and encourage redevelopment to meet stormwater management requirements for new development to the maximum extent possible;~~
- Amends the EH-7 Policy Statement Implementing Actions to include invasive species removal in forest management;
- Amends the EH-1 Policy Statement Implementing Actions to track outcomes of ecological health investments and provide maintenance and enforcement, ~~and adds an action to~~

I certify this is a true copy of

Am 79 CB28-2023

passed on

10/11/2023

Michelle Barrad
Council Administrator

Chapter 11:
Implementation

~~develop open space percentage requirements for activity centers;~~

- Amends the EH-2 Policy Statement to integrate climate change goals as specified in the Howard County Climate Action and Resiliency Plan and the Implementing Actions to include resiliency in the title of the Climate Action Plan, ensure County departments align policies with ecological health goals, and adopt the International Green Construction Code and review and update Green Building Requirements;
- ~~Removed EH 4 Policy Statement and all the implementing actions Deletes Amends EH-4 Policy Statement to remove the Green Neighborhood Program the Green Neighborhood Implementing Action in the EH 4 Policy;~~
- Amends the EH-5 Policy Statement Implementing Actions to incentivize existing commercial centers to provide stormwater management systems, reduce stormwater runoff and incorporate water quality management practices, increase the use of green stormwater infrastructure, ~~and add the requirement that redevelopment meets new development stormwater requirements and encourage redevelopment to meet stormwater management requirements for new development to the maximum extent possible;~~
- Amends the EH-7 Policy Statement Implementing Actions to include invasive species removal in forest management.)

1 In the *HoCo By Design* General Plan, attached to this Act as Exhibit A, amend the following
2 pages as indicated in this Amendment:

- 3 • Chapter 3: Ecological Health: 5, 7, 8, 11, 14, 15, 18, 19, 20, 21, 24, 26, 33, 42, 44, and
4 56; and
- 5 • Chapter 11: Implementation: 15, 16, 17, 18, and 20.

6 Correct all page numbers, numbering, and formatting within this Act to accommodate this
7 amendment.

8

What WE Heard

Throughout the public engagement process, a common thread of discussion was the importance of the natural environment, parkland, and open space in Howard County. Participants expressed strong interest in increasing protections for natural resources and farmland, expanding access to existing parks, exploring opportunities for enhanced, flexible open spaces in site planning requirements, and integrating climate change mitigation and adaptation measures throughout county land use policies.

Many participants advocated for increased implementation of the Green Infrastructure Network Plan and enhanced protection and management of watersheds throughout the County. Participants also emphasized the importance of stormwater management and the need for aggressive development regulations for forest preservation and tree canopy protection to combat heat island effects and climate change. Other participants raised concerns that while environmental regulations may have benefits, they can also complicate redevelopment, infringe on private property rights, and compromise a property's value. Some community members were concerned for those who are already cost-burdened, including low-and moderate-income households, and who may be least able to retrofit their homes to prepare for severe weather impacts, including increased heat and flooding.

Policies and implementation actions within HoCo By Design help support ecosystem health by ensuring natural resources within the County are restored, protected, and managed for long-term health. These measures will, in turn, help the County address climate change mitigation and adaptation. This Plan provides strong natural resource protection recommendations, while also advancing other equity goals, such as affordable housing.

Diversity, Equity, and Inclusion Focus Groups Findings

- Desire to protect natural resources while advancing other equity goals such as affordable housing.
- Those already cost burdened—low/moderate income households—may be least able to retrofit their homes to prepare for severe weather impacts, including flooding and heat waves
- Suggestion to combat heat island effect and address global warming

Equity in Action

The following equity best practices inform several of the implementing actions in this chapter. Each implementing action that directly advances equitable outcomes will be noted with a "🔥" symbol.

- Reduce household energy costs with climate mitigation measures
- Protect populations in vulnerable areas from natural hazards **and health hazards caused by airplane noise and particulate**
- Promote environmental justice and increased representation through environmental education
- Build housing in a way that reduces harm to the environment and improves resident health outcomes

StratEgic Advisory Group InPut

During the HoCo By Design process, three Strategic Advisory Groups were formed to advise the project team on specific opportunities and challenges that were identified.

The Environment Strategic Advisory Group (SAG), comprised of a multi-disciplinary group of experts, was asked to address the following questions: How should the County increase natural resource protection and restoration measures? What additional climate change mitigation and adaptation measures should the County consider? The SAG was additionally asked to focus on natural resource measures to answer the climate change questions, as other actions to address climate change are specified in the County's Climate Action Plan. However, the SAG wanted to ensure that the two plans are complementary.

The SAG's response to these questions began with the overarching concept that a healthy environment is an essential base for a healthy culture and economy. Environmental health in turn is based on healthy ecosystems that support diverse native flora and fauna and are resilient to future changes, including those from climate change. Members agreed that watershed planning and management provides a useful framework for protecting and restoring natural resources. The group also expressed the need to identify communities most vulnerable to climate change and develop solutions related to land use that can help them become more resilient. The SAG also provided recommendations on addressing flood mitigation and stormwater management under a changing climate, increasing regulatory protections and incentives for natural resource protection and restoration and sustainable development, implementing the Green Infrastructure Network Plan, and promoting environmental stewardship. A report of the SAG's findings is available from the Department of Planning & Zoning.

Ecological Health terms

Ecosystem: – An ecosystem is comprised of all living organisms, the physical environment, and the relationships between the living and inanimate elements within an area.

Watershed: A watershed is the land area that drains to a body of water, such as a lake or river.

Climate Change: Climate change is a significant, long-term shift in weather patterns for a specific geographic region.

Climate Change Mitigation: Climate change mitigation seeks to limit climate change by reducing the generation or increasing the removal of greenhouse gases from the air.

Climate Change Adaptation: Climate change adaptation seeks to moderate or avoid harm from the current and expected impacts from climate change.

Supporting the County's Ecological Health

Howard County contains a wealth of natural resources, including forests, meadows, wetlands, streams, and lakes, which are linked together through ecosystems (see Map 3-1). Ecosystems are comprised of all living organisms, the physical environment, and the relationships between the living and inanimate elements within a particular area. Ecosystems provide a wide variety of services that benefit humans and other species, including food production, clean water, flood control, temperature regulation, recreational opportunities, and aesthetic value. However, their monetary values are often overlooked, until human intervention is needed to repair or replace them. It is generally far more cost-effective to protect a healthy ecosystem than to try and restore one that has been degraded.

The health of these ecosystems—ecological health—is the foundation that supports economic and community health and personal well-being. Human activities can negatively affect ecological health by removing or degrading natural resources, but people can also help restore and protect these resources. The challenge is to meet current human needs while ensuring actions protect and restore ecological health so that it may continue to support future life.

Through the January 27, 2021 Executive Order 14008 on Tackling the Climate Crises at Home and Abroad, the United States joined an international movement by countries to pledge conservation of at least 30% of their land and water by 2030. This pledge is intended to help protect biodiversity and mitigate climate change through locally led conservation efforts. Howard County already has 39% of its land and water conserved in parkland, open space, and easements. The County should continue to support this movement by establishing a goal for natural resource conservation. This goal could be for the County as a whole and each major watershed.

EH-1 Policy Statement

Continue to support the County's ecological health.

Implementing Actions

1. Integrate the goals of protecting and restoring the County's ecological health when updating county programs and policies.
2. Ensure adequate funding for programs and measures to protect and restore the County's ecological health, track outcomes of these investments, and provide necessary maintenance and enforcement.
3. Create a dedicated funding source, as was done for the Agricultural Land Preservation Program, for environmental programs.
4. Establish a natural resource protection goal for the County and each major watershed to help protect biodiversity and mitigate climate change.
5. Develop open space percentage requirements for activity centers.

— 36 —
The health of everyone in HoCo is interwoven with environmental health. I have seen the ecosystem substantially change and recognize loss of indicator species. I think HoCo can have the balance of sustainable development and environmental stewardship. Also, I am thankful for growing up in a diverse county and I hope it maintains this essential diversity to make the county and country better.

— 36 —
—HoCo By-Design process participant

The health of everyone in HoCo is interwoven with environmental health. I have seen the ecosystem substantially change and recognize loss of indicator species. I think HoCo can have the balance of sustainable development and environmental stewardship. Also, I am thankful for growing up in a diverse county and I hope it maintains this essential diversity to make the county and country better.

—HoCo By-Design process participant

66
I would like to see environmental and climate change concerns be the most important consideration for growth and infrastructure.

66
- HoCo By-Design process participant

I would like to see environmental and climate change concerns be the most important consideration for growth and infrastructure.

- HoCo By Design process participant

Mitigating and Adapting to Climate Change

Climate change can be generally defined as a significant, long-term shift in weather patterns for a specific geographic region. The National Oceanic and Atmospheric Administration's (NOAA) Fourth National Climate Assessment notes that emissions of the long-lived greenhouse gases carbon dioxide, methane, nitrous oxide, and fluorinated gases are causing climate change as they build up and trap heat in the atmosphere. The assessment further notes that greenhouse gas (GHG) emissions come from human sources (fossil fuel combustion, industrial processes, deforestation) and natural sources, but emissions from human sources have increased dramatically since the start of the industrial age and the growing use of coal, oil, and natural gas.

NOAA's Maryland State Climate Summary (2017) projects impacts in Maryland from climate change will include increased average annual precipitation, especially during the winter and spring. More frequent and intense rainfall events are also projected, which could lead to more flooding events in urban areas and expanded flood inundation areas. Projected changes also include higher daytime and nighttime temperatures, which could intensify droughts. NOAA further projects that the oceans will continue to warm and sea levels will continue to rise, which may displace people living along the coast. These effects combined could shift available habitat and impact migratory patterns for plant and wildlife species. If these shifts occur at a rapid pace, species that cannot adapt quickly enough may not survive.

Not only could climate change have a devastating impact on the natural environment and plant and wildlife species, it could also economically distress many households, businesses, and families. Families could experience higher energy bills resulting from temperature extremes, unless they are able to upgrade the heating and cooling systems in their homes. They may also need to further weatherproof their homes and retrofit their properties to add stormwater management for more frequent nuisance flooding. While all households may experience impacts from climate change, lower-income and cost-burdened households could have significant challenges affording these extra costs. In Howard County, as of 2018, 5% (5,732) of all households are below the poverty line and 23% (27,310) of households are in the ALICE (Asset Limited, Income Constrained, Employed) income bracket. Financial assistance programs are available to assist income-qualified households, such as weatherization programs funded by federal and state grants.

Mitigation Measures

Mitigation measures to reduce GHG emissions in our region can include reducing the use of fossil fuels through energy conservation and efficiency in buildings and transportation, switching to renewable energy, and promoting carbon sequestration through natural resources and agriculture. Carbon sequestration is the process by which atmospheric carbon dioxide is taken up by trees, grasses, and other plants through photosynthesis and stored as carbon in biomass (trunks, branches, foliage, and roots) and soils.

Many Smart Growth policies promote development patterns and actions that are in harmony with climate mitigation goals. Policies that promote compact growth, walkable communities, green buildings, complete streets, and increased transit reduce fossil fuel use. Other policies promote protecting environmental resources, such as wetlands and forests, and preserving open space and agricultural land, which can provide carbon sequestration and help mitigate increased temperature extremes. Zoning and other policies can promote renewable energy by making it easier to include solar and other on-site or local renewable energy generation, especially on developed parcels. Mitigation measures can help communities improve their quality of life and save money through reduced energy costs, an important outcome for everyone, but especially for low-income or cost-burdened households.



Photo Credit: Sam Muller

Adaptation Measures

Adaptation will also be needed to address impacts from the climate changes occurring now and in the future due to existing levels of GHG in the atmosphere. Adaptation measures in our region could include the following:

- Revising building and construction standards to increase the resilience of buildings and roads to extreme weather events;
- Planning microgrids with on-site power generation to preserve critical public safety functions during major power outages;
- Revising stormwater management standards to address short-term, intense storms in areas that are or will become prone to flooding;
- Changing agricultural crops, and reforestation and landscaping species to those that are better suited to a warmer climate;
- Changing agricultural and forest pest management to address new pest species or the need for more frequent treatment; and
- Conserving and planting more trees to reduce the urban heat island effect.

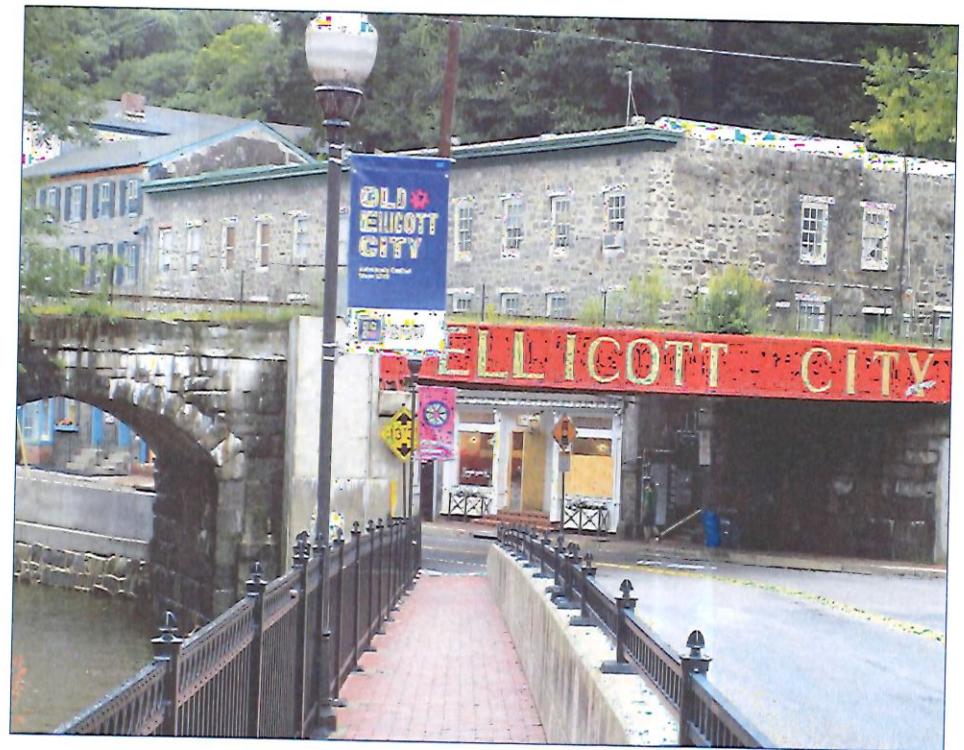
Natural resources will be impacted by climate change, but resource management can help with both mitigation and adaptation.

Building Resilience

Resilience, and particularly climate change resilience, is becoming an increasingly important topic for land and water resources planning. Resilience can be described as the capacity of a community or an ecosystem to sustain function and well-being under both unexpected shocks and ongoing change. Climate change is often noted as a driver of ongoing change that will also increase unexpected shocks, such as severe weather events (extreme heat, drought, flooding, etc.). In some cases, this planning organizes current best management practices under the theme of promoting resilience. In other cases, such as with flood management and carbon sequestration, planning identifies specific new tools and policies that are needed to adequately address resilience needs. Some communities will be more vulnerable to the impacts from climate change, whether through location or lack of resources. Resilience planning should ensure the special needs of these communities are addressed. The Howard County Hazard Mitigation Plan (HMP), which is intended to reduce the County's human, social, environmental, and economic losses from future natural disasters, contains recommended actions that will help build the County's resilience. For additional information about the HMP, please see the Technical Appendix A: Environment.

Climate Action Plans

Climate change is a global issue that requires policy changes on a global level to fully resolve. However, local and regional actions, including mitigation and adaptation planning, contribute to broader efforts to combat climate change. Maryland released its first Climate Action Plan in 2008 and has updated the plan several times since. Climate Action Plans contain an inventory of GHG emission sources, set GHG emission reduction targets, and specify actions to achieve those targets by a certain date. Howard County developed a countywide Climate Action Plan in 2010 and updated the plan in 2015 with a focus on emissions from government operations.



An update to the plan began in 2022, and is being developed in concert with HoCo By Design. The updated plan will include countywide strategies and actions for mitigation, adaptation and building resilience to climate change, particularly for the County's most vulnerable communities. For additional information about Maryland and county actions and goals to promote renewable energy and reduce GHG emissions, please see Technical Appendix A: Environment.

Green Buildings

Green Buildings are designed to be environmentally sustainable and conserve the use of resources in their design, construction, and operation. The United States Green Building Council (USGBC) generates Leadership in Energy and Environmental Design (LEED) standards for green buildings at the Certified, Silver, Gold, and Platinum levels. The County requires that most new public buildings of 10,000 square feet or larger attain a LEED Silver rating and most new private buildings of 50,000 square feet or larger attain a LEED Certified rating. These requirements were established in 2008 and have not been updated since and were revised in 2020 to incorporate bird-friendly design standards to reduce bird collisions. They should be reviewed for opportunities to enhance Green Building requirements.



EH-2 Policy Statement

Seek to integrate climate change mitigation and adaptation goals as specified in the Howard County Climate Action and Resiliency Plan, or the most recently adopted Plan into all county programs and policies.

Implementing Actions

1. Ensure the Howard County Climate Action and Resiliency Plan update continues to maximize opportunities to mitigate and adapt to climate change with clear goals and strategies and that County Departments' policies are aligned with the plan's goals and strategies.
2. Evaluate and enhance opportunities where needed for climate change mitigation and adaptation measures in the Subdivision and Land Development Regulations and Zoning Regulations, such as natural resource protection and the provision of renewable energy.
3. Enhance county design requirements for county infrastructure and public and private buildings, to ensure these structures will be resilient under projected future weather patterns and minimize resource consumption.
4. Review and update county Adopt the most current standards of the International Green Construction Code Green Building requirements and review and update county Green Building requirements for opportunities to enhance the sustainability of public and private buildings.
5. Identify and ensure economically-vulnerable communities, businesses, and households have the resources necessary for mitigation and adaptation measures.

Protecting Sensitive Environmental Resources

The County Subdivision and Land Development Regulations and Zoning Regulations contain significant provisions for the protection of sensitive environmental resources when properties are developed. This section discusses regulatory protections for water resources, steep slopes, and rare, threatened and endangered species, as well as three zoning districts specifically designed to protect sensitive resources. Additional protective measures for forests and stormwater management requirements are addressed in later, separate sections.

Water Resources and Steep Slopes

Water resources include rivers, wetlands, floodplains, ponds, lakes, and groundwater. These are vital natural resources that provide drinking water, stormwater management, pollution abatement, floodwater storage, and recreation, as well as important habitat for a wide variety of plant and animal species.

To protect water quality and habitat within streams, the County Subdivision and Land Development Regulations require the following undisturbed streamside buffer areas:

- 75 to 100 feet along perennial streams in residential zoning districts;
- 50 feet along perennial streams in non-residential zoning districts; and
- 50 feet along intermittent streams in all zoning districts.

The regulations also require a 25-foot undisturbed buffer around nontidal wetlands. Additionally, most wetlands in the County are found within the 100-year floodplain, which is protected from disturbance.

County regulations also protect steep slopes of 25% or greater when there is a contiguous area of 20,000 square feet or larger. Disturbing steep slopes can generate excessive erosion and sedimentation that can be difficult to contain even with enhanced sediment and erosion control practices, and once disturbed steep slopes can be difficult to stabilize. This can be especially problematic when these slopes are adjacent to water bodies. When slopes of 15% or greater occur in conjunction with highly erodible soils, these erosion problems are intensified.

To provide the greatest benefit, stream and wetland buffers should be wide enough to allow adequate filtering of overland stormwater runoff, include adjacent steep slopes and highly erodible soils, and be forested. The use of a floodplain buffer can improve resilience to flooding by accounting for future changes in the floodplain due to changing weather patterns (increased rainfall), increased development, or outdated mapping.

County regulations require sediment and erosion control practices comply with the 2011 Maryland Standards and Specifications for Soil Erosion and Sediment Control when development or forestry activities will result in clearing and grading. These practices prevent sediment and other pollutants from leaving a disturbed site and entering nearby water bodies during storm events. The requirements for sediment and erosion control should be reviewed to ensure they are adequate for changing precipitation patterns, especially short-duration, high-intensity storms.

Rare, Threatened, and Endangered Species

The 2019 Maryland Department of Natural Resources (DNR) list of current and historical rare, threatened, and endangered species identifies 98 species within Howard County. Of these 98 species, 15 are animals and 83 are plants. Threats to these species are primarily caused by habitat destruction, particularly of wetlands, riparian areas, steep slopes, and forests. Therefore, protective measures for these important habitats also benefit these species.

The DNR mapped the known habitat areas for rare, threatened, and endangered species throughout Maryland as Sensitive Species Project Review Areas (SSPRA). The SSPRA information is used by the County to initially screen development proposals under the Forest Conservation Act. If this screening indicates that such habitat may be present, the developer is referred to the DNR for guidance on protecting the species and the associated habitat.

Zoning Regulations

Excluding mixed use zones, there are three residential zoning districts with a stated purpose that includes protecting environmental resources. (Note that there is a fourth district that includes this purpose, but it is applicable only to historic properties.) These zoning districts require or allow the use of cluster development to achieve this purpose. The Residential-Environmental Development (R-ED) zoning district in the East is located primarily along the Patapsco River in areas with steep and narrow stream valleys. The R-ED zoning district has a 50% open space requirement (as specified in the Subdivision and Land Development Regulations) and allows smaller lots, clustered together to keep development impacts away from steep slopes and streams. In the Rural West, the Rural Conservation (RC) zoning district requires low-density, clustered residential development for parcels of 20 acres or greater to protect agricultural lands and natural resources. This type of cluster development is also allowed on smaller lots in the RC zoning district and on any lot in the Rural Residential (RR) zoning district. Cluster development may also be appropriate to enhance environmental protection in other residential zoning districts.

EH-3 Policy Statement

Ensure the Subdivision and Land Development Regulations and Zoning Regulations provide adequate protection for sensitive environmental resources within new development and redevelopment.

Implementing Actions

1. Evaluate and enhance protections, including sediment and erosion control, where needed for sensitive environmental resources, such as water resources, steep slopes, and rare, threatened, and endangered species, in the Subdivision and Land Development Regulations.
2. Explore whether cluster development may also be appropriate in other residential zoning districts during the zoning regulation update process.

— “ —
Preservation of environmental resources, equitably throughout the County is crucial, especially areas of mature trees on slopes.

— “ —
- HoCo By-Design process participant

Preservation of environmental resources, equitably throughout the County is crucial, especially areas of mature trees on slopes.

- HoCo By Design process participant

Incentivizing Natural Resource Protection and Restoration

The County currently has few incentives to encourage resource protection and restoration measures that go beyond the minimum requirements of the Subdivision and Land Development and Zoning Regulations.

Incentivizing Natural Resource Protection and Restoration

The County currently has few incentives to encourage resource protection and restoration measures that go beyond the minimum requirements of the Subdivision and Land Development and Zoning Regulations.

Green Neighborhood Program

The Subdivision and Land Development Regulations include the Green Neighborhood Program, which is a voluntary, point-based program that provides housing allocations as an incentive for more environmentally friendly and sustainable development. Under Plan Howard 2030, up to 150 housing unit allocations were set aside annually for projects that meet Green Neighborhood requirements. HoCo By-Design continues this important incentive.

The Green Neighborhood Program is divided into separate Site and Home requirements. Applicants earn Site points for a wide variety of green practices, such as designing a walkable community; exceeding minimum requirements for stormwater management; stream and wetland buffers; or forest conservation; using native plants for landscaping; restoring and creating wetlands; and restoring in-stream habitat. Applicants earn Home points for green practices such as using energy and water efficient appliances and fixtures, providing on-site renewable energy, and building with wood from sustainably managed forests.

Only two developments with a total of 1,458 dwelling units have qualified as Green Neighborhoods since the program's inception in 2008. Program participation has been limited by a major national recession that slowed development shortly after the program's inception, and the wide availability of housing allocations, which has reduced their value as an incentive. In addition, the development community has reported the need for greater flexibility and options for earning points to qualify for the program. The County has also experienced challenges in enforcing long-term implementation and maintenance for some of the Green Neighborhood features, such as habitat management plans and native landscaping. The program would benefit from an evaluation and update to address these issues and to incorporate new options, such as protecting the Green Infrastructure Network and/or increasing moderate income housing units.



Zoning Regulations

The Zoning Regulations include a Density Exchange Overlay (DEO) District for the RC and RR Districts, which provides an opportunity and incentive to preserve significant blocks of farmland and rural land in the West. An overlay district is a district established to respond to special features or conditions of an area, such as historic value, physical characteristics, or location. An overlay district may also supplement or provide an alternative to the regulations of the

underlying zoning district. The DEO District allows residential density in the RC and RR Districts to be exchanged between parcels. Density exchanges are intended to preserve large parcels in perpetuity, while residential development is directed toward parcels that can more readily accommodate the additional dwellings. Use of this district has been successful in permanently preserving large tracts of open space and environmental and agricultural land, and should be continued under any new zoning regime. Additionally, an overlay district may be an appropriate approach to further protect watersheds with unique conditions or resources, as well as the Green Infrastructure Network.

Additional Incentives

Additional incentives could be employed to supplement changes to the Subdivision and Land Development Regulations and Zoning Regulations for enhanced resource protection and restoration. These could include density bonuses, tax credits, housing allocations, and private-public partnerships.

Zoning Regulations

The Zoning Regulations include a Density Exchange Overlay (DEO) District for the RC and RR Districts, which provides an opportunity and incentive to preserve significant blocks of farmland and rural land in the West. An overlay district is a district established to respond to special features or conditions of an area, such as historic value, physical characteristics, or location. An overlay district may also supplement or provide an alternative to the regulations of the underlying zoning district. The DEO District allows residential density in the RC and RR Districts to be exchanged between parcels. Density exchanges are intended to preserve large parcels in perpetuity, while residential development is directed toward parcels that can more readily accommodate the additional dwellings. Use of this district has been successful in permanently preserving large tracts of open space and environmental and agricultural land, and should be continued under any new zoning regime. Additionally, an overlay district may be an appropriate approach to further protect watersheds with unique conditions or resources, as well as the Green Infrastructure Network.

Additional Incentives

Additional incentives could be employed to supplement changes to the Subdivision and Land Development Regulations and Zoning Regulations for enhanced resource protection and restoration. These could include density bonuses, tax credits, housing allocations, and private-public partnerships.

EH-4 Policy Statement

Incentivize additional resource protection and restoration measures within new development and redevelopment.

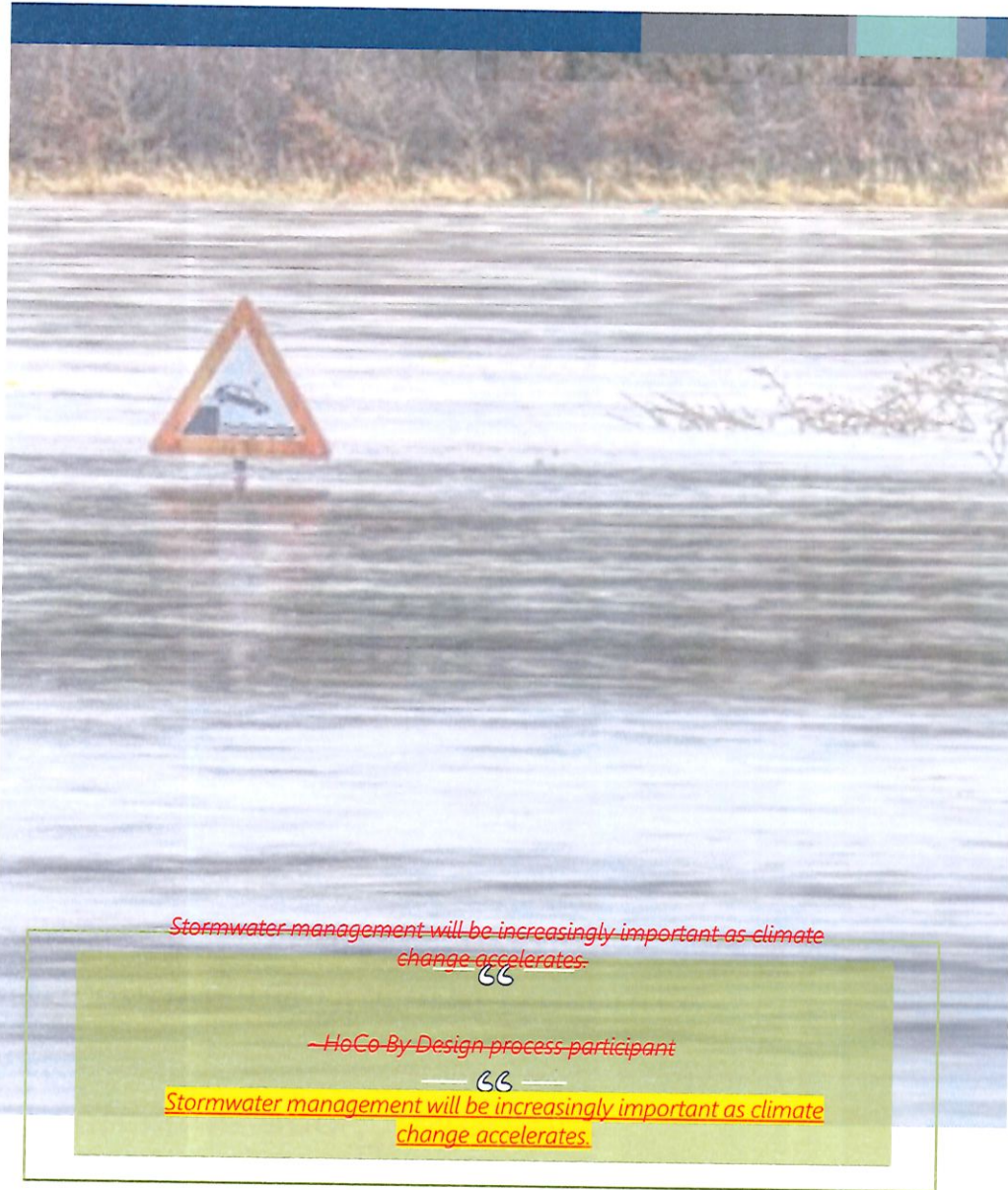
Incentivize additional resource protection and restoration measures within new development and redevelopment.

Implementing Actions

1. Consider increased use of a density exchange overlay district, in both the West and the East, to protect sensitive resources in areas with unique conditions or resources.
2. Consider incentives to encourage environmental protection and restoration when properties are developed or redeveloped, such as tax credits, density bonuses, housing allocations, and public-private partnerships.
3. Evaluate and strengthen the Green Neighborhood Program to ensure adequate incentives will increase program use and incorporate new options, such as increased moderate income housing units.

Implementing Actions

1. Consider increased use of a density exchange overlay district, in both the West and the East, to protect sensitive resources in areas with unique conditions or resources.
2. Consider incentives to encourage environmental protection and restoration when properties are developed or redeveloped, such as tax credits, density bonuses, housing allocations, and public-private partnerships.
3. Evaluate and strengthen the Green Neighborhood Program to ensure adequate incentives will increase program use and incorporate new options, such as increased moderate income housing units.



Managing Stormwater

Impervious surfaces, such as roads, parking lots, and buildings, interfere with stormwater runoff's ability to soak into the ground. Stormwater runoff travels quickly across impervious surfaces, picking up sediment and pollutants, and during warm weather, becoming warmer, before it enters nearby water bodies. The simultaneous increase in both water quantity, pollutants, and temperature leads to flooding, stream erosion, and degraded water quality and habitat. These impacts will be exacerbated by the more frequent and intense rainfall events and warmer temperatures projected to occur with climate change. Stormwater management can help remove pollutants from runoff, reduce water temperature, moderate the flow of runoff into nearby water bodies, and reduce flooding.

New Development

Since 2010, Howard County's stormwater management regulations have required that all new development employ environmental site design (ESD) techniques to treat runoff from smaller, more frequent storms (the 1-year, 24-hour storm of 2.6 inches) to the maximum extent practicable. ESD emphasizes reducing the amount of stormwater runoff generated by using site design techniques that limit site disturbance and reduce the creation of impervious surfaces. ESD treats runoff by holding it on-site where it can be filtered and treated by the vegetation and soil in multiple, small treatment facilities. ESD is different from the County's previous approach to stormwater management, which focused on collecting and treating runoff in large treatment facilities, most often stormwater management ponds.

However, the County continues to require stormwater management for the larger 10- and 100-year, 24-hour storm events of 4.9 and 8.5 inches, respectively, in the Tiber Branch, Deep Run, and Cattail Creek watersheds, where older development exists within the 100-year floodplain and are vulnerable to flooding. Stormwater management in these watersheds uses a combination of ESD techniques and large holding facilities, such as ponds or underground storage tanks.

In response to severe flooding events in Ellicott City in 2016 and 2018, the County also adopted stormwater management regulations to address short-duration, high-intensity storms in the Plumtree Branch and Tiber Branch watersheds (requiring quantity management for a 3.55-hour, 6.6-inch storm event). Stormwater management for these types of storms again requires a combination of ESD techniques and large holding facilities. These types of storms are projected to occur more often under the effects of climate change. The County should consider adding quantity management requirements for the 10- and 100-year storms, as well as short-duration, high-intensity storms, to other vulnerable watersheds.

Flooding Concerns

In 2021 Maryland's stormwater management law was amended to require that the Maryland Department of the Environment (MDE) update the stormwater management regulations to incorporate the most recent precipitation data available and add quantity management standards for flood control in watersheds that have experienced flooding incidents since 2000. The amendments also require that MDE review and update the stormwater management regulations at least once every five years. The County will work with MDE to adopt the new regulations, which are expected to be finalized in 2023.

Stormwater management will be increasingly important as climate change accelerates.

66

-HoCo By-Design process participant

66

Stormwater management will be increasingly important as climate change accelerates.

- HoCo By Design process participant

In 2022 the County initiated a Vulnerable Watershed Restoration and Resiliency Program to evaluate whether other watersheds are or will become susceptible to flooding and develop potential capital projects to address the problem areas. For more information about state and county efforts to address flooding, please see Technical Appendix A: Environment.

Redevelopment

The County's stormwater management regulations also have requirements for redeveloping sites. Redevelopment sites must reduce impervious cover by 50% or provide an equivalent water quality treatment for the first one inch of rainfall using ESD techniques. However, there are no quantity management requirements. The recent update to stormwater management requirements in the Plumtree Branch and Tiber Branch watersheds also added quantity management requirements for redevelopment in those watersheds.

Requiring stormwater management for redevelopment sites offers a significant opportunity to improve water quality and quantity controls for stormwater runoff in areas that were developed prior to current stormwater management regulations. The County should ensure redevelopment is designed and implemented to reduce stormwater runoff and pollutant loadings to the maximum extent practicable. The County should also consider creating incentives for new development and redevelopment to provide on-site or off-site stormwater management that exceeds minimum regulatory requirements.

Stormwater Management Facilities

Stormwater management systems must be regularly inspected and maintained and, as they age, deteriorated systems must be upgraded or replaced. The County is required by both state and local legislation to conduct inspections of stormwater management facilities every three years. There are approximately 11,000 stormwater management facilities in the County, and approximately 1,634 of these are public facilities maintained by the County.

In general, the County shares maintenance responsibilities with homeowners associations for residential facilities located on open space lots, while non-residential facilities are privately maintained. With increased use of ESD, small treatment facilities have and will continue to become more prevalent. These types of facilities can include downspout infiltration areas or drywells, and bioretention facilities or rain gardens that can be located on private residential lots. The ability to inspect and maintain these facilities over time is an area of concern. Developments with ESD have multiple facilities, which require increasing county resources for inspections. Routine maintenance of ESD facilities located on individual residential lots becomes the responsibility of the individual homeowner, resulting in property owner education and maintenance enforcement issues. Funding for County inspection and maintenance of stormwater management facilities is through the Watershed Protection and Restoration Fund, which is discussed later in this chapter under Managing Natural Resources by Watershed. The County should evaluate alternatives for improving, enforcing, and funding long-term inspection and maintenance of stormwater management facilities, particularly those facilities located on private residential lots.



EH-5 Policy Statement

Evaluate and improve stormwater management requirements to enhance climate change resilience.

Implementing Actions

1. Conduct a flooding vulnerability assessment to determine which watersheds are susceptible to chronic flooding under current and expected future precipitation patterns.
2. Update stormwater management design standards to address current and expected future precipitation patterns. Consider adding quantity management requirements, including management for short-duration, high-intensity storms in vulnerable watersheds. Incentivize existing commercial centers to provide stormwater management systems consistent with present standards. Ensure that redevelopment, at a minimum, meets current stormwater management requirements for redevelopment projects.
3. Evaluate opportunities to further reduce ~~Reduce~~ stormwater runoff and pollutant loadings when redevelopment occurs and incorporate water quantity management practices throughout the County. Ensure that redevelopment, at a minimum, meets current stormwater management requirements. Incentivize redevelopment to meet current requirements for new development and address watershed health, flood risks, and other environmental concerns.
4. Continue to use ~~Increase use of~~ a nature-based or green stormwater infrastructure approach (bioretention, swales) in combination with a built or gray infrastructure approach (pipes, ponds) to address flood mitigation and adaptation, to maximize ecological benefits.
5. Evaluate alternatives for improving, enforcing, and funding long-term inspection and maintenance of stormwater management facilities, particularly those facilities located on private residential lots.
6. Ensure that redevelopment, at a minimum, meets new development stormwater requirements and address watershed health, flood risks, and other environmental concerns. Encourage redevelopment to meet new development stormwater management requirements to the maximum extent possible and address watershed health, flood risks and other environmental concerns.

Managing Natural Resources by Watersheds

The health of wetlands, streams, lakes, and reservoirs is directly linked to the use of land within their watersheds. For this reason, the County takes a watershed-based approach to comprehensively address the design, construction, and maintenance of the stormwater management system; water quality and habitat improvements in local streams; and flooding concerns.

The Chesapeake Bay is a valued source of beauty, recreation, and commercial activity in Maryland, and it has played an important role in Maryland's history and development. The multistate effort to restore the Chesapeake Bay continues to be a strong influence in promoting watershed-based planning and management efforts to protect not only the Bay, but also the Bay's numerous tributary rivers and streams. For additional information about restoration efforts for the Chesapeake Bay, please see Technical Appendix A.

Howard County lies within the Patuxent River and Patapsco River watersheds, two major tributaries to the Chesapeake Bay. Approximately 75% of the County is within the Patuxent River watershed and the remaining 25% of the County is within the Patapsco River watershed. The main stems of these rivers have many tributary streams which drain large areas of the County. The Patuxent River and Patapsco River watersheds in Howard County are divided by the State into seven major watersheds, as shown in Map 3-2.

