



Land Management

Maximize the economic and social benefits from the land while maintaining or enhancing natural systems and ecological health to ensure resiliency.



**Action
C-16**

Implement the Comprehensive Plan to steer the densest development/redevelopment to mixed-use, transit-served locations, reduce vehicle miles traveled (VMT) and emissions, and conserve/restore environmental areas

Objective	Reduce vehicle miles traveled and GHG emissions by increasing allowable density and types and number of desirable destinations within a short distance of transit hubs and activity centers and conserve/restore environmental areas				
Metrics	Milestone/Status update				
Target	Community transportation emissions	Development Stage	Ongoing		
Lead	Planning and Development Services	City Upfront Cost			
Partners	Planning Commission, Public Works, Housing and Community Development, Rockville Economic Development Inc. (REDI), Rockville Chamber of Commerce	City Operating Cost	Capital and implementation costs determined in a separate process. Cost share with many other CAP measures.		
GHG Benefit	Resiliency	Feasibility	Health	Equity	Co-Benefits
++	++	+	++	+	Mobility, Economic, Environment

Rockville’s Comprehensive Plan contains several climate mitigation and resiliency policies that support Climate Action Plan goals, including sustainable design and green buildings, energy efficiency, renewable energy, waste reduction, equity, resilience, sustainable transportation, and the conservation and restoration of environmental areas. Several policies and actions will be implemented and tracked through the Comprehensive Plan process; including land use policies to foster redevelopment, transit-oriented development and walkable neighborhoods, transportation policies to reduce vehicle congestion and improve transportation alternatives, and environmental policies to protect green space and trees. The wedge diagram analysis (Figure 14) combines this action with Actions C-10 and C-14 to result in 90% of residential growth near activity centers or walking nodes and assumes buildout of Bike and Pedestrian plans and transit access improvements to support a comprehensive network to reduce VMT. Implementing the following key Comprehensive Plan policies (Land Use and Urban Design, Sustainable Transportation, and Conserve and Restore Environmental Areas) will strengthen the City’s overall climate approach.

- Land Use and Urban Design:** Rockville’s Comprehensive Plan envisions mixed-use, vibrant activity nodes and identifies 17 existing and 8 potential future activity nodes to help guide land use and development policies (Figure 31). Key area of the city planned for land use changes include Rockville Town Center, Rockville Pike corridor, Twinbrook Metro Station area, East Rockville neighborhood, North Stonestreet Avenue, Shady Grove Road/Piccard Drive corridor, and Veirs Mill Road corridor. Directing new residential development and employment to these locations will help reduce sprawl and associated vehicle emissions and greenhouse gases. The Plan identifies community facilities and gathering places as key components of activity nodes. One way to make activity nodes attractive to residents and developers is to

Equity Considerations

Neighborhoods with a higher than average social vulnerability index could be prioritized for investments in City facilities serving the public.

Coordination with REDI and the Rockville Chamber of Commerce can help support local businesses, especially minority, female or disabled-owned businesses.

implement land use destination balancing. According to the City’s Transportation Demand Management Plan, a balanced destination mix at a neighborhood-scale activity center contains at least eight neighborhood-scale retail uses or schools. Neighborhood scale uses include “Main Street” type uses, such as restaurants, cafes, clothing stores, post office, bank, dry cleaners, fast food, bookstores, schools, or libraries. Sub-neighborhood destinations to promote more walking and rolling trips could contain a handful of destinations to serve local residents within a quarter-mile walking distance such as a corner store, carryout, or pocket park. Giving residents and visitors places they want to go within a short and safe walking or rolling distance provides more choices and increased quality of life while reducing vehicle miles traveled, greenhouse gas emissions, and improving air quality.

Other land use supportive actions include thoughtful urban design standards that incorporate vegetation and green space biophilic design practices, art, and cultural amenities, and community-led programming. Lifting limits on density in appropriate locations and increasing the supply of diverse housing types near transit and other activity centers can improve affordability. Reducing minimum parking requirements provides more flexibility to enrich city life with non-pavement land uses. Working with residents and local leaders to identify ways to support valued local businesses and neighborhood gathering places will be important to the success of community activity nodes.

