

M-NCPPC Montgomery County

**Fiscal Year 2023-2027
Sustainability Plan**



**Montgomery
Planning**

ACKNOWLEDGMENTS

A sincere thank you is given to the M-NCPPC staff members who contributed to the development of the Sustainability Plan through participation in the working groups, revision process, and data collection and analysis. Because of you all this Plan is holistic, well-rounded, and detailed. It represents a wonderfully collaborative effort that will ensure M-NCPPC can continue to enhance the lives of current and future generations.

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Images:

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INTRODUCTION



200 year old sycamore tree at Locust Grove Nature Center

The Montgomery County Department of Parks and Montgomery County Department of Planningⁱ are part of the Maryland National Capital and Planning Commission (M-NCPPC or ‘the Commission’), a bi-county agency created by the Maryland General Assembly in 1927. The agency, which is chartered by the State of Maryland, has authority over land use regulation, transportation planning, and the management and operation of parks in Montgomery County and Prince George’s County. M-NCPPC’s work has a significant impact and reach into the health of the local environment, but also to that of the communities the Commission serves.

Since M-NCPPC’s inception, the Commission has been a leader in protecting and stewarding natural resources and planning great communities that are vibrant, livable, accessible, and sustainable. The Commission’s history of commitment to sustainability and protection of the environment has endured now for almost hundred years. The Commission began codifying its commitment to sustainability with the 2012 amendment to M-NCPPC Practice 6-40: Sustainability Standards, which called for the creation of Sustainability Plans for each county. Shortly thereafter, M-NCPPC established its first full time staff positions in sustainability and created the Bi-County Sustainability Committee. Since 2012, many of M-NCPPC’s sustainability efforts have focused on strategies to reduce the Commission’s greenhouse gas emissions as well as other operational aspects of sustainability.

The most recent 2022 amendments to Practice 6-40 established a recommitment to sustainability by the Commission, which lays the foundation for a more integrated approach to sustainability through a new framework. The amended Practice establishes goals under 3 pillars of sustainability: environmental responsibility, social equity, and economic vitality. The new framework will continue to advance sustainable operations throughout the Commission while also advancing its reach in other areas of sustainability that incorporate concepts of fairness and equity; integrate principles of diversity, equity, and inclusion; and embrace outreach and community participation through effective planning and community development.

ⁱ In this document, the departments are often referred to individually as *Montgomery Parks* and *Montgomery Planning* and collectively as the *Montgomery Parks and Planning Departments*, or simply *Parks and Planning Departments*.

M-NCPPC has increased its engagement in regional sustainability efforts within the past ten years. Specifically in Montgomery County, the Parks and Planning Departments have been engaged in county-wide sustainability efforts, such as the creation of the first Montgomery County Climate Action Plan. As an agency with authority over land use regulation and management of a large park's operation, the Departments play a critical role in helping the County achieve its sustainability goals by achieving their own.

Sustainability at M-NCPPC advances initiatives that benefit the environment, the communities we serve, and fiscal responsibility. The *M-NCPPC Montgomery County FY23-27 Sustainability Plan* (also referred to as 'the Plan') will evaluate how both the Parks and Planning Departments provide services, amenities, and opportunities, from initial design through long-term maintenance, to ensure the organization is supporting organizational and regional sustainability. The Plan celebrates the successful legacy of sustainability initiatives implemented by the Departments, as well as forges a path towards a more integrated approach to sustainability for the future.

EXECUTIVE SUMMARY

In July of 2022, M-NCPPC amended Practice 6-40 to better incorporate all three pillars of sustainability: environmental responsibility, social equity, and economic vitality. This focus shift and inclusion identifies the globally recognized intersection of these issues and better reflects M-NCPPC's commitment to enhancing the lives of current and future generations. The new version of the Practice removed outdated and prescriptive language, as to serve more as a guiding framework. This allows the Sustainability Plans of each county to be flexible to ever changing policies, sustainable technology, and current scientific research and understanding. The full newly amended Practice, which sets overarching sustainability goals for the Commission, is located within Appendix A.

This Plan prescribes methods Montgomery Parks and Montgomery Planning will undertake within the next 5 years, within nine focus areas. The Plan also evaluates current progress the Departments have made towards sustainability goals by evaluating programs and projects implemented and reporting and analyzing certain sustainability metrics. The recommended actions within the Plan were created through internal stakeholder engagement workshops with staff across both Departments. The goal of the workshops was to identify opportunities that were high impact and leverage existing initiatives to implement sustainability projects and programs.

While Practice 6-40 builds the overall framework of the Plan, other key Plans, such as the Thrive Montgomery 2050 General Plan (Thrive), 2022 Parks, Recreation, and Open Space (PROS) Plan, and Montgomery County Climate Action Plan (CAP), were incorporated to ensure the objectives and goals of this Plan were aligned. Thrive 2050 and the 2022 PROS Plan are both guiding documents that influence the Departments' priorities and goals. This Plan serves to review the goals and recommended actions of both the new General Plan and PROS Plan and address how they can promote Commission Sustainability and County Climate Action goals.

The County CAP was in direct response to the Montgomery County Council's Emergency Climate Mobilization Resolution and serves as a road map to achieve an emissions free county by 2035. The CAP includes goals and actions aimed at mitigating greenhouse gas emissions and reducing climate risks. A critical component to successful implementation of the CAP is direct collaboration between County Government and external agencies like M-NCPPC. The Parks and Planning Departments have been actively involved in the countywide climate action planning and implementation. In recognition of the existential threat of climate change and the important role of both Departments in regional climate action, this Plan will provide recommendations to:

- Reduce GHG emissions
- Help the communities we serve become more resilient to climate change
- Increase the adaptive capacity of the organization to climate change

This Plan serves as a continuation of the Parks and Planning Departments' commitment to countywide climate action by ensuring the recommendations are consistent with the CAP.

The Sustainability Plan builds upon the achievements of the Parks and Planning Departments and identifies opportunities for continued progress towards specific goals that enhance both human and ecological health of the communities we serve. The Plan will also review the operations of the Departments and provide recommendations that reduce the ecological footprint of those operations. This Plan advances existing sustainability commitments of M-NCPPC by establishing goals in nine primary focus areas. Each focus area has a set of goals and prioritized actions to achieve those goals. There are also recommendations included to strengthen methods for tracking and reporting progress over time.

ROLE OF THE PARKS AND PLANNING DEPARTMENTS

Montgomery Parks and Planning Departments work collaboratively under the agency and governance of the Maryland-National Capital Park and Planning Commission. Both Departments have unique individual roles within the County related back to their missions, including separate work programs, staff, and budgets but share in their desire and efforts to make M-NCPPC a leading agency in the area of sustainability for Montgomery County.

Montgomery Parks Mission:

“Protect and interpret our valuable natural and cultural resources; balance the demand for recreation with the need for conservation; offer a variety of enjoyable recreational activities that encourage healthy lifestyles; and provide clean, safe, and accessible places for leisure-time activities.”

Montgomery Planning Mission:

“To improve quality of life in Montgomery County by planning the natural and built environments for current and future generations.”

Due to the varying roles and missions of each department, the level of recommendations for the Departments within the nine different focus areas vary. Montgomery Parks owns and operates hundreds of buildings spread across 420 parks and manages over 37,000 acres of parkland, over 250 miles of trailsⁱⁱ, and more than 500 utility accounts. Managing hundreds of facilities and a substantial amount of land results in Montgomery Parks having a larger operational footprint than Montgomery Planning. Even though Montgomery Planning occupies office space in the Wheaton Headquarters building and utilizes fleet vehicles, the Facilities Management Division within Montgomery Parks operates and manages those assets. Recommendations for more sustainable management of facilities and operations will almost solely mention Montgomery Parks as a lead implementer, as the scope of work is under that Department.