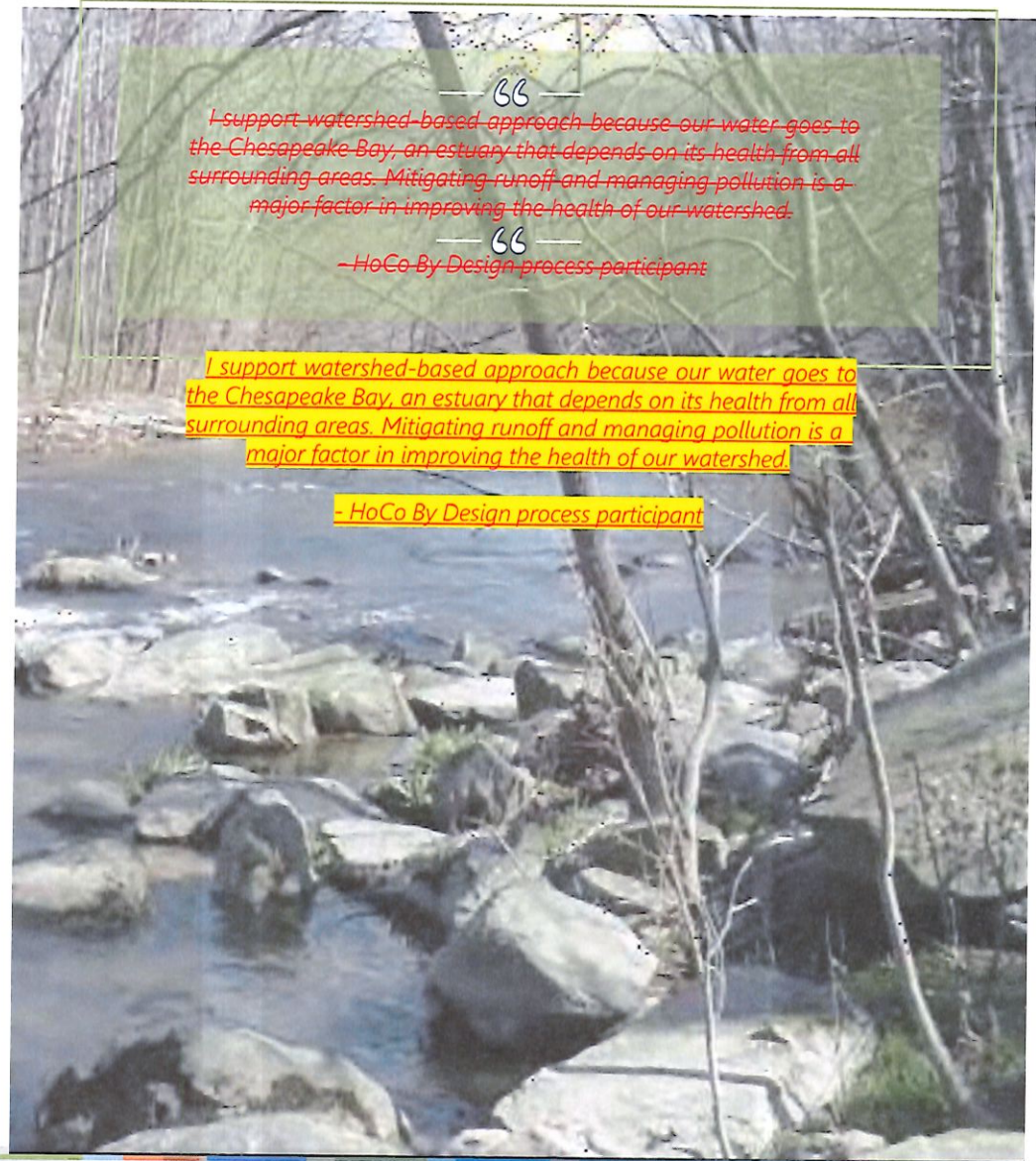
Watershed management plans generally include:

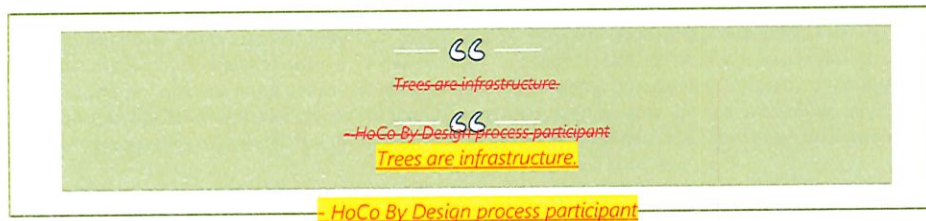
- A description of current land use within the watershed;
- Water quality and habitat conditions in the watershed streams;
- An identification and severity ranking of problem areas;
- An identification and priority ranking of potential restoration projects;
- Preliminary designs and cost estimates for priority restoration projects; and
- An implementation schedule.

Restoration projects can include:

- Building new stormwater management facilities in areas that lack them and retrofitting existing facilities to add water quality treatment;
- Planting forest, especially to create forested buffers along streams;
- Restoring and creating wetlands; and
- Stabilizing stream channels and restoring instream habitats.

Many of these restoration projects require cooperation and participation from private landowners, so public outreach and education is a critical component of implementation.





Expanding Tree Canopy and Forest Cover

Tree canopy and forest cover help reduce and filter stormwater runoff, minimize erosion and sedimentation of streams, create wildlife habitats, sequester carbon, improve air quality, provide health benefits, and moderate local temperatures. They form visual buffers and are scenic in their own right. Increasing tree and forest cover is also an effective measure for climate change mitigation and adaptation. For these reasons, establishing goals for forest cover and forested stream buffers by watershed helps to achieve multiple objectives. In more developed watersheds, it may be more appropriate to establish a tree canopy goal.

Existing Tree Canopy and Forest Cover

A Report on Howard County, Maryland's Existing and Possible Tree Canopy was published in 2011 by the U.S. Forest Service and the University of Vermont. This report defined tree canopy as the layer of leaves, branches and stems of trees that cover the ground when viewed from above. Tree canopy includes individual trees, such as those found within a parking lot or residential lawn, as well as trees within a forest. Using 2007 tree canopy data, the report found that the County contained approximately 80,000 acres of tree canopy or 50% of the County had tree canopy cover. The County tree canopy cover in 2007 is shown in Map 3-3.

A forest is a natural ecological community dominated by trees, generally including woody understory plants such as shrubs and young trees, and herbaceous vegetation such as grasses and flowers. To be fully effective as a complex environmental community, forest areas need to be large enough to provide space for a variety of native plant and animal species, to afford protection from outside intrusions, and to be able to mature and regenerate themselves.

Based on a separate analysis by the County of 2009 forest cover data, the County contained approximately 45,460 acres of forest or 28% of the County was in forest cover (distinctive from tree canopy). Forest cover in the eastern portion of the County is prevalent primarily within stream valley areas where sensitive resources have discouraged development or within publicly-owned conservation areas, such as the Patapsco Valley State Park and the Middle Patuxent Environmental Area. In the Rural West, upland and stream valley forests are more extensive. County forest cover in 2009, the most recent data available when the HoCo By Design scenarios were developed, is shown in Map 3-1. Countywide forest cover data should be updated on a regular and consistent basis to help assess changes in forest cover and manage forest resources over time.

Forest loss and fragmentation result in a continuing decline in forest interior habitat, which is generally defined as forest at least 300 feet from the forest edge. Forest interior habitat is generally more isolated from disturbance than forest edge habitat, and has a closed canopy that creates moist, shaded growing conditions, with less predation by forest edge species (raccoons, crows, cats) and fewer invasive species. In 2009, only 17% of the forest cover in the County was forest interior habitat. The loss of forest interior habitat threatens the survival of species that require this type of habitat, such as reptiles, amphibians and migratory songbirds.

Tree Planting Priorities for Economically-Vulnerable Communities

Howard County does not have an overall goal for tree canopy or forest cover, but Maryland has a policy that 40% of all land in the State should be covered by tree canopy. The County has several programs that provide free native trees to help increase tree canopy cover on qualifying residential properties, including the Stream ReLeaf and Turf to Trees Programs, along with an annual tree giveaway.

Map 3-4 shows tree canopy cover by subwatershed and census tracts with average household annual median income under \$50,000. There are four subwatersheds with less than 40% tree canopy coverage that contain one or more of these census tracts. Map 3-5 shows subwatersheds that have less than 40% tree canopy cover and impervious cover over 25%, along with census tracts with average household annual median income under \$50,000. Watersheds with higher levels of impervious cover and lower levels of tree canopy cover will experience greater heat island impacts, and households in these census tracts may have economic difficulty addressing these impacts. There are three subwatersheds that reflect these conditions and contain one or more of these census tracts. These subwatersheds should be prioritized for native tree planting programs, with a focus on residential areas within these census tracts, where there are willing participants.





Forest Conservation Act

Since 1993, Howard County's Forest Conservation Act (FCA) has mitigated forest loss caused by development. The FCA contains a series of incentives and penalties to encourage forest retention on development sites and includes reforestation requirements for forest that is cleared. Afforestation (planting of areas presently without forest cover) is also required on sites that don't meet minimum forest cover specifications.

The FCA does not require an equal area replacement for forest cleared, and forest cover continues to be lost to development in Howard County and throughout Maryland. The County updated the FCA in 2019 to enhance forest retention, including changes such as adding site design requirements for larger residential developments to meet 75% of their forest conservation obligation on site. The update increased mitigation requirements by increasing replanting ratios, especially if the replanting was done outside the watershed where the clearing occurred, and limiting use of the fee-in-lieu option for residential developments. The update also made changes to ensure more successful forest plantings, such as increasing the maintenance period for new plantings from two to three years. The County will monitor implementation of the updated FCA to measure its effectiveness and modify the regulations as needed to enhance forest retention and ensure forest plantings are successful.

Threats to Forest Health

The loss of forest species diversity and the degradation of forests by invasive exotic species are concerns for long-term forest health. Invasive exotic species are not native to the area where they live and are a significant problem because they can displace or kill native species. They lack the predators, competitors, diseases, or parasites that help control their populations in their native habitat. Invasive exotic species can include invertebrates such as the emerald ash borer, which kills ash trees, and plants such as Japanese honeysuckle and English ivy, which can smother trees.

Forest health is also damaged by an overpopulation of deer, which tend to prefer native species when browsing. When deer exceed the carrying capacity of a forest, they can eat most of the understory trees, shrubs, and herbaceous vegetation. Overgrazing of understory damages the ability of forests to regenerate, eliminates shrub and herbaceous species, and reduces bird species that nest within understory habitat. This damage can be compounded by impacts from invasive species, which can quickly cover the empty forest floor and inhibit the regrowth of native species. Invasive species often do not provide the same food, cover, and nesting benefits as native species do for native wildlife.

The Howard County Department of Recreation and Parks implements a comprehensive deer management program that is intended to maintain a stable, balanced deer population. Managing deer populations may also help reduce tick populations and tick-borne diseases such as Lyme disease. The program includes managed hunting on public lands to reduce deer numbers where necessary. Deer are quite adaptable and thrive in suburban environments, but hunting is not feasible in these areas, making it difficult to control their population on a countywide basis. Controlling deer-related impacts using a variety of management tools requires a cooperative effort between public agencies and landowners.

Climate change may exacerbate forest health issues caused by invasive exotic species and deer overpopulations. NOAA's Fourth National Climate Assessment notes that warmer winters in the northeast will likely expand the geographic range and population size of existing invasive exotic insect species, such as the emerald ash borer. There may also be a shift in native plant species to those that are better suited to a warmer climate, but if current species die off and new species are unable to become established, the forest may be unsustainable.

Increased forest management on public and private property can help address these threats to forest health and help forests transition to native species that are adaptable to a warmer climate and provide greater resilience to climate change. Federal and State programs are available to assist forest landowners with forest management. For example, the Maryland Department of Natural Resources will work with property owners to develop forest management or stewardship plans for a nominal fee.

EH-7 Policy Statement

Expand native tree canopy and forest cover in the County and manage forests to ensure long-term health and sustainability, addressing threats from invasive species, overpopulation of deer, and climate change.

Implementing Actions

1. Monitor implementation of the recently updated Forest Conservation Act and modify the Act as necessary to ensure adequate protection of forest resources.
2. Update countywide forest cover data on a regular basis to help assess changes in forest cover and manage forest resources over time.
3. Establish and achieve measurable goals for tree canopy, forest cover, and riparian forest buffers in all county watersheds.
4. Prioritize economically-vulnerable communities for native tree plantings to mitigate heat island impacts.
5. Continue and expand forest management, including invasive species removal, on county properties to ensure long-term health and sustainability of the forest.
6. Continue and expand outreach and technical assistance to private forest landowners for forest management to ensure the long-term health and sustainability of the forest.
7. Continue and expand implementation of the county Deer Management Program.

Implementing the Green Infrastructure Network Plan

Howard County's Green Infrastructure Network is comprised of a mapped system of hubs and corridors that includes and links the most ecologically significant natural areas in the County, as shown in Map 3-6. Hubs are large, natural areas that provide valuable habitat for plants and wildlife. Large contiguous blocks of interior forest and sizable wetland complexes are essential components of hubs. Corridors are linear features that tie hubs together and they may include rivers and streams, narrow sections of forest, and other upland areas.

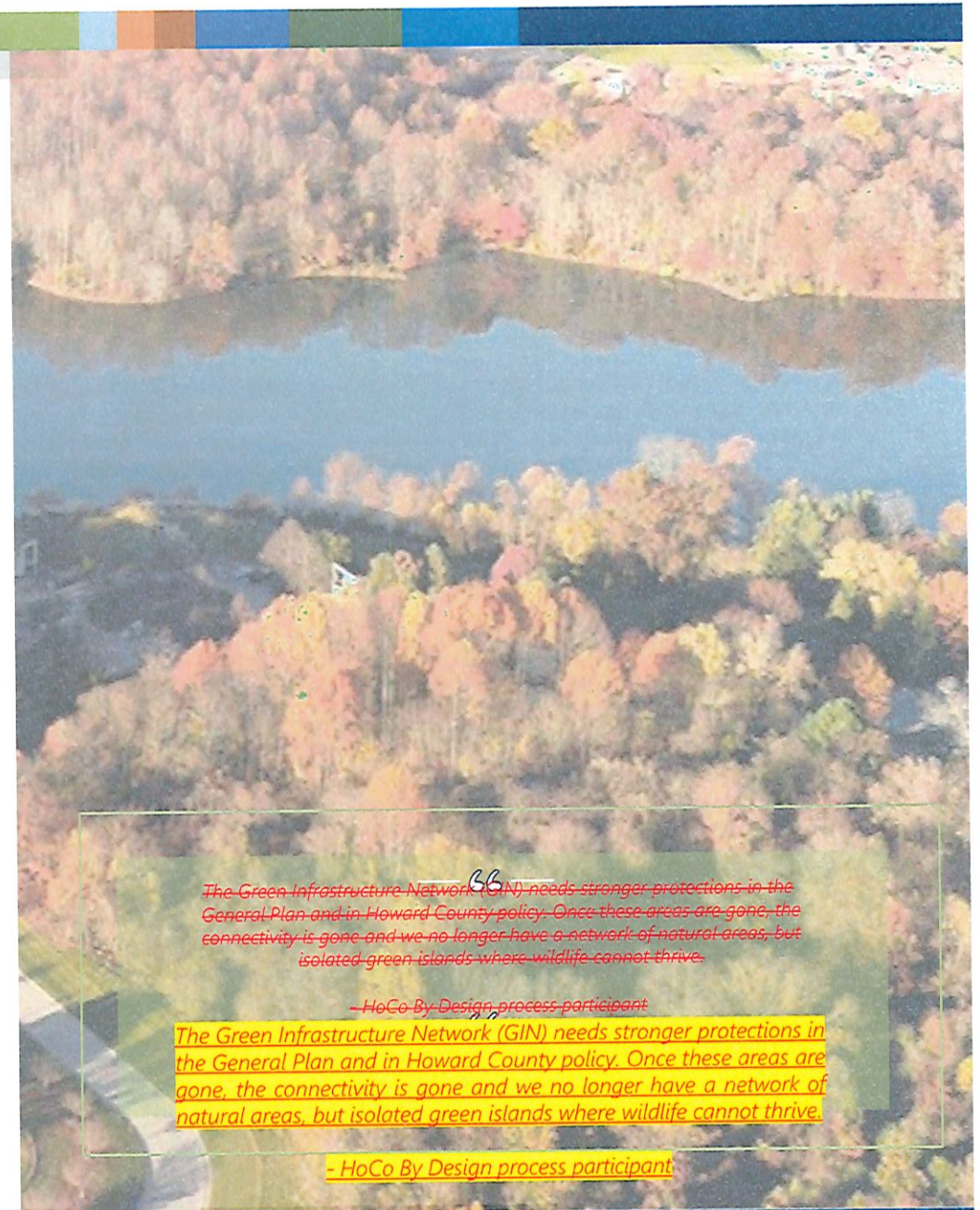
The intent of the Green Infrastructure Network is to provide a protected system of interconnected waterways, wetlands, forests, meadows, and other natural areas. The network helps support native plant and animal species, maintain natural ecological processes, sustain air and water resources, and contribute to the health and quality of life of Howard County's communities. A protected network of continuous habitat is a valuable resource for plant and animal species now and in the future, especially if they need to shift their habitat range due to climate change.

According to the 2012 Green Infrastructure Network (GIN) Plan, there are 51 hubs that contain approximately 22,148 acres or 14% of the County's total land area. Approximately 76% of the land in the hubs is protected in parkland or open space, and 11% is under an agricultural, environmental, or historic easement. The remaining 13% of the land is in a variety of uses and approximately 6% is uncommitted, which is land that still has development potential based on the zoning.

According to the 2012 GIN Plan, there are 48 corridor connections in the network. The corridor system contains approximately 6,173 acres or 4% of the County's total land area. Approximately 26% of this system is protected in parkland or open space, and 26% is under an agricultural or environmental easement. The remaining 48% of the land is in a variety of uses and approximately 11% is uncommitted. Protected land within the GIN is shown in Map 3-7.

Since development of the GIN Plan, the County conducted site visits to confirm the viability of the corridors for safe wildlife passage, with a focus on road crossings and areas close to existing development. Based on this assessment, two corridors (Cattail Creek – Friendship North and South) were removed from the GIN because they were not viable for wildlife passage. A mapping update of the network is needed to reflect these and other changes, such as corridor realignments and new development.

The GIN Plan defines goals and objectives to protect and enhance the network. It also contains a comprehensive toolkit for implementation that includes stewardship, financial incentives, regulatory protection, easements, acquisition, and indicator monitoring. The HoCo By Design public engagement process and the Environment Strategic Advisory Group (SAG) provided extensive comments on the importance of the GIN to identify and protect the County's most sensitive and ecologically beneficial resources. Further, the Environment SAG reported that "the Green Infrastructure Network is a valuable resource for the County, but implementation of the Green Infrastructure Network Plan has been slow." While the County has made some progress with plan implementation,



The Green Infrastructure Network (GIN) needs stronger protections in the General Plan and in Howard County policy. Once these areas are gone, the connectivity is gone and we no longer have a network of natural areas, but isolated green islands where wildlife cannot thrive.

- HoCo By Design process participant

The Green Infrastructure Network (GIN) needs stronger protections in the General Plan and in Howard County policy. Once these areas are gone, the connectivity is gone and we no longer have a network of natural areas, but isolated green islands where wildlife cannot thrive.

- HoCo By Design process participant



Encouraging Environmental Stewardship

The majority of land in the County is privately owned, so environmental stewardship on private property is critical to protecting and restoring natural resources. Healthy natural resources support ecosystems that will be better able to adapt to climate change. Stewardship actions can include reducing the use of pesticides and herbicides, installing rain gardens and rain barrels, planting native tree species (especially along streams and wetlands), and replacing lawn with native plants and pollinator gardens, and removing and refraining from planting non-native invasive plants.

Public outreach and education are essential to raise awareness about the cumulative positive or negative impacts individual actions can have on the environment. Maryland schools are required to provide a comprehensive, multi-disciplinary environmental literacy instructional program for all students and this program must include opportunities for outdoor learning. Through a combination of efforts by government agencies, community and environmental organizations, business associations, and educational institutions, there is a wide variety of outreach and education programs available in the County for residential, commercial, and institutional property owners. Some programs may also include financial incentives or assistance, such as rebates, and planning and installation services. Where needed, these efforts should be expanded and new programs initiated to increase stewardship activities on private property. For example, a rising concern is the detrimental impact to local freshwater streams, lakes, and wetlands from the overuse of winter salt on roads, driveways, and parking lots. Education programs about the proper use of winter salt could help reduce this negative impact.

The County can also continue to exemplify stewardship by incorporating environmentally sensitive site development and property management practices into county activities. County actions could include exceeding minimum Green Building requirements for county buildings; improving energy efficiency and expanding use of renewable energy in county operations; retrofitting stormwater management for county facilities; implementing demonstration projects to encourage their use by others; replacing lawn with native plantings and pollinator gardens; and increasing forested riparian buffers and tree canopy on public property.

— 66 —
Surveys of biodiversity show the world's overall decline in species. What good is farmland if there are no pollinators for the crops?
Contiguous open space and the ecosystem it supports is the only way to protect our food sources in the long run. Sustainability and food security mean preservation of our local farms and pollinators. — HoCo By Design process participant

Surveys of biodiversity show the world's overall decline in species. What good is farmland if there are no pollinators for the crops?
Contiguous open space and the ecosystem it supports is the only way to protect our food sources in the long run. Sustainability and food security mean preservation of our local farms and pollinators.

— 66 —
 — HoCo By Design process participant

Table 10-1: Implementation Matrix

Policy and Implementing Actions	Lead Agency	Timeframe (Mid-Term five-year, Long-Term six+ years, Ongoing)
GCF-1 - Provide limited and predictable Planned Service Area expansions.		
1. Planned Service Area expansions should include a development proposal that is consistent with the General Plan.	DPZ	Ongoing
2. Any Planned Service Area expansion shall establish a transition that is compatible with and enhances surrounding communities, and provides an environmental benefit.	DPZ	Ongoing
3. Any Planned Service Area expansion shall meet the criteria above.	DPZ	Ongoing
EH-1 - Continue to support the County's ecological health.		
1. Integrate the goals of protecting and restoring the County's ecological health when updating county programs and policies.	OCS DPZ DPW DRP HCHD	Mid-Term
2. Ensure adequate funding for programs and measures to protect and restore the County's ecological health, <u>track outcomes of these investments, and provide necessary maintenance and enforcement.</u>	OCS DRP DPW HSCD Elected Officials OOB	Ongoing
3. Create a dedicated funding source, as was done for the Agricultural Land Preservation Program, for environmental programs.	DPZ OCS Elected Officials OOB	Mid-Term
4. Establish a natural resource protection goal for the County and each major watershed to help protect biodiversity and mitigate climate change.	OCS DPZ	Mid-Term
<u>5. Develop open space percentage requirements for activity centers.</u>	DPZ OCS Elected Officials	Mid-Term

Table 10-1: Implementation Matrix

Policy and Implementing Actions	Lead Agency	Timeframe (Mid-Term five-year, Long-Term six+ years, Ongoing)
EH-2 - Seek to integrate climate change mitigation and adaptation goals <u>as specified in the Howard County Climate Action and Resiliency Plan, or the most recently adopted Plan, into all county programs and policies.</u>		
1. Ensure the Howard County Climate Action <u>and Resiliency</u> Plan update continues to maximize opportunities to mitigate and adapt to climate change with clear goals and strategies <u>and that County Departments' policies are aligned with the plan's goals and strategies.</u>	OCS	Mid-Term
2. Evaluate and enhance opportunities where needed for climate change mitigation and adaptation measures in the Subdivision and Land Development Regulations and Zoning Regulations, such as natural resource protection and the provision of renewable energy.	DPZ OCS	Ongoing
3. Enhance county design requirements for county infrastructure and public and private buildings, to ensure these structures will be resilient under projected future weather patterns and minimize resource consumption.	DPW DILP OCS DPZ Private Partners	Ongoing
4. <u>Review and update county Adopt the most current standards of the International Green Construction Code Green Building requirements and review and update Green Building requirements</u> for opportunities to enhance the sustainability of public and private buildings.	DILP DPW DPZ OCS Private Partners	Mid-Term
5. Identify and ensure economically-vulnerable communities, businesses, and households have the resources necessary for mitigation and adaptation measures.	DCRS OEM OHRE OCS DPW HCHD HCEDA	Ongoing

Table 10-1: Implementation Matrix

Policy and Implementing Actions	Lead Agency	Timeframe (Mid-Term five-year, Long-Term six+ years, Ongoing)
EH-3 - Ensure the Subdivision and Land Development Regulations and Zoning Regulations provide adequate protection for sensitive environmental resources within new development and redevelopment.		
1. Evaluate and enhance protections, including sediment and erosion control, where needed for sensitive environmental resources, such as water resources, steep slopes, and rare, threatened, and endangered species, in the Subdivision and Land Development Regulations.	DPZ HSCD	Mid-Term
2. Explore whether cluster development may also be appropriate in other residential zoning districts during the zoning regulation update process.	DPZ	Mid-Term
EH-4 - Incentivize additional resource protection and restoration measures within new development and redevelopment. EH-4 - Incentivize additional resource protection and restoration measures within new development and redevelopment.		
1. Consider increased use of a density exchange overlay district, in both the West and the East, to protect sensitive resources in areas with unique conditions or resources. 1. Consider increased use of a density exchange overlay district, in both the West and the East, to protect sensitive resources in areas with unique conditions or resources.	DPZ DPZ	Mid-Term Mid-Term
2. Consider incentives to encourage environmental protection and restoration when properties are developed or redeveloped, such as tax credits, density bonuses, housing allocations, and public-private partnerships. 2. Consider incentives to encourage environmental protection and restoration when properties are developed or redeveloped, such as tax credits, density bonuses, housing allocations, and public-private partnerships.	DPZ HCEDA Private Partners DPZ HCEDA Private Partners	Mid-Term Mid-Term
3. Evaluate and strengthen the Green Neighborhood Program to ensure adequate incentives will increase program use and incorporate new options, such as increased moderate income housing units.	DPZ DILP OCS	Mid-Term

Table 10-1: Implementation Matrix

Policy and Implementing Actions	Lead Agency	Timeframe (Mid-Term five-year, Long-Term six+ years, Ongoing)
EH-5 - Evaluate and improve stormwater management requirements to enhance climate change resilience.		
1. Conduct a flooding vulnerability assessment to determine which watersheds are susceptible to chronic flooding under current and expected future precipitation patterns.	DPW	Ongoing
2. Update stormwater management design standards to address current and expected future precipitation patterns. Consider adding quantity management requirements, including management for short-duration, high-intensity storms in vulnerable watersheds. <u>Incentivize existing commercial centers to provide stormwater management systems consistent with present standards. Ensure that redevelopment, at a minimum, meets current stormwater management requirements for redevelopment projects.</u>	DPZ DPW OCS	Mid-Term
3. Evaluate opportunities to further reduce <u>Reduce</u> stormwater runoff and pollutant loadings when redevelopment occurs <u>and incorporate water quantity management practices throughout the County. Ensure that redevelopment, at a minimum, meets current stormwater management requirements. Incentivize redevelopment to meet current requirements for new development and address watershed health, flood risks, and other environmental concerns.</u>	DPZ DPW OCS	Mid-Term
4. Continue to use a nature-based or green stormwater infrastructure approach (bioretention, swales) in combination with a built or gray infrastructure approach (pipes, ponds) to address flood mitigation and adaptation, to maximize ecological benefits.	DPW DPZ OCS Private Partners	Ongoing
5. Evaluate alternatives for improving, enforcing, and funding long-term inspection and maintenance of stormwater management facilities, particularly those facilities located on private residential lots.	DPW Private Partners	Mid-Term
<u>6. Ensure that redevelopment, at a minimum, meets new development stormwater requirements and address watershed health, flood risks, and other environmental concerns.</u> 6. Encourage redevelopment to meet new development stormwater management requirements to the maximum extent possible and address watershed health, flood risks and other environmental concerns.	DPW DPZ OCS Private Partners DPW DPZ OCS Private Partners	Mid-Term Mid-Term

Table 10-1: Implementation Matrix

Policy and Implementing Actions	Lead Agency	Timeframe (Mid-Term five-year, Long-Term six+ years, Ongoing)
EH-6 - Expand the use of watershed management plans to provide a comprehensive framework for protecting and restoring natural resources.		
1. Expand the scope of watershed management plans to set priorities and guide efforts to protect, restore, and improve the County's environmental resources.	DPW DPZ	Mid-Term
2. Continue to coordinate and cooperate with other local, regional, and state agencies and organizations on joint watershed planning and management for the Patuxent and the Patapsco Rivers.	DPZ DPW OCS HSCD HCHD	Ongoing
3. Ensure the Watershed Protection and Restoration Fund has adequate funding to meet National Pollutant Discharge Elimination System stormwater permit requirements and for proactive resource management.	DPW OCS Elected Officials OOB	Ongoing
4. Continue to pursue federal and state grant and cost-share opportunities to secure additional resources for restoration efforts. Apply jointly with community and environmental organizations and with neighboring jurisdictions, as appropriate.	DPW OCS DRP	Ongoing

Table 10-1: Implementation Matrix

Policy and Implementing Actions	Lead Agency	Timeframe (Mid-Term five-year, Long-Term six+ years, Ongoing)
EH-7 - Expand native tree canopy and forest cover in the County and manage forests to ensure long-term health and sustainability, addressing threats from invasive species, overpopulation of deer, and climate change.		
1. Monitor implementation of the recently updated Forest Conservation Act and modify the Act as necessary to ensure adequate protection of forest resources.	DPZ OCS DRP	Ongoing
2. Update countywide forest cover data on a regular basis to help assess changes in forest cover and manage forest resources over time.	OCS DPZ	Mid-Term
3. Establish and achieve measurable goals for tree canopy, forest cover, and riparian forest buffers in all county watersheds.	OCS DRP DPW DPZ	Mid-Term
4. Prioritize economically-vulnerable communities for native tree plantings to mitigate heat island impacts.	DRP DPW OCS DPZ	Ongoing
5. Continue and expand forest management, <u>including invasive species removal</u> , on county properties to ensure long-term health and sustainability of the forest.	DRP	Ongoing
6. Continue and expand outreach and technical assistance to private forest landowners for forest management to ensure the long-term health and sustainability of the forest.	OCS DRP DPZ	Ongoing
7. Continue and expand implementation of the county Deer Management Program.	DRP	Ongoing

Amendment 79 to Council Bill No. 28 -2023

BY: Deb Jung and Liz Walsh

Legislative Day 11

Date: 10/02/2023

Amendment No. 79

(This Amendment makes the following changes to HoCo by Design Chapter 3 and Chapter 11:

- Chapter 3: Ecological Health*
- *Removes all quotes;*
 - *Includes health hazards caused by airplanes in equity considerations;*
 - *Amends the EH-1 Policy Statement Implementing Actions to track outcomes of ecological health investments and provide maintenance and enforcement, and adds an action to develop open space percentage requirements for activity centers;*
 - *Adds language regarding 2020 bird-friendly amendments to design standards;*
 - *Amends the EH-2 Policy Statement Implementing Actions to include resiliency in the title of the Climate Action Plan, ensure County departments align policies with ecological health goals, and adopt the International Green Construction Code;*
 - *Deletes the section Incentivizing Natural Resource Protection and Restoration including EH-4 Policy Statement and remove all the implementing actions;*
 - *Amends the EH-5 Policy Statement Implementing Actions to incentivize existing commercial centers to provide stormwater management systems, reduce stormwater runoff and incorporate water quality management practices, increase the use of green stormwater infrastructure, and add the requirement that redevelopment meets new development stormwater requirements;*
 - *Amends the EH-7 Policy Statement Implementing Actions to include invasive species removal in forest management;*
- Chapter 11: Implementation*
- *Amends the EH-1 Policy Statement Implementing Actions to track outcomes of ecological health investments and provide maintenance and enforcement, and adds an action to develop open space percentage requirements for activity centers;*
 - *Amends the EH-2 Policy Statement Implementing Actions to include resiliency in the title of the Climate Action Plan, ensure County departments align policies with ecological health goals, and adopt the International Green Construction Code ;*
 - *Removed EH-4 Policy Statement and all the implementing actions;*

- *Amends the EH-5 Policy Statement Implementing Actions to incentivize existing commercial centers to provide stormwater management systems, reduce stormwater runoff and incorporate water quality management practices, increase the use of green stormwater infrastructure, and add the requirement that redevelopment meets new development stormwater requirements;*
- *Amends the EH-7 Policy Statement Implementing Actions to include invasive species removal in forest management.)*

1 In the *HoCo By Design* General Plan, attached to this Act as Exhibit A, amend the following
2 pages as indicated in this Amendment:

- 3 • Chapter 3: Ecological Health: 5, 7, 8, 11, 14, 15, 18, 19, 20, 21, 24, 26, 33, 42, 44, and
4 56; and
- 5 • Chapter 11: Implementation: 15, 16, 17, 18, and 20.

6 Correct all page numbers, numbering, and formatting within this Act to accommodate this
7 amendment.

8

What We Heard

Throughout the public engagement process, a common thread of discussion was the importance of the natural environment, parkland, and open space in Howard County. Participants expressed strong interest in increasing protections for natural resources and farmland, expanding access to existing parks, exploring opportunities for enhanced, flexible open spaces in site planning requirements, and integrating climate change mitigation and adaptation measures throughout county land use policies.

Many participants advocated for increased implementation of the Green Infrastructure Network Plan and enhanced protection and management of watersheds throughout the County. Participants also emphasized the importance of stormwater management and the need for aggressive development regulations for forest preservation and tree canopy protection to combat heat island effects and climate change. Other participants raised concerns that while environmental regulations may have benefits, they can also complicate redevelopment, infringe on private property rights, and compromise a property's value. Some community members were concerned for those who are already cost-burdened, including low-and moderate-income households, and who may be least able to retrofit their homes to prepare for severe weather impacts, including increased heat and flooding.

Policies and implementation actions within HoCo By Design help support ecosystem health by ensuring natural resources within the County are restored, protected, and managed for long-term health. These measures will, in turn, help the County address climate change mitigation and adaptation. This Plan provides strong natural resource protection recommendations, while also advancing other equity goals, such as affordable housing.

Diversity, Equity, and Inclusion Focus Groups Findings

- Desire to protect natural resources while advancing other equity goals such as affordable housing.
- Those already cost burdened—low/moderate income households—may be least able to retrofit their homes to prepare for severe weather impacts, including flooding and heat waves
- Suggestion to combat heat island effect and address global warming

Equity in Action

The following equity best practices inform several of the implementing actions in this chapter. Each implementing action that directly advances equitable outcomes will be noted with a "🌍" symbol.

- Reduce household energy costs with climate mitigation measures
- Protect populations in vulnerable areas from natural hazards and health hazards caused by airplane noise and particulate
- Promote environmental justice and increased representation through environmental education
- Build housing in a way that reduces harm to the environment and improves resident health outcomes

StratEgic advisory Group InPut

During the HoCo By Design process, three Strategic Advisory Groups were formed to advise the project team on specific opportunities and challenges that were identified.

The Environment Strategic Advisory Group (SAG), comprised of a multi-disciplinary group of experts, was asked to address the following questions: How should the County increase natural resource protection and restoration measures? What additional climate change mitigation and adaptation measures should the County consider? The SAG was additionally asked to focus on natural resource measures to answer the climate change questions, as other actions to address climate change are specified in the County's Climate Action Plan. However, the SAG wanted to ensure that the two plans are complementary.

The SAG's response to these questions began with the overarching concept that a healthy environment is an essential base for a healthy culture and economy. Environmental health in turn is based on healthy ecosystems that support diverse native flora and fauna and are resilient to future changes, including those from climate change. Members agreed that watershed planning and management provides a useful framework for protecting and restoring natural resources. The group also expressed the need to identify communities most vulnerable to climate change and develop solutions related to land use that can help them become more resilient. The SAG also provided recommendations on addressing flood mitigation and stormwater management under a changing climate, increasing regulatory protections and incentives for natural resource protection and restoration and sustainable development, implementing the Green Infrastructure Network Plan, and promoting environmental stewardship. A report of the SAG's findings is available from the Department of Planning & Zoning.

Ecological Health terms

Ecosystem: – An ecosystem is comprised of all living organisms, the physical environment, and the relationships between the living and inanimate elements within an area.

Watershed: A watershed is the land area that drains to a body of water, such as a lake or river.

Climate Change: Climate change is a significant, long-term shift in weather patterns for a specific geographic region.

Climate Change Mitigation: Climate change mitigation seeks to limit climate change by reducing the generation or increasing the removal of greenhouse gases from the air.

Climate Change Adaptation: Climate change adaptation seeks to moderate or avoid harm from the current and expected impacts from climate change.

Supporting the County's Ecological Health

Howard County contains a wealth of natural resources, including forests, meadows, wetlands, streams, and lakes, which are linked together through ecosystems (see Map 3-1). Ecosystems are comprised of all living organisms, the physical environment, and the relationships between the living and inanimate elements within a particular area. Ecosystems provide a wide variety of services that benefit humans and other species, including food production, clean water, flood control, temperature regulation, recreational opportunities, and aesthetic value. However, their monetary values are often overlooked, until human intervention is needed to repair or replace them. It is generally far more cost-effective to protect a healthy ecosystem than to try and restore one that has been degraded.

The health of these ecosystems—ecological health—is the foundation that supports economic and community health and personal well-being. Human activities can negatively affect ecological health by removing or degrading natural resources, but people can also help restore and protect these resources. The challenge is to meet current human needs while ensuring actions protect and restore ecological health so that it may continue to support future life.

Through the January 27, 2021 Executive Order 14008 on Tackling the Climate Crises at Home and Abroad, the United States joined an international movement by countries to pledge conservation of at least 30% of their land and water by 2030. This pledge is intended to help protect biodiversity and mitigate climate change through locally led conservation efforts. Howard County already has 39% of its land and water conserved in parkland, open space, and easements. The County should continue to support this movement by establishing a goal for natural resource conservation. This goal could be for the County as a whole and each major watershed.

EH-1 Policy Statement

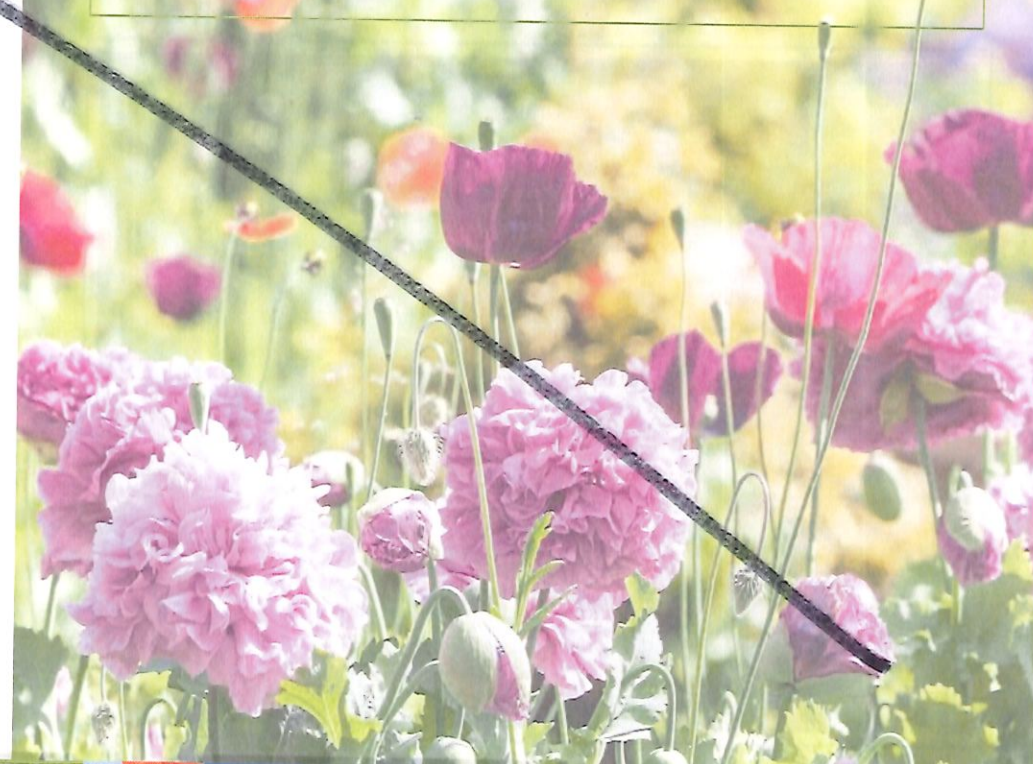
Continue to support the County's ecological health.

Implementing Actions

1. Integrate the goals of protecting and restoring the County's ecological health when updating county programs and policies.
2. Ensure adequate funding for programs and measures to protect and restore the County's ecological health, track outcomes of these investments, and provide necessary maintenance and enforcement.
3. Create a dedicated funding source, as was done for the Agricultural Land Preservation Program, for environmental programs.
4. Establish a natural resource protection goal for the County and each major watershed to help protect biodiversity and mitigate climate change.
5. Develop open space percentage requirements for activity centers.

— 36 —
The health of everyone in HoCo is interwoven with environmental health. I have seen the ecosystem substantially change and recognize loss of indicator species. I think HoCo can have the balance of sustainable development and environmental stewardship. Also, I am thankful for growing up in a diverse county and I hope it maintains this essential diversity to make the county and country better.

