6.   Healthy and Sustainable Environment

Issues and Challenges

Climate change is the most serious environmental and public health issue to confront our society. The negative impacts of climate change are diverse and far-reaching: heat waves, increased storm frequency and intensity, flooding, stormwater runoff and stream erosion, urban heat island effects, droughts, loss of species and habitat and many others. Economic impacts include increased energy costs, infrastructure failure and damage, impacts to outdoor labor, recreation, tourism, food production and financial loss of ecosystem services. These impacts are only projected to increase. Disadvantaged communities bear a disproportionate share of these negative consequences.

Public health issues are exacerbated by climate change and they are intertwined with the quality of the physical environment. Higher temperatures have health implications already evident in cities.
Climate change will affect the occurrence of infectious diseases and may impact our housing and infrastructure as well as restrict access to healthcare.[44]

Opportunities to eat well and be active are impacted by the quality of neighborhoods and the availability of services and opportunities. The inequitable distribution and accessibility of job opportunities, public transportation, parks and recreation facilities and healthy food choices lead to inequitable health outcomes. Sedentary lifestyles contribute to obesity and related health issues. Except for much of our parks system, Montgomery County is not designed to encourage and promote physical activity or active personal transit (walking and cycling to destinations). County roads and sidewalks are not safe or comfortable for people exercising, running errands or commuting on foot or bicycles. Our built environment makes it difficult to incorporate movement into our everyday lives.

Montgomery County is a leader in protecting and enhancing the natural environment through a broad range of planning initiatives, policies and regulations to protect sensitive environmental resources. But many indicators such as stream water quality, forest loss, loss of plant and animal species, and increased imperviousness are worsening. As the population expands and the region continues to develop, pressures on our natural systems increase.

Vision for Healthy and Sustainable Environment

In 2050, Montgomery County has a culture of sustainability embraced by residents, workers, businesses and government agencies. Living in complete communities, residents work, play and obtain most of their basic needs close to their homes. Biking, walking and public transit are the major modes of travel in urban areas and are common elsewhere. Reliance on cars is significantly reduced. Virtually all vehicles owned and operated in the county are zero emission vehicles. Using a compact form for all new growth, infill and redevelopment have resulted in complete communities and reduced the amount of impervious surface. Tree canopy and green areas exist in places where none did before, providing cleaner air and water and supporting and encouraging outdoor physical activity, thereby improving health for all residents. Climate change is factored into all land use and planning initiatives resulting in highly resilient and adaptive natural and built environments. The county pursues best practices and innovative technologies to absorb more greenhouse gases than it generates. Most buildings are net-zero energy buildings. All energy used in the county is 100% clean energy. Reuse, recycling and composting of food and yard waste results in very little municipal solid waste generation.

Montgomery County provides thriving, livable and healthy habitats for both humans and wildlife. Green resources and the many benefits they provide are distributed equitably throughout the county. Creative programs and public investments ensure that communities that once experienced deficits of these resources are just as cool, green and healthful as the rest of the county. Residents benefit from improved health outcomes no matter where they live. The county's parks and open spaces provide or enable essential environmental benefits including tree canopy and shade; carbon dioxide pollution reduction; and clean water, air and wildlife
habitat. Comprehensive watershed management and park stewardship efforts safeguard the health of our natural areas and improve water quality.

Urbanism as the Key to True Sustainability

Montgomery County has been a pioneer in protecting and preserving its natural environment. One of its significant achievements--the Agricultural Reserve—more than one-third of the county's land area (35.1%). It is also the origin of many of the streams which have the best water quality of any in the county. Another 13.8% of the county is designated parkland (some of it in the Agricultural Reserve). Together, these two land uses and numerous regulatory mechanisms and policy initiatives have put the county in the forefront of environmental protection in the country. In 2017, Montgomery County was the first suburban jurisdiction to pass a resolution declaring a Climate Emergency and committing the county to reducing greenhouse gas emissions to zero by 2035.

The county was also a leader in adopting smart growth principles in its planning and land use policies, which have helped reduce and contain the negative environmental impacts of new development. It started concentrating new development around Metrorail stations through the implementation of Central Business District zones in the early 1970s and later through mixed-use centers in the 1990s.

We must continue to address the threat of climate change and adjust the county's planning framework to help achieve the goal of net-zero emissions by 2035.

Thrive Montgomery 2050 is proposing to embrace "urbanism" and a compact form of development to reduce its carbon footprint. (See more on compact development in the Diverse and Adaptable Growth chapter). A compact form of development implies having multiple options for transportation such as walking and biking, without relying on a car. This will also promote more active lifestyles as it allows us to provide more land for parks, trails and other recreation spaces. It will also help us achieve complete communities that emphasize a mix of uses, pedestrian and bicycle facilities and 15-minute living.