This plan will also be evaluating both Department’s roles in the ecological health, wellbeing, and climate resiliency of communities through land-use planning and policies. As well as their roles in the equitable distribution of resources, such as facilities, parks, natural areas, programs, and facilitation of inclusive community engagement in park and community planning. The Departments play similar yet different roles in land-use development and planning. Montgomery Planning develops community and countywide plans, reviews development applications, and updates land-use and zoning regulations, which impacts communities’ economic, physical, and social environments. Inherently Montgomery Planning has a larger role in determining long term countywide community development. Montgomery Parks still plays a significant role; it is just more narrowed, and parks focused.

ⁱⁱ Number of parks and park assets, such as trails and acres of land, referenced throughout this document are based on data from the Montgomery Parks Green Tree Report (updated in December 2022) located in Appendix B.

CREATION OF THE PLAN

The creation of the Sustainability Plan involved months of research and stakeholder engagement. The goal throughout the process was to identify high impact recommendations that leveraged current resources and initiatives throughout the Commission, while creating internal buy-in from staff in the beginning of the process. This process included both a research and staff engagement phase.

During the research phase numerous M-NCPPC and County plans, policies, and programs related to sustainability were reviewed. This review evaluated the current objectives, priorities, and goals of each plan or policies. This analysis aided in developing a structure and main objectives of the Plan to ensure it was aligned with current goals and priorities of the Departments and County.

The Sustainability Plan suggests a wide range of recommendations that involve a high level of collaboration and coordination between all Departments and Divisions of the organization. The staff engagement process was identified as critically important since the Plan covers a multitude of sustainability topics that should be informed by staff with specific subject level expertise. Staff were given an opportunity to build recommendations seen within this Plan through interactive working group meetings.

Eight different working groups were created and made up of staff from both the Parks and Planning Departments who were identified by Sustainability Team and Division Chiefs. The working groups had staff from all levels of the organization. Communication at every phase of the engagement process was a priority that was maintained.

The finalized working groups had over 100 staff members who were then contacted via email to provide a thorough breakdown of the upcoming project process. Each group would meet three times over the course of roughly six weeks – totaling 24 meetings in that short time span. The first meeting was introductory where the Sustainability Team presented the revised Practice 6-40, the overall goals of the staff engagement process, and the specific objectives of that working group. The other two meetings were 2-part interactive working meetings:

Working Meeting 1 – Opportunity Identification:

Team members used an online whiteboard and were tasked with filling out an opportunity matrix. Staff recorded their ideas and knowledge of existing initiatives on the matrix for various objectives of their working group. The ideas were grouped into four categories: Current Initiatives - Accomplishments and Success; Current Initiatives – Challenges; Expansion and Improvement of Current Initiative; and New Initiatives.

Working Meeting 2 – Feasibility Assessment:

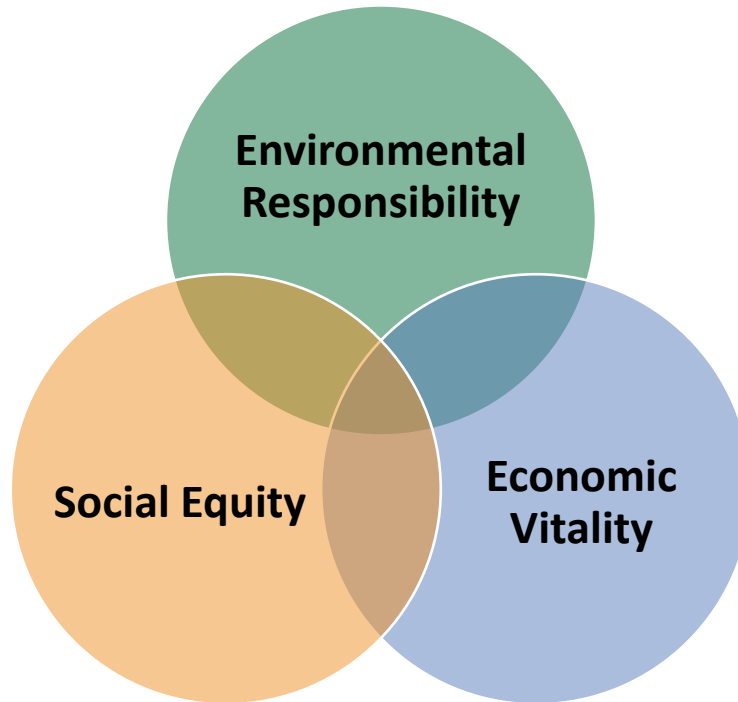
The Sustainability Team consolidated a list of proposed actions from the ideas suggested in the opportunity matrices to conduct a more in-depth feasibility assessment. The working groups reviewed the proposed actions and identified resource needs for implementation, support for the action, as well

as the level of impact of the action towards the goals of that focus area of the Sustainability Plan. After the meeting all working group members were sent a survey to rank each action on ease of implementation and impact to identify high opportunity actions.

The information and data obtained from the working group meetings was analyzed and influenced the recommended actions included in this Plan. The guidance and advice provided has been pivotal to the overall development of the Sustainability Plan. The coordination between multiple Divisions and Departments will continue as implementation of the Plan moves forward.

THE PILLARS GUIDING THIS PLAN

Figure 1.1 – Pillars of Sustainability



This is the first Sustainability Plan created under the new framework built by the amended Practice 6-40. Before the 2022 amendments, the Practice 6-40 included goals and targets that were almost solely focused on the environmental component of sustainability. To reflect better the mission of M-NCPPC to enhance the lives of current and future generations and be in line with the global recognition of the interconnection of these issues, the new version of the Practice is divided into 3 pillars: environmental responsibility, social equity, and economic vitality.

In 2015, the United Nations released the 2030 Agenda for Sustainable Development, which was a transformative plan of action based on 17 Sustainable Development Goals (SDGs). The agenda seeks to integrate and balance the three dimensions of sustainable development—economic, social, and environmental—in a comprehensive global vision. The SDGs recognize that global challenges such as poverty, inequality, and environmental degradation can, and must be solved collaboratively to create a prosperous and sustainable world. The UN has called on all sectors of society to mobilize for action within this next decade, including local government.

The goals set by the SDGs are in line with the overall mission of M-NCPPC, which is evident in the work happening in both counties. In Montgomery County, Montgomery Parks has worked actively toward SDG Goal 15: Life on Land by protecting thousands of acres of critical terrestrial habitat through the acquisition of land in stream valleys. The Montgomery Planning's new General Plan, Thrive Montgomery 2050, is directly related to SDG Goal 11: Sustainable Cities and Communities by integrating Thrive's

three pillars of environmental resilience, community equity, and economic competitiveness into all levels of planning in the County. Although Practice 6-40 is not organized into the specific SDGs, the expansion of the Practice to include social equity and economic vitality as goals of sustainability for M-NCPPC positions the Commission to work more collaboratively towards a common goal of sustainable development.

Below are the goals/objectives of the 3-pillars of sustainability, as defined by Practice 6-40:

Environmental Responsibility: To protect, restore, and responsibly utilize resources while eliminating unnecessary waste.

Social Equity: The fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the distribution and availability of agency program opportunities, services, and facilities. Additionally, to ensure that opportunities to participate in planning and decision-making are equally available to historically under-served populations.

Economic Vitality: To establish equitable guidelines for financial resource stewardship within the context of sustainability initiatives and policies. The objective is to strengthen project viability and engage leadership in support of strategies that improve economic opportunity in service area communities inclusive of under-represented populations.

The recommendations in the Plan are organized to achieve all three overarching objectives of the 3-pillars of sustainability. The interconnection of the pillars is reflected in the recommendations and goals that often strive to achieve the objective of two or more pillars.

SUSTAINABILITY PLAN STRUCTURE

Related to the three primary objectives, the plan is separated in nine different focus areas. Each focus area is broken up into three sections:

Introduction:

Describes the focus area, goals of the focus area, and the role of each Department in achieving those goals.