— 36 —
—HoCo By Design process participant



CC
I would like to see environmental and climate change concerns be the most important consideration for growth and infrastructure.
CC

HoCo By Design process participant

Mitigating and Adapting to Climate Change

Climate change can be generally defined as a significant, long-term shift in weather patterns for a specific geographic region. The National Oceanic and Atmospheric Administration's (NOAA) Fourth National Climate Assessment notes that emissions of the long-lived greenhouse gases carbon dioxide, methane, nitrous oxide, and fluorinated gases are causing climate change as they build up and trap heat in the atmosphere. The assessment further notes that greenhouse gas (GHG) emissions come from human sources (fossil fuel combustion, industrial processes, deforestation) and natural sources, but emissions from human sources have increased dramatically since the start of the industrial age and the growing use of coal, oil, and natural gas.

NOAA's Maryland State Climate Summary (2017) projects impacts in Maryland from climate change will include increased average annual precipitation, especially during the winter and spring. More frequent and intense rainfall events are also projected, which could lead to more flooding events in urban areas and expanded flood inundation areas. Projected changes also include higher daytime and nighttime temperatures, which could intensify droughts. NOAA further projects that the oceans will continue to warm and sea levels will continue to rise, which may displace people living along the coast. These effects combined could shift available habitat and impact migratory patterns for plant and wildlife species. If these shifts occur at a rapid pace, species that cannot adapt quickly enough may not survive.

Not only could climate change have a devastating impact on the natural environment and plant and wildlife species, it could also economically distress many households, businesses, and families. Families could experience higher energy bills resulting from temperature extremes, unless they are able to upgrade the heating and cooling systems in their homes. They may also need to further weatherproof their homes and retrofit their properties to add stormwater management for more frequent nuisance flooding. While all households may experience impacts from climate change, lower-income and cost-burdened households could have significant challenges affording these extra costs. In Howard County, as of 2018, 5% (5,732) of all households are below the poverty line and 23% (27,310) of households are in the ALICE (Asset Limited, Income Constrained, Employed) income bracket. Financial assistance programs are available to assist income-qualified households, such as weatherization programs funded by federal and state grants.

Mitigation Measures

Mitigation measures to reduce GHG emissions in our region can include reducing the use of fossil fuels through energy conservation and efficiency in buildings and transportation, switching to renewable energy, and promoting carbon sequestration through natural resources and agriculture. Carbon sequestration is the process by which atmospheric carbon dioxide is taken up by trees, grasses, and other plants through photosynthesis and stored as carbon in biomass (trunks, branches, foliage, and roots) and soils.

Many Smart Growth policies promote development patterns and actions that are in harmony with climate mitigation goals. Policies that promote compact growth, walkable communities, green buildings, complete streets, and increased transit reduce fossil fuel use. Other policies promote protecting environmental resources, such as wetlands and forests, and preserving open space and agricultural land, which can provide carbon sequestration and help mitigate increased temperature extremes. Zoning and other policies can promote renewable energy by making it easier to include solar and other on-site or local renewable energy generation, especially on developed parcels. Mitigation measures can help communities improve their quality of life and save money through reduced energy costs, an important outcome for everyone, but especially for low-income or cost-burdened households.



Photo Credit: Sue Muller

Adaptation Measures

Adaptation will also be needed to address impacts from the climate changes occurring now and in the future due to existing levels of GHG in the atmosphere. Adaptation measures in our region could include the following:

- Revising building and construction standards to increase the resilience of buildings and roads to extreme weather events;
- Planning microgrids with on-site power generation to preserve critical public safety functions during major power outages;
- Revising stormwater management standards to address short-term, intense storms in areas that are or will become prone to flooding;
- Changing agricultural crops, and reforestation and landscaping species to those that are better suited to a warmer climate;
- Changing agricultural and forest pest management to address new pest species or the need for more frequent treatment; and
- Conserving and planting more trees to reduce the urban heat island effect.

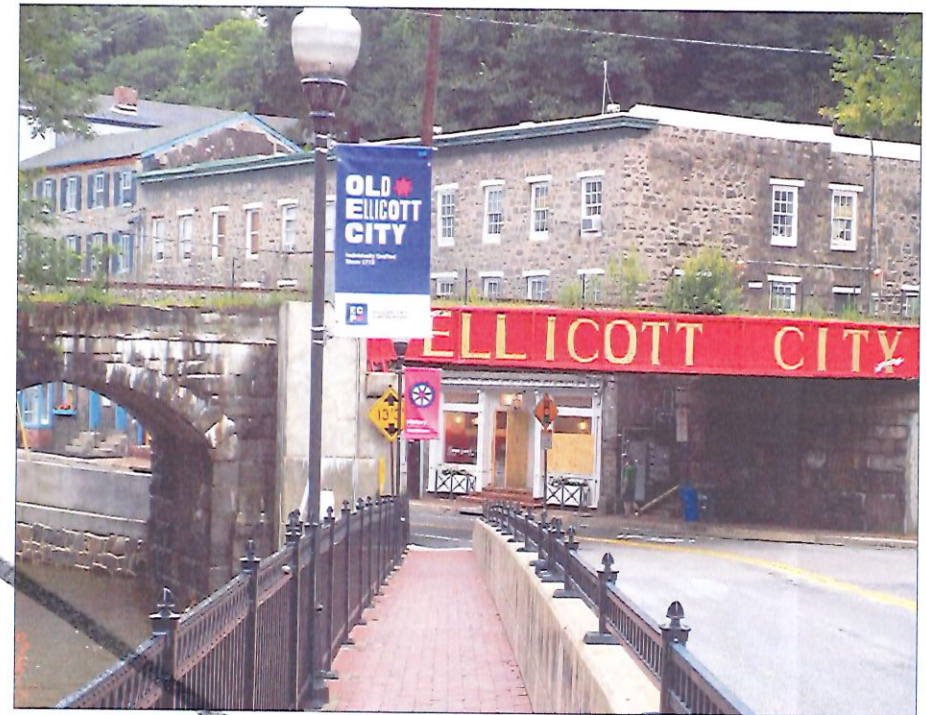
Natural resources will be impacted by climate change, but resource management can help with both mitigation and adaptation.

Building Resilience

Resilience, and particularly climate change resilience, is becoming an increasingly important topic for land and water resources planning. Resilience can be described as the capacity of a community or an ecosystem to sustain function and well-being under both unexpected shocks and ongoing change. Climate change is often noted as a driver of ongoing change that will also increase unexpected shocks, such as severe weather events (extreme heat, drought, flooding, etc.). In some cases, this planning organizes current best management practices under the theme of promoting resilience. In other cases, such as with flood management and carbon sequestration, planning identifies specific new tools and policies that are needed to adequately address resilience needs. Some communities will be more vulnerable to the impacts from climate change, whether through location or lack of resources. Resilience planning should ensure the special needs of these communities are addressed. The Howard County Hazard Mitigation Plan (HMP), which is intended to reduce the County's human, social, environmental, and economic losses from future natural disasters, contains recommended actions that will help build the County's resilience. For additional information about the HMP, please see the Technical Appendix A: Environment.

Climate Action Plans

Climate change is a global issue that requires policy changes on a global level to fully resolve. However, local and regional actions, including mitigation and adaptation planning, contribute to broader efforts to combat climate change. Maryland released its first Climate Action Plan in 2008 and has updated the plan several times since. Climate Action Plans contain an inventory of GHG emission sources, set GHG emission reduction targets, and specify actions to achieve those targets by a certain date. Howard County developed a countywide Climate Action Plan in 2010 and updated the plan in 2015 with a focus on emissions from government operations.



An update to the plan began in 2022, and is being developed in concert with HoCo By Design. The updated plan will include countywide strategies and actions for mitigation, adaptation and building resilience to climate change, particularly for the County's most vulnerable communities. For additional information about Maryland and county actions and goals to promote renewable energy and reduce GHG emissions, please see Technical Appendix A: Environment.

Green Buildings

Green Buildings are designed to be environmentally sustainable and conserve the use of resources in their design, construction, and operation. The United States Green Building Council (USGBC) generates Leadership in Energy and Environmental Design (LEED) standards for green buildings at the Certified, Silver, Gold, and Platinum levels. The County requires that most new public buildings of 10,000 square feet or larger attain a LEED Silver rating and most new private buildings of 50,000 square feet or larger attain a LEED Certified rating. These requirements were established in 2008 and have not been updated since and were revised in 2020 to incorporate bird-friendly design standards to reduce bird collisions. They should be reviewed for opportunities to enhance Green Building requirements.



EH-2 Policy Statement

Seek to integrate climate change mitigation and adaptation goals into all county programs and policies.

Implementing Actions

1. Ensure the Howard County Climate Action and Resiliency Plan update continues to maximize opportunities to mitigate and adapt to climate change with clear goals and strategies and that County Departments' policies are aligned with the plan's goals and strategies.
2. Evaluate and enhance opportunities where needed for climate change mitigation and adaptation measures in the Subdivision and Land Development Regulations and Zoning Regulations, such as natural resource protection and the provision of renewable energy.
3. Enhance county design requirements for county infrastructure and public and private buildings, to ensure these structures will be resilient under projected future weather patterns and minimize resource consumption.
4. Review and update county Adopt the most current standards of the International Green Construction Code Green Building requirements for opportunities to enhance the sustainability of public and private buildings.
5. Identify and ensure economically-vulnerable communities, businesses, and households have the resources necessary for mitigation and adaptation measures.

Protecting Sensitive Environmental Resources

The County Subdivision and Land Development Regulations and Zoning Regulations contain significant provisions for the protection of sensitive environmental resources when properties are developed. This section discusses regulatory protections for water resources, steep slopes, and rare, threatened and endangered species, as well as three zoning districts specifically designed to protect sensitive resources. Additional protective measures for forests and stormwater management requirements are addressed in later, separate sections.

Water Resources and Steep Slopes

Water resources include rivers, wetlands, floodplains, ponds, lakes, and groundwater. These are vital natural resources that provide drinking water, stormwater management, pollution abatement, floodwater storage, and recreation, as well as important habitat for a wide variety of plant and animal species.

To protect water quality and habitat within streams, the County Subdivision and Land Development Regulations require the following undisturbed streamside buffer areas:

- 75 to 100 feet along perennial streams in residential zoning districts;
- 50 feet along perennial streams in non-residential zoning districts; and
- 50 feet along intermittent streams in all zoning districts.

The regulations also require a 25-foot undisturbed buffer around nontidal wetlands. Additionally, most wetlands in the County are found within the 100-year floodplain, which is protected from disturbance.

County regulations also protect steep slopes of 25% or greater when there is a contiguous area of 20,000 square feet or larger. Disturbing steep slopes can generate excessive erosion and sedimentation that can be difficult to contain even with enhanced sediment and erosion control practices, and once disturbed steep slopes can be difficult to stabilize. This can be especially problematic when these slopes are adjacent to water bodies. When slopes of 15% or greater occur in conjunction with highly erodible soils, these erosion problems are intensified.

To provide the greatest benefit, stream and wetland buffers should be wide enough to allow adequate filtering of overland stormwater runoff, include adjacent steep slopes and highly erodible soils, and be forested. The use of a floodplain buffer can improve resilience to flooding by accounting for future changes in the floodplain due to changing weather patterns (increased rainfall), increased development, or outdated mapping.

County regulations require sediment and erosion control practices comply with the 2011 Maryland Standards and Specifications for Soil Erosion and Sediment Control when development or forestry activities will result in clearing and grading. These practices prevent sediment and other pollutants from leaving a disturbed site and entering nearby water bodies during storm events. The requirements for sediment and erosion control should be reviewed to ensure they are adequate for changing precipitation patterns, especially short-duration, high-intensity storms.

Rare, Threatened, and Endangered Species

The 2019 Maryland Department of Natural Resources (DNR) list of current and historical rare, threatened, and endangered species identifies 98 species within Howard County. Of these 98 species, 15 are animals and 83 are plants. Threats to these species are primarily caused by habitat destruction, particularly of wetlands, riparian areas, steep slopes, and forests. Therefore, protective measures for these important habitats also benefit these species.

The DNR mapped the known habitat areas for rare, threatened, and endangered species throughout Maryland as Sensitive Species Project Review Areas (SSPRA). The SSPRA information is used by the County to initially screen development proposals under the Forest Conservation Act. If this screening indicates that such habitat may be present, the developer is referred to the DNR for guidance on protecting the species and the associated habitat.

Zoning Regulations

Excluding mixed use zones, there are three residential zoning districts with a stated purpose that includes protecting environmental resources. (Note that there is a fourth district that includes this purpose, but it is applicable only to historic properties.) These zoning districts require or allow the use of cluster development to achieve this purpose. The Residential-Environmental Development (R-ED) zoning district in the East is located primarily along the Patapsco River in areas with steep and narrow stream valleys. The R-ED zoning district has a 50% open space requirement (as specified in the Subdivision and Land Development Regulations) and allows smaller lots, clustered together to keep development impacts away from steep slopes and streams. In the Rural West, the Rural Conservation (RC) zoning district requires low-density, clustered residential development for parcels of 20 acres or greater to protect agricultural lands and natural resources. This type of cluster development is also allowed on smaller lots in the RC zoning district and on any lot in the Rural Residential (RR) zoning district. Cluster development may also be appropriate to enhance environmental protection in other residential zoning districts.

EH-3 Policy Statement

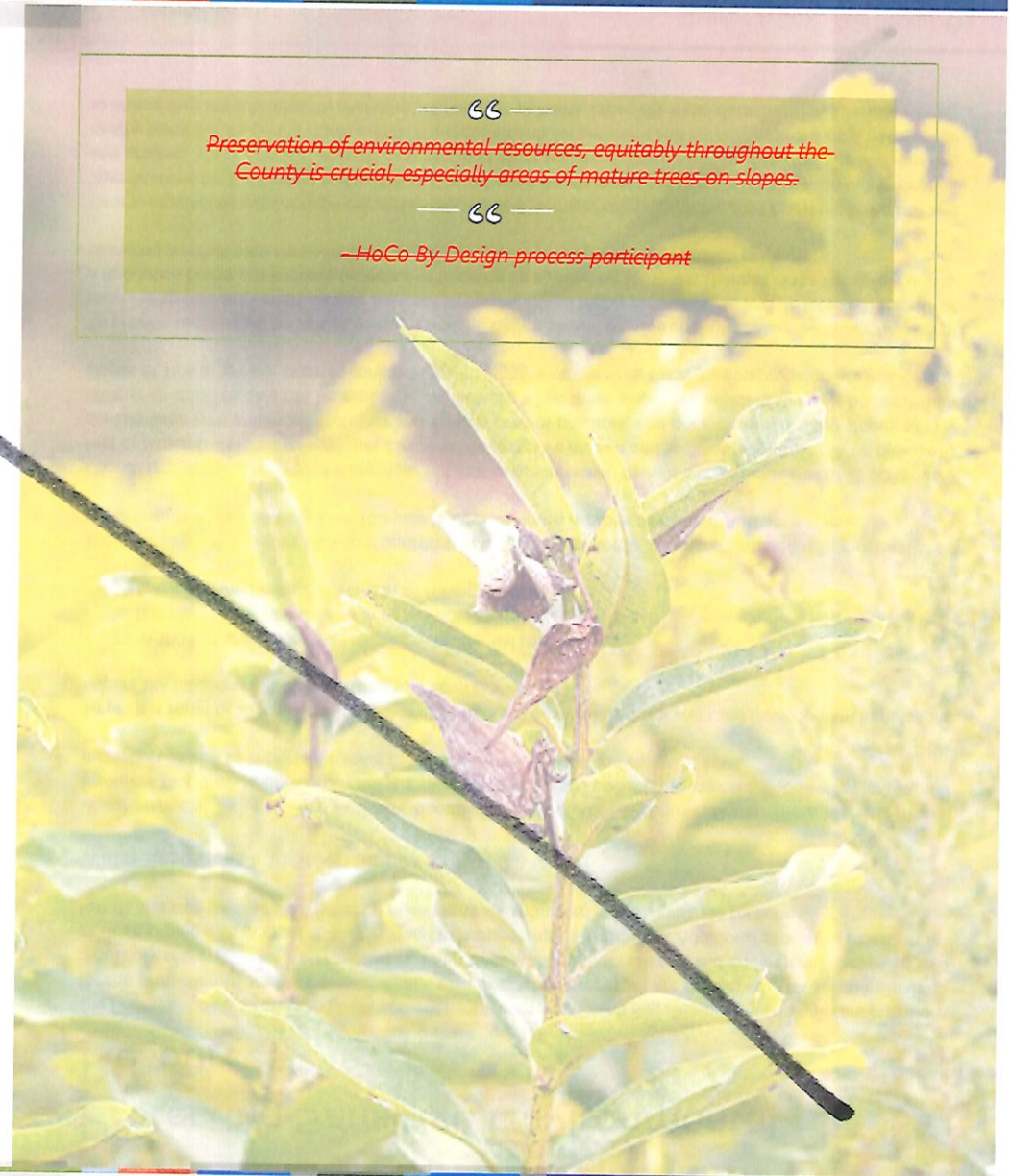
Ensure the Subdivision and Land Development Regulations and Zoning Regulations provide adequate protection for sensitive environmental resources within new development and redevelopment.

Implementing Actions

1. Evaluate and enhance protections, including sediment and erosion control, where needed for sensitive environmental resources, such as water resources, steep slopes, and rare, threatened, and endangered species, in the Subdivision and Land Development Regulations.
2. Explore whether cluster development may also be appropriate in other residential zoning districts during the zoning regulation update process.

— CC —
Preservation of environmental resources, equitably throughout the County is crucial, especially areas of mature trees on slopes.

— CC —
—HoCo By-Design process participant



Incentivizing Natural Resource Protection and Restoration

The County currently has few incentives to encourage resource protection and restoration measures that go beyond the minimum requirements of the Subdivision and Land Development and Zoning Regulations.

Green Neighborhood Program

The Subdivision and Land Development Regulations include the Green Neighborhood Program, which is a voluntary, point-based program that provides housing allocations as an incentive for more environmentally friendly and sustainable development. Under Plan Howard 2030, up to 150 housing unit allocations were set aside annually for projects that meet Green Neighborhood requirements. HoCo By-Design continues this important incentive.

The Green Neighborhood Program is divided into separate Site and Home requirements. Applicants earn Site points for a wide variety of green practices, such as designing a walkable community; exceeding minimum requirements for stormwater management, stream and wetland buffers, or forest conservation; using native plants for landscaping; restoring and creating wetlands; and restoring in-stream habitat. Applicants earn Home points for green practices such as using energy and water efficient appliances and fixtures, providing on-site renewable energy, and building with wood from sustainably managed forests.

Only two developments with a total of 1,458 dwelling units have qualified as Green Neighborhoods since the program's inception in 2008. Program participation has been limited by a major national recession that slowed development shortly after the program's inception, and the wide availability of housing allocations, which has reduced their value as an incentive. In addition, the development community has reported the need for greater flexibility and options for earning points to qualify for the program. The County has also experienced challenges in enforcing long-term implementation and maintenance for some of the Green Neighborhood features, such as habitat management plans and native landscaping. The program would benefit from an evaluation and update to address these issues and to incorporate new options, such as protecting the Green Infrastructure Network and/or increasing moderate income housing units.



Zoning Regulations

The Zoning Regulations include a Density Exchange Overlay (DEO) District for the RC and RR Districts, which provides an opportunity and incentive to preserve significant blocks of farmland and rural land in the West. An overlay district is a district established to respond to special features or conditions of an area, such as historic value, physical characteristics, or location. An overlay district may also supplement or provide an alternative to the regulations of the underlying zoning district. The DEO District allows residential density in the RC and RR Districts to be exchanged between parcels. Density exchanges are intended to preserve large parcels in perpetuity, while residential development is directed toward parcels that can more readily accommodate the additional dwellings. Use of this district has been successful in permanently preserving large tracts of open space and environmental and agricultural land, and should be continued under any new zoning regime. Additionally, an overlay district may be an appropriate approach to further protect watersheds with unique conditions or resources, as well as the Green Infrastructure Network.

Additional Incentives

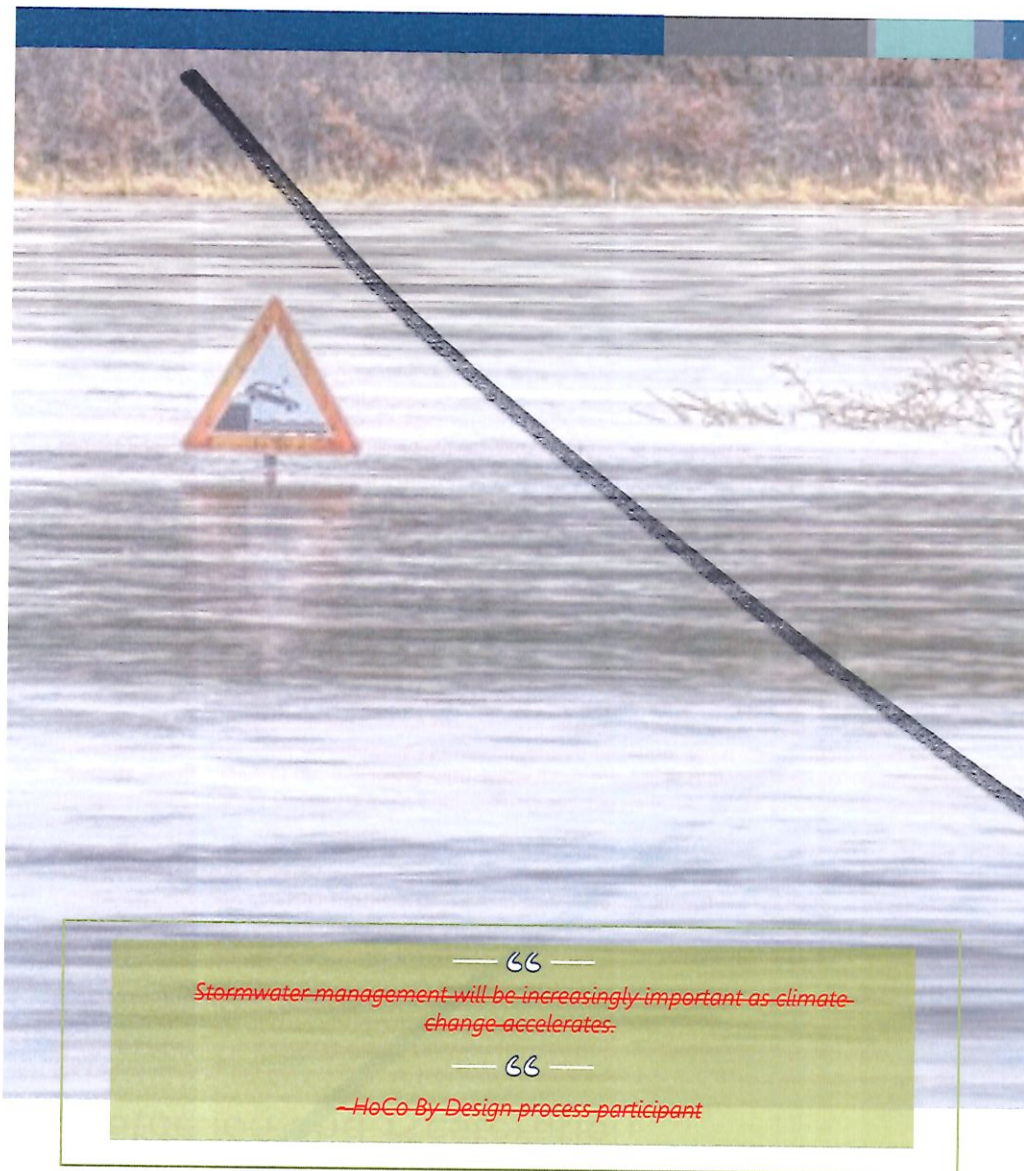
Additional incentives could be employed to supplement changes to the Subdivision and Land Development Regulations and Zoning Regulations for enhanced resource protection and restoration. These could include density bonuses, tax credits, housing allocations, and private-public partnerships.

EH-4 Policy Statement

Incentivize additional resource protection and restoration measures within new development and redevelopment.

Implementing Actions

1. Consider increased use of a density exchange overlay district, in both the West and the East, to protect sensitive resources in areas with unique conditions or resources.
2. Consider incentives to encourage environmental protection and restoration when properties are developed or redeveloped, such as tax credits, density bonuses, housing allocations, and public-private partnerships.
3. Evaluate and strengthen the Green Neighborhood Program to ensure adequate incentives will increase program use and incorporate new options, such as increased moderate income housing units.



— “ —
Stormwater management will be increasingly important as climate change accelerates.

— “ —
—HoCo By-Design process participant

Managing Stormwater

Impervious surfaces, such as roads, parking lots, and buildings, interfere with stormwater runoff's ability to soak into the ground. Stormwater runoff travels quickly across impervious surfaces, picking up sediment and pollutants, and during warm weather, becoming warmer, before it enters nearby water bodies. The simultaneous increase in both water quantity, pollutants, and temperature leads to flooding, stream erosion, and degraded water quality and habitat. These impacts will be exacerbated by the more frequent and intense rainfall events and warmer temperatures projected to occur with climate change. Stormwater management can help remove pollutants from runoff, reduce water temperature, moderate the flow of runoff into nearby water bodies, and reduce flooding.

New Development

Since 2010, Howard County's stormwater management regulations have required that all new development employ environmental site design (ESD) techniques to treat runoff from smaller, more frequent storms (the 1-year, 24-hour storm of 2.6 inches) to the maximum extent practicable. ESD emphasizes reducing the amount of stormwater runoff generated by using site design techniques that limit site disturbance and reduce the creation of impervious surfaces. ESD treats runoff by holding it on-site where it can be filtered and treated by the vegetation and soil in multiple, small treatment facilities. ESD is different from the County's previous approach to stormwater management, which focused on collecting and treating runoff in large treatment facilities, most often stormwater management ponds.

However, the County continues to require stormwater management for the larger 10- and 100-year, 24-hour storm events of 4.9 and 8.5 inches, respectively, in the Tiber Branch, Deep Run, and Cattail Creek watersheds, where older development exists within the 100-year floodplain and are vulnerable to flooding. Stormwater management in these watersheds uses a combination of ESD techniques and large holding facilities, such as ponds or underground storage tanks.

In response to severe flooding events in Ellicott City in 2016 and 2018, the County also adopted stormwater management regulations to address short-duration, high-intensity storms in the Plumtree Branch and Tiber Branch watersheds (requiring quantity management for a 3.55-hour, 6.6-inch storm event). Stormwater management for these types of storms again requires a combination of ESD techniques and large holding facilities. These types of storms are projected to occur more often under the effects of climate change. The County should consider adding quantity management requirements for the 10- and 100-year storms, as well as short-duration, high-intensity storms, to other vulnerable watersheds.

Flooding Concerns

In 2021 Maryland's stormwater management law was amended to require that the Maryland Department of the Environment (MDE) update the stormwater management regulations to incorporate the most recent precipitation data available and add quantity management standards for flood control in watersheds that have experienced flooding incidents since 2000. The amendments also require that MDE review and update the stormwater management regulations at least once every five years. The County will work with MDE to adopt the new regulations, which are expected to be finalized in 2023.

In 2022 the County initiated a Vulnerable Watershed Restoration and Resiliency Program to evaluate whether other watersheds are or will become susceptible to flooding and develop potential capital projects to address the problem areas. For more information about state and county efforts to address flooding, please see Technical Appendix A: Environment.

Redevelopment

The County's stormwater management regulations also have requirements for redeveloping sites. Redevelopment sites must reduce impervious cover by 50% or provide an equivalent water quality treatment for the first one inch of rainfall using ESD techniques. However, there are no quantity management requirements. The recent update to stormwater management requirements in the Plumtree Branch and Tiber Branch watersheds also added quantity management requirements for redevelopment in those watersheds.

Requiring stormwater management for redevelopment sites offers a significant opportunity to improve water quality and quantity controls for stormwater runoff in areas that were developed prior to current stormwater management regulations. The County should ensure redevelopment is designed and implemented to reduce stormwater runoff and pollutant loadings to the maximum extent practicable. The County should also consider creating incentives for new development and redevelopment to provide on-site or off-site stormwater management that exceeds minimum regulatory requirements.

Stormwater Management Facilities

Stormwater management systems must be regularly inspected and maintained and, as they age, deteriorated systems must be upgraded or replaced. The County is required by both state and local legislation to conduct inspections of stormwater management facilities every three years. There are approximately 11,000 stormwater management facilities in the County, and approximately 1,634 of these are public facilities maintained by the County.

In general, the County shares maintenance responsibilities with homeowners associations for residential facilities located on open space lots, while non-residential facilities are privately maintained. With increased use of ESD, small treatment facilities have and will continue to become more prevalent. These types of facilities can include downspout infiltration areas or drywells, and bioretention facilities or rain gardens that can be located on private residential lots. The ability to inspect and maintain these facilities over time is an area of concern. Developments with ESD have multiple facilities, which require increasing county resources for inspections. Routine maintenance of ESD facilities located on individual residential lots becomes the responsibility of the individual homeowner, resulting in property owner education and maintenance enforcement issues. Funding for County inspection and maintenance of stormwater management facilities is through the Watershed Protection and Restoration Fund, which is discussed later in this chapter under Managing Natural Resources by Watershed. The County should evaluate alternatives for improving, enforcing, and funding long-term inspection and maintenance of stormwater management facilities, particularly those facilities located on private residential lots.



EH-5 Policy Statement

Evaluate and improve stormwater management requirements to enhance climate change resilience.

Implementing Actions

1. Conduct a flooding vulnerability assessment to determine which watersheds are susceptible to chronic flooding under current and expected future precipitation patterns.
2. Update stormwater management design standards to address current and expected future precipitation patterns. Consider adding quantity management requirements, including management for short-duration, high-intensity storms in vulnerable watersheds. Incentivize existing commercial centers to provide stormwater management systems consistent with present standards.
3. Evaluate opportunities to further reduce Reduce stormwater runoff and pollutant loadings when redevelopment occurs and incorporate water quantity management practices throughout the County.
4. Continue to use Increase use of a nature-based or green stormwater infrastructure approach (bioretention, swales) in combination with a built or gray infrastructure approach (pipes, ponds) to address flood mitigation and adaptation, to maximize ecological benefits.
5. Evaluate alternatives for improving, enforcing, and funding long-term inspection and maintenance of stormwater management facilities, particularly those facilities located on private residential lots.
6. Ensure that redevelopment, at a minimum, meets new development stormwater requirements and address watershed health, flood risks, and other environmental concerns.

Managing Natural Resources by Watersheds

The health of wetlands, streams, lakes, and reservoirs is directly linked to the use of land within their watersheds. For this reason, the County takes a watershed-based approach to comprehensively address the design, construction, and maintenance of the stormwater management system; water quality and habitat improvements in local streams; and flooding concerns.

The Chesapeake Bay is a valued source of beauty, recreation, and commercial activity in Maryland, and it has played an important role in Maryland's history and development. The multistate effort to restore the Chesapeake Bay continues to be a strong influence in promoting watershed-based planning and management efforts to protect not only the Bay, but also the Bay's numerous tributary rivers and streams. For additional information about restoration efforts for the Chesapeake Bay, please see Technical Appendix A.

Howard County lies within the Patuxent River and Patapsco River watersheds, two major tributaries to the Chesapeake Bay. Approximately 75% of the County is within the Patuxent River watershed and the remaining 25% of the County is within the Patapsco River watershed. The main stems of these rivers have many tributary streams which drain large areas of the County. The Patuxent River and Patapsco River watersheds in Howard County are divided by the State into seven major watersheds, as shown in Map 3-2.

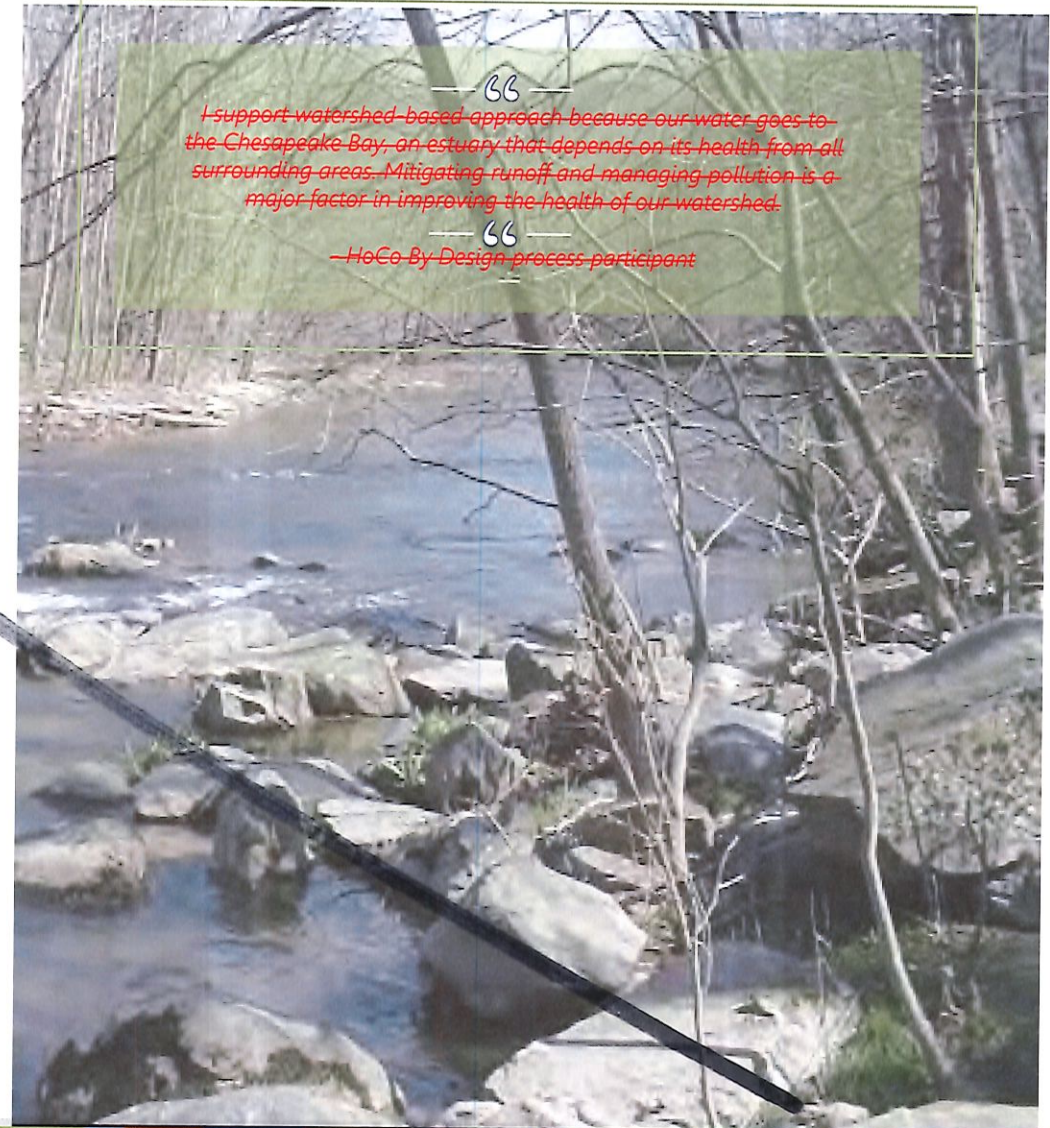
Watershed management plans generally include:

- A description of current land use within the watershed;
- Water quality and habitat conditions in the watershed streams;
- An identification and severity ranking of problem areas;
- An identification and priority ranking of potential restoration projects;
- Preliminary designs and cost estimates for priority restoration projects; and
- An implementation schedule.

Restoration projects can include:

- Building new stormwater management facilities in areas that lack them and retrofitting existing facilities to add water quality treatment;
- Planting forest, especially to create forested buffers along streams;
- Restoring and creating wetlands; and
- Stabilizing stream channels and restoring instream habitats.

Many of these restoration projects require cooperation and participation from private landowners, so public outreach and education is a critical component of implementation.



— 66 —
Trees are infrastructure.
— 66 —
—HoCo By Design process participant

Expanding Tree Canopy and Forest Cover

Tree canopy and forest cover help reduce and filter stormwater runoff, minimize erosion and sedimentation of streams, create wildlife habitats, sequester carbon, improve air quality, provide health benefits, and moderate local temperatures. They form visual buffers and are scenic in their own right. Increasing tree and forest cover is also an effective measure for climate change mitigation and adaptation. For these reasons, establishing goals for forest cover and forested stream buffers by watershed helps to achieve multiple objectives. In more developed watersheds, it may be more appropriate to establish a tree canopy goal.

Existing Tree Canopy and Forest Cover

A Report on Howard County, Maryland's Existing and Possible Tree Canopy was published in 2011 by the U.S. Forest Service and the University of Vermont. This report defined tree canopy as the layer of leaves, branches and stems of trees that cover the ground when viewed from above. Tree canopy includes individual trees, such as those found within a parking lot or residential lawn, as well as trees within a forest. Using 2007 tree canopy data, the report found that the County contained approximately 80,000 acres of tree canopy or 50% of the County had tree canopy cover. The County tree canopy cover in 2007 is shown in Map 3-3.

A forest is a natural ecological community dominated by trees, generally including woody understory plants such as shrubs and young trees, and herbaceous vegetation such as grasses and flowers. To be fully effective as a complex environmental community, forest areas need to be large enough to provide space for a variety of native plant and animal species, to afford protection from outside intrusions, and to be able to mature and regenerate themselves.

Based on a separate analysis by the County of 2009 forest cover data, the County contained approximately 45,460 acres of forest or 28% of the County was in forest cover (distinctive from tree canopy). Forest cover in the eastern portion of the County is prevalent primarily within stream valley areas where sensitive resources have discouraged development or within publicly-owned conservation areas, such as the Patapsco Valley State Park and the Middle Patuxent Environmental Area. In the Rural West, upland and stream valley forests are more extensive. County forest cover in 2009, the most recent data available when the HoCo By Design scenarios were developed, is shown in Map 3-1. Countywide forest cover data should be updated on a regular and consistent basis to help assess changes in forest cover and manage forest resources over time.

Forest loss and fragmentation result in a continuing decline in forest interior habitat, which is generally defined as forest at least 300 feet from the forest edge. Forest interior habitat is generally more isolated from disturbance than forest edge habitat, and has a closed canopy that creates moist, shaded growing conditions, with less predation by forest edge species (raccoons, crows, cats) and fewer invasive species. In 2009, only 17% of the forest cover in the County was forest interior habitat. The loss of forest interior habitat threatens the survival of species that require this type of habitat, such as reptiles, amphibians and migratory songbirds.

Tree Planting Priorities for Economically-Vulnerable Communities

Howard County does not have an overall goal for tree canopy or forest cover, but Maryland has a policy that 40% of all land in the State should be covered by tree canopy. The County has several programs that provide free native trees to help increase tree canopy cover on qualifying residential properties, including the Stream ReLeaf and Turf to Trees Programs, along with an annual tree giveaway.

Map 3-4 shows tree canopy cover by subwatershed and census tracts with average household annual median income under \$50,000. There are four subwatersheds with less than 40% tree canopy coverage that contain one or more of these census tracts. Map 3-5 shows subwatersheds that have less than 40% tree canopy cover and impervious cover over 25%, along with census tracts with average household annual median income under \$50,000. Watersheds with higher levels of impervious cover and lower levels of tree canopy cover will experience greater heat island impacts, and households in these census tracts may have economic difficulty addressing these impacts. There are three subwatersheds that reflect these conditions and contain one or more of these census tracts. These subwatersheds should be prioritized for native tree planting programs, with a focus on residential areas within these census tracts, where there are willing participants.





Forest Conservation Act

Since 1993, Howard County's Forest Conservation Act (FCA) has mitigated forest loss caused by development. The FCA contains a series of incentives and penalties to encourage forest retention on development sites and includes reforestation requirements for forest that is cleared. Afforestation (planting of areas presently without forest cover) is also required on sites that don't meet minimum forest cover specifications.

The FCA does not require an equal area replacement for forest cleared, and forest cover continues to be lost to development in Howard County and throughout Maryland. The County updated the FCA in 2019 to enhance forest retention, including changes such as adding site design requirements for larger residential developments to meet 75% of their forest conservation obligation on site. The update increased mitigation requirements by increasing replanting ratios, especially if the replanting was done outside the watershed where the clearing occurred, and limiting use of the fee-in-lieu option for residential developments. The update also made changes to ensure more successful forest plantings, such as increasing the maintenance period for new plantings from two to three years. The County will monitor implementation of the updated FCA to measure its effectiveness and modify the regulations as needed to enhance forest retention and ensure forest plantings are successful.