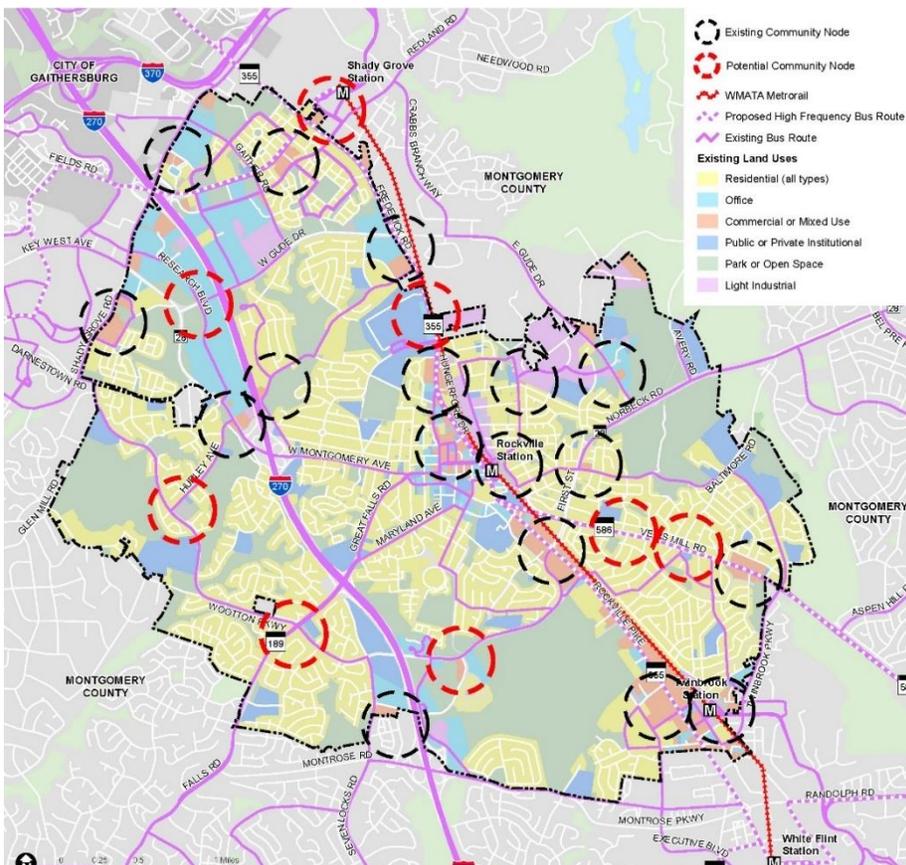


Figure 31: Rockville Comprehensive Plan Community Node Concept

- **Sustainable Transportation:** The Comprehensive Plan’s transportation vision is for Rockville to continue to transition to a more-walkable community and contribute to regional efforts to create safe, efficient, and environmentally sustainable mobility. The Environment Element also includes an action to advocate for State and federal programs that reduce air pollution and greenhouse gas emissions. A few examples of Comprehensive Plan transportation policies and actions supporting the CAP include:
 - Policy 13 Monitor and plan for emerging transportation technologies and practices.
 - Action 13.4 Explore opportunities to promote use of electric bicycles, and other small personal transport modes, and determine appropriate policies for their use on city roads and trails.
 - Policy 14 Reduce carbon emissions from cars, trucks, and buses operated by Rockville residents, businesses, and government.
 - Action 14.1 Actively promote a shift to non-polluting modes of transport.
 - Action 14.2 Support improved and new transit service and programs to increase the use of transit and also to make transit carbon neutral.
 - Action 14.3 Create a plan for a transition to electric cars and trucks that outlines steps the City will take to become an electric vehicle-friendly city by encouraging the use of zero-emission vehicles, including expanding public electric charging stations, issuing special parking placards for electric vehicles, and adopting new building code requirements for electric vehicle charging stations in new construction and existing office, commercial, and multi-unit residential buildings.
 - Action 14.4 Seek grant funding and other financial assistance from regional governments and utilities to support electric vehicles and charging stations.
 - Action 14.5 Transition the City fleet to low or no emission vehicles as soon as possible, while considering the operational needs of specialized fleet vehicles.
 - Action 14.6 Reduce vehicle miles traveled and transportation related emissions in the City’s municipal operations, as well as that of the broader Rockville community.
 - Action 14.7 Reduce off-street parking requirements to disincentivize driving, especially in mixed-use, high density, and transit-served areas.
 - Policy 15 Work with State and County transportation agencies to mitigate the impacts to Rockville of regional traffic and congestion.
 - Action 15.1 Protect and enhance Rockville’s property, neighborhoods, and environment while supporting solutions to regional traffic congestion on I-270 and I-495.
 - Action 15.2 Monitor and coordinate with Maryland Department of Transportation State Highway Administration (MDOT SHA) regarding any projects to alter I-270 through Rockville. The City strongly supports mass transit, transportation demand management (TDM), and other alternative solutions to traffic congestion on I-270 as opposed to widening or the creation of toll lanes on I-270 as a remedy.
 - Action 15.4 Support projects, standards, initiatives, and investments at the State and County level that promote a shift to travel modes other than private vehicles and support their related environmental benefits.