Current Progress and Assessment:

Includes the projects, policies, and programs that have been implemented or are currently in place and support the goals of the focus area. Some chapters include specific sustainability metrics.

Goals And Recommended Actions:

This section is separated by the goals of the focus area. Each goal has a list of recommended actions, which names at least one lead Department or Division.

- **Goals:** Are big picture overarching ambitions that include the indicators of success.
- **Recommended Actions:** Explain how the agency will achieve each of the goals.
- **Lead:** The Department(s) or Division(s) that would be involved in action development and implementation.
- **Indicators:** Metrics or other indicators of progress we will be measuring to assess the achievement of sustainability goals and recommended actions within the focus area.

The indicators in the Plan will need to be further refined over time, especially for goals that may be more difficult to track and connect to specific metrics. This Plan includes recommendations related to the creation of tools to better track the success of the recommended actions towards achieving goals of the Plan.

Thrive Montgomery 2050 already includes metrics that address the goals within the Plan to Thrive focus area and will be tracked through a separate effort to monitor and evaluate implementation of Thrive Montgomery 2050. Additionally, the Planning Department has requested funding in FY24 to develop a more robust set of metrics and a tracking system for Thrive Montgomery implementation.

FOCUS AREA SUMMARY OF GOALS

Be Climate Friendly & Climate Ready:

- Reduce greenhouse gas emissions associated with operations (climate mitigation)
- Increase resilience to climate change (climate adaptation)

Energize Parks – Lean, Clean, & Carbon Free:

- Improve facility energy performance
- Increase the amount of renewable energy generated on parkland and facilities

Green Our Buildings & Facilities:

- Improve building and facility environmental performance
- Transition building heating systems away from fossil fuels
- Reduce overall utility consumption of building and facilities

Riding To Zero Emissions:

- Transition fleet and equipment to zero-emissions alternatives
- Implement sustainable best management strategies to ensure safety, fuel efficiency, and increased lifecycle of vehicles and equipment
- Encourage staff to engage in sustainable commuting
- Support expansion of publicly accessible electric vehicle (EV) charging in the County

Waste Less, Recycle More:

- Reduce the total amount of waste generated through operations and within the parks
- Increase the diversion rate of organic and non-organic materials
- Implement sustainability-focused policies into the procurement process

Preserve Our Parks, Green Our Grounds:

- Integrate sustainable best management practices (BMPs) into operations and maintenance of managed park spaces
- Retain land-based natural resources within parks
- Enhance ecological services and biodiversity on parkland
- Create sustainable park design standards that enhance ecosystem services and increase resiliency of parks to impacts of climate change

Plan To Thrive:

- Facilitate inclusive community engagement in planning and project development
- Ensure equitable distribution of services, programs, natural environment, and parks

- Implement land-use policies that simultaneously improve environmental quality and public health

Foster Community Action:

- Increase public outreach and program offerings around sustainability
- Increase opportunities for Commission staff to engage in sustainability
- Remove cultural, physical, and economic barriers to accessing Parks' programs, services, and facilities

Invest In Our Future:

- Maintain reliable indicators to measure and track sustainability progress
- Reduce upfront investment of taxpayer monies for sustainability projects
- Increase economic opportunities in services area communities

BE CLIMATE FRIENDLY & CLIMATE READY



Solar and green roof at Wheaton Headquarters building

Montgomery Parks and Montgomery Planning will:

- Reduce greenhouse gas (GHG) emissions associated with daily operations
- Implement nature-based climate solutions
- Ensure facilities, natural resources on parkland, and communities are resilient to climate change
- Design climate actions that advance racial equity and social justice

Montgomery County is already experiencing the impacts of human-caused climate change. Climate change is one of the foremost challenges facing M-NCPPC and our communities. The County’s climate vulnerability assessment has identified increased precipitation, extreme heat, and high winds as posing the highest risks to Montgomery County¹. These global changes pose serious consequences to Montgomery Parks’ daily operations and ability to provide services, and to the County’s natural resources and stormwater infrastructure. Adverse effects of climate change must be addressed in land-use policies to protect residents and critical community resources and services.

Although all residents of Montgomery County will feel the impacts of climate change, certain groups will feel the impacts more acutely. These disparities, described in detail in the Montgomery County Climate Action Plan (CAP), mean that people of color, low-income communities, new immigrants, the elderly, and those with disabilities are disproportionately affected by climate change yet have fewer resources and less ability to cope with, respond, and adapt to climate change². Montgomery Parks and Montgomery Planning have committed to pursuing an equity agenda in all our work, including the Sustainability Plan and climate action.

In December 2017, the Montgomery County Council adopted Resolution 18-974, Emergency Climate Mobilization. The resolution accelerates the County’s greenhouse gas (GHG) reduction goals, calling on

the County Executive, M-NCPPC, and Montgomery County Public Schools (MCPS) to reduce GHG emissions 80% by 2027 and 100% by 2035. The County's first Climate Action Plan, completed in June of 2021, lays out strategic actions towards being an emissions free county and includes strategies to reduce climate risk.

Climate action for the Parks and Planning Departments should include emission reduction strategies within operations. The primary drivers of the Departments' GHG emissions are facility energy consumption, fleet/equipment operations, and employee commuting. Action items that support reducing operational GHG emissions can be found in the [Energize Parks](#) and [Riding to Zero Emissions](#) sections.

Montgomery Parks and Montgomery Planning are members of the county's Climate Leadership Team, which is a group of County government departments, external agencies like M-NCPPC, and municipalities working collaboratively to achieve the goals set forth in the CAP. Departmental representatives provide quarterly updates and annual reports on climate actions. The full list of climate actions within the CAP where Montgomery Parks and Montgomery Planning are listed as a lead or contributing agency are denoted in Appendix C. The Parks and Planning Departments serve similar yet different roles within the county towards achieving the goals set forth by the CAP, which is reflected throughout this plan.

M-NCPPC is listed as a lead agency within many actions related to nature-based climate solutions (NCS). NCS involves conserving, restoring, and managing ecosystems to help adapt to, and mitigate the effects of climate change. As an agency that manages over 37,000 acres of parkland with critical natural resources and sets land use goals and policies throughout the county, both Departments play a critical role in the implementation of NCS. NCS within Parks is directly related to the department's mission to provide a high level of environmental stewardship and includes land conservation, conservation-based land acquisitions, mitigation of public projects, watershed restoration, non-native invasive (NNI) species management, and increasing tree canopy on parkland where appropriate. Montgomery Planning plays a critical role in ensuring land-use decisions in new development and redevelopment throughout the county minimize impervious surfaces where feasible; protect, enhance, and increase the coverage, connectivity, and health of natural habitats such as forests; and protect non-forest tree canopy, wetlands, and meadows. The majority of NCS recommendations related to the enhancement and retention of natural resources within parkland will be in the [Preserve Our Parks](#), and [Green Our Grounds](#) section.

Other ways in which Montgomery Parks and Montgomery Planning play a role in climate action is through the promotion of Complete Communities through compact development, increased walkability, and promotion of transit options. This is reflected in goals and recommendations in Thrive, PROS 2022, and this Sustainability Plan. In addition, the recently enacted County Bill 3-22 requires the Planning Board to submit a climate assessment of introduced zoning text amendments and master plans to the County Council starting in March 2023.

The goals and actions set forth by the CAP are the guiding framework for the actions, targets, and goals throughout the Sustainability Plan. Montgomery Parks and Montgomery Planning will implement recommendations in the CAP that are within the scope of M-NCPPC's responsibilities. Outcomes, goals, and actions within this section emphasize the critical importance of M-NCPPC's response to climate change through targeted reductions of GHG emissions associated with daily operations, accelerating the natural removal of carbon through land use policies and decisions, increasing the adaptive capacity of parks facilities and communities to the changing climate, and ensuring climate action reduces current inequities.