Threats to Forest Health

The loss of forest species diversity and the degradation of forests by invasive exotic species are concerns for long-term forest health. Invasive exotic species are not native to the area where they live and are a significant problem because they can displace or kill native species. They lack the predators, competitors, diseases, or parasites that help control their populations in their native habitat. Invasive exotic species can include invertebrates such as the emerald ash borer, which kills ash trees, and plants such as Japanese honeysuckle and English ivy, which can smother trees.

Forest health is also damaged by an overpopulation of deer, which tend to prefer native species when browsing. When deer exceed the carrying capacity of a forest, they can eat most of the understory trees, shrubs, and herbaceous vegetation. Overgrazing of understory damages the ability of forests to regenerate, eliminates shrub and herbaceous species, and reduces bird species that nest within understory habitat. This damage can be compounded by impacts from invasive species, which can quickly cover the empty forest floor and inhibit the regrowth of native species. Invasive species often do not provide the same food, cover, and nesting benefits as native species do for native wildlife.

The Howard County Department of Recreation and Parks implements a comprehensive deer management program that is intended to maintain a stable, balanced deer population. Managing deer populations may also help reduce tick populations and tick-borne diseases such as Lyme disease. The program includes managed hunting on public lands to reduce deer numbers where necessary. Deer are quite adaptable and thrive in suburban environments, but hunting is not feasible in these areas, making it difficult to control their population on a countywide basis. Controlling deer-related impacts using a variety of management tools requires a cooperative effort between public agencies and landowners.

Climate change may exacerbate forest health issues caused by invasive exotic species and deer overpopulations. NOAA's Fourth National Climate Assessment notes that warmer winters in the northeast will likely expand the geographic range and population size of existing invasive exotic insect species, such as the emerald ash borer. There may also be a shift in native plant species to those that are better suited to a warmer climate, but if current species die off and new species are unable to become established, the forest may be unsustainable.

Increased forest management on public and private property can help address these threats to forest health and help forests transition to native species that are adaptable to a warmer climate and provide greater resilience to climate change. Federal and State programs are available to assist forest landowners with forest management. For example, the Maryland Department of Natural Resources will work with property owners to develop forest management or stewardship plans for a nominal fee.

EH-7 Policy Statement

Expand native tree canopy and forest cover in the County and manage forests to ensure long-term health and sustainability, addressing threats from invasive species, overpopulation of deer, and climate change.

Implementing Actions

1. Monitor implementation of the recently updated Forest Conservation Act and modify the Act as necessary to ensure adequate protection of forest resources.
2. Update countywide forest cover data on a regular basis to help assess changes in forest cover and manage forest resources over time.
3. Establish and achieve measurable goals for tree canopy, forest cover, and riparian forest buffers in all county watersheds.
4. Prioritize economically-vulnerable communities for native tree plantings to mitigate heat island impacts.
5. Continue and expand forest management, including invasive species removal, on county properties to ensure long-term health and sustainability of the forest.
6. Continue and expand outreach and technical assistance to private forest landowners for forest management to ensure the long-term health and sustainability of the forest.
7. Continue and expand implementation of the county Deer Management Program.

Implementing the Green Infrastructure Network Plan

Howard County's Green Infrastructure Network is comprised of a mapped system of hubs and corridors that includes and links the most ecologically significant natural areas in the County, as shown in Map 3-6. Hubs are large, natural areas that provide valuable habitat for plants and wildlife. Large contiguous blocks of interior forest and sizable wetland complexes are essential components of hubs. Corridors are linear features that tie hubs together and they may include rivers and streams, narrow sections of forest, and other upland areas.

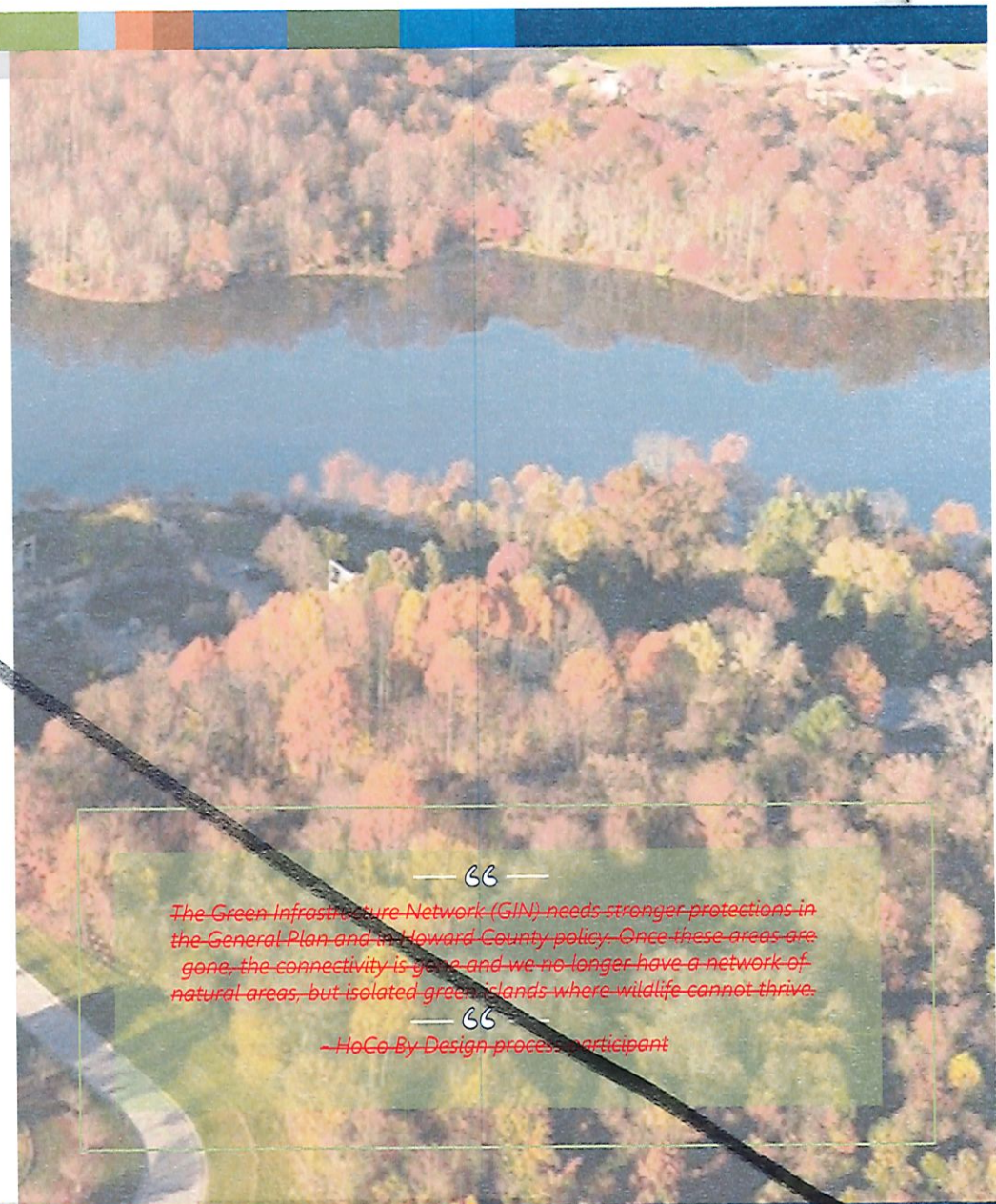
The intent of the Green Infrastructure Network is to provide a protected system of interconnected waterways, wetlands, forests, meadows, and other natural areas. The network helps support native plant and animal species, maintain natural ecological processes, sustain air and water resources, and contribute to the health and quality of life of Howard County's communities. A protected network of continuous habitat is a valuable resource for plant and animal species now and in the future, especially if they need to shift their habitat range due to climate change.

According to the 2012 Green Infrastructure Network (GIN) Plan, there are 51 hubs that contain approximately 22,148 acres or 14% of the County's total land area. Approximately 76% of the land in the hubs is protected in parkland or open space, and 11% is under an agricultural, environmental, or historic easement. The remaining 13% of the land is in a variety of uses and approximately 6% is uncommitted, which is land that still has development potential based on the zoning.

According to the 2012 GIN Plan, there are 48 corridor connections in the network. The corridor system contains approximately 6,173 acres or 4% of the County's total land area. Approximately 26% of this system is protected in parkland or open space, and 26% is under an agricultural or environmental easement. The remaining 48% of the land is in a variety of uses and approximately 11% is uncommitted. Protected land within the GIN is shown in Map 3-7.

Since development of the GIN Plan, the County conducted site visits to confirm the viability of the corridors for safe wildlife passage, with a focus on road crossings and areas close to existing development. Based on this assessment, two corridors (Cattail Creek – Friendship North and South) were removed from the GIN because they were not viable for wildlife passage. A mapping update of the network is needed to reflect these and other changes, such as corridor realignments and new development.

The GIN Plan defines goals and objectives to protect and enhance the network. It also contains a comprehensive toolkit for implementation that includes stewardship, financial incentives, regulatory protection, easements, acquisition, and indicator monitoring. The HoCo By Design public engagement process and the Environment Strategic Advisory Group (SAG) provided extensive comments on the importance of the GIN to identify and protect the County's most sensitive and ecologically beneficial resources. Further, the Environment SAG reported that "the Green Infrastructure Network is a valuable resource for the County, but implementation of the Green Infrastructure Network Plan has been slow." While the County has made some progress with plan implementation,



— 66 —
The Green Infrastructure Network (GIN) needs stronger protections in the General Plan and in Howard County policy. Once these areas are gone, the connectivity is gone and we no longer have a network of natural areas, but isolated green islands where wildlife cannot thrive.

— 66 —
~HoCo By Design process participant



Encouraging Environmental Stewardship

The majority of land in the County is privately owned, so environmental stewardship on private property is critical to protecting and restoring natural resources. Healthy natural resources support ecosystems that will be better able to adapt to climate change. Stewardship actions can include reducing the use of pesticides and herbicides, installing rain gardens and rain barrels, planting native tree species (especially along streams and wetlands), and replacing lawn with native plants and pollinator gardens, and removing and refraining from planting non-native invasive plants.

Public outreach and education are essential to raise awareness about the cumulative positive or negative impacts individual actions can have on the environment. Maryland schools are required to provide a comprehensive, multi-disciplinary environmental literacy instructional program for all students and this program must include opportunities for outdoor learning. Through a combination of efforts by government agencies, community and environmental organizations, business associations, and educational institutions, there is a wide variety of outreach and education programs available in the County for residential, commercial, and institutional property owners. Some programs may also include financial incentives or assistance, such as rebates, and planning and installation services. Where needed, these efforts should be expanded and new programs initiated to increase stewardship activities on private property. For example, a rising concern is the detrimental impact to local freshwater streams, lakes, and wetlands from the overuse of winter salt on roads, driveways, and parking lots. Education programs about the proper use of winter salt could help reduce this negative impact.

The County can also continue to exemplify stewardship by incorporating environmentally sensitive site development and property management practices into county activities. County actions could include exceeding minimum Green Building requirements for county buildings; improving energy efficiency and expanding use of renewable energy in county operations; retrofitting stormwater management for county facilities; implementing demonstration projects to encourage their use by others; replacing lawn with native plantings and pollinator gardens; and increasing forested riparian buffers and tree canopy on public property.

— 66 —
*Surveys of biodiversity show the world's overall decline in species.
What good is farmland if there are no pollinators for the crops?
Contiguous open space and the ecosystem it supports is the only way
to protect our food sources in the long run...Sustainability and food
security mean preservation of our local farms and pollinators.*

~HoCo-By-Design process participant

— 66 —

Table 10-1: Implementation Matrix		
Policy and Implementing Actions	Lead Agency	Timeframe (Mid-Term five-year, Long-Term six+ years, Ongoing)
GCF-1 - Provide limited and predictable Planned Service Area expansions.		
1. Planned Service Area expansions should include a development proposal that is consistent with the General Plan.	DPZ	Ongoing
2. Any Planned Service Area expansion shall establish a transition that is compatible with and enhances surrounding communities, and provides an environmental benefit.	DPZ	Ongoing
3. Any Planned Service Area expansion shall meet the criteria above.	DPZ	Ongoing
EH-1 - Continue to support the County's ecological health.		
1. Integrate the goals of protecting and restoring the County's ecological health when updating county programs and policies.	OCS DPZ DPW DRP HCHD	Mid-Term
2. Ensure adequate funding for programs and measures to protect and restore the County's ecological health, <u>track outcomes of these investments, and provide necessary maintenance and enforcement.</u>	OCS DRP DPW HSCD Elected Officials OOB	Ongoing
3. Create a dedicated funding source, as was done for the Agricultural Land Preservation Program, for environmental programs.	DPZ OCS Elected Officials OOB	Mid-Term
4. Establish a natural resource protection goal for the County and each major watershed to help protect biodiversity and mitigate climate change.	OCS DPZ	Mid-Term
5. <u>Develop open space percentage requirements for activity centers.</u>	DPZ OCS Elected Officials	Mid-Term

Table 10-1: Implementation Matrix		
Policy and Implementing Actions	Lead Agency	Timeframe (Mid-Term five-year, Long-Term six+ years, Ongoing)
EH-2 - Seek to integrate climate change mitigation and adaptation goals into all county programs and policies.		
1. Ensure the Howard County Climate Action <u>and Resiliency</u> Plan update continues to maximize opportunities to mitigate and adapt to climate change with clear goals and strategies <u>and that County Departments' policies are aligned with the plan's goals and strategies.</u>	OCS	Mid-Term
2. Evaluate and enhance opportunities where needed for climate change mitigation and adaptation measures in the Subdivision and Land Development Regulations and Zoning Regulations, such as natural resource protection and the provision of renewable energy.	DPZ OCS	Ongoing
3. Enhance county design requirements for county infrastructure and public and private buildings, to ensure these structures will be resilient under projected future weather patterns and minimize resource consumption.	DPW DILP OCS DPZ Private Partners	Ongoing
4. <u>Review and update county Adopt the most current standards of the International Green Construction Code Green-Building requirements</u> for opportunities to enhance the sustainability of public and private buildings.	DILP DPW DPZ OCS Private Partners	Mid-Term
5. Identify and ensure economically-vulnerable communities, businesses, and households have the resources necessary for mitigation and adaptation measures.	DCRS OEM OHRE OCS DPW HCHD HCEDA	Ongoing

Table 10-1: Implementation Matrix

Policy and Implementing Actions	Lead Agency	Timeframe (Mid-Term five-year, Long-Term six+ years, Ongoing)
EH-3 - Ensure the Subdivision and Land Development Regulations and Zoning Regulations provide adequate protection for sensitive environmental resources within new development and redevelopment.		
1. Evaluate and enhance protections, including sediment and erosion control, where needed for sensitive environmental resources, such as water resources, steep slopes, and rare, threatened, and endangered species, in the Subdivision and Land Development Regulations.	DPZ HSCD	Mid-Term
2. Explore whether cluster development may also be appropriate in other residential zoning districts during the zoning regulation update process.	DPZ	Mid-Term
EH-4—Incentivize additional resource protection and restoration measures within new development and redevelopment.		
1. Consider increased use of a density exchange overlay district, in both the West and the East, to protect sensitive resources in areas with unique conditions or resources.	DPZ	Mid-Term
2. Consider incentives to encourage environmental protection and restoration when properties are developed or redeveloped, such as tax credits, density bonuses, housing allocations, and public-private partnerships.	DPZ HCEDA Private-Partners	Mid-Term
3. Evaluate and strengthen the Green Neighborhood Program to ensure adequate incentives will increase program use and incorporate new options, such as increased moderate-income housing units.	DPZ DILP OCS	Mid-Term

Table 10-1: Implementation Matrix

Policy and Implementing Actions	Lead Agency	Timeframe (Mid-Term five-year, Long-Term six+ years, Ongoing)
EH-5 - Evaluate and improve stormwater management requirements to enhance climate change resilience.		
1. Conduct a flooding vulnerability assessment to determine which watersheds are susceptible to chronic flooding under current and expected future precipitation patterns.	DPW	Ongoing
2. Update stormwater management design standards to address current and expected future precipitation patterns. Consider adding quantity management requirements, including management for short-duration, high-intensity storms in vulnerable watersheds. <u>Incentivize existing commercial centers to provide stormwater management systems consistent with present standards.</u>	DPZ DPW OCS	Mid-Term
3. Evaluate opportunities to further reduce <u>Reduce</u> stormwater runoff and pollutant loadings when redevelopment occurs <u>and incorporate water quantity management practices throughout the County.</u>	DPZ DPW OCS	Mid-Term
4. <u>Continue to use</u> <u>Increase use of</u> a nature-based or green stormwater infrastructure approach (bioretention, swales) in combination with a built or gray infrastructure approach (pipes, ponds) to address flood mitigation and adaptation, to maximize ecological benefits.	DPW DPZ OCS Private Partners	Ongoing
5. Evaluate alternatives for improving, enforcing, and funding long-term inspection and maintenance of stormwater management facilities, particularly those facilities located on private residential lots.	DPW Private Partners	Mid-Term
6. <u>Ensure redevelopment, at a minimum, meets new development stormwater requirements and address watershed health, flood risks, and other environmental concerns.</u>	DPW DPZ OCS Private Partners	Mid-Term

Table 10-1: Implementation Matrix		
Policy and Implementing Actions	Lead Agency	Timeframe (Mid-Term five-year, Long-Term six+ years, Ongoing)
EH-6 - Expand the use of watershed management plans to provide a comprehensive framework for protecting and restoring natural resources.		
1. Expand the scope of watershed management plans to set priorities and guide efforts to protect, restore, and improve the County's environmental resources.	DPW DPZ	Mid-Term
2. Continue to coordinate and cooperate with other local, regional, and state agencies and organizations on joint watershed planning and management for the Patuxent and the Patapsco Rivers.	DPZ DPW OCS HSCD HCHD	Ongoing
3. Ensure the Watershed Protection and Restoration Fund has adequate funding to meet National Pollutant Discharge Elimination System stormwater permit requirements and for proactive resource management.	DPW OCS Elected Officials OOB	Ongoing
4. Continue to pursue federal and state grant and cost-share opportunities to secure additional resources for restoration efforts. Apply jointly with community and environmental organizations and with neighboring jurisdictions, as appropriate.	DPW OCS DRP	Ongoing

Table 10-1: Implementation Matrix		
Policy and Implementing Actions	Lead Agency	Timeframe (Mid-Term five-year, Long-Term six+ years, Ongoing)
EH-7 - Expand native tree canopy and forest cover in the County and manage forests to ensure long-term health and sustainability, addressing threats from invasive species, overpopulation of deer, and climate change.		
1. Monitor implementation of the recently updated Forest Conservation Act and modify the Act as necessary to ensure adequate protection of forest resources.	DPZ OCS DRP	Ongoing
2. Update countywide forest cover data on a regular basis to help assess changes in forest cover and manage forest resources over time.	OCS DPZ	Mid-Term
3. Establish and achieve measurable goals for tree canopy, forest cover, and riparian forest buffers in all county watersheds.	OCS DRP DPW DPZ	Mid-Term
4. Prioritize economically-vulnerable communities for native tree plantings to mitigate heat island impacts.	DRP DPW OCS DPZ	Ongoing
5. Continue and expand forest management, <u>including invasive species removal</u> , on county properties to ensure long-term health and sustainability of the forest.	DRP	Ongoing
6. Continue and expand outreach and technical assistance to private forest landowners for forest management to ensure the long-term health and sustainability of the forest.	OCS DRP DPZ	Ongoing
7. Continue and expand implementation of the county Deer Management Program.	DRP	Ongoing

Amendment 1 to Amendment 79 to Council Bill No. 28 -2023

BY: Liz Walsh

Legislative Day 12

Date: 10/11/2023

Amendment No. 1

(This Amendment to Amendment 79 restores all the removed quotes.)

Substitute page 1 of Amendment 79 with the attachment to this Amendment to Amendment.

Substitute the pages EH-8, EH-11, EH-18, EH-21, EH-26, EH-33, EH-44, and EH-56 attached to Amendment 79 with the pages EH-8, EH-11, EH-18, EH-21, EH-26, EH-33, EH-44, and EH-56 attached to this Amendment to Amendment.

I certify this is a true copy of

Am 1 Am 79 CB28-2023

passed on

10/11/2023

Michelle Barrad
Council Administrator

*Not
moved*

Amendment 1 to Amendment 79 to Council Bill No. 28 -2023

BY: Deb Jung

Legislative Day 12

Date: 10/11/2023

Amendment No. 79

(This Amendment makes the following changes to HoCo by Design Chapter 3 and Chapter 11:

*Chapter 3: Ecological
Health*

~~— Removes all quotes;~~

- *Includes health hazards caused by airplanes in equity considerations;*
- *Amends the EH-1 Policy Statement Implementing Actions to track outcomes of ecological health investments and provide maintenance and enforcement, and adds an action to develop open space percentage requirements for activity centers;*
- *Adds language regarding 2020 bird-friendly amendments to design standards;*
- *Amends the EH-2 Policy Statement Implementing Actions to include resiliency in the title of the Climate Action Plan, ensure County departments align policies with ecological health goals, and adopt the International Green Construction Code;*
- *Deletes the section Incentivizing Natural Resource Protection and Restoration including EH-4 Policy Statement and remove all the implementing actions;*
- *Amends the EH-5 Policy Statement Implementing Actions to incentivize existing commercial centers to provide stormwater management systems, reduce stormwater runoff and incorporate water quality management practices, increase the use of green stormwater infrastructure, and add the requirement that redevelopment meets new development stormwater requirements;*
- *Amends the EH-7 Policy Statement Implementing Actions to include invasive species removal in forest management;*

*Chapter 11:
Implementation*

- *Amends the EH-1 Policy Statement Implementing Actions to track outcomes of ecological health investments and provide maintenance and enforcement, and adds an action to develop open space percentage requirements for activity centers;*
- *Amends the EH-2 Policy Statement Implementing Actions to include resiliency in the title of the Climate Action Plan, ensure County departments align policies with ecological health goals, and adopt the International Green Construction Code;*
- *Removed EH-4 Policy Statement and all the implementing actions;*

Supporting the County's Ecological Health

Howard County contains a wealth of natural resources, including forests, meadows, wetlands, streams, and lakes, which are linked together through ecosystems (see Map 3-1). Ecosystems are comprised of all living organisms, the physical environment, and the relationships between the living and inanimate elements within a particular area. Ecosystems provide a wide variety of services that benefit humans and other species, including food production, clean water, flood control, temperature regulation, recreational opportunities, and aesthetic value. However, their monetary values are often overlooked, until human intervention is needed to repair or replace them. It is generally far more cost-effective to protect a healthy ecosystem than to try and restore one that has been degraded.

The health of these ecosystems—ecological health—is the foundation that supports economic and community health and personal well-being. Human activities can negatively affect ecological health by removing or degrading natural resources, but people can also help restore and protect these resources. The challenge is to meet current human needs while ensuring actions protect and restore ecological health so that it may continue to support future life.

Through the January 27, 2021 Executive Order 14008 on Tackling the Climate Crises at Home and Abroad, the United States joined an international movement by countries to pledge conservation of at least 30% of their land and water by 2030. This pledge is intended to help protect biodiversity and mitigate climate change through locally led conservation efforts. Howard County already has 39% of its land and water conserved in parkland, open space, and easements. The County should continue to support this movement by establishing a goal for natural resource conservation. This goal could be for the County as a whole and each major watershed.

EH-1 Policy Statement

Continue to support the County's ecological health.

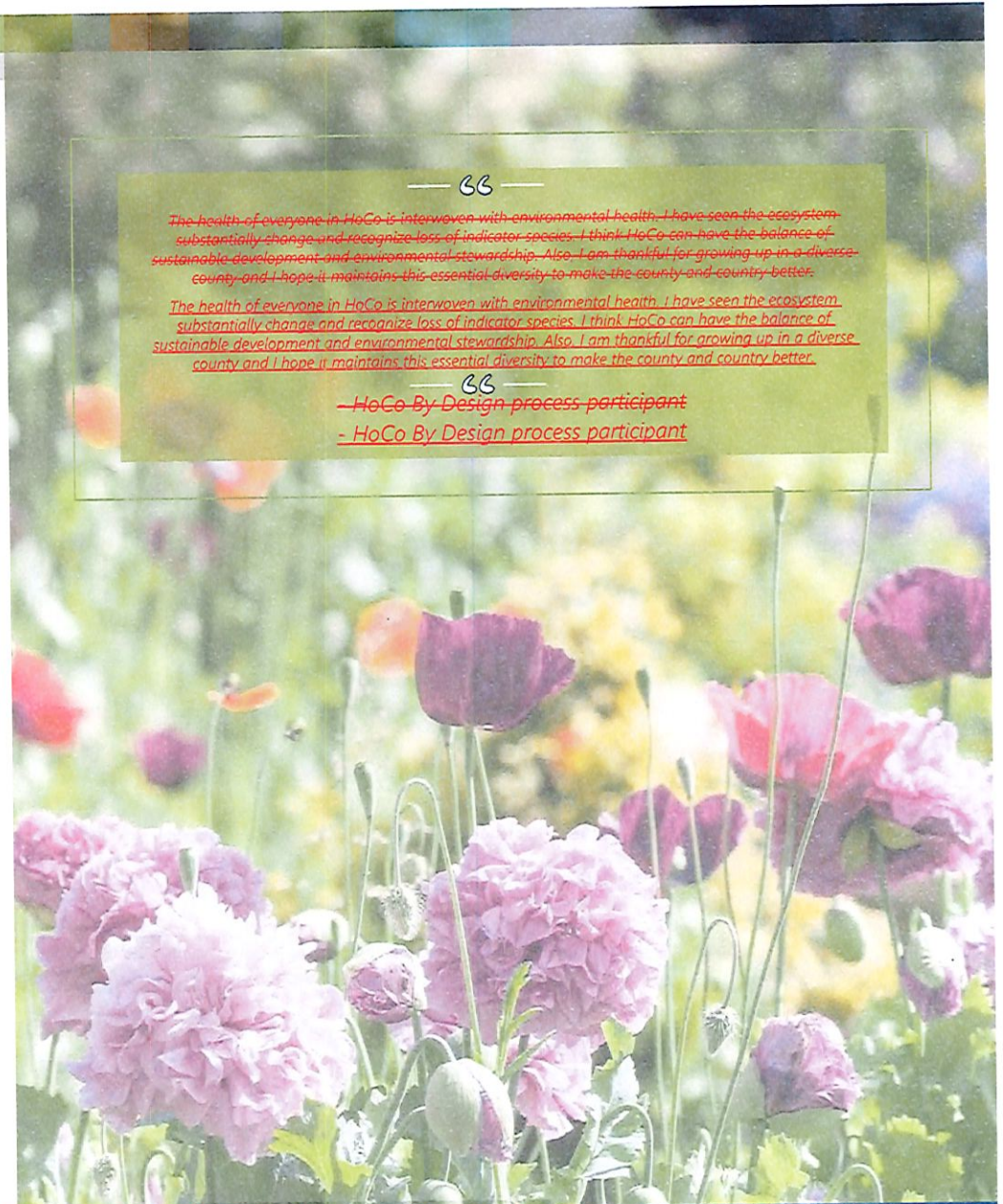
Implementing Actions

1. Integrate the goals of protecting and restoring the County's ecological health when updating county programs and policies.
2. Ensure adequate funding for programs and measures to protect and restore the County's ecological health. track outcomes of these investments, and provide necessary maintenance and enforcement.
3. Create a dedicated funding source, as was done for the Agricultural Land Preservation Program, for environmental programs.
4. Establish a natural resource protection goal for the County and each major watershed to help protect biodiversity and mitigate climate change.
5. Develop open space percentage requirements for activity centers.

— 66 —
The health of everyone in HoCo is interwoven with environmental health. I have seen the ecosystem substantially change and recognize loss of indicator species. I think HoCo can have the balance of sustainable development and environmental stewardship. Also, I am thankful for growing up in a diverse county and I hope it maintains this essential diversity to make the county and country better.

The health of everyone in HoCo is interwoven with environmental health. I have seen the ecosystem substantially change and recognize loss of indicator species. I think HoCo can have the balance of sustainable development and environmental stewardship. Also, I am thankful for growing up in a diverse county and I hope it maintains this essential diversity to make the county and country better.

— 66 —
HoCo By Design process participant
- HoCo By Design process participant



66
~~I would like to see environmental and climate change concerns be the most important consideration for growth and infrastructure. I would like to see environmental and climate change concerns be the most important consideration for growth and infrastructure.~~

66
~~-HoCo By Design process participant~~
~~- HoCo By Design process participant~~

Mitigating and Adapting to Climate Change

Climate change can be generally defined as a significant, long-term shift in weather patterns for a specific geographic region. The National Oceanic and Atmospheric Administration's (NOAA) Fourth National Climate Assessment notes that emissions of the long-lived greenhouse gases carbon dioxide, methane, nitrous oxide, and fluorinated gases are causing climate change as they build up and trap heat in the atmosphere. The assessment further notes that greenhouse gas (GHG) emissions come from human sources (fossil fuel combustion, industrial processes, deforestation) and natural sources, but emissions from human sources have increased dramatically since the start of the industrial age and the growing use of coal, oil, and natural gas.

NOAA's Maryland State Climate Summary (2017) projects impacts in Maryland from climate change will include increased average annual precipitation, especially during the winter and spring. More frequent and intense rainfall events are also projected, which could lead to more flooding events in urban areas and expanded flood inundation areas. Projected changes also include higher daytime and nighttime temperatures, which could intensify droughts. NOAA further projects that the oceans will continue to warm and sea levels will continue to rise, which may displace people living along the coast. These effects combined could shift available habitat and impact migratory patterns for plant and wildlife species. If these shifts occur at a rapid pace, species that cannot adapt quickly enough may not survive.

Not only could climate change have a devastating impact on the natural environment and plant and wildlife species, it could also economically distress many households, businesses, and families. Families could experience higher energy bills resulting from temperature extremes, unless they are able to upgrade the heating and cooling systems in their homes. They may also need to further weatherproof their homes and retrofit their properties to add stormwater management for more frequent nuisance flooding. While all households may experience impacts from climate change, lower-income and cost-burdened households could have significant challenges affording these extra costs. In Howard County, as of 2018, 5% (5,732) of all households are below the poverty line and 23% (27,310) of households are in the ALICE (Asset Limited, Income Constrained, Employed) income bracket. Financial assistance programs are available to assist income-qualified households, such as weatherization programs funded by federal and state grants.

Mitigation Measures

Mitigation measures to reduce GHG emissions in our region can include reducing the use of fossil fuels through energy conservation and efficiency in buildings and transportation, switching to renewable energy, and promoting carbon sequestration through natural resources and agriculture. Carbon sequestration is the process by which atmospheric carbon dioxide is taken up by trees, grasses, and other plants through photosynthesis and stored as carbon in biomass (trunks, branches, foliage, and roots) and soils.

Many Smart Growth policies promote development patterns and actions that are in harmony with climate mitigation goals. Policies that promote compact growth, walkable communities, green buildings, complete streets, and increased transit reduce fossil fuel use. Other policies promote protecting environmental resources, such as wetlands and forests, and preserving open space and agricultural land, which can provide carbon sequestration and help mitigate increased temperature extremes. Zoning and other policies can promote renewable energy by making it easier to include solar and other on-site or local renewable energy generation, especially on developed parcels. Mitigation measures can help communities improve their quality of life and save money through reduced energy costs, an important outcome for everyone, but especially for low-income or cost-burdened households.



Photo Credit: Sue A. Miller

Rare, Threatened, and Endangered Species

The 2019 Maryland Department of Natural Resources (DNR) list of current and historical rare, threatened, and endangered species identifies 98 species within Howard County. Of these 98 species, 15 are animals and 83 are plants. Threats to these species are primarily caused by habitat destruction, particularly of wetlands, riparian areas, steep slopes, and forests. Therefore, protective measures for these important habitats also benefit these species.

The DNR mapped the known habitat areas for rare, threatened, and endangered species throughout Maryland as Sensitive Species Project Review Areas (SSPRA). The SSPRA information is used by the County to initially screen development proposals under the Forest Conservation Act. If this screening indicates that such habitat may be present, the developer is referred to the DNR for guidance on protecting the species and the associated habitat.

Zoning Regulations

Excluding mixed use zones, there are three residential zoning districts with a stated purpose that includes protecting environmental resources. (Note that there is a fourth district that includes this purpose, but it is applicable only to historic properties.) These zoning districts require or allow the use of cluster development to achieve this purpose. The Residential-Environmental Development (R-ED) zoning district in the East is located primarily along the Patapsco River in areas with steep and narrow stream valleys. The R-ED zoning district has a 50% open space requirement (as specified in the Subdivision and Land Development Regulations) and allows smaller lots, clustered together to keep development impacts away from steep slopes and streams. In the Rural West, the Rural Conservation (RC) zoning district requires low-density, clustered residential development for parcels of 20 acres or greater to protect agricultural lands and natural resources. This type of cluster development is also allowed on smaller lots in the RC zoning district and on any lot in the Rural Residential (RR) zoning district. Cluster development may also be appropriate to enhance environmental protection in other residential zoning districts.

EH-3 Policy Statement

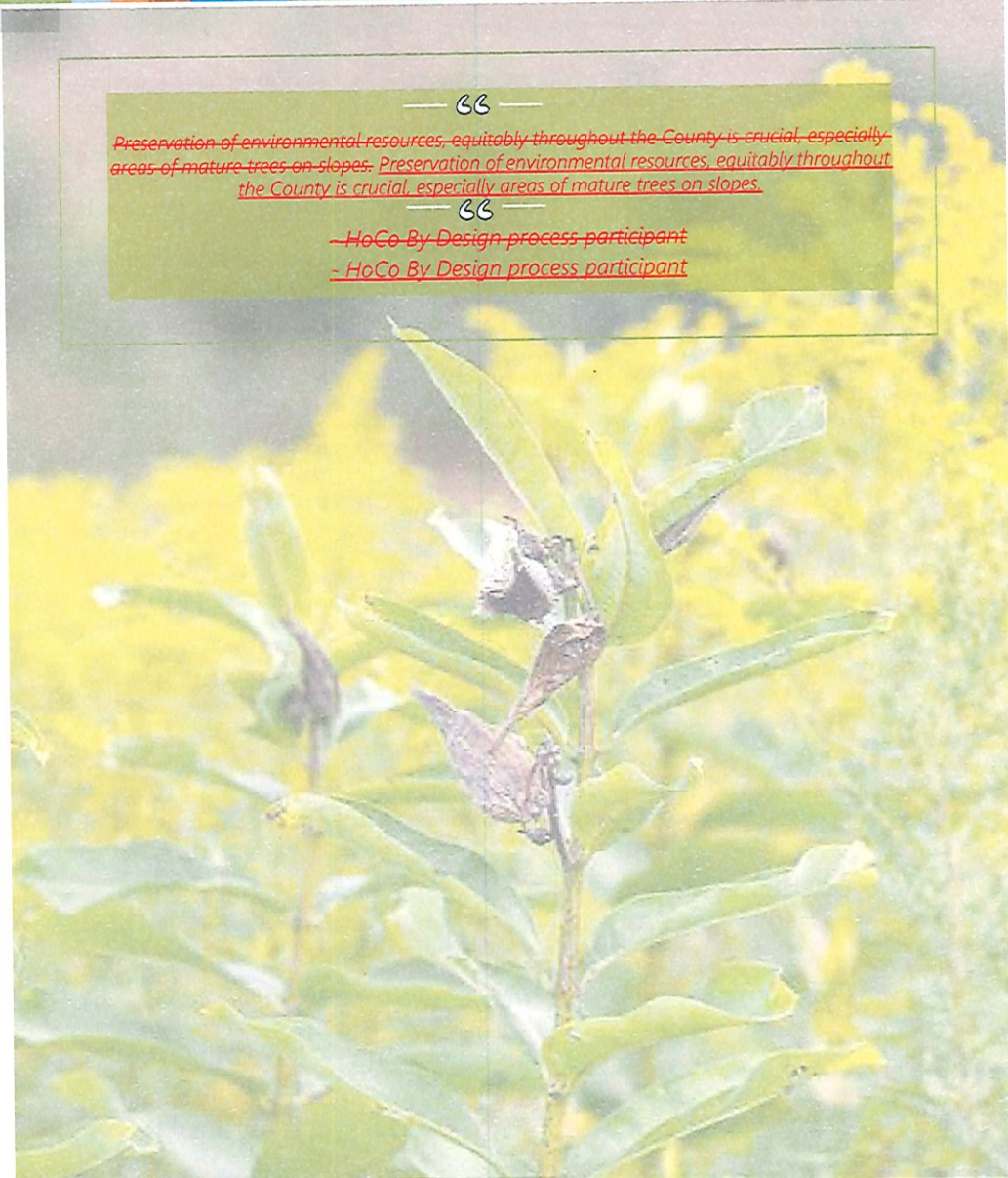
Ensure the Subdivision and Land Development Regulations and Zoning Regulations provide adequate protection for sensitive environmental resources within new development and redevelopment.

Implementing Actions

1. Evaluate and enhance protections, including sediment and erosion control, where needed for sensitive environmental resources, such as water resources, steep slopes, and rare, threatened, and endangered species, in the Subdivision and Land Development Regulations.
2. Explore whether cluster development may also be appropriate in other residential zoning districts during the zoning regulation update process.

— 66 —
~~Preservation of environmental resources, equitably throughout the County is crucial, especially areas of mature trees on slopes. Preservation of environmental resources, equitably throughout the County is crucial, especially areas of mature trees on slopes.~~

— 66 —
~~HoCo By Design process participant~~
~~HoCo By Design process participant~~





Managing Stormwater

Impervious surfaces, such as roads, parking lots, and buildings, interfere with stormwater runoff's ability to soak into the ground. Stormwater runoff travels quickly across impervious surfaces, picking up sediment and pollutants, and during warm weather, becoming warmer, before it enters nearby water bodies. The simultaneous increase in both water quantity, pollutants, and temperature leads to flooding, stream erosion, and degraded water quality and habitat. These impacts will be exacerbated by the more frequent and intense rainfall events and warmer temperatures projected to occur with climate change. Stormwater management can help remove pollutants from runoff, reduce water temperature, moderate the flow of runoff into nearby water bodies, and reduce flooding.

New Development

Since 2010, Howard County's stormwater management regulations have required that all new development employ environmental site design (ESD) techniques to treat runoff from smaller, more frequent storms (the 1-year, 24-hour storm of 2.6 inches) to the maximum extent practicable. ESD emphasizes reducing the amount of stormwater runoff generated by using site design techniques that limit site disturbance and reduce the creation of impervious surfaces. ESD treats runoff by holding it on-site where it can be filtered and treated by the vegetation and soil in multiple, small treatment facilities. ESD is different from the County's previous approach to stormwater management, which focused on collecting and treating runoff in large treatment facilities, most often stormwater management ponds.

However, the County continues to require stormwater management for the larger 10- and 100-year, 24-hour storm events of 4.9 and 8.5 inches, respectively, in the Tiber Branch, Deep Run, and Cattail Creek watersheds, where older development exists within the 100-year floodplain and are vulnerable to flooding. Stormwater management in these watersheds uses a combination of ESD techniques and large holding facilities, such as ponds or underground storage tanks.

In response to severe flooding events in Ellicott City in 2016 and 2018, the County also adopted stormwater management regulations to address short-duration, high-intensity storms in the Plumtree Branch and Tiber Branch watersheds (requiring quantity management for a 3.55-hour, 6.6-inch storm event). Stormwater management for these types of storms again requires a combination of ESD techniques and large holding facilities. These types of storms are projected to occur more often under the effects of climate change. The County should consider adding quantity management requirements for the 10- and 100-year storms, as well as short-duration, high-intensity storms, to other vulnerable watersheds.

Flooding Concerns

In 2021 Maryland's stormwater management law was amended to require that the Maryland Department of the Environment (MDE) update the stormwater management regulations to incorporate the most recent precipitation data available and add quantity management standards for flood control in watersheds that have experienced flooding incidents since 2000. The amendments also require that MDE review and update the stormwater management regulations at least once every five years. The County will work with MDE to adopt the new regulations, which are expected to be finalized in 2023.