- **Conserve and Restore Environmental Areas:** The Comprehensive Plan promotes not only smart growth and green building codes, but also green site design and sustainable management of the urban forest network. Trees and habitat protection has the potential to increase carbon sequestration, clean the air, provide cooling shade that reduces air conditioning use, and increase property values. A few examples of Comprehensive Plan policies and actions supporting environmental protection and restoration and support CAP goals include:
 - Policy 10 Preserve and enhance tracts of contiguous forest areas and tree canopy along stream valley buffers, wildlife corridors, and adjacent to existing forest networks.
 - Action 10.1 Maintain City-owned forest preserves through an ecosystem approach to forest management that considers the whole forest and its long-term viability.
 - Action 10.3 Work with regional agencies to reduce invasive plants, insects, diseases, and pathogens that impact our urban forest.
 - Action 10.5 For new development on land with existing forest stands and/or significant tree canopy, the City should encourage the preservation of tree canopy and natural features to the greatest extent possible, through site and architectural design that integrates existing natural features and/or minimizes impacts, protective construction measures, and development review incentives or relief, especially for development projects in Planning Areas 11 (Woodmont) and 12 (Tower Oaks).
 - Policy 11 Continue to assess tree canopy coverage, the health and condition of city forests and landscape areas, and maintain and enhance a robust urban tree canopy.
 - Action 11.1 Continue to monitor Rockville’s tree canopy.
 - Action 11.4 Implement policies and programs that encourage the use of native plants and sustainable landscaping practices and discourage invasive species.
 - Policy 12 Update the Forest and Tree Protection Ordinance to incorporate flexibility in decision-making when there are two or more environmental goals in conflict.
 - Action 12.1 Revise the Forest and Tree Protection Ordinance to: 1) consider context; 2) find a balance, including analyzing costs, benefits and trade-offs, between the number of required trees and City objectives for stormwater management, solar or renewable energy, improved air quality through the reduction of vehicle miles, ‘green’ building features, such as green rooftops, green walls, and solar panels, and tree placement and type; and 3) other important environmental goals.
 - Action 12.2 Update and implement the Street Tree Master Plan to maintain healthy and diverse trees on municipal lands and public streets.
 - Action 12.3 Implement best practices for tree and landscape planting to maintain tree health and growth, provide shade and relief, and add value to streets and private property.
 - Policy 13 Protect and enhance wildlife habitat.
 - Action 13.1 Protect natural areas and priority habitat through City codes and ordinances, land acquisition, conservation easements, land donations, grants, or dedication of streams valley and environmentally sensitive areas.