CURRENT PROGRESS AND ASSESSMENT

Operational GHG Emissions

Reducing greenhouse gas (GHG) emissions is critical to halting global temperature increases and the resulting disruptions to the climate system. To reduce GHG emissions, an organization must first conduct a GHG inventory to establish a baseline. An assessment of both the Parks and Planning Department’s GHG emissions for fiscal year 2019 (FY19) was conducted using the Local Greenhouse Gas Inventory Tool created by the United States Environmental Protection Agency (EPA). The tool was developed to support municipal governments across the United States to evaluate the greenhouse gas emissions associated with their municipal operations and follows the Local Government Operations Protocol (LGOP), version 1.1 methodology.

Operational GHG emissions are divided into three categories:

- **Scope 1** – Direct (GHG) emissions that occur from sources that are controlled or owned by an organization, such as on-site fuel combustion from building heating systems or vehicles.
- **Scope 2** – Indirect or off-site GHG emissions directly linked to electricity consumption.
- **Scope 3** – Other emissions that are attributed to the activities of the organization. This includes emissions from sources that are not owned or operated by the Departments, but are either directly financed or are otherwise linked to operations.

The GHG assessment conducted for this plan only includes operational emissions from the Montgomery Parks and Montgomery Planning Departments. Central shared Commission assets that provide support for both county’s operational Departments were not included. The only Scope 3 emissions included within this assessment were from staff commuting due to a lack of reliable data to calculate other emission sources.

The emissions showed below are the Department’s Gross GHG Emissions, which does not include emissions reductions for the purchasing of Renewable Energy Credits. FY19 emissions were calculated to set a baseline year for emissions reductions. It was chosen because it is the most accurate and recent fiscal year not impacted by COVID-19.

Figure 2.1: Montgomery Parks and Planning Departments’ FY19 GHG Emissions, by Scope

Emission Scope	GHG Emissions (MT CO ₂ e – Metric tons of Carbon Dioxide Equivalent)
Scope 1	5,700.39
Scope 2	4,636.51
Scope 3	2,470.32
Total Gross GHG Emissions	12,807.22

Data from utility bills, gasoline and diesel consumption, and staff commuting estimates

Figure 2.2: Montgomery Parks and Planning Departments' FY19 GHG Emissions, by Source

Emission Source	GHG Emissions (MT CO ₂ e)	Percent of Total Emissions
Building Heating – Natural Gas, Propane, and Fuel Oil	2,435.79	19%
Department's Equipment & Fleet	3,258.10	26%
Electricity – Location based	4,636.51	36%
Staff Commute	2,470.32	19%
Total Gross GHG Emissions	12,800.72	100%

Data from utility bills, gasoline and diesel consumption, and staff commuting estimates

Montgomery Parks and Planning Departments' Nature Based Climate Action FY22

Montgomery County released its first Climate Action Plan Annual Report, Fiscal Year 2022 (FY22), which included accomplishments from various County departments and agencies. FY22 was the first implementation year for the CAP, and both the Parks and Planning Departments provided updates on actions related to nature-based climate solutions (NCS).

Below are a couple of highlights from the report. A complete list of actions implemented are in the FY22 Climate Action Plan Annual Reportⁱⁱⁱ:

Montgomery Parks:

- Planted 1,500 trees and 1,125 shrubs from Pope Farm on parkland.
- Acquired 472.78-acres of property. This land acquisition will create the new Broad Run Conservation Park. Public ownership of this property ensures long-term preservation and conservation of land that includes:
 - 325 acres of forest
 - Significant areas of contiguous forest and forest interior habitat
 - 1.5 miles of Broad Run mainstream and headwater tributaries
- Completed stream restoration projects in the Grosvenor and Stoneybrook tributaries of Rock Creek, which reduce erosion and improve aquatic habitats for local ecosystems.
- Completed 10 outfall restorations, which reduce runoff speeds, increase opportunities for infiltration, and improve water quality.
- Opened Nolte Community Garden, which provided 19 accessible gardening beds atop the foundation of a demolished Park Activity Building.

Montgomery Planning:

- Planted 793 trees through the Reforest Montgomery program.
- Introduced an amendment to strengthen the Forest Conservation Law, which will increase forest planting and conservation requirements for projects subject to the law.
- Updated Guidelines for Environmental Management of Development in Montgomery County, which adds specific environmental protection guidelines for land development located in the portion of the Ten Mile Creek watershed and the County's recently created 10 Mile Creek Special Protection Area.

ⁱⁱⁱ Montgomery County: [Climate Action Plan Annual Report – FY22 Accomplishments and FY23 Work Plan](#)

Natural Resources Inventory

Montgomery County is composed of critical natural resources and ecosystems, such as streams, stream valleys, wetlands, floodplains, forests, and trees, which constitute important physical, aesthetic, educational, recreational, and economic assets to the County. Overall, Montgomery County contains 93,281 acres of forest cover (29% of County Land), including 9,472 acres of forest interior habitat. Much of the critical natural resources protected within the county fall within M-NCPPC Parkland. The natural resources within Montgomery Parks include unique geology, streams, wetlands, woodlands, forests, and meadows. Currently, 28,000 acres – 75% of M-NCPPC parkland in Montgomery County, is classified as natural area.

Figure 2.3: Protected Lands and Natural Resource Inventory

Program Category	Total
Conservation Oriented Parkland, M-NCPPC	28,264 Acres
Special Protection Areas Limits impervious development for water quality protection	20,324 Acres
Priority Natural Areas on Parkland, M-NCPPC Special protections and habitat conservation efforts for sustaining rare, threatened, or endangered species and habitats	14,954 Acres
Forest Conservation Easements	22,056 Acres
Meadow Management – M-NCPPC Meadow habitat for special protection	2,450 Acres
Miles of Stream within M-NCPPC Parkland	490 miles
Stormwater Management Facilities on M-NCPPC Parkland	760 Facilities

Data from Montgomery County PROS Plan – 2022 and Montgomery Parks NPDES MS4 Progress Report FY 2022

These data points change. The information within this Plan is in line with the inventory conducted for the 2022 PROS Plan.

GOALS AND RECOMMENDED ACTIONS

Goal: Implement targeted actions to reduce GHG emissions from operations with a goal to eliminate Scope 1 and Scope 2 GHG emissions from operations by 2035.

Recommended Actions:

Action Number	Action Description
<p>C.1.1</p>	<p>Complete a comprehensive greenhouse gas inventory of Scope 1, 2, and 3 emissions. Identify reductions pathways to achieve GHG elimination goals. Inventory should be:</p> <ul style="list-style-type: none"> • In accordance with standards set by Greenhouse Gas Protocol • Reported every other fiscal year with the bi-annual sustainability report due to the Full Commission to monitor progress towards achieving emissions reductions goals. <p>Lead: M-NCPPC Montgomery County Sustainability Committee</p>
<p>C.1.2</p>	<p>Incorporate comprehensive emissions reduction projects into the Capital Improvement Planning (CIP) to ensure funding and prioritization.</p> <p>Lead: Montgomery Parks – Facilities Management and Park Development</p>
<p>C.1.3</p>	<p>Create internal working groups focused on implementation of actions related to climate mitigation, adaptation, and resiliency. Calculate and advocate for funding to support operating budget impacts (OBI) of additional actions.</p> <p>Lead: M-NCPPC Montgomery County Sustainability Committee</p>

Goal: Increase adaptive capacity and resiliency of organization, natural resources, and communities to climate change.