Managing Natural Resources by Watersheds

The health of wetlands, streams, lakes, and reservoirs is directly linked to the use of land within their watersheds. For this reason, the County takes a watershed-based approach to comprehensively address the design, construction, and maintenance of the stormwater management system; water quality and habitat improvements in local streams; and flooding concerns.

The Chesapeake Bay is a valued source of beauty, recreation, and commercial activity in Maryland, and it has played an important role in Maryland's history and development. The multistate effort to restore the Chesapeake Bay continues to be a strong influence in promoting watershed-based planning and management efforts to protect not only the Bay, but also the Bay's numerous tributary rivers and streams. For additional information about restoration efforts for the Chesapeake Bay, please see Technical Appendix A.

Howard County lies within the Patuxent River and Patapsco River watersheds, two major tributaries to the Chesapeake Bay. Approximately 75% of the County is within the Patuxent River watershed and the remaining 25% of the County is within the Patapsco River watershed. The main stems of these rivers have many tributary streams which drain large areas of the County. The Patuxent River and Patapsco River watersheds in Howard County are divided by the State into seven major watersheds, as shown in Map 3-2.

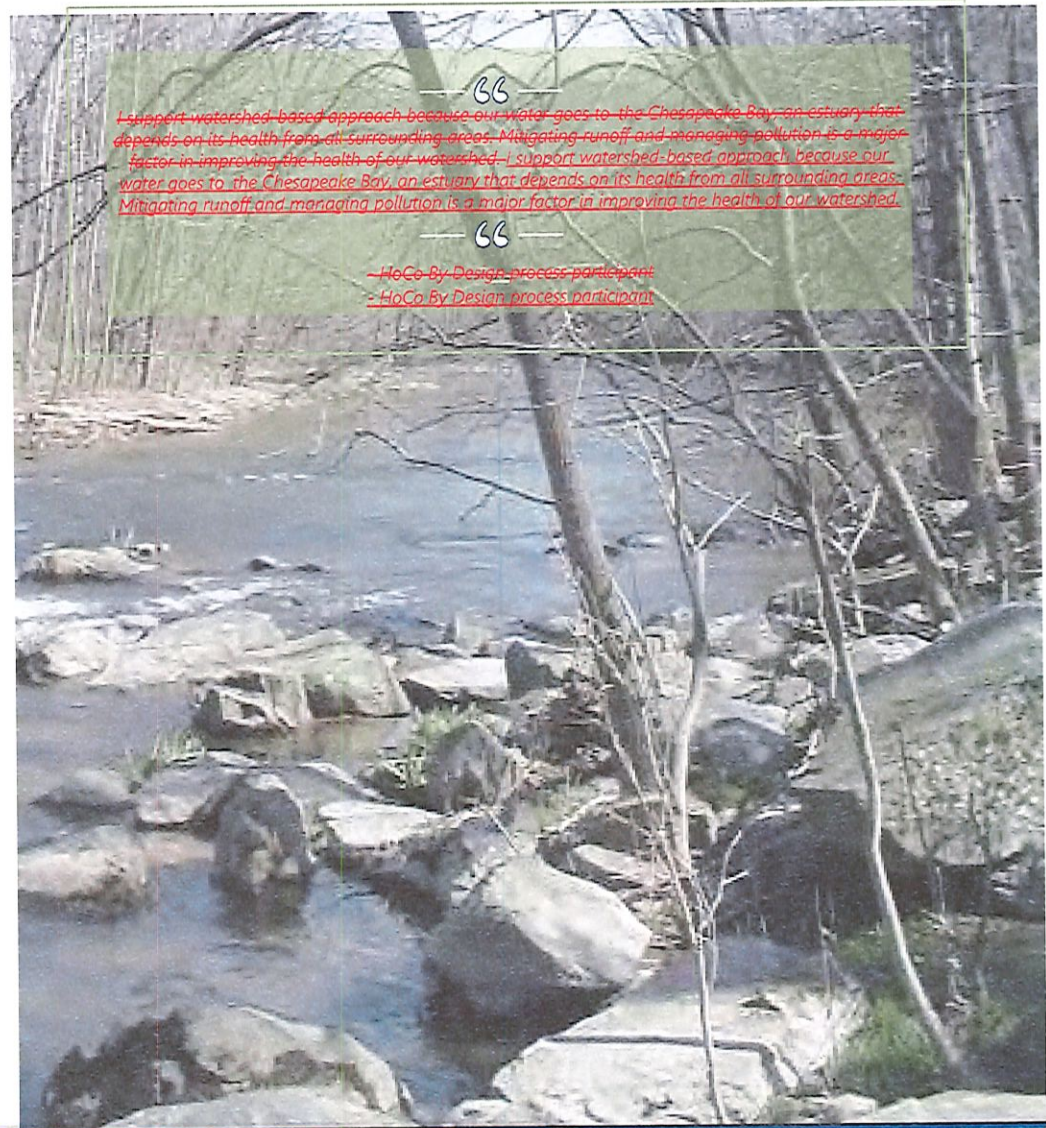
Watershed management plans generally include:

- A description of current land use within the watershed;
- Water quality and habitat conditions in the watershed streams;
- An identification and severity ranking of problem areas;
- An identification and priority ranking of potential restoration projects;
- Preliminary designs and cost estimates for priority restoration projects; and
- An implementation schedule.

Restoration projects can include:

- Building new stormwater management facilities in areas that lack them and retrofitting existing facilities to add water quality treatment;
- Planting forest, especially to create forested buffers along streams;
- Restoring and creating wetlands; and
- Stabilizing stream channels and restoring instream habitats.

Many of these restoration projects require cooperation and participation from private landowners, so public outreach and education is a critical component of implementation.



— 33 —
Trees are infrastructure. Trees are infrastructure.
— 33 —
- HoCo By Design process participant
- HoCo By Design process participant

Expanding Tree Canopy and Forest Cover

Tree canopy and forest cover help reduce and filter stormwater runoff, minimize erosion and sedimentation of streams, create wildlife habitats, sequester carbon, improve air quality, provide health benefits, and moderate local temperatures. They form visual buffers and are scenic in their own right. Increasing tree and forest cover is also an effective measure for climate change mitigation and adaptation. For these reasons, establishing goals for forest cover and forested stream buffers by watershed helps to achieve multiple objectives. In more developed watersheds, it may be more appropriate to establish a tree canopy goal.

Existing Tree Canopy and Forest Cover

A Report on Howard County, Maryland's Existing and Possible Tree Canopy was published in 2011 by the U.S. Forest Service and the University of Vermont. This report defined tree canopy as the layer of leaves, branches and stems of trees that cover the ground when viewed from above. Tree canopy includes individual trees, such as those found within a parking lot or residential lawn, as well as trees within a forest. Using 2007 tree canopy data, the report found that the County contained approximately 80,000 acres of tree canopy or 50% of the County had tree canopy cover. The County tree canopy cover in 2007 is shown in Map 3-3.

A forest is a natural ecological community dominated by trees, generally including woody understory plants such as shrubs and young trees, and herbaceous vegetation such as grasses and flowers. To be fully effective as a complex environmental community, forest areas need to be large enough to provide space for a variety of native plant and animal species, to afford protection from outside intrusions, and to be able to mature and regenerate themselves.

Based on a separate analysis by the County of 2009 forest cover data, the County contained approximately 45,460 acres of forest or 28% of the County was in forest cover (distinctive from tree canopy). Forest cover in the eastern portion of the County is prevalent primarily within stream valley areas where sensitive resources have discouraged development or within publicly-owned conservation areas, such as the Patapsco Valley State Park and the Middle Patuxent Environmental Area. In the Rural West, upland and stream valley forests are more extensive. County forest cover in 2009, the most recent data available when the HoCo By Design scenarios were developed, is shown in Map 3-1. Countywide forest cover data should be updated on a regular and consistent basis to help assess changes in forest cover and manage forest resources over time.

Forest loss and fragmentation result in a continuing decline in forest interior habitat, which is generally defined as forest at least 300 feet from the forest edge. Forest interior habitat is generally more isolated from disturbance than forest edge habitat, and has a closed canopy that creates moist, shaded growing conditions, with less predation by forest edge species (raccoons, crows, cats) and fewer invasive species. In 2009, only 17% of the forest cover in the County was forest interior habitat. The loss of forest interior habitat threatens the survival of species that require this type of habitat, such as reptiles, amphibians and migratory songbirds.

Tree Planting Priorities for Economically-Vulnerable Communities

Howard County does not have an overall goal for tree canopy or forest cover, but Maryland has a policy that 40% of all land in the State should be covered by tree canopy. The County has several programs that provide free native trees to help increase tree canopy cover on qualifying residential properties, including the Stream ReLeaf and Turf to Trees Programs, along with an annual tree giveaway.

Map 3-4 shows tree canopy cover by subwatershed and census tracts with average household annual median income under \$50,000. There are four subwatersheds with less than 40% tree canopy coverage that contain one or more of these census tracts. Map 3-5 shows subwatersheds that have less than 40% tree canopy cover and impervious cover over 25%, along with census tracts with average household annual median income under \$50,000. Watersheds with higher levels of impervious cover and lower levels of tree canopy cover will experience greater heat island impacts, and households in these census tracts may have economic difficulty addressing these impacts. There are three subwatersheds that reflect these conditions and contain one or more of these census tracts. These subwatersheds should be prioritized for native tree planting programs, with a focus on residential areas within these census tracts, where there are willing participants.



Implementing the Green Infrastructure Network Plan

Howard County's Green Infrastructure Network is comprised of a mapped system of hubs and corridors that includes and links the most ecologically significant natural areas in the County, as shown in Map 3-6. Hubs are large, natural areas that provide valuable habitat for plants and wildlife. Large contiguous blocks of interior forest and sizable wetland complexes are essential components of hubs. Corridors are linear features that tie hubs together and they may include rivers and streams, narrow sections of forest, and other upland areas.

The intent of the Green Infrastructure Network is to provide a protected system of interconnected waterways, wetlands, forests, meadows, and other natural areas. The network helps support native plant and animal species, maintain natural ecological processes, sustain air and water resources, and contribute to the health and quality of life of Howard County's communities. A protected network of continuous habitat is a valuable resource for plant and animal species now and in the future, especially if they need to shift their habitat range due to climate change.

According to the 2012 Green Infrastructure Network (GIN) Plan, there are 51 hubs that contain approximately 22,148 acres or 14% of the County's total land area. Approximately 76% of the land in the hubs is protected in parkland or open space, and 11% is under an agricultural, environmental, or historic easement. The remaining 13% of the land is in a variety of uses and approximately 6% is uncommitted, which is land that still has development potential based on the zoning.

According to the 2012 GIN Plan, there are 48 corridor connections in the network. The corridor system contains approximately 6,173 acres or 4% of the County's total land area. Approximately 26% of this system is protected in parkland or open space, and 26% is under an agricultural or environmental easement. The remaining 48% of the land is in a variety of uses and approximately 11% is uncommitted. Protected land within the GIN is shown in Map 3-7.

Since development of the GIN Plan, the County conducted site visits to confirm the viability of the corridors for safe wildlife passage, with a focus on road crossings and areas close to existing development. Based on this assessment, two corridors (Cattail Creek – Friendship North and South) were removed from the GIN because they were not viable for wildlife passage. A mapping update of the network is needed to reflect these and other changes, such as corridor realignments and new development.

The GIN Plan defines goals and objectives to protect and enhance the network. It also contains a comprehensive toolkit for implementation that includes stewardship, financial incentives, regulatory protection, easements, acquisition, and indicator monitoring. The HoCo By Design public engagement process and the Environment Strategic Advisory Group (SAG) provided extensive comments on the importance of the GIN to identify and protect the County's most sensitive and ecologically beneficial resources. Further, the Environment SAG reported that "the Green Infrastructure Network is a valuable resource for the County, but implementation of the Green Infrastructure Network Plan has been slow." While the County has made some progress with plan implementation,



~~The Green Infrastructure Network (GIN) needs stronger protections in the General Plan and in Howard County policy. Once these areas are gone, the connectivity is gone and we no longer have a network of natural areas, but isolated green islands where wildlife cannot thrive. The Green Infrastructure Network (GIN) needs stronger protections in the General Plan and in Howard County policy. Once these areas are gone, the connectivity is gone and we no longer have a network of natural areas, but isolated green islands where wildlife cannot thrive.~~

~~- HoCo By Design process participants
- HoCo By Design process participants~~



Encouraging Environmental Stewardship

The majority of land in the County is privately owned, so environmental stewardship on private property is critical to protecting and restoring natural resources. Healthy natural resources support ecosystems that will be better able to adapt to climate change. Stewardship actions can include reducing the use of pesticides and herbicides, installing rain gardens and rain barrels, planting native tree species (especially along streams and wetlands), and replacing lawn with native plants and pollinator gardens, and removing and refraining from planting non-native invasive plants.

Public outreach and education are essential to raise awareness about the cumulative positive or negative impacts individual actions can have on the environment. Maryland schools are required to provide a comprehensive, multi-disciplinary environmental literacy instructional program for all students and this program must include opportunities for outdoor learning. Through a combination of efforts by government agencies, community and environmental organizations, business associations, and educational institutions, there is a wide variety of outreach and education programs available in the County for residential, commercial, and institutional property owners. Some programs may also include financial incentives or assistance, such as rebates, and planning and installation services. Where needed, these efforts should be expanded and new programs initiated to increase stewardship activities on private property. For example, a rising concern is the detrimental impact to local freshwater streams, lakes, and wetlands from the overuse of winter salt on roads, driveways, and parking lots. Education programs about the proper use of winter salt could help reduce this negative impact.

The County can also continue to exemplify stewardship by incorporating environmentally sensitive site development and property management practices into county activities. County actions could include exceeding minimum Green Building requirements for county buildings; improving energy efficiency and expanding use of renewable energy in county operations; retrofitting stormwater management for county facilities; implementing demonstration projects to encourage their use by others; replacing lawn with native plantings and pollinator gardens; and increasing forested riparian buffers and tree canopy on public property.

— 66 —
Surveys of biodiversity show the world's overall decline in species. What good is farmland if there are no pollinators for the crops? Contiguous open space and the ecosystem it supports is the only way to protect our food sources in the long run...Sustainability and food security mean preservation of our local farms and pollinators.
Surveys of biodiversity show the world's overall decline in species. What good is farmland if there are no pollinators for the crops? Contiguous open space and the ecosystem it supports is the only way to protect our food sources in the long run...Sustainability and food security mean preservation of our local farms and pollinators.

— 66 —
—HoCo By Design process participant
— HoCo By Design process participant

**Amendment 2 to Amendment 79
to Council Bill No. 28-2023**

BY: Deb Jung

**Legislative Day 12
Date: October 11, 2023**

(This amendment restores the quotes to Chapter 3, restores the Incentivizing Natural Resource Protection and Restoration section, except for the Green Neighborhood Program section in including the Green Neighborhood Implementing Action in the EH-4 Policy Statement in Amendment 79, and amends the EH-2 Policy Statement to integrate climate change goals as specified in the Howard County Climate Action and Resiliency Plan.)

1 Substitute pages 1 and 2 of Amendment 79 with the attached pages 1 and 2 to this Amendment to
2 Amendment.

3

4

5 Substitute the attached pages EH-8, 11, 15, 18, 19, 20, 21, 26, 33, 44, 56, and IMP-16 and 17 of
6 Amendment 87 with the attached EH-8, 11, 15, 18, 19, 20, 21, 26, 33, 44, 56, and IMP-16 and 17
7 to this Amendment to Amendment.

8

9

10

I certify this is a true copy of

Am 2 Am 79 CB28-2023

passed on

10/11/2023

Nichelle Durrant

Council Administrator

Amendment 79 to Council Bill No. 28 -2023

BY: Deb Jung
Liz Walsh

Legislative Day 11
Date: 10/2/23

Amendment No. 79

(This Amendment makes the following changes to HoCo by Design Chapter 3 and Chapter 11:

*Chapter 3: Ecological
Health*

- ~~— Removes all quotes;~~
- Includes health hazards caused by airplanes in equity considerations;
- Amends the EH-1 Policy Statement Implementing Actions to track outcomes of ecological health investments and provide maintenance and enforcement, and adds an action to develop open space percentage requirements for activity centers;
- Adds language regarding 2020 bird-friendly amendments to design standards;
- Amends the EH-2 Policy Statement to integrate climate change goals as specified in the Howard County Climate Action and Resiliency Plan and the Implementing Actions to include resiliency in the title of the Climate Action Plan, ensure County departments align policies with ecological health goals, and adopt the International Green Construction Code;
- Deletes the Green Neighborhood Program description section from the Incentivizing Natural Resource Protection and Restoration section including and removes Implementing Action #3 regarding Green Neighborhoods from EH-4 Policy Statement and remove all the implementing actions;
- Amends the EH-5 Policy Statement Implementing Actions to incentivize existing commercial centers to provide stormwater management systems, reduce stormwater runoff and incorporate water quality management practices, increase the use of green stormwater infrastructure, and add the requirement that redevelopment meets new development stormwater requirements;
- Amends the EH-7 Policy Statement Implementing Actions to include invasive species removal in forest management;

*Chapter 11:
Implementation*

- Amends the EH-1 Policy Statement Implementing Actions to track outcomes of ecological health investments and provide maintenance and enforcement, and adds an action to develop open space percentage requirements for activity centers;

- Amends the EH-2 Policy Statement to integrate climate change goals as specified in the Howard County Climate Action and Resiliency Plan and the Implementing Actions to include resiliency in the title of the Climate Action Plan, ensure County departments align policies with ecological health goals, and adopt the International Green Construction Code;
- ~~Removed EH-4 Policy Statement and all the implementing actions~~ Deletes the Green Neighborhood Implementing Action in the EH-4 Policy;
- Removed EH-4 Policy Statement and all the implementing actions;
- Amends the EH-5 Policy Statement Implementing Actions to incentivize existing commercial centers to provide stormwater management systems, reduce stormwater runoff and incorporate water quality management practices, increase the use of green stormwater infrastructure, and add the requirement that redevelopment meets new development stormwater requirements;
- Amends the EH-7 Policy Statement Implementing Actions to include invasive species removal in forest management.)

1 In the *HoCo By Design* General Plan, attached to this Act as Exhibit A, amend the following
 2 pages as indicated in this Amendment:

- 3 • Chapter 3: Ecological Health: 5, 7, 8, 11, 14, 15, 18, 19, 20, 21, 24, 26, 33, 42, 44, and
 4 56; and
- 5 • Chapter 11: Implementation: 15, 16, 17, 18, and 20.

6 Correct all page numbers, numbering, and formatting within this Act to accommodate this
 7 amendment.

8

Supporting the County's Ecological Health

Howard County contains a wealth of natural resources, including forests, meadows, wetlands, streams, and lakes, which are linked together through ecosystems (see Map 3-1). Ecosystems are comprised of all living organisms, the physical environment, and the relationships between the living and inanimate elements within a particular area. Ecosystems provide a wide variety of services that benefit humans and other species, including food production, clean water, flood control, temperature regulation, recreational opportunities, and aesthetic value. However, their monetary values are often overlooked, until human intervention is needed to repair or replace them. It is generally far more cost-effective to protect a healthy ecosystem than to try and restore one that has been degraded.

The health of these ecosystems—ecological health—is the foundation that supports economic and community health and personal well-being. Human activities can negatively affect ecological health by removing or degrading natural resources, but people can also help restore and protect these resources. The challenge is to meet current human needs while ensuring actions protect and restore ecological health so that it may continue to support future life.

Through the January 27, 2021 Executive Order 14008 on Tackling the Climate Crises at Home and Abroad, the United States joined an international movement by countries to pledge conservation of at least 30% of their land and water by 2030. This pledge is intended to help protect biodiversity and mitigate climate change through locally led conservation efforts. Howard County already has 39% of its land and water conserved in parkland, open space, and easements. The County should continue to support this movement by establishing a goal for natural resource conservation. This goal could be for the County as a whole and each major watershed.

EH-1 Policy Statement

Continue to support the County's ecological health.

Implementing Actions

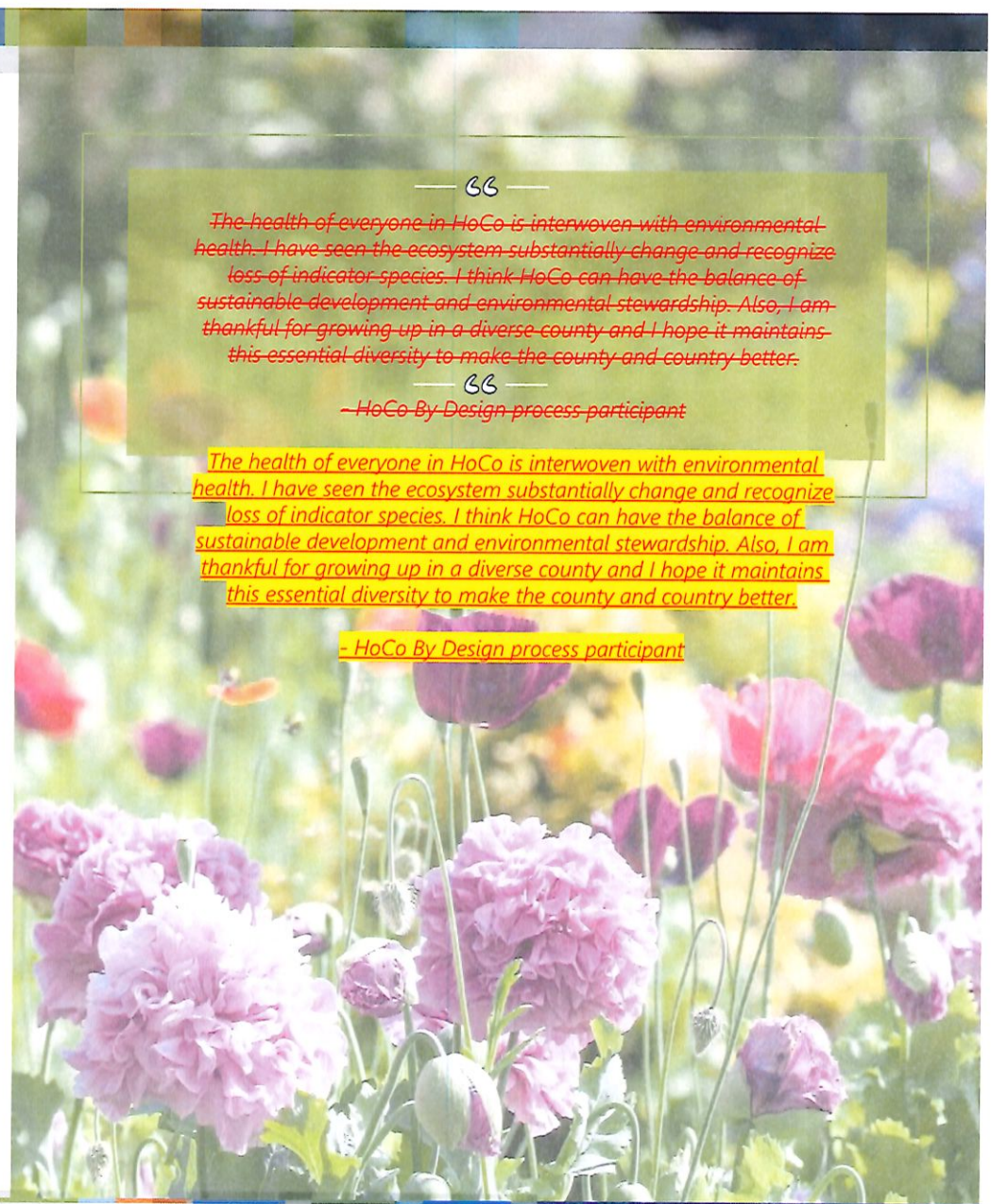
1. Integrate the goals of protecting and restoring the County's ecological health when updating county programs and policies.
2. Ensure adequate funding for programs and measures to protect and restore the County's ecological health, track outcomes of these investments, and provide necessary maintenance and enforcement.
3. Create a dedicated funding source, as was done for the Agricultural Land Preservation Program, for environmental programs.
4. Establish a natural resource protection goal for the County and each major watershed to help protect biodiversity and mitigate climate change.
5. Develop open space percentage requirements for activity centers.

— 66 —
The health of everyone in HoCo is interwoven with environmental health. I have seen the ecosystem substantially change and recognize loss of indicator species. I think HoCo can have the balance of sustainable development and environmental stewardship. Also, I am thankful for growing up in a diverse county and I hope it maintains this essential diversity to make the county and country better.

— 66 —
- HoCo By Design process participant

The health of everyone in HoCo is interwoven with environmental health. I have seen the ecosystem substantially change and recognize loss of indicator species. I think HoCo can have the balance of sustainable development and environmental stewardship. Also, I am thankful for growing up in a diverse county and I hope it maintains this essential diversity to make the county and country better.

- HoCo By Design process participant



CC
I would like to see environmental and climate change concerns be the most important consideration for growth and infrastructure.

CC
- HoCo By Design process participant

I would like to see environmental and climate change concerns be the most important consideration for growth and infrastructure.

- HoCo By Design process participant

Mitigating and Adapting to Climate Change

Climate change can be generally defined as a significant, long-term shift in weather patterns for a specific geographic region. The National Oceanic and Atmospheric Administration's (NOAA) Fourth National Climate Assessment notes that emissions of the long-lived greenhouse gases carbon dioxide, methane, nitrous oxide, and fluorinated gases are causing climate change as they build up and trap heat in the atmosphere. The assessment further notes that greenhouse gas (GHG) emissions come from human sources (fossil fuel combustion, industrial processes, deforestation) and natural sources, but emissions from human sources have increased dramatically since the start of the industrial age and the growing use of coal, oil, and natural gas.

NOAA's Maryland State Climate Summary (2017) projects impacts in Maryland from climate change will include increased average annual precipitation, especially during the winter and spring. More frequent and intense rainfall events are also projected, which could lead to more flooding events in urban areas and expanded flood inundation areas. Projected changes also include higher daytime and nighttime temperatures, which could intensify droughts. NOAA further projects that the oceans will continue to warm and sea levels will continue to rise, which may displace people living along the coast. These effects combined could shift available habitat and impact migratory patterns for plant and wildlife species. If these shifts occur at a rapid pace, species that cannot adapt quickly enough may not survive.

Not only could climate change have a devastating impact on the natural environment and plant and wildlife species, it could also economically distress many households, businesses, and families. Families could experience higher energy bills resulting from temperature extremes, unless they are able to upgrade the heating and cooling systems in their homes. They may also need to further weatherproof their homes and retrofit their properties to add stormwater management for more frequent nuisance flooding. While all households may experience impacts from climate change, lower-income and cost-burdened households could have significant challenges affording these extra costs. In Howard County, as of 2018, 5% (5,732) of all households are below the poverty line and 23% (27,310) of households are in the ALICE (Asset Limited, Income Constrained, Employed) income bracket. Financial assistance programs are available to assist income-qualified households, such as weatherization programs funded by federal and state grants.

Mitigation Measures

Mitigation measures to reduce GHG emissions in our region can include reducing the use of fossil fuels through energy conservation and efficiency in buildings and transportation, switching to renewable energy, and promoting carbon sequestration through natural resources and agriculture. Carbon sequestration is the process by which atmospheric carbon dioxide is taken up by trees, grasses, and other plants through photosynthesis and stored as carbon in biomass (trunks, branches, foliage, and roots) and soils.

Many Smart Growth policies promote development patterns and actions that are in harmony with climate mitigation goals. Policies that promote compact growth, walkable communities, green buildings, complete streets, and increased transit reduce fossil fuel use. Other policies promote protecting environmental resources, such as wetlands and forests, and preserving open space and agricultural land, which can provide carbon sequestration and help mitigate increased temperature extremes. Zoning and other policies can promote renewable energy by making it easier to include solar and other on-site or local renewable energy generation, especially on developed parcels. Mitigation measures can help communities improve their quality of life and save money through reduced energy costs, an important outcome for everyone, but especially for low-income or cost-burdened households.



Photo Credit: Sue Muller



EH-2 Policy Statement

Seek to integrate climate change mitigation and adaptation goals as specified in the Howard County Climate Action and Resiliency Plan, or the most recently adopted Plan into all county programs and policies.

Implementing Actions

1. Ensure the Howard County Climate Action and Resiliency Plan update continues to maximize opportunities to mitigate and adapt to climate change with clear goals and strategies and that County Departments' policies are aligned with the plan's goals and strategies.
2. Evaluate and enhance opportunities where needed for climate change mitigation and adaptation measures in the Subdivision and Land Development Regulations and Zoning Regulations, such as natural resource protection and the provision of renewable energy.
3. Enhance county design requirements for county infrastructure and public and private buildings, to ensure these structures will be resilient under projected future weather patterns and minimize resource consumption.
4. Review and update county Adopt the most current standards of the International Green Construction Code Green Building requirements for opportunities to enhance the sustainability of public and private buildings.
5. Identify and ensure economically-vulnerable communities, businesses, and households have the resources necessary for mitigation and adaptation measures.

Protecting Sensitive Environmental Resources

The County Subdivision and Land Development Regulations and Zoning Regulations contain significant provisions for the protection of sensitive environmental resources when properties are developed. This section discusses regulatory protections for water resources, steep slopes, and rare, threatened and endangered species, as well as three zoning districts specifically designed to protect sensitive resources. Additional protective measures for forests and stormwater management requirements are addressed in later, separate sections.

Water Resources and Steep Slopes

Water resources include rivers, wetlands, floodplains, ponds, lakes, and groundwater. These are vital natural resources that provide drinking water, stormwater management, pollution abatement, floodwater storage, and recreation, as well as important habitat for a wide variety of plant and animal species.

To protect water quality and habitat within streams, the County Subdivision and Land Development Regulations require the following undisturbed streamside buffer areas:

- 75 to 100 feet along perennial streams in residential zoning districts;
- 50 feet along perennial streams in non-residential zoning districts; and
- 50 feet along intermittent streams in all zoning districts.

The regulations also require a 25-foot undisturbed buffer around nontidal wetlands. Additionally, most wetlands in the County are found within the 100-year floodplain, which is protected from disturbance.

County regulations also protect steep slopes of 25% or greater when there is a contiguous area of 20,000 square feet or larger. Disturbing steep slopes can generate excessive erosion and sedimentation that can be difficult to contain even with enhanced sediment and erosion control practices, and once disturbed steep slopes can be difficult to stabilize. This can be especially problematic when these slopes are adjacent to water bodies. When slopes of 15% or greater occur in conjunction with highly erodible soils, these erosion problems are intensified.

To provide the greatest benefit, stream and wetland buffers should be wide enough to allow adequate filtering of overland stormwater runoff, include adjacent steep slopes and highly erodible soils, and be forested. The use of a floodplain buffer can improve resilience to flooding by accounting for future changes in the floodplain due to changing weather patterns (increased rainfall), increased development, or outdated mapping.

County regulations require sediment and erosion control practices comply with the 2011 Maryland Standards and Specifications for Soil Erosion and Sediment Control when development or forestry activities will result in clearing and grading. These practices prevent sediment and other pollutants from leaving a disturbed site and entering nearby water bodies during storm events. The requirements for sediment and erosion control should be reviewed to ensure they are adequate for changing precipitation patterns, especially short-duration, high-intensity storms.

Rare, Threatened, and Endangered Species

The 2019 Maryland Department of Natural Resources (DNR) list of current and historical rare, threatened, and endangered species identifies 98 species within Howard County. Of these 98 species, 15 are animals and 83 are plants. Threats to these species are primarily caused by habitat destruction, particularly of wetlands, riparian areas, steep slopes, and forests. Therefore, protective measures for these important habitats also benefit these species.

The DNR mapped the known habitat areas for rare, threatened, and endangered species throughout Maryland as Sensitive Species Project Review Areas (SSPRA). The SSPRA information is used by the County to initially screen development proposals under the Forest Conservation Act. If this screening indicates that such habitat may be present, the developer is referred to the DNR for guidance on protecting the species and the associated habitat.

Zoning Regulations

Excluding mixed use zones, there are three residential zoning districts with a stated purpose that includes protecting environmental resources. (Note that there is a fourth district that includes this purpose, but it is applicable only to historic properties.) These zoning districts require or allow the use of cluster development to achieve this purpose. The Residential-Environmental Development (R-ED) zoning district in the East is located primarily along the Patapsco River in areas with steep and narrow stream valleys. The R-ED zoning district has a 50% open space requirement (as specified in the Subdivision and Land Development Regulations) and allows smaller lots, clustered together to keep development impacts away from steep slopes and streams. In the Rural West, the Rural Conservation (RC) zoning district requires low-density, clustered residential development for parcels of 20 acres or greater to protect agricultural lands and natural resources. This type of cluster development is also allowed on smaller lots in the RC zoning district and on any lot in the Rural Residential (RR) zoning district. Cluster development may also be appropriate to enhance environmental protection in other residential zoning districts.

EH-3 Policy Statement

Ensure the Subdivision and Land Development Regulations and Zoning Regulations provide adequate protection for sensitive environmental resources within new development and redevelopment.

Implementing Actions

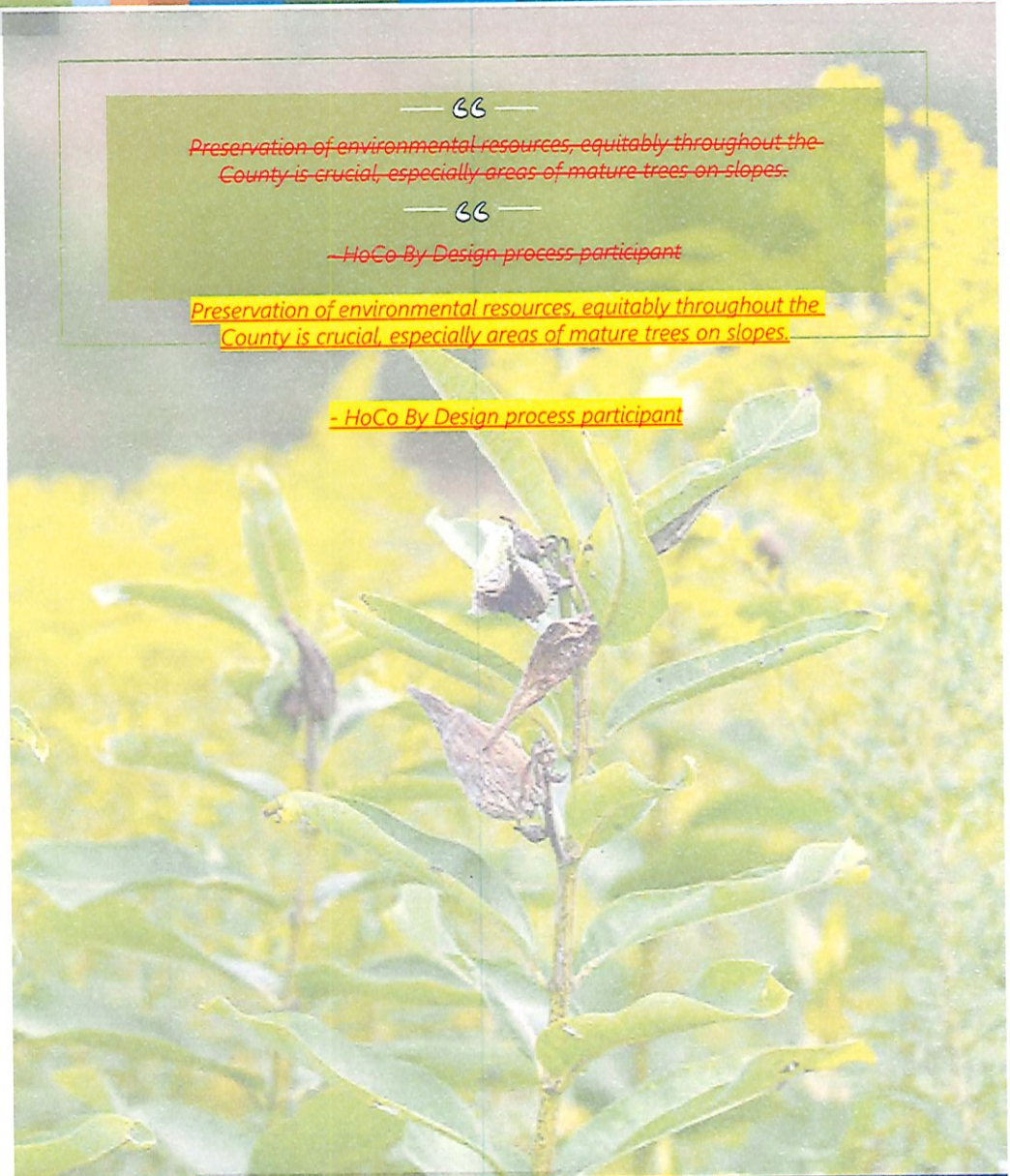
1. Evaluate and enhance protections, including sediment and erosion control, where needed for sensitive environmental resources, such as water resources, steep slopes, and rare, threatened, and endangered species, in the Subdivision and Land Development Regulations.
2. Explore whether cluster development may also be appropriate in other residential zoning districts during the zoning regulation update process.

— 66 —
Preservation of environmental resources, equitably throughout the County is crucial, especially areas of mature trees on slopes.

— 66 —
- HoCo By Design process participant

Preservation of environmental resources, equitably throughout the County is crucial, especially areas of mature trees on slopes.

- HoCo By Design process participant



Incentivizing Natural Resource Protection and Restoration

The County currently has few incentives to encourage resource protection and restoration measures that go beyond the minimum requirements of the Subdivision and Land Development and Zoning Regulations.

Incentivizing Natural Resource Protection and Restoration

The County currently has few incentives to encourage resource protection and restoration measures that go beyond the minimum requirements of the Subdivision and Land Development and Zoning Regulations.

Green Neighborhood Program

The Subdivision and Land Development Regulations include the Green Neighborhood Program, which is a voluntary, point-based program that provides housing allocations as an incentive for more environmentally friendly and sustainable development. Under Plan Howard 2030, up to 150 housing unit allocations were set aside annually for projects that meet Green Neighborhood requirements. HoCo By Design continues this important incentive.

The Green Neighborhood Program is divided into separate Site and Home requirements. Applicants earn Site points for a wide variety of green practices, such as designing a walkable community, exceeding minimum requirements for stormwater management, stream and wetland buffers, or forest conservation; using native plants for landscaping; restoring and creating wetlands; and restoring in-stream habitat. Applicants earn Home points for green practices such as using energy and water efficient appliances and fixtures, providing on-site renewable energy, and building with wood from sustainably managed forests.

Only two developments with a total of 1,458 dwelling units have qualified as Green Neighborhoods since the program's inception in 2008. Program participation has been limited by a major national recession that slowed development shortly after the program's inception, and the wide availability of housing allocations, which has reduced their value as an incentive. In addition, the development community has reported the need for greater flexibility and options for earning points to qualify for the program. The County has also experienced challenges in enforcing long-term implementation and maintenance for some of the Green Neighborhood features, such as habitat management plans and native landscaping. The program would benefit from an evaluation and update to address these issues and to incorporate new options, such as protecting the Green Infrastructure Network and/or increasing moderate income housing units.



Zoning Regulations

The Zoning Regulations include a Density Exchange Overlay (DEO) District for the RC and RR Districts, which provides an opportunity and incentive to preserve significant blocks of farmland and rural land in the West. An overlay district is a district established to respond to special features or conditions of an area, such as historic value, physical characteristics, or location. An overlay district may also supplement or provide an alternative to the regulations of the underlying zoning district. The DEO District allows residential density in the RC and RR Districts to be exchanged between parcels. Density exchanges are intended to preserve large parcels in perpetuity, while residential development is directed toward parcels that can more readily accommodate the additional dwellings. Use of this district has been successful in permanently preserving large tracts of open space and environmental and agricultural land, and should be continued under any new zoning regime. Additionally, an overlay district may be an appropriate approach to further protect watersheds with unique conditions or resources, as well as the Green Infrastructure Network.

Additional Incentives

Additional incentives could be employed to supplement changes to the Subdivision and Land Development Regulations and Zoning Regulations for enhanced resource protection and restoration. These could include density bonuses, tax credits, housing allocations, and private-public partnerships.