 Action C-17		Expand education and incentives to support tree planting and maintenance, environmentally friendly landscape conversions, and management of non-native invasive plants on private property			
Objective	Increase biodiversity and carbon sequestration, ecosystem health and resiliency, and improve native wildlife corridors				
Metrics	Number of participating properties, number of measures installed, incentive amounts				
Target	Community carbon sequestration and resiliency	Development Stage		Ongoing	
Lead	Public Works (Environment)	City Upfront Cost		-	
Partners	Recreation and Parks, Planning and Development Services, Community Volunteers	City Operating Cost		Low LOS: \$15,000 High LOS: \$30,000 1 FTE	
GHG Benefit	Resiliency	Feasibility	Health	Equity	Co-Benefits
+	++	++	+	+	Environment, Safe and Livable Neighborhoods

In Rockville, approximately 40 percent of pervious land covered with turf or landscaping is located on private property. Additionally, of the 4,301 acres of tree canopy in Rockville, approximately 79 percent is privately-owned and not protected by forest preserves or easements. Efforts by private property owners are crucial to maintaining and expanding mature trees and tree canopy, creating connected native wildlife habitat, and removing non-native invasive plants to build sustainable and biodiverse ecosystems within the City. These efforts also have a range of climate benefits including increased resilience to storms, floods, and cooling provided by tree canopy. Conservation landscaping creates a more favorable carbon balance through increased carbon sequestration of plants, trees, and healthy soil and reduced emissions from lawn mowing, leaf-clearing, and fertilizer application.

The City has established some private property incentive and education programs including the popular Rockville RainScapes Program, annual native tree and seed giveaways, Green Your Backyard information sessions, Environment & Sustainability email newsletter, and the Rockville Weed Warrior Volunteer program. The City recently opted into the County’s Pesticide Law that restricts the use of synthetic pesticides. However, these programs are currently limited in scope, funding and staff resources.

The City can develop a more inclusive private property education and incentive program that is reshaped to better incorporate equity and climate considerations. The program should take into consideration the goals and findings of a public Green Space Management Plan (Action M-09) related to ecosystem needs and challenges and encourage and assist more property owners to shift to sustainably managed landscapes that restore nature and build climate resilient landscapes. Program components may

Equity Considerations

Programs should solicit feedback and input directly from neighborhood residents about their concerns and needs to help identify ways to direct resources and support to vulnerable communities to support tree planting and maintenance and neighborhood resilience to heat and flooding.

Reduce barriers to participation by featuring outreach materials in different languages, identify measures to defray upfront costs, and address maintenance concerns.

include the following and the level of service (LOS) could be adjusted depending on the available resources and staff support. It is anticipated that additional staff and at least \$15,000 to \$ 30,000 per year would be needed to pilot a comprehensive program of this nature. State grants and outside partnerships could be explored to support program expansion.