Recommended Actions:

Action Number	Action Description
<p>C.2.1</p>	<p>Implement a commission-wide comprehensive heat stress mitigation practices and standards for at-risk indoor and outdoor staff^{iv}. To create standards M-NCPPC should include:</p> <ul style="list-style-type: none"> • Clear temperature triggers • A written plan to provide clarity to staff • Specify quantities of potable water employers should provide • Requirements for heat acclimatization, rest, and shade <p>Lead: M-NCPPC Risk Management and Safety Office</p>
<p>C.2.2</p>	<p>Conduct a climate vulnerability assessment for Parks Department and create a climate resiliency plan^v. Assessment/plan should include:</p> <ul style="list-style-type: none"> • Risks of climate change on amenities, natural resources, buildings, ability to provide services, and financial impacts • Suggestions on how to increase adaptive capacity for organization • Strategies on how to integrate climate change adaptation and resilience into all levels of park planning and design <p>Lead: Montgomery Parks – Facilities Management in coordination with Park Planning and Stewardship</p>
<p>C.2.3</p>	<p>Incorporate strategies to mitigate heat in development projects, master plans and master plan design guidelines.</p> <p>Lead: Montgomery Planning</p>
<p>C.2.4</p>	<p>Identify Park infrastructure within environmentally sensitive areas, floodplains, or other locations prone to flooding, making maintenance increasingly difficult. Department should conduct an analysis of costs and consider removing and/or relocating.</p> <p>Lead: Montgomery Parks – Facilities Management, Park Development, and Park Planning and Stewardship in coordination with Northern and Southern Parks</p>

^{iv} Maryland HB 722 - Labor and Employment - Occupational Safety and Health - Heat Stress Standards requiring all employers in state of Maryland to follow regulation set forth by Maryland Occupational Safety and Health Advisory Board

^v Building upon recommendation within the 2020 Montgomery County PROS Plan, p. 63

Action Number	Action Description
C.2.5	<p>Identify opportunities to pursue sustainability best practices in Department work programs. This may include an update of Guidelines for Environmental Management of Development in Montgomery County which could include:</p> <ul style="list-style-type: none"> • Urban environmental guidelines to incorporate green features in growth areas to mitigate and adapt to the effects of climate change • Provide cleaner air and water • Add shading and cooling features • Improve human health <p>Lead: Montgomery Planning</p>
C.2.6	<p>Upon completion of the County’s new Comprehensive Flood Management Plan^{vi} currently under development, implement recommendations that are within the scope of the Parks and Planning Departments’ responsibilities.</p> <p>Lead: Montgomery Parks and Planning Departments</p>

^{vi} Montgomery County Department of Environment is working to develop a Comprehensive Flood Management Plan that will aid long-term strategic planning for flood mitigation.

Goal: Ensure the implementation of whole system, nature-based climate solutions (NCS) throughout both Departments, which are in line with goals set forth by the Montgomery County CAP.

Recommended Actions:

Action Number	Action Description
<p>C.3.1</p>	<p>Work to identify a tool to estimate natural systems ecosystem services, such as carbon sequestration, biodiversity, flood/heat mitigation and, societal and economic benefits. Tool should:</p> <ul style="list-style-type: none"> • Identify protected forests and other natural areas with high value for climate mitigation, resilience, and biological diversity • Help the Parks Department better understand and measure current positive impacts of natural resources and set meaningful and measurable goals for increased carbon sequestration and resiliency through NCS. • Utilized by both Departments when making land-use decisions <p>Lead: Multiple Divisions across both Departments in coordination with Montgomery County Department of Environmental Protection</p>
<p>C.3.2</p>	<p>Create community buy-in for the retention and expansion of natural spaces on parkland and throughout the County. Create countywide outreach campaign around:</p> <ul style="list-style-type: none"> • Importance of environmental restoration • Natural climate solutions • Power of parks to combat climate change • Threat of NNI species • Regenerative landscaping^{vii} <p>Lead: Montgomery Parks – Public Affairs and Community Partnerships and the M-CPPC Montgomery County Sustainability Committee in coordination with Park, Planning, and Stewardship and Horticulture Forestry and Environmental Education</p>

^{vii} Regenerative landscapes are those that restore the environment, increased biodiversity, and enhanced resilience.

Indicators

Indicators of progress for this focus area include the following:

- Reduction in Scope 1 and Scope 2 operational GHG emissions from FY19 baseline
- Number of projects that reduce GHG emissions
- GHG emissions of a building before and after renovation project
- Carbon sequestered by land owned by Montgomery Parks
- Number of staff trained on heat stress mitigation and safety

ENERGIZE PARKS – LEAN, CLEAN, & CARBON FREE



Maydale Classroom, first Montgomery Parks net-zero building

Montgomery Parks and Montgomery Planning will:

- Improve facility energy performance
- Increase amount of renewable energy generated on parkland and facilities

The use of electricity and energy to heat, cool, and light buildings and parks is one of the largest sources of GHG emissions for the Parks and Planning Departments, accounting for approximately 55% of annual GHG emissions for fiscal year 2019^{viii}. Almost all the energy use and facilities are owned and operated by Montgomery Parks. Although Montgomery Planning does occupy and use energy on at least three floors of the Wheaton Headquarters building, throughout this section Montgomery Parks will be mentioned solely, as the scope of recommended changes is under that Department. Reducing GHG emissions associated with energy use will require a multi-pronged approach with a heavy emphasis on reducing energy-use intensity (EUI) and increasing on-site renewable energy generation. Montgomery Parks will prioritize investments in improved energy efficiency and renewable energy to meet County climate goals and conserve fiscal resources, within budgeting capacity and consistent with other priorities.

Day-to-day facility operations such as lighting and space heating and cooling consume large amounts of electricity, natural gas, and propane consumption. Parks owns and operates hundreds of buildings that all serve different purposes and primary uses. Many of the outdoor park facilities and amenities require energy to operate, such as exterior lighting for trails, parking lots, sports courts, and athletic fields.

^{viii} Combined FY19 emissions from building heating and electricity use from Figure 2.2

Montgomery Parks is and will continue to add additional buildings and amenities to meet the needs of Montgomery County's growing population. Additional amenities and buildings will increase energy demand. Energy conservation, especially within buildings, must be at the forefront of the Department's energy emissions reductions strategy to reduce utility costs. Achieving improved facility energy performance will require an integration of energy reduction strategies within new construction, renovation projects, and operations and maintenance of facilities.

Although many energy projects have a return on investment (ROI) through utility savings, some projects will require a large upfront investment. These types of projects may take longer to achieve an ROI. Identifying creative funding sources such as state and federal grants, the EMPOWER Maryland Rebate Program, Montgomery County Green Bank, or Energy Performance Contracting must be a top priority to reduce upfront costs.

Electricity consumed by Montgomery Parks must transition to carbon-free sources to support emissions reductions for electrifying building heating and vehicles/equipment. While the Department's electrification of HVAC systems and vehicles and equipment will ultimately reduce consumption of natural gas, propane, gasoline, and diesel, this transition of energy-use will increase electricity demand. Emissions reductions associated with electrification will ultimately be determined by the carbon footprint of that energy source.

Since 2016, alongside other Montgomery County Government Departments, M-NCPPC has purchased wind-based renewable energy certificates (RECs) equal to 100% of the total electricity consumption for the organization. However, fiscal year (FY) 2022 the cost of RECs increased by nearly 340% due to several factors including the deadly Texas cold snap in early 2021, as well as increased REC demand through corporate purchases, leading to more extreme pricing pressure. The purchase of RECs was not made by the Commission to cover FY22 energy use because of the unexpected increase in prices. The purchase of RECs by the Departments will continue to be determined by pricing and budgeting factors.

Moving forward, Montgomery Parks' renewable energy strategy will have a heavy emphasis on identifying and installing on-site renewable energy, specifically solar photovoltaic (PV) systems. Installation of on-site renewables would not only reduce Parks reliance on the electrical grid but would also indefinitely reduce energy costs and eliminate the need to purchase RECs. This strategy supports the target set forth by the County's CAP to ensure all electricity consumed within the County is carbon-free by 2030^{ix}. Parks is one of the identified lead agencies to install more public facility solar PV projects around the county^x. Parking lots may be ideal locations for new large solar installations because they provide shade for vehicles and EV charging opportunities. Utilizing parkland for solar must consider the loss of natural habitat or recreational space for citizens, but solar canopies in parking lots would not impact available land for recreation or conservation.