Zoning Regulations

The Zoning Regulations include a Density Exchange Overlay (DEO) District for the RC and RR Districts, which provides an opportunity and incentive to preserve significant blocks of farmland and rural land in the West. An overlay district is a district established to respond to special features or conditions of an area, such as historic value, physical characteristics, or location. An overlay district may also supplement or provide an alternative to the regulations of the underlying zoning district. The DEO District allows residential density in the RC and RR Districts to be exchanged between parcels. Density exchanges are intended to preserve large parcels in perpetuity, while residential development is directed toward parcels that can more readily accommodate the additional dwellings. Use of this district has been successful in permanently preserving large tracts of open space and environmental and agricultural land, and should be continued under any new zoning regime. Additionally, an overlay district may be an appropriate approach to further protect watersheds with unique conditions or resources, as well as the Green Infrastructure Network.

Additional Incentives

Additional incentives could be employed to supplement changes to the Subdivision and Land Development Regulations and Zoning Regulations for enhanced resource protection and restoration. These could include density bonuses, tax credits, housing allocations, and private-public partnerships.

EH-4 Policy Statement

Incentivize additional resource protection and restoration measures within new development and redevelopment.

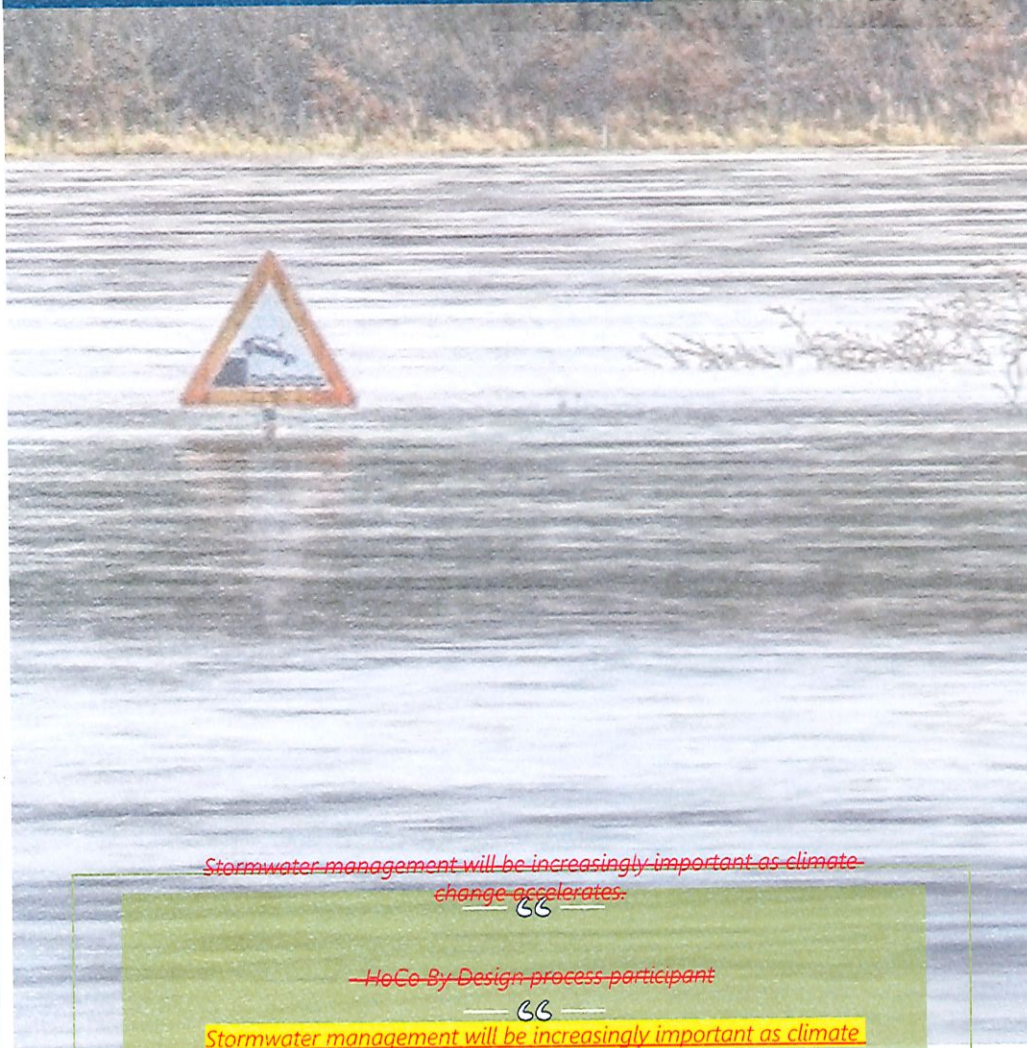
Incentivize additional resource protection and restoration measures within new development and redevelopment.

Implementing Actions

1. Consider increased use of a density exchange overlay district, in both the West and the East, to protect sensitive resources in areas with unique conditions or resources.
2. Consider incentives to encourage environmental protection and restoration when properties are developed or redeveloped, such as tax credits, density bonuses, housing allocations, and public-private partnerships.
3. Evaluate and strengthen the Green Neighborhood Program to ensure adequate incentives will increase program use and incorporate new options, such as increased moderate income housing units.

Implementing Actions

1. Consider increased use of a density exchange overlay district, in both the West and the East, to protect sensitive resources in areas with unique conditions or resources.
2. Consider incentives to encourage environmental protection and restoration when properties are developed or redeveloped, such as tax credits, density bonuses, housing allocations, and public-private partnerships.
3. Evaluate and strengthen the Green Neighborhood Program to ensure adequate incentives will increase program use and incorporate new options, such as increased moderate income housing units.



Managing Stormwater

Impervious surfaces, such as roads, parking lots, and buildings, interfere with stormwater runoff's ability to soak into the ground. Stormwater runoff travels quickly across impervious surfaces, picking up sediment and pollutants, and during warm weather, becoming warmer, before it enters nearby water bodies. The simultaneous increase in both water quantity, pollutants, and temperature leads to flooding, stream erosion, and degraded water quality and habitat. These impacts will be exacerbated by the more frequent and intense rainfall events and warmer temperatures projected to occur with climate change. Stormwater management can help remove pollutants from runoff, reduce water temperature, moderate the flow of runoff into nearby water bodies, and reduce flooding.

New Development

Since 2010, Howard County's stormwater management regulations have required that all new development employ environmental site design (ESD) techniques to treat runoff from smaller, more frequent storms (the 1-year, 24-hour storm of 2.6 inches) to the maximum extent practicable. ESD emphasizes reducing the amount of stormwater runoff generated by using site design techniques that limit site disturbance and reduce the creation of impervious surfaces. ESD treats runoff by holding it on-site where it can be filtered and treated by the vegetation and soil in multiple, small treatment facilities. ESD is different from the County's previous approach to stormwater management, which focused on collecting and treating runoff in large treatment facilities, most often stormwater management ponds.

However, the County continues to require stormwater management for the larger 10- and 100-year, 24-hour storm events of 4.9 and 8.5 inches, respectively, in the Tiber Branch, Deep Run, and Cattail Creek watersheds, where older development exists within the 100-year floodplain and are vulnerable to flooding. Stormwater management in these watersheds uses a combination of ESD techniques and large holding facilities, such as ponds or underground storage tanks.

In response to severe flooding events in Ellicott City in 2016 and 2018, the County also adopted stormwater management regulations to address short-duration, high-intensity storms in the Plumtree Branch and Tiber Branch watersheds (requiring quantity management for a 3.55-hour, 6.6-inch storm event). Stormwater management for these types of storms again requires a combination of ESD techniques and large holding facilities. These types of storms are projected to occur more often under the effects of climate change. The County should consider adding quantity management requirements for the 10- and 100-year storms, as well as short-duration, high-intensity storms, to other vulnerable watersheds.

Flooding Concerns

In 2021 Maryland's stormwater management law was amended to require that the Maryland Department of the Environment (MDE) update the stormwater management regulations to incorporate the most recent precipitation data available and add quantity management standards for flood control in watersheds that have experienced flooding incidents since 2000. The amendments also require that MDE review and update the stormwater management regulations at least once every five years. The County will work with MDE to adopt the new regulations, which are expected to be finalized in 2023.

Stormwater management will be increasingly important as climate change accelerates.

- HoCo By Design process participant

Stormwater management will be increasingly important as climate change accelerates.

- HoCo By Design process participant

Managing Natural Resources by Watersheds

The health of wetlands, streams, lakes, and reservoirs is directly linked to the use of land within their watersheds. For this reason, the County takes a watershed-based approach to comprehensively address the design, construction, and maintenance of the stormwater management system; water quality and habitat improvements in local streams; and flooding concerns.

The Chesapeake Bay is a valued source of beauty, recreation, and commercial activity in Maryland, and it has played an important role in Maryland's history and development. The multistate effort to restore the Chesapeake Bay continues to be a strong influence in promoting watershed-based planning and management efforts to protect not only the Bay, but also the Bay's numerous tributary rivers and streams. For additional information about restoration efforts for the Chesapeake Bay, please see Technical Appendix A.

Howard County lies within the Patuxent River and Patapsco River watersheds, two major tributaries to the Chesapeake Bay. Approximately 75% of the County is within the Patuxent River watershed and the remaining 25% of the County is within the Patapsco River watershed. The main stems of these rivers have many tributary streams which drain large areas of the County. The Patuxent River and Patapsco River watersheds in Howard County are divided by the State into seven major watersheds, as shown in Map 3-2.

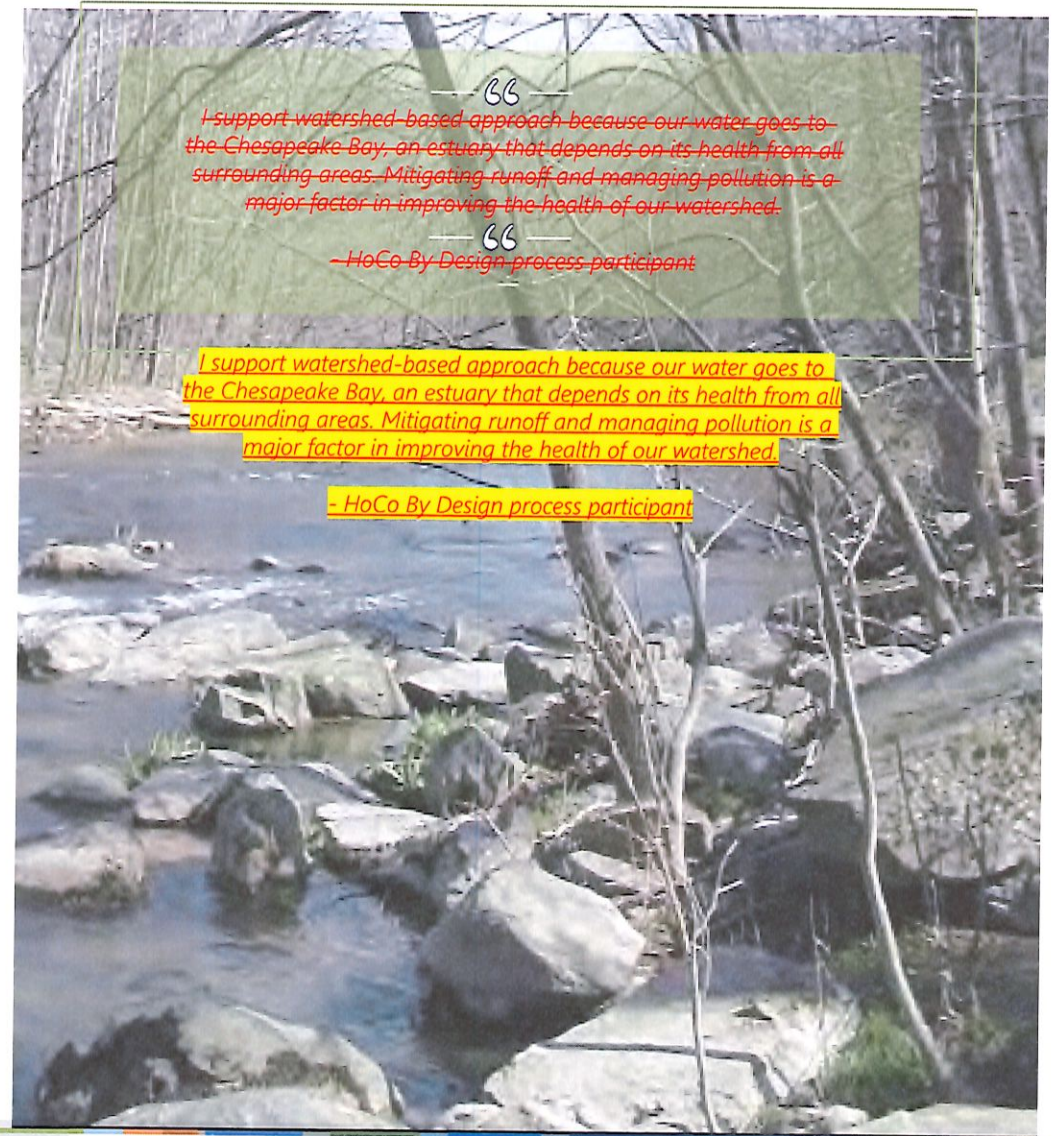
Watershed management plans generally include:

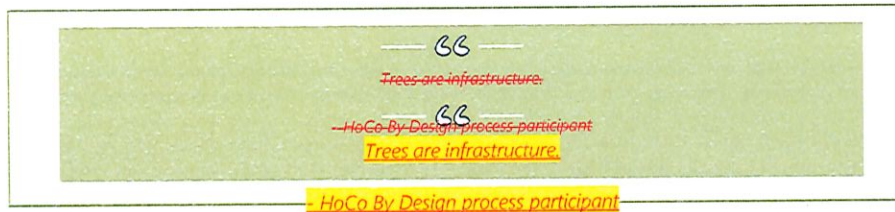
- A description of current land use within the watershed;
- Water quality and habitat conditions in the watershed streams;
- An identification and severity ranking of problem areas;
- An identification and priority ranking of potential restoration projects;
- Preliminary designs and cost estimates for priority restoration projects; and
- An implementation schedule.

Restoration projects can include:

- Building new stormwater management facilities in areas that lack them and retrofitting existing facilities to add water quality treatment;
- Planting forest, especially to create forested buffers along streams;
- Restoring and creating wetlands; and
- Stabilizing stream channels and restoring instream habitats.

Many of these restoration projects require cooperation and participation from private landowners, so public outreach and education is a critical component of implementation.





Expanding Tree Canopy and Forest Cover

Tree canopy and forest cover help reduce and filter stormwater runoff, minimize erosion and sedimentation of streams, create wildlife habitats, sequester carbon, improve air quality, provide health benefits, and moderate local temperatures. They form visual buffers and are scenic in their own right. Increasing tree and forest cover is also an effective measure for climate change mitigation and adaptation. For these reasons, establishing goals for forest cover and forested stream buffers by watershed helps to achieve multiple objectives. In more developed watersheds, it may be more appropriate to establish a tree canopy goal.

Existing Tree Canopy and Forest Cover

A Report on Howard County, Maryland's Existing and Possible Tree Canopy was published in 2011 by the U.S. Forest Service and the University of Vermont. This report defined tree canopy as the layer of leaves, branches and stems of trees that cover the ground when viewed from above. Tree canopy includes individual trees, such as those found within a parking lot or residential lawn, as well as trees within a forest. Using 2007 tree canopy data, the report found that the County contained approximately 80,000 acres of tree canopy or 50% of the County had tree canopy cover. The County tree canopy cover in 2007 is shown in Map 3-3.

A forest is a natural ecological community dominated by trees, generally including woody understory plants such as shrubs and young trees, and herbaceous vegetation such as grasses and flowers. To be fully effective as a complex environmental community, forest areas need to be large enough to provide space for a variety of native plant and animal species, to afford protection from outside intrusions, and to be able to mature and regenerate themselves.

Based on a separate analysis by the County of 2009 forest cover data, the County contained approximately 45,460 acres of forest or 28% of the County was in forest cover (distinctive from tree canopy). Forest cover in the eastern portion of the County is prevalent primarily within stream valley areas where sensitive resources have discouraged development or within publicly-owned conservation areas, such as the Patapsco Valley State Park and the Middle Patuxent Environmental Area. In the Rural West, upland and stream valley forests are more extensive. County forest cover in 2009, the most recent data available when the HoCo By Design scenarios were developed, is shown in Map 3-1. Countywide forest cover data should be updated on a regular and consistent basis to help assess changes in forest cover and manage forest resources over time.

Forest loss and fragmentation result in a continuing decline in forest interior habitat, which is generally defined as forest at least 300 feet from the forest edge. Forest interior habitat is generally more isolated from disturbance than forest edge habitat, and has a closed canopy that creates moist, shaded growing conditions, with less predation by forest edge species (raccoons, crows, cats) and fewer invasive species. In 2009, only 17% of the forest cover in the County was forest interior habitat. The loss of forest interior habitat threatens the survival of species that require this type of habitat, such as reptiles, amphibians and migratory songbirds.

Tree Planting Priorities for Economically-Vulnerable Communities

Howard County does not have an overall goal for tree canopy or forest cover, but Maryland has a policy that 40% of all land in the State should be covered by tree canopy. The County has several programs that provide free native trees to help increase tree canopy cover on qualifying residential properties, including the Stream ReLeaf and Turf to Trees Programs, along with an annual tree giveaway.

Map 3-4 shows tree canopy cover by subwatershed and census tracts with average household annual median income under \$50,000. There are four subwatersheds with less than 40% tree canopy coverage that contain one or more of these census tracts. Map 3-5 shows subwatersheds that have less than 40% tree canopy cover and impervious cover over 25%, along with census tracts with average household annual median income under \$50,000. Watersheds with higher levels of impervious cover and lower levels of tree canopy cover will experience greater heat island impacts, and households in these census tracts may have economic difficulty addressing these impacts. There are three subwatersheds that reflect these conditions and contain one or more of these census tracts. These subwatersheds should be prioritized for native tree planting programs, with a focus on residential areas within these census tracts, where there are willing participants.



Implementing the Green Infrastructure Network Plan

Howard County's Green Infrastructure Network is comprised of a mapped system of hubs and corridors that includes and links the most ecologically significant natural areas in the County, as shown in Map 3-6. Hubs are large, natural areas that provide valuable habitat for plants and wildlife. Large contiguous blocks of interior forest and sizable wetland complexes are essential components of hubs. Corridors are linear features that tie hubs together and they may include rivers and streams, narrow sections of forest, and other upland areas.

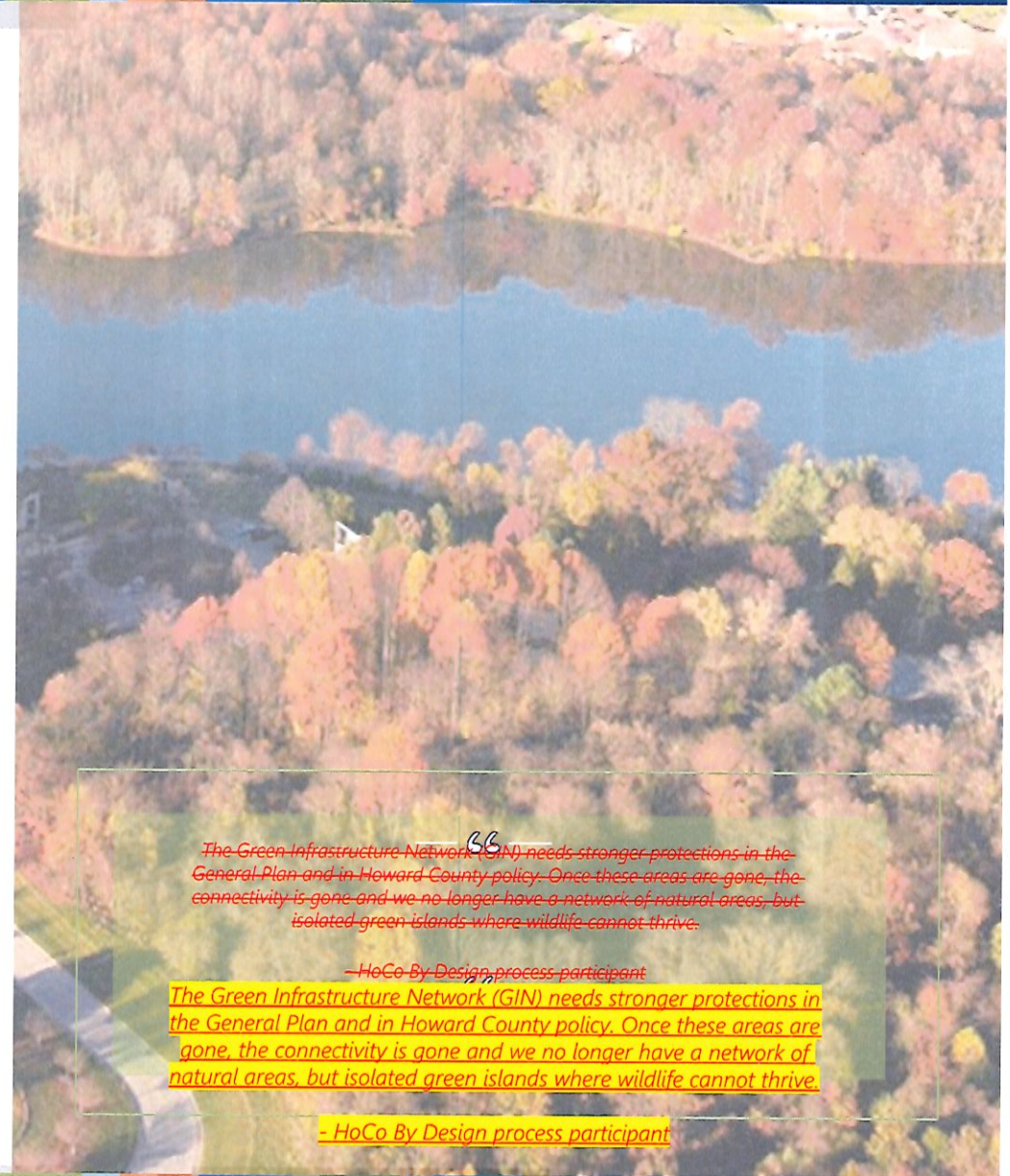
The intent of the Green Infrastructure Network is to provide a protected system of interconnected waterways, wetlands, forests, meadows, and other natural areas. The network helps support native plant and animal species, maintain natural ecological processes, sustain air and water resources, and contribute to the health and quality of life of Howard County's communities. A protected network of continuous habitat is a valuable resource for plant and animal species now and in the future, especially if they need to shift their habitat range due to climate change.

According to the 2012 Green Infrastructure Network (GIN) Plan, there are 51 hubs that contain approximately 22,148 acres or 14% of the County's total land area. Approximately 76% of the land in the hubs is protected in parkland or open space, and 11% is under an agricultural, environmental, or historic easement. The remaining 13% of the land is in a variety of uses and approximately 6% is uncommitted, which is land that still has development potential based on the zoning.

According to the 2012 GIN Plan, there are 48 corridor connections in the network. The corridor system contains approximately 6,173 acres or 4% of the County's total land area. Approximately 26% of this system is protected in parkland or open space, and 26% is under an agricultural or environmental easement. The remaining 48% of the land is in a variety of uses and approximately 11% is uncommitted. Protected land within the GIN is shown in Map 3-7.

Since development of the GIN Plan, the County conducted site visits to confirm the viability of the corridors for safe wildlife passage, with a focus on road crossings and areas close to existing development. Based on this assessment, two corridors (Cattail Creek – Friendship North and South) were removed from the GIN because they were not viable for wildlife passage. A mapping update of the network is needed to reflect these and other changes, such as corridor realignments and new development.

The GIN Plan defines goals and objectives to protect and enhance the network. It also contains a comprehensive toolkit for implementation that includes stewardship, financial incentives, regulatory protection, easements, acquisition, and indicator monitoring. The HoCo By Design public engagement process and the Environment Strategic Advisory Group (SAG) provided extensive comments on the importance of the GIN to identify and protect the County's most sensitive and ecologically beneficial resources. Further, the Environment SAG reported that "the Green Infrastructure Network is a valuable resource for the County, but implementation of the Green Infrastructure Network Plan has been slow." While the County has made some progress with plan implementation,



The Green Infrastructure Network (GIN) needs stronger protections in the General Plan and in Howard County policy. Once these areas are gone, the connectivity is gone and we no longer have a network of natural areas, but isolated green islands where wildlife cannot thrive.

-HoCo By Design process participant

The Green Infrastructure Network (GIN) needs stronger protections in the General Plan and in Howard County policy. Once these areas are gone, the connectivity is gone and we no longer have a network of natural areas, but isolated green islands where wildlife cannot thrive.

- HoCo By Design process participant



Encouraging Environmental Stewardship

The majority of land in the County is privately owned, so environmental stewardship on private property is critical to protecting and restoring natural resources. Healthy natural resources support ecosystems that will be better able to adapt to climate change. Stewardship actions can include reducing the use of pesticides and herbicides, installing rain gardens and rain barrels, planting native tree species (especially along streams and wetlands), and replacing lawn with native plants and pollinator gardens, and removing and refraining from planting non-native invasive plants.

Public outreach and education are essential to raise awareness about the cumulative positive or negative impacts individual actions can have on the environment. Maryland schools are required to provide a comprehensive, multi-disciplinary environmental literacy instructional program for all students and this program must include opportunities for outdoor learning. Through a combination of efforts by government agencies, community and environmental organizations, business associations, and educational institutions, there is a wide variety of outreach and education programs available in the County for residential, commercial, and institutional property owners. Some programs may also include financial incentives or assistance, such as rebates, and planning and installation services. Where needed, these efforts should be expanded and new programs initiated to increase stewardship activities on private property. For example, a rising concern is the detrimental impact to local freshwater streams, lakes, and wetlands from the overuse of winter salt on roads, driveways, and parking lots. Education programs about the proper use of winter salt could help reduce this negative impact.

The County can also continue to exemplify stewardship by incorporating environmentally sensitive site development and property management practices into county activities. County actions could include exceeding minimum Green Building requirements for county buildings; improving energy efficiency and expanding use of renewable energy in county operations; retrofitting stormwater management for county facilities; implementing demonstration projects to encourage their use by others; replacing lawn with native plantings and pollinator gardens; and increasing forested riparian buffers and tree canopy on public property.

SS

Surveys of biodiversity show the world's overall decline in species. What good is farmland if there are no pollinators for the crops?

Contiguous open space and the ecosystem it supports is the only way to protect our food sources in the long run. Sustainability and food security mean preservation of our local farms and pollinators. HoCo By Design process participant

Surveys of biodiversity show the world's overall decline in species. What good is farmland if there are no pollinators for the crops?

Contiguous open space and the ecosystem it supports is the only way to protect our food sources in the long run. Sustainability and food security mean preservation of our local farms and pollinators.

SS

- HoCo By Design process participant

Table 10-1: Implementation Matrix

Policy and Implementing Actions	Lead Agency	Timeframe (Mid-Term five-year, Long-Term six+ years, Ongoing)
GCF-1 - Provide limited and predictable Planned Service Area expansions.		
1. Planned Service Area expansions should include a development proposal that is consistent with the General Plan.	DPZ	Ongoing
2. Any Planned Service Area expansion shall establish a transition that is compatible with and enhances surrounding communities, and provides an environmental benefit.	DPZ	Ongoing
3. Any Planned Service Area expansion shall meet the criteria above.	DPZ	Ongoing
EH-1 - Continue to support the County's ecological health.		
1. Integrate the goals of protecting and restoring the County's ecological health when updating county programs and policies.	OCS DPZ DPW DRP HCHD	Mid-Term
2. Ensure adequate funding for programs and measures to protect and restore the County's ecological health, <u>track outcomes of these investments, and provide necessary maintenance and enforcement.</u>	OCS DRP DPW HSCD Elected Officials OOB	Ongoing
3. Create a dedicated funding source, as was done for the Agricultural Land Preservation Program, for environmental programs.	DPZ OCS Elected Officials OOB	Mid-Term
4. Establish a natural resource protection goal for the County and each major watershed to help protect biodiversity and mitigate climate change.	OCS DPZ	Mid-Term
<u>5. Develop open space percentage requirements for activity centers.</u>	DPZ OCS Elected Officials	Mid-Term

Table 10-1: Implementation Matrix

Policy and Implementing Actions	Lead Agency	Timeframe (Mid-Term five-year, Long-Term six+ years, Ongoing)
EH-2 - Seek to integrate climate change mitigation and adaptation goals as specified in the Howard County Climate Action and Resiliency Plan, or the most recently adopted Plan, into all county programs and policies.		
1. Ensure the Howard County Climate Action <u>and Resiliency</u> Plan update continues to maximize opportunities to mitigate and adapt to climate change with clear goals and strategies <u>and that County Departments' policies are aligned with the plan's goals and strategies.</u>	OCS	Mid-Term
2. Evaluate and enhance opportunities where needed for climate change mitigation and adaptation measures in the Subdivision and Land Development Regulations and Zoning Regulations, such as natural resource protection and the provision of renewable energy.	DPZ OCS	Ongoing
3. Enhance county design requirements for county infrastructure and public and private buildings, to ensure these structures will be resilient under projected future weather patterns and minimize resource consumption.	DPW DILP OCS DPZ Private Partners	Ongoing
4. <u>Review and update county Adopt the most current standards of the International Green Construction Code Green Building requirements</u> for opportunities to enhance the sustainability of public and private buildings.	DILP DPW DPZ OCS Private Partners	Mid-Term
5. Identify and ensure economically-vulnerable communities, businesses, and households have the resources necessary for mitigation and adaptation measures.	DCRS OEM OHRE OCS DPW HCHD HCEDA	Ongoing

Table 10-1: Implementation Matrix

Policy and Implementing Actions	Lead Agency	Timeframe (Mid-Term five-year, Long-Term six+ years, Ongoing)
EH-3 - Ensure the Subdivision and Land Development Regulations and Zoning Regulations provide adequate protection for sensitive environmental resources within new development and redevelopment.		
1. Evaluate and enhance protections, including sediment and erosion control, where needed for sensitive environmental resources, such as water resources, steep slopes, and rare, threatened, and endangered species, in the Subdivision and Land Development Regulations.	DPZ HSCD	Mid-Term
2. Explore whether cluster development may also be appropriate in other residential zoning districts during the zoning regulation update process.	DPZ	Mid-Term
EH-4 - Incentivize additional resource protection and restoration measures within new development and redevelopment.		
1. Consider increased use of a density exchange overlay district in both the West and the East, to protect sensitive resources in areas with unique conditions or resources.	DPZ	Mid-Term
2. Consider incentives to encourage environmental protection and restoration when properties are developed or redeveloped, such as tax credits, density bonuses, housing allocations, and public-private partnerships.	DPZ HCEDA Private Partners	Mid-Term
3. Evaluate and strengthen the Green Neighborhood Program to ensure adequate incentives will increase program use and incorporate new options, such as increased moderate-income housing units.	DPZ DILP OCS	Mid-Term

Table 10-1: Implementation Matrix

Policy and Implementing Actions	Lead Agency	Timeframe (Mid-Term five-year, Long-Term six+ years, Ongoing)
EH-5 - Evaluate and improve stormwater management requirements to enhance climate change resilience.		
1. Conduct a flooding vulnerability assessment to determine which watersheds are susceptible to chronic flooding under current and expected future precipitation patterns.	DPW	Ongoing
2. Update stormwater management design standards to address current and expected future precipitation patterns. Consider adding quantity management requirements, including management for short-duration, high-intensity storms in vulnerable watersheds.	DPZ DPW OCS	Mid-Term
3. Evaluate opportunities to further reduce stormwater runoff and pollutant loadings when redevelopment.	DPZ DPW OCS	Mid-Term
4. Continue to use a nature-based or green stormwater infrastructure approach (bioretention, swales) in combination with a built or gray infrastructure approach (pipes, ponds) to address flood mitigation and adaptation, to maximize ecological benefits.	DPW DPZ OCS Private Partners	Ongoing
5. Evaluate alternatives for improving, enforcing, and funding long-term inspection and maintenance of stormwater management facilities, particularly those facilities located on private residential lots.	DPW Private Partners	Mid-Term

Amendment 3 Amendment No. 79 to Council Bill No. 28 -2023

BY: The Chairperson at the Request
of the County Executive

Legislative Day 12
Date: October 11, 2023

Amendment No. 3 to Amendment No. 79

(This Amendment to Amendment No. 79 makes the following changes:

- 1. In Chapter 3, Ecological Health, removes an action to develop open space percentage requirements for activity centers; provides that Green Building requirements will be updated; restores incentivizing natural resource protection and restoration while removing reference to the Green Neighborhood program; and removes an implementing action requiring that redevelopment shall meet new development stormwater requirements;*
- 2. In Chapter 11, makes corresponding changes to the changes made in chapter 3 to remove an action item requiring the development of open space; provides that the County will update Green Building requirements; restores implementing actions around incentivizing natural resource protection and restoration, without reference to the Green Neighborhood program; and removes an implementing action requiring that redevelopment shall meet new development stormwater requirements.)*

- 1 Substitute pages 1 and 2 of Amendment 79 with the attachment to this Amendment to
- 2 Amendment.
- 3
- 4 In Chapter 3, Ecological Health, substitute pages EH 7, 15 and 24 attached to Amendment No.
- 5 79 with the pages EH 7, 15 and 24 attached to this Amendment to Amendment. Add new pages
- 6 20A and 20B to Amendment No. 79.
- 7
- 8 In Chapter 11, Implementation, substitute pages IMP 15, 16, 17 and 18 attached to Amendment
- 9 No. 79 with the pages IMP 15, 16, 17 and 18 attached to this Amendment to Amendment.

I certify this is a true copy of

Am 3 ~~CB2~~ Am 79 CB28-2023

passed on 10/11/2023

Michael J. Dwyer
Council Administrator

Amendment 79 to Council Bill No. 28 -2023

BY: Deb Jung and Liz Walsh

Legislative Day 11

Date: 10/02/2023

Amendment No. 79

(This Amendment makes the following changes to HoCo by Design Chapter 3 and Chapter 11:

Chapter 3: Ecological Health

- Removes all quotes;
- Includes health hazards caused by airplanes in equity considerations;
- Amends the EH-1 Policy Statement Implementing Actions to track outcomes of ecological health investments and provide maintenance and enforcement, ~~and adds an action to develop open space percentage requirements for activity centers;~~
- Adds language regarding 2020 bird-friendly amendments to design standards;
- Amends the EH-2 Policy Statement Implementing Actions to include resiliency in the title of the Climate Action Plan, ensure County departments align policies with ecological health goals, and adopt the International Green Construction Code and review and update Green Building requirements;
- ~~Deletes Within~~ the section Incentivizing Natural Resource Protection and Restoration ~~including EH-4 Policy Statement and remove all the implementing actions~~ removes reference to the Green Neighborhood program;
- Amends the EH-5 Policy Statement Implementing Actions to incentivize existing commercial centers to provide stormwater management systems, reduce stormwater runoff and incorporate water quality management practices, increase the use of green stormwater infrastructure, ~~and add the requirement that redevelopment meets new development stormwater requirements;~~
- Amends the EH-7 Policy Statement Implementing Actions to include invasive species removal in forest management;

Chapter 11: Implementation

- Amends the EH-1 Policy Statement Implementing Actions to track outcomes of ecological health investments and provide maintenance and enforcement, ~~and adds an action to develop open space percentage requirements for activity centers;~~
- Amends the EH-2 Policy Statement Implementing Actions to include resiliency in the title of the Climate Action Plan, ensure County departments align policies with ecological health goals, and adopt the International Green Construction Code and review and update Green Building requirements;
- ~~Removed Amends~~ EH-4 Policy Statement ~~and all the implementing actions~~ to remove the Green Neighborhood program;

- 1 In the *HoCo By Design* General Plan, attached to this Act as Exhibit A, amend the following
2 pages as indicated in this Amendment:

- 6 Correct all page numbers, numbering, and formatting within this Act to accommodate this
7 amendment.

Supporting the County's Ecological Health

Howard County contains a wealth of natural resources, including forests, meadows, wetlands, streams, and lakes, which are linked together through ecosystems (see Map 3-1). Ecosystems are comprised of all living organisms, the physical environment, and the relationships between the living and inanimate elements within a particular area. Ecosystems provide a wide variety of services that benefit humans and other species, including food production, clean water, flood control, temperature regulation, recreational opportunities, and aesthetic value. However, their monetary values are often overlooked, until human intervention is needed to repair or replace them. It is generally far more cost-effective to protect a healthy ecosystem than to try and restore one that has been degraded.

The health of these ecosystems—ecological health—is the foundation that supports economic and community health and personal well-being. Human activities can negatively affect ecological health by removing or degrading natural resources, but people can also help restore and protect these resources. The challenge is to meet current human needs while ensuring actions protect and restore ecological health so that it may continue to support future life.

Through the January 27, 2021 Executive Order 14008 on Tackling the Climate Crises at Home and Abroad, the United States joined an international movement by countries to pledge conservation of at least 30% of their land and water by 2030. This pledge is intended to help protect biodiversity and mitigate climate change through locally led conservation efforts. Howard County already has 39% of its land and water conserved in parkland, open space, and easements. The County should continue to support this movement by establishing a goal for natural resource conservation. This goal could be for the County as a whole and each major watershed.

EH-1 Policy Statement

Continue to support the County's ecological health.

Implementing Actions

1. Integrate the goals of protecting and restoring the County's ecological health when updating county programs and policies.
2. Ensure adequate funding for programs and measures to protect and restore the County's ecological health. track outcomes of these investments, and provide necessary maintenance and enforcement.
3. Create a dedicated funding source, as was done for the Agricultural Land Preservation Program, for environmental programs.
4. Establish a natural resource protection goal for the County and each major watershed to help protect biodiversity and mitigate climate change.
5. Develop open space percentage requirements for activity centers.

— ❧ —

The health of everyone in HoCo is interwoven with environmental health. I have seen the ecosystem substantially change and recognize loss of indicator species. I think HoCo can have the balance of sustainable development and environmental stewardship. Also, I am thankful for growing up in a diverse county and I hope it maintains this essential diversity to make the county and country better.

— ❧ —

—HoCo By-Design process participant



EH-2 Policy Statement

Seek to integrate climate change mitigation and adaptation goals into all county programs and policies.

Implementing Actions

1. Ensure the Howard County Climate Action and Resiliency Plan update continues to maximize opportunities to mitigate and adapt to climate change with clear goals and strategies and that County Departments' policies are aligned with the plan's goals and strategies.
2. Evaluate and enhance opportunities where needed for climate change mitigation and adaptation measures in the Subdivision and Land Development Regulations and Zoning Regulations, such as natural resource protection and the provision of renewable energy.
3. Enhance county design requirements for county infrastructure and public and private buildings, to ensure these structures will be resilient under projected future weather patterns and minimize resource consumption.
4. Review and update county Adopt the most current standards of the International Green Construction Code Green Building requirements and review and update county Green Building requirements for opportunities to enhance the sustainability of public and private buildings.
5. Identify and ensure economically-vulnerable communities, businesses, and households have the resources necessary for mitigation and adaptation measures.

Protecting Sensitive Environmental Resources

The County Subdivision and Land Development Regulations and Zoning Regulations contain significant provisions for the protection of sensitive environmental resources when properties are developed. This section discusses regulatory protections for water resources, steep slopes, and rare, threatened and endangered species, as well as three zoning districts specifically designed to protect sensitive resources. Additional protective measures for forests and stormwater management requirements are addressed in later, separate sections.

Water Resources and Steep Slopes

Water resources include rivers, wetlands, floodplains, ponds, lakes, and groundwater. These are vital natural resources that provide drinking water, stormwater management, pollution abatement, floodwater storage, and recreation, as well as important habitat for a wide variety of plant and animal species.

To protect water quality and habitat within streams, the County Subdivision and Land Development Regulations require the following undisturbed streamside buffer areas:

- 75 to 100 feet along perennial streams in residential zoning districts;
- 50 feet along perennial streams in non-residential zoning districts; and
- 50 feet along intermittent streams in all zoning districts.

The regulations also require a 25-foot undisturbed buffer around nontidal wetlands. Additionally, most wetlands in the County are found within the 100-year floodplain, which is protected from disturbance.