- **Reshape the RainScapes Rebate Program** to meet the increasing demand for RainScapes rebates and identify areas for expansion that could better address equity considerations and further incentivize environmentally friendly practices such as tree plantings, native habitats, and non-native plant removal while expanding access and removing barriers for those most affected by climate change. The RainScapes program is currently funded at \$10,000 per year under the Stormwater Fund. Program expansion would increase funding to \$25,000 (net \$15,000 increase) and require adjustments to the existing RainScapes Coordinator position to increase the time spent on program administration.
- **Continue community native plant and seed giveaways** to increase access to native and food-bearing trees, plants, and seeds. Staff should explore options for modifying the events and building partnerships with neighborhoods, community centers, and faith-based groups to provide native plant resources and support directly to residents who will be most affect by climate change.
- **Create a Tree Stewards Program** to provide outreach and education, volunteer and training opportunities, and tree planning and maintenance incentives to promote, enhance and increase tree canopy on private property. Tree Stewards programs existing in several communities (Arlington, Richmond, Ann Arundel, etc.) where urban forestry coordinators oversee the following:
 - **Outreach and education** that focuses on how community members can be active stewards of trees and forests; including tree selection, planting and care and threats to trees. Identify and build partnerships with local organizations and community members that can serve as “tree champions” in Rockville’s neighborhoods.
 - **Volunteerism and training** opportunities focused on tree planting and care in Rockville. Volunteer opportunities could include tree planting, watering, pruning, mulching, non-native invasive (NNI) management, and tree inventory and mapping. This could leverage partnerships with outside organizations and existing volunteer programs. For example, Rockville Weed Warrior volunteers could lead or support a NNI vine and tree survey and conduct outreach to improve tree health on private property.
 - **Tree planting and maintenance incentives** that provide grants or services for residents, non-profits, schools, institutions, and other community groups and associations to reduces barriers by eliminating the upfront costs, the physical challenge of tree planting, and concerns for long term maintenance. For example, the County’s Tree Montgomery program is model that uses development fees to plant trees on private property and maintain them for three years. The program could also consider resources for preservation, sustainable management, invasive species management, prevention and repair of storm damage, and tree replacement.





Develop a Green Space Management Plan for public lands to assess and restore trees, forests, meadows, stream valleys and wetlands

Objective	To increase biodiversity and tree canopy cover and improve soil health to increase systems' resiliency and carbon sequestration capability				
Metrics	Milestone/Status update				
Target	Resiliency, Carbon Sequestration	Development Stage	Proposed		
Lead	Recreation and Parks	City Upfront Cost	\$115,000 consultant		
Partners	Public Works (Environment)	City Operating Cost	Implementation cost to be estimated in plan		
GHG Benefit	Resiliency	Feasibility	Health	Equity	Co-Benefits
+	++	++	+	+	Environment, Stewardship of Infrastructure

The City owns and maintains more than 1,100 acres of parkland. Parkland uses vary from actively maintained ball fields, playgrounds, community gardens, and landscaped parks to passively managed forested stream corridors, meadows, and wetlands. Climate change impacts habitats and ecosystem biodiversity, which further stresses habitats already impacted by deer overpopulation, requiring adaptation to changing weather patterns, invasive species, pests, and diseases. Enhanced open space management can improve ecological health and services, play a role in mitigating the impacts of climate change, support ecosystem resiliency, and enhance human health and recreational opportunities. Managed correctly, these areas can provide an opportunity for increased carbon sequestration, reduce emissions from maintenance activities, and mitigation of environmental hazards like air and water pollution, heat islands, and the impacts of extreme weather events (heatwaves, extreme rainfall or flooding).

The Comprehensive Plan recommends the City develop a Green Space Management Plan (Action 11.2) to evaluate, and enhance, where possible, habitats on public lands, including urban forest canopy. The goals are to increase ecosystem health, biodiversity, resiliency, and carbon sequestration capacity. The plan will define a strategy to maximize environmental returns by curbing loss of mature trees and existing habitats, enhancing the quality and diversity of habitats, and identifying areas for expanding habitat and tree canopy where possible. The plan can also act as the general mitigation plan required under Maryland's Forest Conservation Act to enable a municipality to collect a fee-in-lieu during development. The CAP technical consultant estimated plan development would cost \$115,000. The plan would identify staff and resources needed for implementation. The plan could be developed in coordination with habitat/tree expansion programs on private property to promote integrated and enhanced tree canopy and habitat (C-17).

Equity Considerations

The plan should identify ways to:

- Ensure socially vulnerable neighborhoods have increased tree canopy coverage and access to high-quality diverse open spaces.
- Explore partnerships and opportunities to incorporate food forests and edible landscapes into public spaces to foster biodiverse, food-bearing trees, shrubs and perennial plants. Communities that have incorporated these permaculture practices in open space management have reported equity, educational, nutritional, health, and environmental benefits.
- Incorporate a biophilic design approach to connect people with plants and nature.