Achieving an elimination of GHG emissions produced from operations will require an intense focus of the actions within this section. Energy efficiency must be at the forefront of parks emissions reductions strategies because it saves money, increases the resilience and reliability of the electrical grid, and provides GHG emissions reductions within operations. Additionally, buildings that are more energy efficient are better equipped to transition to non-fossil fuel heating sources. Installing additional on-site

^{ix} Montgomery County Climate Action Plan, Clean Energy Action section sets goals increasing renewable energy directly generated within the county

^x Montgomery County Climate Action Plan, Action E-4: Public Facility Solar Photovoltaic Installations and Groundwork

renewables will also reduce electricity costs, decrease dependence on fossil-fuel-based electricity, green the County's electrical grid, and help create more local jobs in the solar sector. Implementing the recommended actions will require additional funds and data to inform decisions, which will be addressed in this section and [*Invest in Our Future*](#) recommendations.

CURRENT PROGRESS AND ASSESSMENT

Montgomery Parks' Facilities Inventory

Montgomery Parks owns and operates hundreds of buildings that all serve a multitude of purposes and primary uses. The Department's building inventory is composed of many building types with different operating and equipment needs. Parks' building inventory includes:

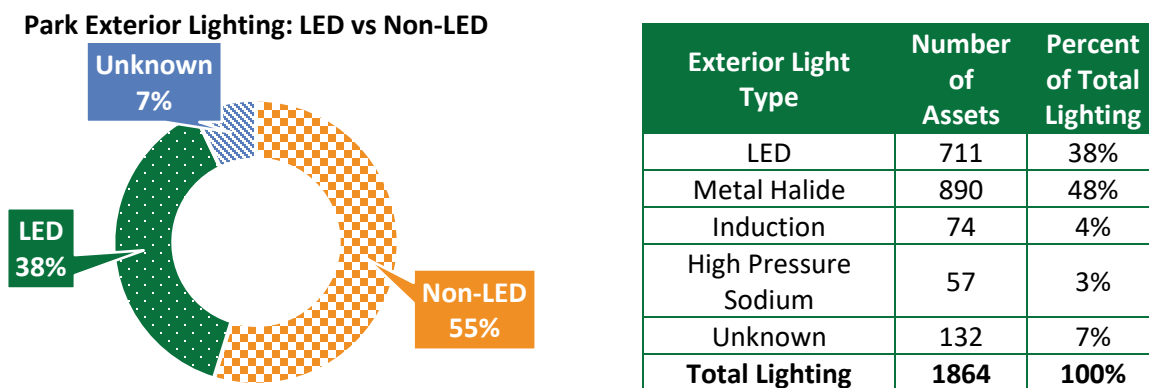
- Historical Buildings
- Greenhouses
- Museums
- Nature Centers/Classrooms
- Park Activity Buildings
- Indoor Recreations Spaces: Ice Rinks, Tennis Facilities, and Sports Pavilion
- Work Buildings: Maintenance Yards, Office Buildings, and Storage Facilities
- Residential Park Houses
- Cabins/Yurts

Montgomery Parks is working to update the current conditioned square footage of the Department's building inventory. Prior to this effort, an energy performance contractor was hired to calculate total conditioned sq ft, which is listed below with the addition of Wheaton HQ and removal of Parkside HQ, Hillandale, Offices and Montgomery Regional Office (MRO) buildings:

Estimated Total Conditioned Space: ~1,748,458 sq ft

Additionally, many parks within Montgomery County contain exterior lighting in the parking lots, athletic fields, and trails. This allows residents to safely enjoy parks after sunset and extends the playing hours of athletic fields. Montgomery Parks is currently working to retrofit exterior lighting with more energy efficient LEDs, below is current lighting inventory:

Figure 3.1: Current Park Exterior Lighting Assets



EAM and GIS Park Light Inventory

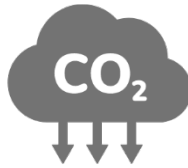
Powered by Solar

Montgomery County has a solar initiative that aims to reduce the impact of County government operations on the environment by maximizing the generation renewables. Montgomery Parks is no different and has been committed to reducing greenhouse gases and energy costs through the installation of on-site solar. So far, Montgomery Parks has installed over 2.6 megawatts (MW) of solar on facilities and parkland, which generates approximately over 3.27 million kWh of electricity every year.

Annual 3,279,000 kWh of solar generated on parkland is equivalent to:



Enough energy to power more than 270 single family homes



2,324 MTCO₂e of GHG Emissions Avoided



Carbon sequestered by 2,750 acres of U.S. forests per year

Calculated with EPA Greenhouse Gas Equivalencies Calculator



Solar array at South Germantown Recreation Park

Figure 3.2: Current Solar PV Arrays

Type of Solar System	Site	Estimated Annual Production
Ground Mount – Power Purchase Agreement	South Germantown Recreational Park	1,647,360 kWh
Ground Mount – Power Purchase Agreement	Rock Creek Regional Park	1,463,904 kWh
Roof Mount	Wheaton Headquarters	141,648 kWh
Roof Mount	Maydale Nature Classroom	21,715 kWh
Roof Mount	Olney Mill Neighborhood Park	2,246 kWh
Roof Mount	Black Hill Regional Park	2,246 kWh

Montgomery Parks' Resource Conservation Plan 2023

Figure 3.3: Fiscal Year 2023 Planned Solar PV Arrays

Type of Solar System	Site	Estimated Annual Production
Roof Mount	Black Hill Maintenance Yard	83,566 kWh
Roof Mount	Wheaton Maintenance Yard	35,690 kWh
Roof Mount	Meadowbrook Maintenance Yard	120,400 kWh

Calculated with National Renewable Energy Laboratory PVWatts Calculator

Energy Conservation

Montgomery Parks has an established utilities reduction program, which identifies and implements projects to conserve resources. The Department manages a utility program consisting of over 500 utility meters across the county. Energy Conservation projects include upgrades to older buildings/facilities that improve overall energy performance of a facility, such as:

- HVAC system replacement with more efficient equipment
- Refrigeration system replacement with more efficient equipment
- Integration of building automation controls and energy management systems
- Replacement of outdated lighting fixtures with energy efficient LED lighting

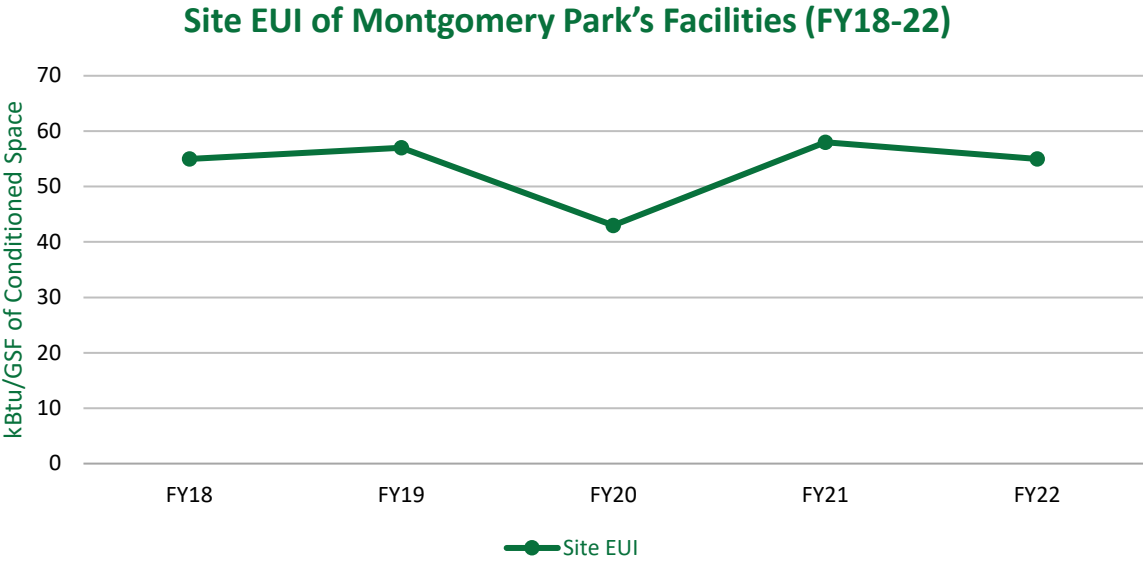
New buildings, like the Maydale Nature Classroom and the planned SEED Classroom, are net zero energy (NZE) buildings. Buildings with zero net energy consumption employ efficiency measures and onsite renewables to produce as much energy as they use.