It is possible to accomplish all these goals – they are not mutually exclusive. For example, a compact form of development can reduce stormwater runoff and heat island effects using green roofs, other green cover, and building design and orientation to reduce urban temperatures.
And of course, we must continue to protect forests, wetlands, meadows, and streams as they are the principal components of our natural areas and act as the lungs, backbone, and circulatory systems of our natural environment. Street trees, recreational parks and other green spaces provide similar benefits in the built environment. Both ecosystems provide clean air, water, habitat, recreation, and other needs that are vital for human, animal, plant, and economic health.

Goals, Policies and Actions

Goal 6.1: Use a compact form of development to create and support a variety of urban, suburban and rural places that benefit human health through active lifestyles, reduction in carbon footprint, mitigation of climate change and protection of natural resources.

Policy 6.1.1: Accommodate future growth through a compact form of infill and redevelopment to create long-term sustainability for both human and environmental health.

Action 6.1.1.a: Develop compact development strategies suitable for different parts of the county to reduce building footprints as much as possible and create walkable, bikeable neighborhoods. Use smart growth principles and best practices to increase the supply of open spaces for active recreation.

Action 6.1.1.b: Develop urban environmental guidelines to incorporate green features and amenities in urban areas that will address climate change, provide cleaner air, water and shading and cooling features, and improve human health.

Policy 6.1.2: Plan in three dimensions. Creatively integrate and use different building levels, from below ground to rooftops, to provide sustainability benefits in densely developed areas within the limited space available. Examples include use of underground spaces for stormwater, utilities, and tree beds; use of terraces, building step-backs, and rooftops for gathering spaces and vegetation; and use of building faces and rooftops for solar energy generation.

Policy 6.1.3: Support the concepts of compact form of development and complete communities to avoid sprawl. Limit expansion of new roads and of the sewer and water system to direct new development to areas served by existing infrastructure.

Goal 6.2: Mitigate, reduce and adapt to climate change through land use and infrastructure that is more resilient to climate change and moves the county to a climate- positive[45] future.

Policy 6.2.1: Use compact, dense, urban development to help reduce, mitigate and adapt to climate change. Use building and site design and other development features to address the effects of extreme temperatures, increased and more frequent flooding and extreme weather events.

Action 6.2.1.a Develop guidelines and standards for climate-sensitive design principles and materials for new public and private development projects. Ensure these standards include strategies to maximize greenhouse gas reductions in the built environment.

Policy 6.2.2: Meet the county's greenhouse gas (GHG) reduction goals and maintain the GHG reductions over the long-term through innovative land use, green approaches, and design standards and practices. Incorporate recommendations from the county's Climate Action Plan[46] to reduce GHG emissions in planning and development initiatives, regulatory controls, and strategies. Collaborate with regional partners to seek and implement climate change solutions.

Action 6.2.2.a: Develop incentives such as a carbon tax or fee to reduce greenhouse gas emissions.

Action 6.2.2.b: Increase the number of required electric vehicle charging stations for all new development.

Action 6.2.2.c: Create or choose a tool to apply during the planning process to evaluate land use options to meet our GHG reduction goals.

Policy 6.2.3: Upgrade the county's water supply and distribution systems to withstand the effects of climate change and continue to meet the county's current and long-term needs for safe and adequate drinking water supply.

Policy 6.2.4: Enhance the county's climate resilience by planning and designing new utility infrastructure, including electrical, water and sewer, stormwater and communications, and other infrastructure improvements that incorporate climate change mitigation and adaptation strategies to ensure service continuity during major hazard events.

Action 6.2.4.a Create performance standards for utility infrastructure to mitigate and adapt to climate change and track the effectiveness of climate adaptation strategies for infrastructure.

Policy 6.2.5: Reduce the county's energy demand and generate all energy needs by clean, efficient and renewable methods that are more climate resilient, less centralized in generation and distribution, and increasingly able to use more local sources of power.

Action 6.2.5.a: Identify and evaluate opportunities for siting alternative energy production and storage systems.

Action 6.2.5.b: Identify innovative ways to incorporate energy production into new building design.

Policy 6.2.6: Retrofit existing development and neighborhoods to reduce heat island effects by better shading and cooling.

Policy 6.2.7: Expand the capacity of the Agricultural Reserve to provide essential contributions to the county's efforts to reduce, mitigate and adapt to climate change.

Action 6.2.7.a: Create mechanisms to encourage and support sustainable agricultural practices that enhance soil and environmental benefits, provide greater resilience to climate change disruptions and promote healthier farming communities.

Policy 6.2.8: Identify, mitigate or eliminate existing environmental injustices within affected communities by funding and conducting public environmental mitigation and enhancement projects and creating incentives for private entity mitigation and cleanup.

Policy 6.2.9: Strive to eliminate municipal solid waste through reduced waste generation, resource reuse, recycling and composting.

Goal 6.3: Improve health and well-being for all Montgomery County residents and address the health disparities that currently exist.

Policy 6.3.1: Incorporate a "Health in all Policies"[47] approach into policies, programs and practices affecting all aspects of the built environment. Develop cross-agency collaborations to promote health equity for all residents.