County regulations also protect steep slopes of 25% or greater when there is a contiguous area of 20,000 square feet or larger. Disturbing steep slopes can generate excessive erosion and sedimentation that can be difficult to contain even with enhanced sediment and erosion control practices, and once disturbed steep slopes can be difficult to stabilize. This can be especially problematic when these slopes are adjacent to water bodies. When slopes of 15% or greater occur in conjunction with highly erodible soils, these erosion problems are intensified.

To provide the greatest benefit, stream and wetland buffers should be wide enough to allow adequate filtering of overland stormwater runoff, include adjacent steep slopes and highly erodible soils, and be forested. The use of a floodplain buffer can improve resilience to flooding by accounting for future changes in the floodplain due to changing weather patterns (increased rainfall), increased development, or outdated mapping.

County regulations require sediment and erosion control practices comply with the 2011 Maryland Standards and Specifications for Soil Erosion and Sediment Control when development or forestry activities will result in clearing and grading. These practices prevent sediment and other pollutants from leaving a disturbed site and entering nearby water bodies during storm events. The requirements for sediment and erosion control should be reviewed to ensure they are adequate for changing precipitation patterns, especially short-duration, high-intensity storms.

Incentivizing Natural Resource Protection and Restoration

The County currently has few incentives to encourage resource protection and restoration measures that go beyond the minimum requirements of the Subdivision and Land Development and Zoning Regulations.



Zoning Regulations

The Zoning Regulations include a Density Exchange Overlay (DEO) District for the RC and RR Districts, which provides an opportunity and incentive to preserve significant blocks of farmland and rural land in the West. An overlay district is a district established to respond to special features or conditions of an area, such as historic value, physical characteristics, or location. An overlay district may also supplement or provide an alternative to the regulations of the underlying zoning district. The DEO District allows residential density in the RC and RR Districts to be exchanged between parcels. Density exchanges are intended to preserve large parcels in perpetuity, while residential development is directed toward parcels that can more readily accommodate the additional dwellings. Use of this district has been successful in permanently preserving large tracts of open space and environmental and agricultural land, and should be continued under any new zoning regime. Additionally, an overlay district may be an appropriate approach to further protect watersheds with unique conditions or resources, as well as the Green Infrastructure Network.

Additional Incentives

Additional incentives could be employed to supplement changes to the Subdivision and Land Development Regulations and Zoning Regulations for enhanced resource protection and restoration. These could include density bonuses, tax credits, housing allocations, and private-public partnerships.

EH-4 Policy Statement

Incentivize additional resource protection and restoration measures within new development and redevelopment.

Implementing Actions:

1. Consider increased use of a density exchange overlay district, in both the West and the East, to protect sensitive resources in areas with unique conditions or resources.
2. Consider incentives to encourage environmental protection and restoration when properties are developed or redeveloped, such as tax credits, density bonuses, housing allocations, and public-private partnerships

In 2022 the County initiated a Vulnerable Watershed Restoration and Resiliency Program to evaluate whether other watersheds are or will become susceptible to flooding and develop potential capital projects to address the problem areas. For more information about state and county efforts to address flooding, please see Technical Appendix A: Environment.

Redevelopment

The County's stormwater management regulations also have requirements for redeveloping sites. Redevelopment sites must reduce impervious cover by 50% or provide an equivalent water quality treatment for the first one inch of rainfall using ESD techniques. However, there are no quantity management requirements. The recent update to stormwater management requirements in the Plumtree Branch and Tiber Branch watersheds also added quantity management requirements for redevelopment in those watersheds.

Requiring stormwater management for redevelopment sites offers a significant opportunity to improve water quality and quantity controls for stormwater runoff in areas that were developed prior to current stormwater management regulations. The County should ensure redevelopment is designed and implemented to reduce stormwater runoff and pollutant loadings to the maximum extent practicable. The County should also consider creating incentives for new development and redevelopment to provide on-site or off-site stormwater management that exceeds minimum regulatory requirements.

Stormwater Management Facilities

Stormwater management systems must be regularly inspected and maintained and, as they age, deteriorated systems must be upgraded or replaced. The County is required by both state and local legislation to conduct inspections of stormwater management facilities every three years. There are approximately 11,000 stormwater management facilities in the County, and approximately 1,634 of these are public facilities maintained by the County.

In general, the County shares maintenance responsibilities with homeowners associations for residential facilities located on open space lots, while non-residential facilities are privately maintained. With increased use of ESD, small treatment facilities have and will continue to become more prevalent. These types of facilities can include downspout infiltration areas or drywells, and bioretention facilities or rain gardens that can be located on private residential lots. The ability to inspect and maintain these facilities over time is an area of concern. Developments with ESD have multiple facilities, which require increasing county resources for inspections. Routine maintenance of ESD facilities located on individual residential lots becomes the responsibility of the individual homeowner, resulting in property owner education and maintenance enforcement issues. Funding for County inspection and maintenance of stormwater management facilities is through the Watershed Protection and Restoration Fund, which is discussed later in this chapter under Managing Natural Resources by Watershed. The County should evaluate alternatives for improving, enforcing, and funding long-term inspection and maintenance of stormwater management facilities, particularly those facilities located on private residential lots.



EH-5 Policy Statement

Evaluate and improve stormwater management requirements to enhance climate change resilience.

Implementing Actions

1. Conduct a flooding vulnerability assessment to determine which watersheds are susceptible to chronic flooding under current and expected future precipitation patterns.
2. Update stormwater management design standards to address current and expected future precipitation patterns. Consider adding quantity management requirements, including management for short-duration, high-intensity storms in vulnerable watersheds. Incentivize existing commercial centers to provide stormwater management systems consistent with present standards.
3. Evaluate opportunities to further reduce ~~Reduce~~ stormwater runoff and pollutant loadings when redevelopment occurs: and incorporate water quantity management practices throughout the County.
4. ~~Continue to use~~ Increase use of a nature-based or green stormwater infrastructure approach (bioretention, swales) in combination with a built or gray infrastructure approach (pipes, ponds) to address flood mitigation and adaptation, to maximize ecological benefits.
5. Evaluate alternatives for improving, enforcing, and funding long-term inspection and maintenance of stormwater management facilities, particularly those facilities located on private residential lots.
6. ~~Ensure that redevelopment at a minimum meets new development stormwater requirements and address watershed health, flood risks, and other environmental concerns.~~

Table 10-1: Implementation Matrix

Policy and Implementing Actions	Lead Agency	Timeframe (Mid-Term five-year, Long-Term six+ years, Ongoing)
GCF-1 - Provide limited and predictable Planned Service Area expansions.		
1. Planned Service Area expansions should include a development proposal that is consistent with the General Plan.	DPZ	Ongoing
2. Any Planned Service Area expansion shall establish a transition that is compatible with and enhances surrounding communities, and provides an environmental benefit.	DPZ	Ongoing
3. Any Planned Service Area expansion shall meet the criteria above.	DPZ	Ongoing
EH-1 - Continue to support the County's ecological health.		
1. Integrate the goals of protecting and restoring the County's ecological health when updating county programs and policies.	OCS DPZ DPW DRP HCHD	Mid-Term
2. Ensure adequate funding for programs and measures to protect and restore the County's ecological health, <u>track outcomes of these investments, and provide necessary maintenance and enforcement.</u>	OCS DRP DPW HSCD Elected Officials OOB	Ongoing
3. Create a dedicated funding source, as was done for the Agricultural Land Preservation Program, for environmental programs.	DPZ OCS Elected Officials OOB	Mid-Term
4. Establish a natural resource protection goal for the County and each major watershed to help protect biodiversity and mitigate climate change.	OCS DPZ	Mid-Term
5. Develop open space percentage requirements for activity centers.	DPZ OCS Elected Officials	Mid-Term

Table 10-1: Implementation Matrix

Policy and Implementing Actions	Lead Agency	Timeframe (Mid-Term five-year, Long-Term six+ years, Ongoing)
EH-2 - Seek to integrate climate change mitigation and adaptation goals into all county programs and policies.		
1. Ensure the Howard County Climate Action <u>and Resiliency Plan</u> update continues to maximize opportunities to mitigate and adapt to climate change with clear goals and strategies <u>and that County Departments' policies are aligned with the plan's goals and strategies.</u>	OCS	Mid-Term
2. Evaluate and enhance opportunities where needed for climate change mitigation and adaptation measures in the Subdivision and Land Development Regulations and Zoning Regulations, such as natural resource protection and the provision of renewable energy.	DPZ OCS	Ongoing
3. Enhance county design requirements for county infrastructure and public and private buildings, to ensure these structures will be resilient under projected future weather patterns and minimize resource consumption.	DPW DILP OCS DPZ Private Partners	Ongoing
4. Review and update county <u>Adopt the most current standards of the International Green Construction Code Green-Building requirements and review and update Green Building requirements</u> for opportunities to enhance the sustainability of public and private buildings.	DILP DPW DPZ OCS Private Partners	Mid-Term
5. Identify and ensure economically-vulnerable communities, businesses, and households have the resources necessary for mitigation and adaptation measures.	DCRS OEM OHRE OCS DPW HCHD HCEDA	Ongoing

Table 10-1: Implementation Matrix

Policy and Implementing Actions	Lead Agency	Timeframe (Mid-Term five-year, Long-Term six+ years, Ongoing)
EH-3 - Ensure the Subdivision and Land Development Regulations and Zoning Regulations provide adequate protection for sensitive environmental resources within new development and redevelopment.		
1. Evaluate and enhance protections, including sediment and erosion control, where needed for sensitive environmental resources, such as water resources, steep slopes, and rare, threatened, and endangered species, in the Subdivision and Land Development Regulations.	DPZ HSCD	Mid-Term
2. Explore whether cluster development may also be appropriate in other residential zoning districts during the zoning regulation update process.	DPZ	Mid-Term
EH-4 - Incentivize additional resource protection and restoration measures within new development and redevelopment. EH-4 - Incentivize additional resource protection and restoration measures within new development and redevelopment.		
1. Consider increased use of a density exchange overlay district in both the West and the East, to protect sensitive resources in areas with unique conditions or resources.	DPZ	Mid-Term
1. Consider increased use of a density exchange overlay district in both the West and the East, to protect sensitive resources in areas with unique conditions or resources.	DPZ	Mid-Term
2. Consider incentives to encourage environmental protection and restoration when properties are developed or redeveloped, such as tax credits, density bonuses, housing allocations, and public-private partnerships.	DPZ HCEDA Private Partners	Mid-Term
2. Consider incentives to encourage environmental protection and restoration when properties are developed or redeveloped, such as tax credits, density bonuses, housing allocations, and public-private partnerships.	DPZ HCEDA Private Partners	Mid-Term
3. Evaluate and strengthen the Green Neighborhood Program to ensure adequate incentives will increase program use and incorporate new options, such as increased moderate income housing units.	DPZ DILP OCS	Mid-Term

Table 10-1: Implementation Matrix

Policy and Implementing Actions	Lead Agency	Timeframe (Mid-Term five-year, Long-Term six+ years, Ongoing)
EH-5 - Evaluate and improve stormwater management requirements to enhance climate change resilience.		
1. Conduct a flooding vulnerability assessment to determine which watersheds are susceptible to chronic flooding under current and expected future precipitation patterns.	DPW	Ongoing
2. Update stormwater management design standards to address current and expected future precipitation patterns. Consider adding quantity management requirements, including management for short-duration, high-intensity storms in vulnerable watersheds. <u>Incentivize existing commercial centers to provide stormwater management systems consistent with present standards.</u>	DPZ DPW OCS	Mid-Term
3. Evaluate opportunities to further reduce <u>Reduce</u> stormwater runoff and pollutant loadings when redevelopment occurs <u>and incorporate water quantity management practices throughout the County.</u>	DPZ DPW OCS	Mid-Term
4. Continue to use <u>Increase use of</u> a nature-based or green stormwater infrastructure approach (bioretention, swales) in combination with a built or gray infrastructure approach (pipes, ponds) to address flood mitigation and adaptation, to maximize ecological benefits.	DPW DPZ OCS Private Partners	Ongoing
5. Evaluate alternatives for improving, enforcing, and funding long-term inspection and maintenance of stormwater management facilities, particularly those facilities located on private residential lots.	DPW Private Partners	Mid-Term
6. Ensure redevelopment at a minimum meets new development stormwater requirements and address watershed health, flood risks and other environmental concerns.	DPW DPZ OCS Private Partners	Mid-Term

Amendment 4 Amendment No. 79 to Council Bill No. 28 -2023

BY: The Chairperson at the Request
of the County Executive

Legislative Day 12
Date: October 11, 2023

Amendment No. 4 to Amendment No. 79

(This Amendment to Amendment No. 79 makes the following changes:

- 1. In Chapter 3, Ecological Health, amends Policy 5 related to stormwater management requirements in order to encourage redevelopment to meet stormwater management requirements for new development to the maximum extent possible.*
- 2. In Chapter 11, makes corresponding changes to the changes made in chapter 3 to Policy 5.)*

1 Substitute pages 1 and 2 of Amendment 79 with the attachment to this Amendment to
2 Amendment.

3

4 In Chapter 3, Ecological Health, substitute pages EH 24 attached to Amendment No. 79 with the
5 page EH24 attached to this Amendment to Amendment.

6

7 In Chapter 11, Implementation, substitute page IMP 18 attached to Amendment No. 79 with the
8 pages IMP 18 attached to this Amendment to Amendment.

I certify this is a true copy of

Am 4 Am 79 CB28-2023

passed on 10/11/2023

Michael J. Dore
Council Administrator

Amendment 79 to Council Bill No. 28 -2023

BY: Deb Jung and Liz Walsh

Legislative Day 11

Date: 10/02/2023

Amendment No. 79

(This Amendment makes the following changes to HoCo by Design Chapter 3 and Chapter 11:

- Chapter 3: Ecological Health
- Removes all quotes;
 - Includes health hazards caused by airplanes in equity considerations;
 - Amends the EH-1 Policy Statement Implementing Actions to track outcomes of ecological health investments and provide maintenance and enforcement, and adds an action to develop open space percentage requirements for activity centers;
 - Adds language regarding 2020 bird-friendly amendments to design standards;
 - Amends the EH-2 Policy Statement Implementing Actions to include resiliency in the title of the Climate Action Plan, ensure County departments align policies with ecological health goals, and adopt the International Green Construction Code;
 - Deletes the section Incentivizing Natural Resource Protection and Restoration including EH-4 Policy Statement and remove all the implementing actions;
 - Amends the EH-5 Policy Statement Implementing Actions to incentivize existing commercial centers to provide stormwater management systems, reduce stormwater runoff and incorporate water quality management practices, increase the use of green stormwater infrastructure, and ~~add the requirement that redevelopment meets new development stormwater requirements~~ encourage redevelopment to meet stormwater management requirements for new development to the maximum extent possible;
 - Amends the EH-7 Policy Statement Implementing Actions to include invasive species removal in forest management;
- Chapter 11: Implementation
- Amends the EH-1 Policy Statement Implementing Actions to track outcomes of ecological health investments and provide maintenance and enforcement, and adds an action to develop open space percentage requirements for activity centers;
 - Amends the EH-2 Policy Statement Implementing Actions to include resiliency in the title of the Climate Action Plan, ensure County departments align policies with ecological health goals, and adopt the International Green Construction Code ;
 - Removed EH-4 Policy Statement and all the implementing actions;
- LEG 1795

- Amends the EH-5 Policy Statement Implementing Actions to incentivize existing commercial centers to provide stormwater management systems, reduce stormwater runoff and incorporate water quality management practices, increase the use of green stormwater infrastructure, and ~~add the requirement that redevelopment meets new development stormwater requirements~~ encourage redevelopment to meet stormwater management requirements for new development to the maximum extent possible;
- Amends the EH-7 Policy Statement Implementing Actions to include invasive species removal in forest management.)

In the *HoCo By Design* General Plan, attached to this Act as Exhibit A, amend the following pages as indicated in this Amendment:

- Chapter 3: Ecological Health: 5, 7, 8, 11, 14, 15, 18, 19, 20, 21, 24, 26, 33, 42, 44, and 56; and
- Chapter 11: Implementation: 15, 16, 17, 18, and 20.

Correct all page numbers, numbering, and formatting within this Act to accommodate this amendment.

In 2022 the County initiated a Vulnerable Watershed Restoration and Resiliency Program to evaluate whether other watersheds are or will become susceptible to flooding and develop potential capital projects to address the problem areas. For more information about state and county efforts to address flooding, please see Technical Appendix A: Environment.

Redevelopment

The County's stormwater management regulations also have requirements for redeveloping sites. Redevelopment sites must reduce impervious cover by 50% or provide an equivalent water quality treatment for the first one inch of rainfall using ESD techniques. However, there are no quantity management requirements. The recent update to stormwater management requirements in the Plumtree Branch and Tiber Branch watersheds also added quantity management requirements for redevelopment in those watersheds.

Requiring stormwater management for redevelopment sites offers a significant opportunity to improve water quality and quantity controls for stormwater runoff in areas that were developed prior to current stormwater management regulations. The County should ensure redevelopment is designed and implemented to reduce stormwater runoff and pollutant loadings to the maximum extent practicable. The County should also consider creating incentives for new development and redevelopment to provide on-site or off-site stormwater management that exceeds minimum regulatory requirements.

Stormwater Management Facilities

Stormwater management systems must be regularly inspected and maintained and, as they age, deteriorated systems must be upgraded or replaced. The County is required by both state and local legislation to conduct inspections of stormwater management facilities every three years. There are approximately 11,000 stormwater management facilities in the County, and approximately 1,634 of these are public facilities maintained by the County.

In general, the County shares maintenance responsibilities with homeowners associations for residential facilities located on open space lots, while non-residential facilities are privately maintained. With increased use of ESD, small treatment facilities have and will continue to become more prevalent. These types of facilities can include downspout infiltration areas or drywells, and bioretention facilities or rain gardens that can be located on private residential lots. The ability to inspect and maintain these facilities over time is an area of concern. Developments with ESD have multiple facilities, which require increasing county resources for inspections. Routine maintenance of ESD facilities located on individual residential lots becomes the responsibility of the individual homeowner, resulting in property owner education and maintenance enforcement issues. Funding for County inspection and maintenance of stormwater management facilities is through the Watershed Protection and Restoration Fund, which is discussed later in this chapter under Managing Natural Resources by Watershed. The County should evaluate alternatives for improving, enforcing, and funding long-term inspection and maintenance of stormwater management facilities, particularly those facilities located on private residential lots.



EH-5 Policy Statement

Evaluate and improve stormwater management requirements to enhance climate change resilience.

Implementing Actions

1. Conduct a flooding vulnerability assessment to determine which watersheds are susceptible to chronic flooding under current and expected future precipitation patterns.
2. Update stormwater management design standards to address current and expected future precipitation patterns. Consider adding quantity management requirements, including management for short-duration, high-intensity storms in vulnerable watersheds. Incorporate water quantity management practices throughout the County. Incentivize existing commercial centers to provide stormwater management systems consistent with present standards. Ensure that redevelopment, at a minimum, meets current stormwater management requirements for redevelopment projects.
3. ~~Evaluate opportunities to further reduce~~ Reduce stormwater runoff and pollutant loadings when redevelopment occurs: and incorporate water quantity management practices throughout the County. Ensure that redevelopment, at a minimum, meets current stormwater management requirements. Incentivize redevelopment to meet current requirements for new development and address watershed health, flood risks, and other environmental concerns.
4. ~~Continue to use~~ Increase use of a nature-based or green stormwater infrastructure approach (bioretention, swales) in combination with a built or gray infrastructure approach (pipes, ponds) to address flood mitigation and adaptation, to maximize ecological benefits.
5. Evaluate alternatives for improving, enforcing, and funding long-term inspection and maintenance of stormwater management facilities, particularly those facilities located on private residential lots.
6. ~~Ensure that redevelopment at a minimum, meets new development stormwater requirements and address watershed health, flood risks, and other environmental concerns. Encourage redevelopment to meet new development stormwater management requirements to the maximum extent possible and address watershed health, flood risks and other environmental concerns.~~

Table 10-1: Implementation Matrix

Policy and Implementing Actions	Lead Agency	Timeframe (Mid-Term five-year, Long-Term six+ years, Ongoing)
EH-3 - Ensure the Subdivision and Land Development Regulations and Zoning Regulations provide adequate protection for sensitive environmental resources within new development and redevelopment.		
1. Evaluate and enhance protections, including sediment and erosion control, where needed for sensitive environmental resources, such as water resources, steep slopes, and rare, threatened, and endangered species, in the Subdivision and Land Development Regulations.	DPZ HSCD	Mid-Term
2. Explore whether cluster development may also be appropriate in other residential zoning districts during the zoning regulation update process.	DPZ	Mid-Term
EH-4 - Incentivize additional resource protection and restoration measures within new development and redevelopment.		
1. Consider increased use of a density exchange overlay district in both the West and the East, to protect sensitive resources in areas with unique conditions or resources.	DPZ	Mid-Term
2. Consider incentives to encourage environmental protection and restoration when properties are developed or redeveloped, such as tax credits, density bonuses, housing allocations, and public-private partnerships.	DPZ HCEDA Private Partners	Mid-Term
3. Evaluate and strengthen the Green Neighborhood Program to ensure adequate incentives will increase program use and incorporate new options, such as increased moderate-income housing units.	DPZ DILP OCS	Mid-Term

Table 10-1: Implementation Matrix

Policy and Implementing Actions	Lead Agency	Timeframe (Mid-Term five-year, Long-Term six+ years, Ongoing)
EH-5 - Evaluate and improve stormwater management requirements to enhance climate change resilience.		
1. Conduct a flooding vulnerability assessment to determine which watersheds are susceptible to chronic flooding under current and expected future precipitation patterns.	DPW	Ongoing
2. Update stormwater management design standards to address current and expected future precipitation patterns. Consider adding quantity management requirements, including management for short-duration, high-intensity storms in vulnerable watersheds. <u>Incorporate water quantity management practices throughout the County. Incentivize existing commercial centers to provide stormwater management systems consistent with present standards.</u>	DPZ DPW OCS	Mid-Term
3. Evaluate opportunities to further reduce <u>Reduce</u> stormwater runoff and pollutant loadings when redevelopment occurs <u>and incorporate water quantity management practices throughout the County. Ensure that redevelopment, at a minimum, meets current stormwater management requirements. Incentivize redevelopment to meet current requirements for new development and address watershed health, flood risks, and other environmental concerns.</u>	DPZ DPW OCS	Mid-Term
4. Continue to use <u>Increase use of</u> a nature-based or green stormwater infrastructure approach (bioretention, swales) in combination with a built or gray infrastructure approach (pipes, ponds) to address flood mitigation and adaptation, to maximize ecological benefits.	DPW DPZ OCS Private Partners	Ongoing
5. Evaluate alternatives for improving, enforcing, and funding long-term inspection and maintenance of stormwater management facilities, particularly those facilities located on private residential lots.	DPW Private Partners	Mid-Term
6. Ensure redevelopment, at a minimum, meets new development stormwater requirements and address watershed health, flood risks, and other environmental concerns.	DPW DPZ OCS Private Partners	Mid-Term

Amendment 80 to Council Bill No. 28 -2023

BY: Deb Jung

Legislative Day 11

Date: 10/02/2023

Amendment No. 80

(This Amendment makes the following changes to HoCo by Design Chapter 10 and Chapter 11:

Chapter 10:
Managing Growth

- Amends the description of demand from "pent-up" to "potential";
- Clarifies that the FLUM is only illustrative at the parcel level and that targeting activity centers does not mean they can or will be redeveloped;
- Amends the proposed process for Zoning Regulations amendments to consider allowing limited accessory dwelling units;
- Removes a reference to a buildup of available housing allocations;
- Amends the section titled "Managing Growth into the Future" by removing the fifth paragraph ~~and adding language clarifying that the allocation chart presented is provided for under the current APFO law;~~
- Amends the MG-1 Policy Statement to remove a reference to amending APFO and substitute the APFO will be evaluated to support the vision of HoCo By Design in accordance with the law established for the review of APFO, and amends the Implementing Actions to clarify APFO is a model to pace future growth rather than support future growth, remove an evaluation of granting automatic or limited exceptions to incentivize affordable, age-restricted, and missing middle housing, remove an examination of alternatives to APFO waiting periods, ~~and~~ remove the development of fee-based funding methods, and establish a working group that evaluates and recommends criteria for the targeted incentive program for affordable and accessible housing; and

Chapter 11:
Implementation

- Amends the MG-1 Policy Statement to remove a reference to amending APFO and substitute the APFO will be evaluated to support the vision of HoCo By Design in accordance with the law established for the review of APFO, and amends the Implementing Actions to clarify APFO is a model to pace future growth rather than support future growth, remove an evaluation of granting automatic or limited exceptions to incentivize affordable, age-restricted, and missing middle housing, remove an examination of alternatives to APFO waiting periods, ~~and~~

I certify this is a true copy of
Am 80 CB28-2023
passed on 10/11/2023
Mushy Chazad
Council Administrator

remove the development of fee-based funding methods, and establish a working group that evaluates and recommends criteria for the targeted incentive program for affordable and accessible housing.)

1 In the *HoCo By Design* General Plan, attached to this Act as Exhibit A, amend the following
2 pages as indicated in this Amendment:

- Chapter 10, Managing Growth: 5, 6, 13, 14, 17, 21, and 22;
- Chapter 11: Implementation: 59.

6 The Department of Planning and Zoning shall update the map on pages MG-13 and MG-14, Map
7 10-2: Adopted APFO School Capacity Chart with a map that reflects the 2023 School Capacity
8 Chart data.

10 Correct all page numbers, numbering, and formatting within this Act to accommodate this
11 amendment.

Residential Growth Targets, 2020-2040

HoCo By Design has set a target of approximately 1,580 new units per year. This future growth represents a similar pace compared to the last 20 years, when an average of 1,537 new units were built annually.

Future growth in Howard County is expected to be modest given the limited amount of vacant land upon which housing and other development can occur. Most of the County has already been developed or preserved as agriculture, parks, and open space, and there is limited land left for the typical greenfield development that occurred in previous decades. Additionally, much of the remaining land is constrained with environmental features, difficult topography, limited access, or other physical features that restrict ultimate yield. This dwindling land supply and the challenges associated with developing it naturally reduce growth opportunities.

However, the HoCo By Design Market Research and Demand Forecast (prepared by the consulting firm RCLCO) shows demand for new housing in Howard County remains strong and is necessary to support job growth and a healthy jobs/housing balance. As further described in the Growth and Conservation Framework chapter, RCLCO found potential to add 59,000 jobs in Howard County between 2020 and 2040, resulting in demand for 31,000 new homes to accommodate households associated with the job growth. The RCLCO market analysis also identified a current “pent-up” potential demand for 20,000 more housing units tied to those who work in Howard County but live elsewhere in the region. An inadequate supply of housing exacerbates housing affordability challenges, as further described in the Dynamic Neighborhoods chapter. A lack of housing choices also makes recruiting workers more difficult, as they are priced out of the local market. Further, the fiscal study for this Plan indicates that new growth is important to maintain the high quality of life and service levels that Howard County residents and businesses value and have come to expect.



To meet these demands, HoCo By Design provides a strategy for redevelopment, as detailed in the Growth and Conservation Framework chapter. The Future Land Use Map (FLUM) shown in that chapter divides the County into 18 character areas and focuses future growth into activity center redevelopment areas—many of which were included in the last General Plan, PlanHoward 2030. However, the locations of these activity centers are more targeted, as compared to PlanHoward’s growth and revitalization areas. To the extent specific parcels are identified it is for illustrative purposes only. Although targeted, that does not mean they can or will be redeveloped.

Among the activity centers depicted on the FLUM is a Regional Activity Center in Gateway. As described in the Economic Prosperity chapter, HoCo By Design calls for the development of a master plan for the Gateway Regional Activity Center. The Gateway master plan will summarize the area’s future development phasing and intensity, mix of uses, open space network, building height range, and infrastructure approach. HoCo By Design’s growth targets will need to be adjusted when the master plan for Gateway is completed, using an amendment process similar to the Downtown Columbia Plan in 2010. Specific growth targets will be identified through the Gateway planning process and any development in the Regional Activity Center will take place over 30 or more years. A separate, specialized APFO program should be created for Gateway to address transportation needs and school capacity. Given this long-term development horizon, multiple future General Plans will incorporate the plan for Gateway.

In addition to the Gateway master plan, development in many of the other activity centers, as shown on the FLUM, will require amendments to the County’s Zoning Regulations, Subdivision and Land Development Regulations, and associated design guidelines to shape the character of new development. Amendments to Consideration should be given to amending these regulations should allow for accessory dwelling units and better regulate and allowing limited accessory dwelling units, as well as better regulating infill development to maintain the character of existing neighborhoods.

It is important to note that redevelopment in mature suburban communities like Howard County can be difficult and time-consuming. Regulations will need to be amended, and the transition toward redevelopment of the envisioned activity centers may take some time. Implementation will need to accommodate market forces, overcome fractured property ownership, and consider development economics and consumer behavior.



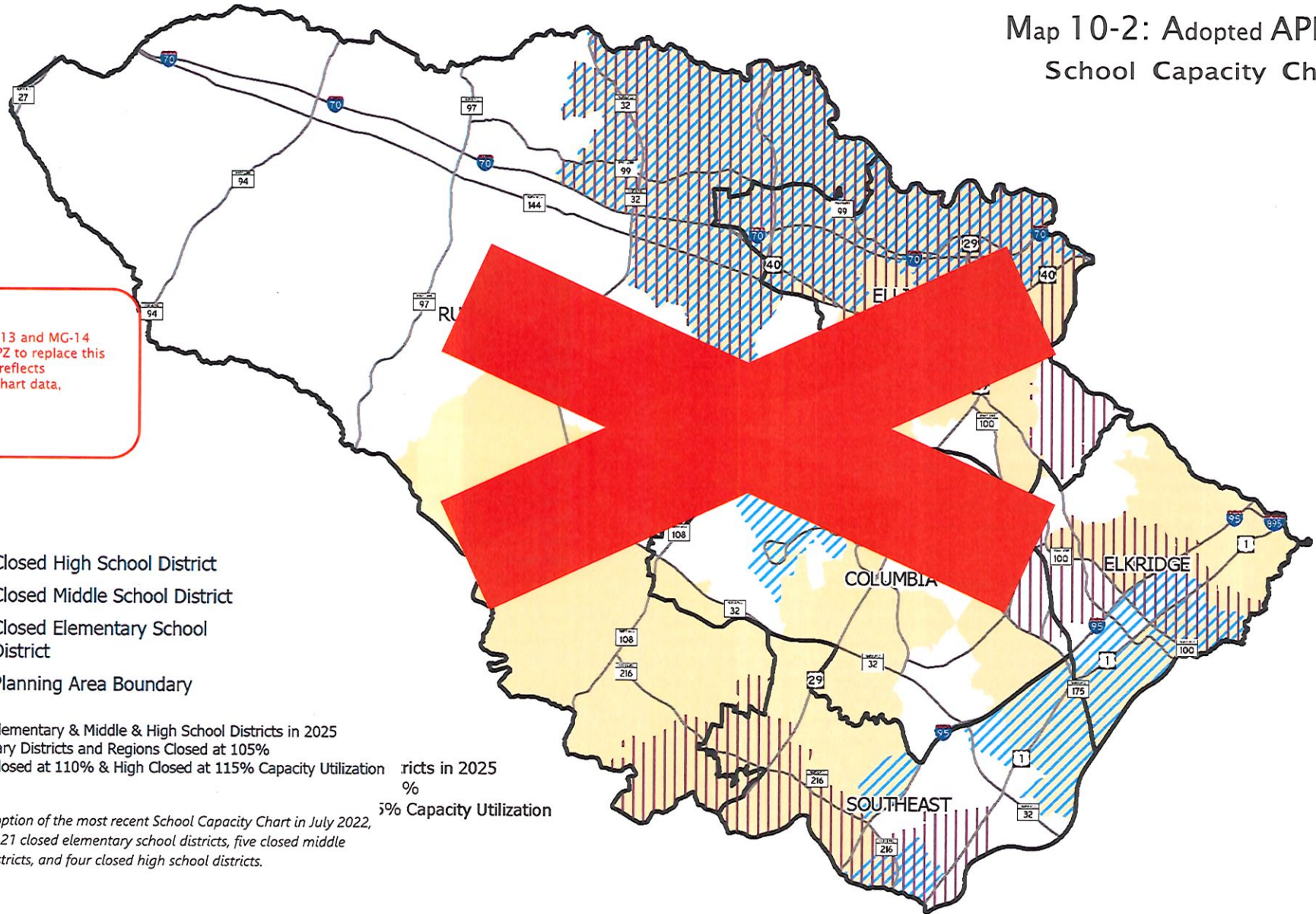
Map 10-2: Adopted APFO
School Capacity Chart

This map on pages MG-13 and MG-14 shall be amended by DPZ to replace this map with a map which reflects 2023 School Capacity Chart data,

- |||| Closed High School District
- /// Closed Middle School District
- Closed Elementary School District
- Planning Area Boundary

Closed Elementary & Middle & High School Districts in 2025
 Elementary Districts and Regions Closed at 105%
 Middle Closed at 110% & High Closed at 115% Capacity Utilization
 Districts in 2025
 %
 105% Capacity Utilization

Upon adoption of the most recent School Capacity Chart in July 2022, there are 21 closed elementary school districts, five closed middle school districts, and four closed high school districts.



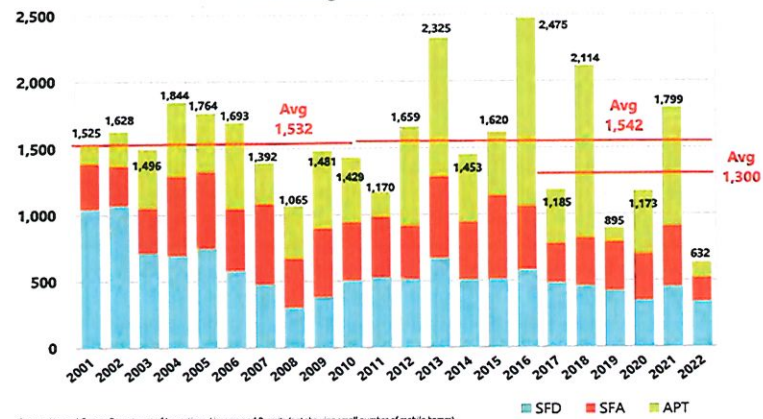
Residential Growth Trends

While APFO is not perfect, it has succeeded in pacing residential growth according to General Plan projections and goals. Over the last 20 years, there has been an annual average of 1,537 new housing units built in the County. However, of the past six years, the annual average has decreased to 1,300 units a year. **Consequently, a surplus of unused allocations has ensued, resulting in a gradual buildup of available housing allocations in recent years.** Graph 10-1 shows building permits issued since 2001 and reflects the decline in residential construction in recent years. Graph 10-1 also shows development by unit type. The years with the greatest housing growth are attributed to large numbers of multi-family units coming on-line, typically associated with large apartment projects in Downtown Columbia and the Transit Oriented Development (TOD) and Corridor Activity Center (CAC) zones along the Route 1 Corridor. As further depicted in Graph 10-2, in more recent years a greater number of apartment units have been built with less single-family detached and single-family attached units built.

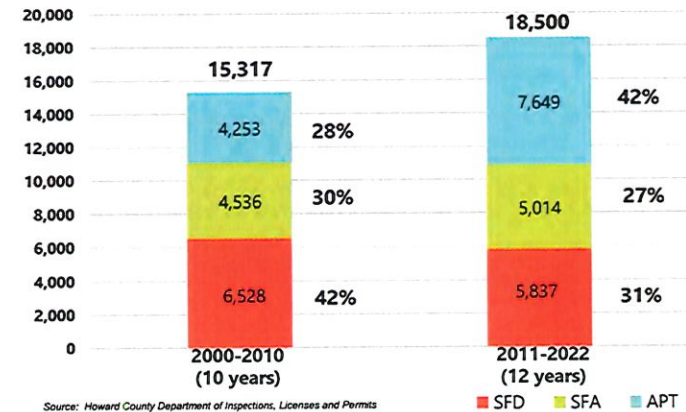
The surplus in allocations may be attributed in part to APFO amendments adopted in early 2018, which have resulted in more school districts being closed to development, as reflected in Map 10-2. A significant change to the law included lowering the capacity utilization percentages when elementary districts and regions are closed to development from 115% to 105% and middle school districts from 115% to 110%, and adding a high school district test at a 115% threshold. This change has had an impact on proposed new residential development, given the extent of the closed areas in the County.

This recent trend of slower residential development is also a result of a limited land supply in Howard County. Much of the new residential development opportunities in the future in Howard County will come from redevelopment, as reflected in the Future Land Use Map.

**Graph 10-1: Residential Building Permits Issued
2001 through 2022 Howard County**



**Graph 10-2: Residential Building Permits Issued - By Unit Type
Howard County**



Managing Growth into the Future

HoCo By Design recommends a comprehensive review and assessment of APFO. Future land use patterns in Howard County will largely be realized through infill development and redevelopment in activity centers, and to a much lesser extent by suburban development in greenfields. APFO was designed to manage growth in the latter, and now needs to be updated to reflect the land use patterns of the County's future.

Section 16.1100(b)(iv) of the Howard County Subdivision and Land Development Regulations requires that a task force be convened within one year of the adoption of the General Plan to review and recommend changes to APFO. The APFO task force will be responsible for reviewing and updating APFO to support the vision, policies, and implementing actions presented in this Plan. The task force may research alternate APFO models used in other counties in Maryland, particularly those counties where redevelopment and infill are the primary forms of new development.

The task force should also explore regulations that consider various development types, locations, and intensities, and incentive-based provisions to expedite capacity improvements. For example, the APFO review should determine whether higher-density, mixed-use projects in activity centers, which may have low student yields, should meet different standards or thresholds, and whether pay-based incentives should be established where suburban-style developments could proceed if a higher school surcharge were paid. The task force should evaluate how APFO may apply to detached accessory dwelling units.

Not only are development and zoning incentives a vital part of a comprehensive affordable housing strategy, process incentives like APFO should be considered as well. The Dynamic Neighborhoods chapter suggests that the APFO task force assess the applicability of APFO to accessory dwelling units and develop recommendations as applicable. The Housing Opportunities Master Plan also recommends the APFO task force look for opportunities to grant automatic or limited exemptions to incentivize affordable, age-restricted, and missing middle housing developments. Accordingly, the County should evaluate targeted changes to APFO to support the growth required to improve housing affordability and opportunities when the APFO task force convenes following the adoption of the General Plan.

~~The allocation chart presented here is intended to serve as a temporary bridge between the current requirements of APFO and any subsequent revisions to the law that may result from the work of the APFO task force. The task force should consider whether the allocation chart achieves its intended goal and, if so, whether changes to the chart should be made. The task force should also advise whether the allocation chart, if still deemed necessary, should remain in the General Plan or be incorporated into the APFO ordinance.~~

The task force should also evaluate existing conditions and emerging trends for new student generation, whether it is due primarily to new housing units or family turnover in existing neighborhoods. Developing an understanding of neighborhood lifecycles will allow for a better assessment of student growth and housing. This understanding should further inform how the APFO school capacity test and associated chart could be changed to optimize growth targets while also maintaining adequate school capacity. The allocation chart presented here provides guidance for future consideration.

Ultimately, the challenge will be to better balance housing market demand, economic development, and fiscal goals with the continued need to provide adequate school capacity and transportation facilities, as changing housing types and patterns emerge in the future. As noted in the Growth and Conservation Framework chapter, HoCo By Design provides a more predictable outlook for infrastructure with its focused approach on redevelopment—as only 2% of the County's already developed land is targeted as activity centers. This approach allows the County and allied agencies to more deliberately plan and budget for infrastructure.

MG-1 Policy Statement

Evaluate ~~and amend~~ the Adequate Public Facilities Ordinance (APFO) ~~to support the vision and policies presented in HoCo By Design~~, including current and anticipated development patterns and challenges, to support the vision and policies presented in HoCo By Design and in accordance with the law established for the review of APFO.