Figure 3.4: Annual Energy Consumption

Energy Source	FY18	FY19	FY20	FY21	FY22
Electricity (kWh)	14,916,755	14,635,012	11,770,351	16,188,121	18,359,703
Natural Gas (MCF)	29,631	28,468	23,582	27,710	27,980
Propane (Gal)	10,2637	15,1188	62,000	12,7657	55,361
Fuel Oil (Gal)	508	552	281	0	505

Reports run by utility billing software

Figure 3.5: Estimate Average Site Energy Use Intensity (EUI) of Park’s Facilities



Fiscal Year	Total Energy Consumption (kBtu)	Estimated Conditioned Space (sq ft)	Average Site EUI (kBtu/Sq ft)
2018	89,983,527	1,627,320	55
2019	92,305,425	1,627,320	57
2020	69,451,856	1,627,320	43
2021	100,624,461	1,748,458	58
2022	95,756,123	1,748,458	55

Reports run by utility billing software

To measure the success of energy conservation measures, it is important to use Energy-Use Intensity (EUI), which can normalize and account an increase in conditioned space. The past five years the total average EUI of all facilities has stayed relatively the same, apart from FY20 due to COVID-19.

GOALS AND RECOMMENDED ACTIONS

Goal: Reduce energy-use intensity of facilities to increase overall efficiency and reduce waste.

Recommended Actions:

Action Number	Action Description
E.1.1	<p>Create a comprehensive energy management program that embeds energy management as a fundamental principle within the culture and business operations of the organization. The program should follow steps and strategies set forth by the ENERGY STAR Guidelines for Energy Management.</p> <p>Lead: Montgomery Parks – Facilities Management and Park Development in coordination with all Divisions and Upper-Level Leadership</p>
E.1.2	<p>Conduct comprehensive technical assessments and energy audits of facilities to identify buildings in need of energy conservation upgrades. Create a detailed action plan.</p> <p>Lead: Montgomery Parks – Facilities Management and Park Development</p>
E.1.3	<p>Ensure accurate data for conditioned sq ft and other operational/facility data is in EAM and utility tracking software to accurately track performance.</p> <p>Lead: Montgomery Parks – Facilities Management and Management Services</p>
E.1.4	<p>Require all major building renovation projects to conduct an energy audit and incorporate energy conservation upgrades into the scope of the project.</p> <p>Lead: Montgomery Parks – Park Development</p>
E.1.5	<p>Prioritize and ensure the completion of all HVAC preventative maintenance.</p> <p>Lead: Montgomery Parks – Facilities Management</p>
E.1.6	<p>Within the next 5-years replace all exterior parking and trail lighting with LED lights.</p> <p>Lead: Montgomery Parks – Facilities Management</p>

Goal: Increase the amount of renewable energy generated on parkland and facilities.

Recommended Actions:

Action Number	Action Description
E.2.1	<p>Require all new facilities, where feasible, to include solar to offset energy consumption. Roof orientation on new facilities should always be designed to maximize solar production potential.</p> <p>Lead: Montgomery Parks – Park Development, Enterprise, and Facilities Management</p>
E.2.2	<p>Conduct a solar feasibility assessment for all major roof replacement and renovation projects.</p> <p>Lead: Montgomery Parks – Park Development and Facilities Management</p>
E.2.3	<p>Conduct an assessment for ideal locations for solar parking canopies. Identify location and install solar canopy on parkland within the next 5 years.</p> <p>Lead: Montgomery Parks – Facilities Management in coordination with Management Services, Park Planning and Stewardship, and Park Development</p>

Indicators:

Indicators of progress for this focus area include the following:

- Weather normalizedⁱ site EUI of facilities
 - Weather normalized site EUI of facilities before and after energy conservation project
- Reduction in GHG emissions associated with energy-use from FY19 baseline
- Number of energy audits conducted
- Percentage of LED verse non-LED exterior park lighting
- Number of facilities outfitted with:
 - Interior and/or exterior LED lights
 - Programmable occupancy/motion sensor lighting
 - Programmable thermostats for heating/air conditioning
 - High-efficiency HVAC upgrades
- Percent of electricity generated by on-site renewable energy
- kWh of solar generated on parkland

ⁱ Weather normalized energy is the energy that a building would have used under average conditions

GREEN OUR BUILDINGS AND FACILITIES



Living green wall in the lobby of Wheaton Headquarters

Montgomery Parks and Montgomery Planning will:

- Improve building and facility environmental performance
- Establish internal sustainable specifications for siting, design, material selection, construction, retrofit, and maintenance of facilities, structures, and amenities on M-NCPPC parkland
- Transition building heating systems away from fossil fuels
- Reduce overall utility consumption of buildings and facilities

Sustainable or green building is an integrative approach to planning, designing, constructing, operating, maintaining, and removing buildings in ways that conserve natural resources, reduce energy and water consumption, improve the health of occupants, and minimize pollution. Green building standards that reduce utility consumption, ensure buildings are more resilient to climate change, decrease whole life cycle GHG emissions of facilities, and decarbonize building HVAC systems should be in line with the strategies set forth by the Montgomery County CAP. Primary recommendations related to energy conservation and renewable energy can be found in the [Energize Parks](#) section. This section of the Plan will still have recommendations that will achieve goals related to energy, while also reviewing strategies to wholistically improve building and facility environmental performance.

Montgomery Parks has built green buildings in accordance with LEED certification. LEED has been a useful tool to positively change the building industry towards more sustainable standards. However, studies have shown that source energy consumed by LEED-certified buildings, on average, is not significantly lower than that for other buildings³. This reflects the fact that energy use is one of several attributes that receives scores under the LEED program and requires trade-offs. Although other green

building features are important, energy conservation provides reduction in utility bills and climate mitigation. Moving forward Montgomery Parks should evaluate the costs and benefits of LEED and other sustainable building certifications and evaluate if it is the best tool to achieve environmental and financial sustainability.

Once energy conservation measures have been implemented within a building, prioritizing transitioning a building's heating away from fossil fuels should follow. Parks has already begun transitioning buildings away from propane, natural gas, and fuel oil heating to high-efficiency inverter heat pumps. However, a significant number of buildings still use fossil fuels as a primary heating system. Many buildings, due to age or high energy demand, may be difficult to transition over to an electrical heating system. Transitioning a heating system over to electric may also require an electrical upgrade at a site. It will be important for the Department to get a better understanding of the level of investment needed to eliminate emissions associated with buildings heating systems.

CURRENT PROGRESS AND ASSESSMENT

Facility Condition Analysis:

Since Montgomery Parks has such a large and diverse inventory of buildings, it is essential to know the systems and conditions of all the facilities to understand the unique needs and potential projects to make those facilities more sustainable. Considering this, the Department recently created a Facility Condition Analyst team. The goal of this new section is to conduct inspections of the building inventory to identify, assess, and rate deficiencies. The crew will be reviewing all major building systems, structures and foundations, interiors, common areas, and exterior building envelopes. This data will be utilized to inform the need and periodization of repairs and renovations on the existing building inventory.