Action 6.3.1.a: Develop Health Impact Assessment tools to be used at all levels of decision making specific to each agency and to inform cross-agency collaboration. Predict and advance the health and well-being of our residents using technological innovations for data gathering.

Policy 6.3.2: Create convenient and safe opportunities for physical activity for residents of all ages, cultures, abilities and income levels. Include walking, biking, informal movement, activity and recreation opportunities within communities. Ensure safe, convenient connections to parks and open spaces.

Action 6.3.2.a: Expand Montgomery Planning's Recreation Guidelines and requirements to include design guidelines for informal activity opportunities and needs.

Action 6.3.2.b: Identify communities with chronic health conditions and prioritize them for retrofitting to improve deficiencies in access to physical activity opportunities.

Policy 6.3.3: Ensure that all residents breathe clean air and are not exposed to an unhealthy environment.

Action 6.3.3.a: Reduce vehicle miles traveled and the use of single-occupancy cars[48].

Action 6.3.3.b: Develop land use guidelines to reduce exposure to air pollution from traffic and other emissions sources.

Action 6.3.3.c: Encourage owners and managers of existing buildings to retrofit indoor air handling systems in residences and schools to increase indoor air quality.

Policy 6.3.4: Consider the health threats of climate change when creating and implementing climate adaptation strategies. Partner with health-focused organizations on climate adaptation projects. Analyze health outcomes data, particularly for marginalized communities and other residents with greater health challenges, as part of developing mitigation and adaptation projects to reduce exacerbated impacts of climate change on vulnerable residents' health.

Policy 6.3.5: Promote active and healthy lifestyles and active transportation, including walking and biking for all segments of the population in all parts of the county, by maintaining and improving built and natural environments. This includes ensuring that all county residents in urban and suburban communities have access to a park or open space within walking distance from their homes. Enhance and protect our park system of natural and built elements to promote and increase opportunities for healthy active lifestyles and physical fitness. Foster human-to-human and human-to-nature connections.

Policy 6.3.6: Use master plans and the regulatory review process to protect communities from excessive noise, especially in places where it is not possible to mitigate all noise impacts.

Policy 6.3.7: Achieve nighttime light levels near natural areas that protect wildlife and enhance our ability to enjoy the night sky.

Action 6.3.7.a: Review County lighting standards for potential revision to address energy efficiency, fixture design, and other considerations that avoid light spillover into adjacent areas.

Action 6.3.7.b: Study Dark Skies Initiative[49] and similar approaches to limit light pollution.

Goal 6.4: Provide all residents with safe, convenient access to affordable, healthy foods.

Policy 6.4.1: Provide safe, convenient opportunities to obtain affordable fresh fruits and vegetables in all neighborhoods.

Action 6.4.1.a: Evaluate existing public and private open space and facilities and identify opportunities for the inclusion of community gardens and the development of urban farms.

Policy 6.4.2: Avoid concentrations of sources of unhealthy food, particularly in communities with chronic health conditions.

Policy 6.4.3: Study and evaluate options for creating a comprehensive food system including appropriate locations for food crop growth, storage, processing and distribution.

Goal 6.5: Preserve, restore, enhance, expand and sustainably manage natural and other green areas to support human, animal and plant life. Provide appropriate and accessible outdoor recreation opportunities for all.

Policy 6.5.1: Minimize imperviousness by limiting and removing existing impervious surfaces while respecting goals, needs, and conditions in different parts of the county.

Action 6.5.1.a: Research and create guidance for innovative development, retrofit and construction designs and techniques that minimize imperviousness.

Policy 6.5.2: Protect, enhance and increase the coverage, connectivity and health of natural habitats such as forests, non-forest tree canopy, wetlands and meadows through land acquisition, easements, habitat restoration and ecosystem management.

Action 6.5.2.a: Conduct a study to determine and establish appropriate forest and non-forest canopy goals to protect natural and human health.

Action 6.5.2.b: Conduct a study of the Special Protection Area (SPA) program law, regulations and implementation and determine what changes are needed to achieve the original SPA program goals and objectives.

Action 6.5.2.c: Study the County Forest Conservation Law and regulations intended to preserve specimen and champion trees. Identify improvements to the law and regulation's effectiveness and efficiency.

Action 6.5.2.d: Develop a long-range forest quality management plan to address fragmentation, deer pressure, invasive threats and the forest's capacity to withstand and mitigate climate impacts.

Policy 6.5.3: Design and construct transportation and other infrastructure improvements using environmentally sensitive methods.

Policy 6.5.4: Preserve and enhance privately owned forest land through incentives and other approaches such as easements, forest mitigation bank programs or transfer of development rights.

Policy 6.5.5: Reduce and manage invasive and other problem species to levels that pose no significant threats to green areas.

Policy 6.5.6: Improve water quality and stream conditions in existing and new development through green enhancements and retrofits such as green streets, increasing tree canopy and green stormwater management.

Action 6.5.6.a: Develop incentives for developers to restore existing streams and daylight piped streams during the redevelopment process.