Implementing Actions

1. As part of the evaluation of APFO, achieve the following:
 - a. Research APFO models used in other Maryland and US jurisdictions that account for infill development and redevelopment to support pace future growth and transportation patterns as anticipated in this General Plan.
 - b. Assess the applicability of APFO to accessory dwelling units and develop recommendations as applicable ~~c. Evaluate opportunities to grant automatic or limited exemptions to incentivize affordable, age-restricted, and missing middle housing developments.~~
 - d. ~~c.~~ Evaluate the necessity of a housing allocation chart, including its goals, design, and appropriate place in the law.
 - e. ~~d.~~ Schools:
 - i. Collect data for school demands in the County sufficient to evaluate existing conditions, emerging trends, and future year needs. This analysis should include an evaluation of the life cycle of new and existing neighborhoods to better understand the origins of student growth.
 - ii. Evaluate the extent to which new growth generates revenues to pay for school infrastructure and review alternative financing methods.
 - iii. Evaluate the school capacity test in APFO to determine if intended outcomes are being achieved, and recommend changes to the framework and process to better pace development with available student capacity.
 - iv. ~~Examine alternatives to APFO waiting periods whereby a development proposal offsets the potential impact to zoned schools through an additional voluntary mitigation payment.~~
 - v. ~~iv.~~ Evaluate the timing and process of the school capacity chart.
 - f. ~~e.~~ Transportation:
 - i. Evaluate and amend APFO standards for transportation adequacy and develop context- driven transportation adequacy measures that align with the County's land use and transportation safety vision.
 - ii. Study and develop APFO standards for specific geographic subareas.
 - iii. ~~Study and develop methods to use a fee-based approach to advance the most significant projects in a subarea.~~
 - iv. ~~iii.~~ Evaluate and amend APFO standards to mitigate trips with investments in bicycle, pedestrian, and transit infrastructure, road connectivity, and safety projects.
 - f. Establish a working group (consisting of members appointed by the County Council and the County Executive) that evaluates and recommends goals and criteria for the targeted incentive program for affordable and accessible housing and the Affordable Housing set aside in the APFO Allocations Chart.
2. Appoint an APFO task force within one year of General Plan adoption to review and provide recommendations for APFO updates that reflect the vision and policies in HoCo By Design.

Table 10-1: Implementation Matrix

Policy and Implementing Actions	Lead Agency	Timeframe
MG-1 - Evaluate and amend the Adequate Public Facilities Ordinance (APFO) to support the vision and policies presented in HoCo By Design, including current and anticipated development patterns and challenges, to support the vision and policies presented in HoCo By Design and in accordance with the law established for the review of APFO.		
1. As part of the evaluation of APFO, achieve the following: a. Research APFO models used in other Maryland and US jurisdictions that account for infill development and redevelopment to <u>support pace</u> future growth and transportation patterns as anticipated in this General Plan. b. Assess the applicability of APFO to accessory dwelling units and develop recommendations as applicable. c. Evaluate opportunities to grant automatic or limited exemptions to incentivize affordable, age-restricted, and missing middle housing developments. d. c. Evaluate the necessity of a housing allocation chart, including its goals, design, and appropriate place in the law. e. d. Schools: i. Collect data for school demands in the County sufficient to evaluate existing conditions, emerging trends, and future year needs. This analysis should include an evaluation of the life cycle of new and existing neighborhoods to better understand the origins of student growth. ii. Evaluate the extent to which new growth generates revenues to pay for school infrastructure and review alternative financing methods. iii. Evaluate the school capacity test in APFO to determine if intended outcomes are being achieved, and recommend changes to the framework and process to better pace development with available student capacity. iv. Examine alternatives to APFO waiting periods whereby a development proposal offsets the potential impact to zoned schools through an additional voluntary mitigation payment. v. iv. Evaluate the timing and process of the school capacity chart. f. e. Transportation: i. Evaluate and amend APFO standards for transportation adequacy and develop context-driven transportation adequacy measures that align with the County's land use and transportation safety vision. ii. Study and develop APFO standards for specific geographic subareas. iii. Study and develop methods to use a fee-based approach to advance the most significant projects in a subarea. iv. iii. Evaluate and amend APFO standards to mitigate trips with investments in bicycle, pedestrian, and transit infrastructure, road connectivity, and safety projects.	DPZ DHCD HCPSS OOT DPW	Mid-Term

Table 10-1: Implementation Matrix

Policy and Implementing Actions	Lead Agency	Timeframe (Mid-Term five-year, Long-Term six+ years, Ongoing)
2. Appoint an Adequate Public Facilities Ordinance (APFO) task force within one year of General Plan adoption to review and provide recommendations for APFO updates that reflect the vision and policies in HoCo By Design.	DPZ OOT DHCD DPW HCPSS	Mid-Term

Amendment 1 to Amendment 80 to Council Bill No. 28 -2023

BY: Deb Jung

Legislative Day 12

Date: 10/11/2023

(This Amendment to Amendment 80 amends the MG-1 Policy Statement Implementing Actions to establish a working group that evaluates and recommends criteria for the targeted incentive program for affordable and accessible housing.)

- 1 Substitute pages 1 and 2 of Amendment 80 with the attachment to this Amendment to
- 2 Amendment.
- 3
- 4 Substitute the pages MG-22 and IMP-59 attached to Amendment 80 with the pages MG-22 and
- 5 IMP-59 attached to this Amendment to Amendment.
- 6

I certify this is a true copy of

Am 1 Am 80 CB28-2023

passed on 10/11/2023

Nicholas D. Clark
Council Administrator

Amendment 80 to Council Bill No. 28 -2023

BY: Deb Jung

Legislative Day 11

Date: 10/02/2023

Amendment No. 80

(This Amendment makes the following changes to HoCo by Design Chapter 10 and Chapter 11:

*Chapter 10:
Managing Growth*

- *Amends the description of demand from “pent-up” to “potential”;*
- *Clarifies that the FLUM is only illustrative at the parcel level and that targeting activity centers does not mean they can or will be redeveloped;*
- *Amends the proposed process for Zoning Regulations amendments to consider allowing limited accessory dwelling units;*
- *Removes a reference to a buildup of available housing allocations;*
- *Amends the section titled “Managing Growth into the Future” by removing the fifth paragraph and adding language clarifying that the allocation chart presented is provided for under the current APFO law;*
- *Amends the MG-1 Policy Statement to remove a reference to amending APFO and substitute the APFO will be evaluated to support the vision of HoCo By Design in accordance with the law established for the review of APFO, and amends the Implementing Actions to clarify APFO is a model to pace future growth rather than support future growth, remove an evaluation of granting automatic or limited exceptions to incentivize affordable, age-restricted, and missing middle housing, remove an examination of alternatives to APFO waiting periods, ~~and~~ establish a working group that evaluates and recommends criteria for the targeted incentive program for affordable and accessible housing; and*

*Chapter 11:
Implementation*

- *Amends the MG-1 Policy Statement to remove a reference to amending APFO and substitute the APFO will be evaluated to support the vision of HoCo By Design in accordance with the law established for the review of APFO, and amends the Implementing Actions to clarify APFO is a model to pace future growth rather than support future growth, remove an evaluation of granting automatic or limited exceptions to incentivize affordable, age-restricted, and missing middle housing, remove an examination of alternatives to APFO waiting periods, ~~and~~*

remove the development of fee-based funding methods, and establish a working group that evaluates and recommends criteria for the targeted incentive program for affordable and accessible housing.)

In the *HoCo By Design* General Plan, attached to this Act as Exhibit A, amend the following pages as indicated in this Amendment:

- Chapter 10, Managing Growth: 5, 6, 13, 14, 17, 21, and 22;
- Chapter 11: Implementation: 59.

The Department of Planning and Zoning shall update the map on pages MG-13 and MG-14, Map 10-2: Adopted APFO School Capacity Chart with a map that reflects the 2023 School Capacity Chart data.

Correct all page numbers, numbering, and formatting within this Act to accommodate this amendment.

Managing Growth into the Future

HoCo By Design recommends a comprehensive review and assessment of APFO. Future land use patterns in Howard County will largely be realized through infill development and redevelopment in activity centers, and to a much lesser extent by suburban development in greenfields. APFO was designed to manage growth in the latter, and now needs to be updated to reflect the land use patterns of the County's future.

Section 16.1100(b)(iv) of the Howard County Subdivision and Land Development Regulations requires that a task force be convened within one year of the adoption of the General Plan to review and recommend changes to APFO. The APFO task force will be responsible for reviewing and updating APFO to support the vision, policies, and implementing actions presented in this Plan. The task force may research alternate APFO models used in other counties in Maryland, particularly those counties where redevelopment and infill are the primary forms of new development.

The task force should also explore regulations that consider various development types, locations, and intensities, and incentive-based provisions to expedite capacity improvements. For example, the APFO review should determine whether higher-density, mixed-use projects in activity centers, which may have low student yields, should meet different standards or thresholds, and whether pay-based incentives should be established where suburban-style developments could proceed if a higher school surcharge were paid. The task force should evaluate how APFO may apply to detached accessory dwelling units.

Not only are development and zoning incentives a vital part of a comprehensive affordable housing strategy, process incentives like APFO should be considered as well. The Dynamic Neighborhoods chapter suggests that the APFO task force assess the applicability of APFO to accessory dwelling units and develop recommendations as applicable. The Housing Opportunities Master Plan also recommends the APFO task force look for opportunities to grant automatic or limited exemptions to incentivize affordable, age-restricted, and missing middle housing developments. Accordingly, the County should evaluate targeted changes to APFO to support the growth required to improve housing affordability and opportunities when the APFO task force convenes following the adoption of the General Plan.

~~The allocation chart presented here is intended to serve as a temporary bridge between the current requirements of APFO and any subsequent revisions to the law that may result from the work of the APFO task force. The task force should consider whether the allocation chart achieves its intended goal and, if so, whether changes to the chart should be made. The task force should also advise whether the allocation chart, if still deemed necessary, should remain in the General Plan or be incorporated into the APFO ordinance.~~

The task force should also evaluate existing conditions and emerging trends for new student generation, whether it is due primarily to new housing units or family turnover in existing neighborhoods. Developing an understanding of neighborhood lifecycles will allow for a better assessment of student growth and housing. This understanding should further inform how the APFO school capacity test and associated chart could be changed to optimize growth targets while also maintaining adequate school capacity. The allocation chart presented here provides guidance for future consideration.

Ultimately, the challenge will be to better balance housing market demand, economic development, and fiscal goals with the continued need to provide adequate school capacity and transportation facilities, as changing housing types and patterns emerge in the future. As noted in the Growth and Conservation Framework chapter, HoCo By Design provides a more predictable outlook for infrastructure with its focused approach on redevelopment—as only 2% of the County's already developed land is targeted as activity centers. This approach allows the County and allied agencies to more deliberately plan and budget for infrastructure.

MG-1 Policy Statement

Evaluate ~~and amend~~ the Adequate Public Facilities Ordinance (APFO) ~~to support the vision and policies presented in HoCo By Design~~, including current and anticipated development patterns and challenges, to support the vision and policies presented in HoCo By Design and in accordance with the law established for the review of APFO.

Implementing Actions

1. As part of the evaluation of APFO, achieve the following:
 - a. Research APFO models used in other Maryland and US jurisdictions that account for infill development and redevelopment to support pace future growth and transportation patterns as anticipated in this General Plan.
 - b. Assess the applicability of APFO to accessory dwelling units and develop recommendations as applicable. ~~c. Evaluate opportunities to grant automatic or limited exemptions to incentivize affordable, age-restricted, and missing middle housing developments.~~
 - ~~d. c.~~ Evaluate the necessity of a housing allocation chart, including its goals, design, and appropriate place in the law.
 - ~~e. d.~~ Schools:
 - i. Collect data for school demands in the County sufficient to evaluate existing conditions, emerging trends, and future year needs. This analysis should include an evaluation of the life cycle of new and existing neighborhoods to better understand the origins of student growth.
 - ii. Evaluate the extent to which new growth generates revenues to pay for school infrastructure and review alternative financing methods.
 - iii. Evaluate the school capacity test in APFO to determine if intended outcomes are being achieved, and recommend changes to the framework and process to better pace development with available student capacity.
 - ~~iv. Examine alternatives to APFO waiting periods whereby a development proposal offsets the potential impact to zoned schools through an additional voluntary mitigation payment.~~
 - ~~v. iv.~~ Evaluate the timing and process of the school capacity chart.
 - ~~f. e.~~ Transportation:
 - i. Evaluate and amend APFO standards for transportation adequacy and develop context-driven transportation adequacy measures that align with the County's land use and transportation safety vision.
 - ii. Study and develop APFO standards for specific geographic subareas.
 - ~~iii. Study and develop methods to use a fee-based approach to advance the most significant projects in a subarea.~~
 - ~~iv. iii.~~ Evaluate and amend APFO standards to mitigate trips with investments in bicycle, pedestrian, and transit infrastructure, road connectivity, and safety projects.
 - f. Establish a working group (consisting of members appointed by the County Council and the County Executive) that evaluates and recommends goals and criteria for the targeted incentive program for affordable and accessible housing and the Affordable Housing set aside in the APFO Allocations Chart.
2. Appoint an APFO task force within one year of General Plan adoption to review and provide recommendations for APFO updates that reflect the vision and policies in HoCo By Design.

Table 10-1: Implementation Matrix

Policy and Implementing Actions	Lead Agency	Timeframe
<p>MG-1 - Evaluate and amend the Adequate Public Facilities Ordinance (APFO) to support the vision and policies presented in HoCo By Design, including current and anticipated development patterns and challenges, to support the vision and policies presented in HoCo By Design and in accordance with the law established for the review of APFO.</p>		
<p>1. As part of the evaluation of APFO, achieve the following:</p> <ul style="list-style-type: none"> a. Research APFO models used in other Maryland and US jurisdictions that account for infill development and redevelopment to support pace future growth and transportation patterns as anticipated in this General Plan. b. Assess the applicability of APFO to accessory dwelling units and develop recommendations as applicable. c. Evaluate opportunities to grant automatic or limited exemptions to incentivize affordable, age-restricted, and missing middle housing developments. d. e. Evaluate the necessity of a housing allocation chart, including its goals, design, and appropriate place in the law. e. d. Schools: <ul style="list-style-type: none"> i. Collect data for school demands in the County sufficient to evaluate existing conditions, emerging trends, and future year needs. This analysis should include an evaluation of the life cycle of new and existing neighborhoods to better understand the origins of student growth. ii. Evaluate the extent to which new growth generates revenues to pay for school infrastructure and review alternative financing methods. iii. Evaluate the school capacity test in APFO to determine if intended outcomes are being achieved, and recommend changes to the framework and process to better pace development with available student capacity. iv. Examine alternatives to APFO waiting periods whereby development proposal offsets the potential impact to zoned schools through an additional voluntary mitigation payment. iv. iv. Evaluate the timing and process of the school capacity chart. f. e. Transportation: <ul style="list-style-type: none"> i. Evaluate and amend APFO standards for transportation adequacy and develop context-driven transportation adequacy measures that align with the County's land use and transportation safety vision. ii. Study and develop APFO standards for specific geographic subareas. iii. Study and develop methods to use a fee-based approach to advance the most significant projects in a subarea. iv. iii. Evaluate and amend APFO standards to mitigate trips with investments in bicycle, pedestrian, and transit infrastructure, road connectivity, and safety projects. <p>f. Establish a working group (consisting of members appointed by the County Council and the County Executive) that evaluates and recommends goals and criteria for the targeted incentive program for affordable and accessible housing and the Affordable Housing set aside in the APFO Allocations Chart.</p>	<p>DPZ DHCD HCPSS OOT DPW</p>	<p>Mid-Term</p>

Table 10-1: Implementation Matrix

Policy and Implementing Actions	Lead Agency	Timeframe (Mid-Term five-year, Long-Term six+ years, Ongoing)
<p>2. Appoint an Adequate Public Facilities Ordinance (APFO) task force within one year of General Plan adoption to review and provide recommendations for APFO updates that reflect the vision and policies in HoCo By Design.</p>	<p>DPZ OOT DHCD DPW HCPSS</p>	<p>Mid-Term</p>

Amendment 2 Amendment No. 80 to Council Bill No. 28 -2023

BY: The Chairperson at the Request
of the County Executive

Legislative Day 12
Date: October 11, 2023

Amendment No. 2 to Amendment No. 80

(This Amendment to Amendment No. 80 strikes the statement "The allocation chart presented here provides guidance for future consideration".)

- 1 Substitute page 1 of Amendment 80 with the attachment to this Amendment to Amendment.
- 2
- 3 In Chapter 10, Managing Growth, substitute page MG21 attached to Amendment No. 80 with
- 4 revised page MG21 attached to this Amendment to Amendment.

I certify this is a true copy of

Am 2 Am 80 CB28-2023

passed on 10/11/2023

Michelle Hazzard

Council Administrator

Amendment 80 to Council Bill No. 28 -2023

BY: Deb Jung

Legislative Day 11

Date: 10/02/2023

Amendment No. 80

(This Amendment makes the following changes to HoCo by Design Chapter 10 and Chapter 11:

Chapter 10:

Managing Growth

- *Amends the description of demand from “pent-up” to “potential”;*
- *Clarifies that the FLUM is only illustrative at the parcel level and that targeting activity centers does not mean they can or will be redeveloped;*
- *Amends the proposed process for Zoning Regulations amendments to consider allowing limited accessory dwelling units;*
- *Amends map 10-2 to reflect the 2023 School Capacity Chart data;*
- *Removes a reference to a buildup of available housing allocations;*
- *Amends the section titled “Managing Growth into the Future” by removing the fifth paragraph ~~and adding language clarifying that the allocation chart presented is provided for under the current APFO law;~~*
- *Amends the MG-1 Policy Statement to remove a reference to amending APFO and substitute the APFO will be evaluated to support the vision of HoCo By Design in accordance with the law established for the review of APFO, and amends the Implementing Actions to clarify APFO is a model to pace future growth rather than support future growth, remove an evaluation of granting automatic or limited exceptions to incentivize affordable, age-restricted, and missing middle housing, remove an examination of alternatives to APFO waiting periods, and remove the development of fee-based funding methods; and*

Chapter 11:

Implementation

- *Amends the MG-1 Policy Statement to remove a reference to amending APFO and substitute the APFO will be evaluated to support the vision of HoCo By Design in accordance with the law established for the review of APFO, and amends the Implementing Actions to clarify APFO is a model to pace future growth rather than support future growth, remove an evaluation of granting automatic or limited exceptions to incentivize affordable, age-restricted, and missing middle housing, remove an examination of alternatives to APFO waiting periods, and remove the development of fee-based funding methods.)*

Managing Growth into the Future

HoCo By Design recommends a comprehensive review and assessment of APFO. Future land use patterns in Howard County will largely be realized through infill development and redevelopment in activity centers, and to a much lesser extent by suburban development in greenfields. APFO was designed to manage growth in the latter, and now needs to be updated to reflect the land use patterns of the County's future.

Section 16.1100(b)(iv) of the Howard County Subdivision and Land Development Regulations requires that a task force be convened within one year of the adoption of the General Plan to review and recommend changes to APFO. The APFO task force will be responsible for reviewing and updating APFO to support the vision, policies, and implementing actions presented in this Plan. The task force may research alternate APFO models used in other counties in Maryland, particularly those counties where redevelopment and infill are the primary forms of new development.

The task force should also explore regulations that consider various development types, locations, and intensities, and incentive-based provisions to expedite capacity improvements. For example, the APFO review should determine whether higher-density, mixed-use projects in activity centers, which may have low student yields, should meet different standards or thresholds, and whether pay-based incentives should be established where suburban-style developments could proceed if a higher school surcharge were paid. The task force should evaluate how APFO may apply to detached accessory dwelling units.

Not only are development and zoning incentives a vital part of a comprehensive affordable housing strategy, process incentives like APFO should be considered as well. The Dynamic Neighborhoods chapter suggests that the APFO task force assess the applicability of APFO to accessory dwelling units and develop recommendations as applicable. The Housing Opportunities Master Plan also recommends the APFO task force look for opportunities to grant automatic or limited exemptions to incentivize affordable, age-restricted, and missing middle housing developments. Accordingly, the County should evaluate targeted changes to APFO to support the growth required to improve housing affordability and opportunities when the APFO task force convenes following the adoption of the General Plan.

~~The allocation chart presented here is intended to serve as a temporary bridge between the current requirements of APFO and any subsequent revisions to the law that may result from the work of the APFO task force. The task force should consider whether the allocation chart achieves its intended goal and, if so, whether changes to the chart should be made. The task force should also advise whether the allocation chart, if still deemed necessary, should remain in the General Plan or be incorporated into the APFO ordinance.~~

The task force should also evaluate existing conditions and emerging trends for new student generation, whether it is due primarily to new housing units or family turnover in existing neighborhoods. Developing an understanding of neighborhood lifecycles will allow for a better assessment of student growth and housing. This understanding should further inform how the APFO school capacity test and associated chart could be changed to optimize growth targets while also maintaining adequate school capacity. ~~The allocation chart presented here provides guidance for future consideration.~~

Ultimately, the challenge will be to better balance housing market demand, economic development, and fiscal goals with the continued need to provide adequate school capacity and transportation facilities, as changing housing types and patterns emerge in the future. As noted in the Growth and Conservation Framework chapter, HoCo By Design provides a more predictable outlook for infrastructure with its focused approach on redevelopment—as only 2% of the County's already developed land is targeted as activity centers. This approach allows the County and allied agencies to more deliberately plan and budget for infrastructure.

MG-1 Policy Statement

Evaluate ~~and amend~~ the Adequate Public Facilities Ordinance (APFO) ~~to support the vision and policies presented in HoCo By Design~~, including current and anticipated development patterns and challenges, ~~to support the vision and policies presented in HoCo By Design and in accordance with the law established for the review of APFO.~~

Implementing Actions

1. As part of the evaluation of APFO, achieve the following:
 - a. Research APFO models used in other Maryland and US jurisdictions that account for infill development and redevelopment to support pace future growth and transportation patterns as anticipated in this General Plan.
 - b. Assess the applicability of APFO to accessory dwelling units and develop recommendations as applicable.
 - ~~c. Evaluate opportunities to grant automatic or limited exemptions to incentivize affordable, age-restricted, and missing middle housing developments.~~
 - ~~d. c.~~ Evaluate the necessity of a housing allocation chart, including its goals, design, and appropriate place in the law.
 - ~~e. d.~~ Schools:
 - i. Collect data for school demands in the County sufficient to evaluate existing conditions, emerging trends, and future year needs. This analysis should include an evaluation of the life cycle of new and existing neighborhoods to better understand the origins of student growth.
 - ii. Evaluate the extent to which new growth generates revenues to pay for school infrastructure and review alternative financing methods.
 - iii. Evaluate the school capacity test in APFO to determine if intended outcomes are being achieved, and recommend changes to the framework and process to better pace development with available student capacity.
 - ~~iv. Examine alternatives to APFO waiting periods whereby a development proposal offsets the potential impact to zoned schools through an additional voluntary mitigation payment.~~
 - ~~iv. iv.~~ Evaluate the timing and process of the school capacity chart.
 - ~~f. e.~~ Transportation:
 - i. Evaluate and amend APFO standards for transportation adequacy and develop context-driven transportation adequacy measures that align with the County's land use and transportation safety vision.
 - ii. Study and develop APFO standards for specific geographic subareas.
 - ~~iii. Study and develop methods to use a fee-based approach to advance the most significant projects in a subarea.~~
 - ~~iv. iii.~~ Evaluate and amend APFO standards to mitigate trips with investments in bicycle, pedestrian, and transit infrastructure, road connectivity, and safety projects.
2. Appoint an APFO task force within one year of General Plan adoption to review and provide recommendations for APFO updates that reflect the vision and policies in HoCo By Design.

Amendment 80 to Council Bill No. 28 -2023

BY: Deb Jung

Legislative Day 11

Date: 10/02/2023

Amendment No. 80

(This Amendment makes the following changes to HoCo by Design Chapter 10 and Chapter 11:

*Chapter 10:
Managing Growth*

- *Amends the description of demand from “pent-up” to “potential”;*
- *Clarifies that the FLUM is only illustrative at the parcel level and that targeting activity centers does not mean they can or will be redeveloped;*
- *Amends the proposed process for Zoning Regulations amendments to consider allowing limited accessory dwelling units;*
- *Amends map 10-2 to reflect the 2023 School Capacity Chart data;*
- *Removes a reference to a buildup of available housing allocations;*
- *Amends the section titled “Managing Growth into the Future” by removing the fifth paragraph and adding language clarifying that the allocation chart presented is provided for under the current APFO law;*
- *Amends the MG-1 Policy Statement to remove a reference to amending APFO and substitute the APFO will be evaluated to support the vision of HoCo By Design in accordance with the law established for the review of APFO, and amends the Implementing Actions to clarify APFO is a model to pace future growth rather than support future growth, remove an evaluation of granting automatic or limited exceptions to incentivize affordable, age-restricted, and missing middle housing, remove an examination of alternatives to APFO waiting periods, and remove the development of fee-based funding methods; and*

*Chapter 11:
Implementation*

- *Amends the MG-1 Policy Statement to remove a reference to amending APFO and substitute the APFO will be evaluated to support the vision of HoCo By Design in accordance with the law established for the review of APFO, and amends the Implementing Actions to clarify APFO is a model to pace future growth rather than support future growth, remove an evaluation of granting automatic or limited exceptions to incentivize affordable, age-restricted, and missing middle housing, remove an examination of alternatives to APFO waiting periods, and remove the development of fee-based funding methods.)*

Residential Growth Targets, 2020-2040

HoCo By Design has set a target of approximately 1,580 new units per year. This future growth represents a similar pace compared to the last 20 years, when an average of 1,537 new units were built annually.

Future growth in Howard County is expected to be modest given the limited amount of vacant land upon which housing and other development can occur. Most of the County has already been developed or preserved as agriculture, parks, and open space, and there is limited land left for the typical greenfield development that occurred in previous decades. Additionally, much of the remaining land is constrained with environmental features, difficult topography, limited access, or other physical features that restrict ultimate yield. This dwindling land supply and the challenges associated with developing it naturally reduce growth opportunities.

However, the HoCo By Design Market Research and Demand Forecast (prepared by the consulting firm RCLCO) shows demand for new housing in Howard County remains strong and is necessary to support job growth and a healthy jobs/housing balance. As further described in the Growth and Conservation Framework chapter, RCLCO found potential to add 59,000 jobs in Howard County between 2020 and 2040, resulting in demand for 31,000 new homes to accommodate households associated with the job growth. The RCLCO market analysis also identified a current "pent-up" potential demand for 20,000 more housing units tied to those who work in Howard County but live elsewhere in the region. An inadequate supply of housing exacerbates housing affordability challenges, as further described in the Dynamic Neighborhoods chapter. A lack of housing choices also makes recruiting workers more difficult, as they are priced out of the local market. Further, the fiscal study for this Plan indicates that new growth is important to maintain the high quality of life and service levels that Howard County residents and businesses value and have come to expect.



To meet these demands, HoCo By Design provides a strategy for redevelopment, as detailed in the Growth and Conservation Framework chapter. The Future Land Use Map (FLUM) shown in that chapter divides the County into 18 character areas and focuses future growth into activity center redevelopment areas—many of which were included in the last General Plan, PlanHoward 2030. However, the locations of these activity centers are more targeted, as compared to PlanHoward's growth and revitalization areas. To the extent specific parcels are identified it is for illustrative purposes only. Although targeted, that does not mean they can or will be redeveloped.

Among the activity centers depicted on the FLUM is a Regional Activity Center in Gateway. As described in the Economic Prosperity chapter, HoCo By Design calls for the development of a master plan for the Gateway Regional Activity Center. The Gateway master plan will summarize the area's future development phasing and intensity, mix of uses, open space network, building height range, and infrastructure approach. HoCo By Design's growth targets will need to be adjusted when the master plan for Gateway is completed, using an amendment process similar to the Downtown Columbia Plan in 2010. Specific growth targets will be identified through the Gateway planning process and any development in the Regional Activity Center will take place over 30 or more years. A separate, specialized APFO program should be created for Gateway to address transportation needs and school capacity. Given this long-term development horizon, multiple future General Plans will incorporate the plan for Gateway.

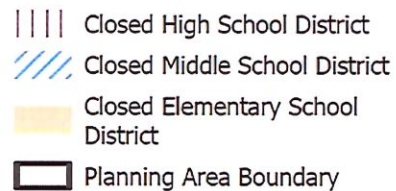
In addition to the Gateway master plan, development in many of the other activity centers, as shown on the FLUM, will require amendments to the County's Zoning Regulations, Subdivision and Land Development Regulations, and associated design guidelines to shape the character of new development. Amendments to Consideration should be given to amending these regulations should allow for accessory dwelling units and better regulate and allowing limited accessory dwelling units, as well as better regulating infill development to maintain the character of existing neighborhoods.

It is important to note that redevelopment in mature suburban communities like Howard County can be difficult and time-consuming. Regulations will need to be amended, and the transition toward redevelopment of the envisioned activity centers may take some time. Implementation will need to accommodate market forces, overcome fractured property ownership, and consider development economics and consumer behavior.



Map 10-2: Adopted APFO School Capacity Chart

This map on pages MG-13 and MG-14 shall be amended by DPZ to replace this map with a map which reflects 2023 School Capacity Chart data,



Closed Elementary & Middle & High School Districts in 2025
 Elementary Districts and Regions Closed at 105%
 Middle Closed at 110% & High Closed at 115% Capacity Utilization

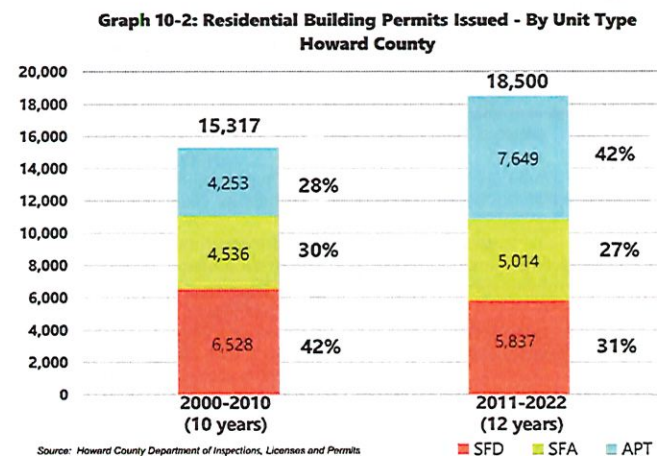
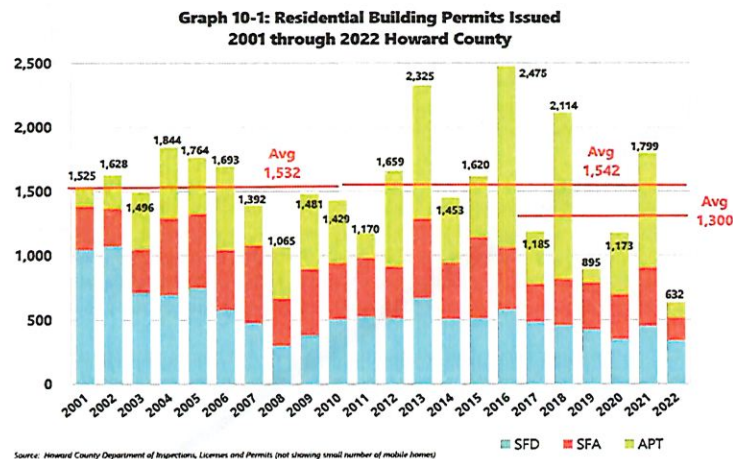
Upon adoption of the most recent School Capacity Chart in July 2022, there are 21 closed elementary school districts, five closed middle school districts, and four closed high school districts.

Residential Growth Trends

While APFO is not perfect, it has succeeded in pacing residential growth according to General Plan projections and goals. Over the last 20 years, there has been an annual average of 1,537 new housing units built in the County. However, of the past six years, the annual average has decreased to 1,300 units a year. **Consequently, a surplus of unused allocations has ensued, resulting in a gradual buildup of available housing allocations in recent years.** Graph 10-1 shows building permits issued since 2001 and reflects the decline in residential construction in recent years. Graph 10-1 also shows development by unit type. The years with the greatest housing growth are attributed to large numbers of multi-family units coming on-line, typically associated with large apartment projects in Downtown Columbia and the Transit Oriented Development (TOD) and Corridor Activity Center (CAC) zones along the Route 1 Corridor. As further depicted in Graph 10-2, in more recent years a greater number of apartment units have been built with less single-family detached and single-family attached units built.

The surplus in allocations may be attributed in part to APFO amendments adopted in early 2018, which have resulted in more school districts being closed to development, as reflected in Map 10-2. A significant change to the law included lowering the capacity utilization percentages when elementary districts and regions are closed to development from 115% to 105% and middle school districts from 115% to 110%, and adding a high school district test at a 115% threshold. This change has had an impact on proposed new residential development, given the extent of the closed areas in the County.

This recent trend of slower residential development is also a result of a limited land supply in Howard County. Much of the new residential development opportunities in the future in Howard County will come from redevelopment, as reflected in the Future Land Use Map.



Managing Growth Into the Future

HoCo By Design recommends a comprehensive review and assessment of APFO. Future land use patterns in Howard County will largely be realized through infill development and redevelopment in activity centers, and to a much lesser extent by suburban development in greenfields. APFO was designed to manage growth in the latter, and now needs to be updated to reflect the land use patterns of the County's future.

Section 16.1100(b)(iv) of the Howard County Subdivision and Land Development Regulations requires that a task force be convened within one year of the adoption of the General Plan to review and recommend changes to APFO. The APFO task force will be responsible for reviewing and updating APFO to support the vision, policies, and implementing actions presented in this Plan. The task force may research alternate APFO models used in other counties in Maryland, particularly those counties where redevelopment and infill are the primary forms of new development.

The task force should also explore regulations that consider various development types, locations, and intensities, and incentive-based provisions to expedite capacity improvements. For example, the APFO review should determine whether higher-density, mixed-use projects in activity centers, which may have low student yields, should meet different standards or thresholds, and whether pay-based incentives should be established where suburban-style developments could proceed if a higher school surcharge were paid. The task force should evaluate how APFO may apply to detached accessory dwelling units.

Not only are development and zoning incentives a vital part of a comprehensive affordable housing strategy, process incentives like APFO should be considered as well. The Dynamic Neighborhoods chapter suggests that the APFO task force assess the applicability of APFO to accessory dwelling units and develop recommendations as applicable. The Housing Opportunities Master Plan also recommends the APFO task force look for opportunities to grant automatic or limited exemptions to incentivize affordable, age-restricted, and missing middle housing developments. Accordingly, the County should evaluate targeted changes to APFO to support the growth required to improve housing affordability and opportunities when the APFO task force convenes following the adoption of the General Plan.

~~The allocation chart presented here is intended to serve as a temporary bridge between the current requirements of APFO and any subsequent revisions to the law that may result from the work of the APFO task force. The task force should consider whether the allocation chart achieves its intended goal and, if so, whether changes to the chart should be made. The task force should also advise whether the allocation chart, if still deemed necessary, should remain in the General Plan or be incorporated into the APFO ordinance.~~

The task force should also evaluate existing conditions and emerging trends for new student generation, whether it is due primarily to new housing units or family turnover in existing neighborhoods. Developing an understanding of neighborhood lifecycles will allow for a better assessment of student growth and housing. This understanding should further inform how the APFO school capacity test and associated chart could be changed to optimize growth targets while also maintaining adequate school capacity. The allocation chart presented here provides guidance for future consideration.

Ultimately, the challenge will be to better balance housing market demand, economic development, and fiscal goals with the continued need to provide adequate school capacity and transportation facilities, as changing housing types and patterns emerge in the future. As noted in the Growth and Conservation Framework chapter, HoCo By Design provides a more predictable outlook for infrastructure with its focused approach on redevelopment—as only 2% of the County's already developed land is targeted as activity centers. This approach allows the County and allied agencies to more deliberately plan and budget for infrastructure.

MG-1 Policy Statement

Evaluate ~~and amend~~ the Adequate Public Facilities Ordinance (APFO) ~~to support the vision and policies presented in HoCo By Design~~, including current and anticipated development patterns and challenges, to support the vision and policies presented in HoCo By Design and in accordance with the law established for the review of APFO.

Implementing Actions

1. As part of the evaluation of APFO, achieve the following:
 - a. Research APFO models used in other Maryland and US jurisdictions that account for infill development and redevelopment to support pace future growth and transportation patterns as anticipated in this General Plan.
 - b. Assess the applicability of APFO to accessory dwelling units and develop recommendations as applicable.
 - ~~c. Evaluate opportunities to grant automatic or limited exemptions to incentivize affordable, age-restricted, and missing middle housing developments.~~
 - ~~d. c.~~ Evaluate the necessity of a housing allocation chart, including its goals, design, and appropriate place in the law.
 - ~~e. d.~~ Schools:
 - i. Collect data for school demands in the County sufficient to evaluate existing conditions, emerging trends, and future year needs. This analysis should include an evaluation of the life cycle of new and existing neighborhoods to better understand the origins of student growth.
 - ii. Evaluate the extent to which new growth generates revenues to pay for school infrastructure and review alternative financing methods.
 - iii. Evaluate the school capacity test in APFO to determine if intended outcomes are being achieved, and recommend changes to the framework and process to better pace development with available student capacity.
 - ~~iv. Examine alternatives to APFO waiting periods whereby a development proposal offsets the potential impact to zoned schools through an additional voluntary mitigation payment.~~
 - ~~f. e.~~ Transportation:
 - i. Evaluate and amend APFO standards for transportation adequacy and develop context-driven transportation adequacy measures that align with the County's land use and transportation safety vision.
 - ii. Study and develop APFO standards for specific geographic subareas.
 - ~~iii. Study and develop methods to use a fee-based approach to advance the most significant projects in a subarea.~~
 - ~~iv. iii.~~ Evaluate and amend APFO standards to mitigate trips with investments in bicycle, pedestrian, and transit infrastructure, road connectivity, and safety projects.
2. Appoint an APFO task force within one year of General Plan adoption to review and provide recommendations for APFO updates that reflect the vision and policies in HoCo By Design.

Table 10-1: Implementation Matrix

Policy and Implementing Actions	Lead Agency	Timeframe
MG-1 - Evaluate and amend the Adequate Public Facilities Ordinance (APFO) to support the vision and policies presented in HoCo By Design, including current and anticipated development patterns and challenges, to support the vision and policies presented in HoCo By Design and in accordance with the law established for the review of APFO.		
1. As part of the evaluation of APFO, achieve the following: a. Research APFO models used in other Maryland and US jurisdictions that account for infill development and redevelopment to <u>support pace</u> future growth and transportation patterns as anticipated in this General Plan. b. Assess the applicability of APFO to accessory dwelling units and develop recommendations as applicable. c. Evaluate opportunities to grant automatic or limited exemptions to incentivize affordable, age-restricted, and missing middle housing developments. d. c. Evaluate the necessity of a housing allocation chart, including its goals, design, and appropriate place in the law. e. d. Schools: i. Collect data for school demands in the County sufficient to evaluate existing conditions, emerging trends, and future year needs. This analysis should include an evaluation of the life cycle of new and existing neighborhoods to better understand the origins of student growth. ii. Evaluate the extent to which new growth generates revenues to pay for school infrastructure and review alternative financing methods. iii. Evaluate the school capacity test in APFO to determine if intended outcomes are being achieved, and recommend changes to the framework and process to better pace development with available student capacity. iv. Examine alternatives to APFO waiting periods whereby a development proposal offsets the potential impact to zoned schools through an additional voluntary mitigation payment. v. iv. Evaluate the timing and process of the school capacity chart. f. e. Transportation: i. Evaluate and amend APFO standards for transportation adequacy and develop context-driven transportation adequacy measures that align with the County's land use and transportation safety vision. ii. Study and develop APFO standards for specific geographic subareas. iii. Study and develop methods to use a fee-based approach to advance the most significant projects in a subarea. iv. iii. Evaluate and amend APFO standards to mitigate trips with investments in bicycle, pedestrian, and transit infrastructure, road connectivity, and safety projects.	DPZ DHCD HCPSS OOT DPW	Mid-Term

Table 10-1: Implementation Matrix

Policy and Implementing Actions	Lead Agency	Timeframe (Mid-Term five-year, Long-Term six+ years, Ongoing)
2. Appoint an Adequate Public Facilities Ordinance (APFO) task force within one year of General Plan adoption to review and provide recommendations for APFO updates that reflect the vision and policies in HoCo By Design.	DPZ OOT DHCD DPW HCPSS	Mid-Term