Green Buildings Features:

Montgomery Parks manages and operates hundreds of buildings and is adding new buildings to the inventory every year. The Department has been committed to “greening” many of these buildings by renovating existing buildings to be more sustainable and constructing new buildings to perform efficiently and conserve resources. Sustainable features currently implemented at park buildings include:

- Solar Panels
- Geothermal Heating/Cooling
- Trombe Walls
- Low Flow Fixtures
- Rainwater Harvesting Systems
- Ductless HVAC Systems
- Sustainably Sourced Building Materials
- Green Roofs

Current Green Facilities

Wheaton Headquarters is the first government building in the state of Maryland to be LEED Platinum-certified. Among its green features are a geothermal system, gray water reuse, 133 KW solar system, and a green roof. The exterior of the adjacent plaza and streetscapes have been designed with landscaped elements that managing stormwater onsite. To reduce GHG emissions and encourage the use of public transit, the building is located less than 500ft from the Metrorail and bus stop. Additionally, the office interiors are LEED Gold certified through the energy-efficient lighting, all-day sunlight through glass building design, and locally sourced and recycled building materials.



Exterior of Wheaton Headquarters



Lower-level green roof and solar array at Wheaton Headquarters

Rock Creek Maintenance Facility is a newly constructed LEED Gold certified 6,200sqft building was completed in 2019 and has a host of sustainable features Including:

- 18 photovoltaic solar panels on the roof, which covers 15% of the total energy use
- Solar water heater that stores heated water for use in the restrooms and locker rooms
- Of the total building materials 23% were recycled and 45% were regionally sourced
- 92% of the wood-based building materials are certified by Forest Stewardship Council
- A ground source heat pump that significantly reduces the energy required to heat and cool the building
- Energy-efficient windows and shades along with a well-insulated building envelope
- Rainwater harvesting system that collects and filters rainwater to use with toilet flushing

Maydale Nature Classroom is the Parks Department' first "net-zero designed facility". Renovations to this former Nature Center were completed in the Fall of 2021, and has a host of sustainable features including:

- Utilization of a repurposed trailer as the building
- Eco-friendly and durable bamboo flooring
- 17.4 kW 60 panel rooftop solar system that generates excess energy
- 275-gallon underground rainwater harvesting system that supports low-flow toilets
- 2 Trombe walls for passive heating
- Ductless HVAC system

The building and its features are learning elements for sustainability and aid in the programming for children and families.

Upcoming Green Buildings:

Black Hill SEED Classroom was first initiated by Parks staff in 2014 and is currently in the detailed design phase with hopes to be completed in 2023. Once complete, this site will continue to expand sustainability initiatives at Parks. The SEED (Sustainable Education Every Day) classroom will be an environmentally responsible structure that will serve as a unique education tool for students and families. It will be completely self-sustaining – being net-zero water and net-zero energy – and will allow students to track energy production and rainwater collection.

The planned facility will include:

- Prefabricated self-sustained building structure
- Rooftop solar panels
- Restroom with composting toilet
- Indoor living lab space
- Rainwater cistern for water recycling
- Indoor living wall that utilizes recycled rainwater



SEED CLASSROOM Black Hill Regional Park



SEED Classroom concept drawing

Water Conservation:

Managing 37,100 acres of parkland to provide recreational opportunities to the local community can be water intensive. Montgomery Parks has implemented many innovative systems to conserve water.

Rainwater Harvesting: The department has multiple rainwater cisterns at facilities to collect and reuse water on-site. Examples include Brookside Gardens using collected rainwater to water plants and the Wheaton Headquarters building utilizing collected rainwater to flush toilets.

Waterless Restrooms: In 2021, the Department installed the first waterless restroom within the parks system at Arora Hills Local Park. The brick-and-mortar restroom facility that is completely free of utilities.

Figure 4.1: Montgomery Parks and Planning Annual Water Consumption

Fiscal Year	Total Water Consumption (Gallons)
2018	59,603,000
2019	76,211,000
2020	70,537,000
2021	54,805,000
2022	71,581,000

Data from utility tracking software. All values were rounded to nearest thousand.

Recycling Construction and Demolition Materials (C&D):

C&D materials are often bulky and heavy materials that constitute a significant waste stream for Montgomery Parks. Recycling these materials offsets, the environmental impacts associated with extraction and consumption of virgin resources and production of new materials.

Figure 4.2: Total Tons of C&D Materials Recycled

Year	Tons of C&D Materials Recycled	Percentage of Total Waste Generated
2019	2,200	33.2%
2020	4,039	51%
2021	96.2	2.2%

Data from Montgomery Parks' Annual Recycling Report

Building Electrification

Montgomery Parks has been working to reduce fossil fuel consumption associated with heating systems in buildings by transitioning those systems to electric or geothermal whenever possible. This entails replacing old inefficient HVAC units with efficient electric air source heat pumps. Heat pumps simply transfer heat rather than burn fossil fuels to create it. Since 2018, air-source heat pumps have been installed at 24 different Parks facilities.

GOALS AND RECOMMENDATIONS

Goal: Improve building and facility environmental performance.

Recommended Actions:

Action Number	Action Description
<p>G.1.1</p>	<p>Establish internal green standards for new facilities and major renovations. When contractors are used, these standards must be included in agreement. Standards should cover:</p> <ul style="list-style-type: none"> • Material selection • Energy use intensity standards • Utility use reduction (energy & water conservation) • Fossil fuel free HVAC systems • Storm water mitigation • Onsite renewable energy • Sustainable operation and maintenance standards <p>Lead: Montgomery Parks – Facilities Management and Park Development</p>
<p>G.1.2</p>	<p>New building design should prioritize funding towards green features that reduce greenhouse gas emissions, reduce utility costs, and make facilities more resilient to climate change. Consider not pursuing green building certifications, unless required, to reduce costs.</p> <p>Lead: Montgomery Parks – Facilities Management and Park Development</p>

Goal: Reduce overall utility consumption of parks and buildings.

Recommended Actions:

Action Number	Action Description
G.2.1	<p>Every new building or renovation project should set an ambitious EUI target at the start of a project, which is appropriate for the building size and use type. EUI target should be included as a project goal within the RFP.</p> <p>Lead: Montgomery Parks – Park Development</p>
G.2.2	<p>Complete an environmental and financial cost benefit analysis on replacing portable toilets within parks with waterless vault toilets.</p> <p>Lead: Montgomery Parks – Facilities Management</p>
G.2.3	<p>Create a comprehensive irrigation policy for the park system with criteria for water usage, smart irrigation technology, guidelines for low irrigation turf, and when to irrigate.</p> <p>Lead: Montgomery Park – Athletics, Park Development, Facilities Management, and Horticulture, Forestry, and Environmental Education</p>

Goal: Transition building heating away from fossil fuels to significantly reduce Scope 1 GHG emissions.

Recommended Actions:

Action Number	Action Description
G.3.1	<p>All new buildings/facilities within Parks will have a fossil fuel free HVAC system to avoid carbon lock-in¹.</p> <p>Lead: Montgomery Parks – Facilities Management and Park Development</p>
G.3.2	<p>All HVAC replacements should first consider fossil fuel free system and must be paired with other building improvements to provide energy conservation.</p> <p>Lead: Montgomery Parks – Facilities Management and Park Development</p>
G.3.3	<p>Prioritize transitioning all propane systems to electric within next 5 years.</p> <p>Lead: Montgomery Parks – Facilities Management</p>

Indicators:

Indicators of progress for this focus area include the following:

- Creation of internal green building standards
- Reduction in annual:
 - Water consumption
 - Energy-use per sq ft
 - Natural gas, fuel oil, and propane consumption
- GHG emissions associated with building and facilities

¹Montgomery County Bill 13-22 – Comprehensive Building Decarbonization passed in 2020, create all-electric building standards for the County in 2026 for newly constructed buildings with some exemptions

RIDING TO ZERO EMISSIONS



Montgomery Parks' EV fleet vehicles

Montgomery Parks and Montgomery Planning will:

- Transition fleet and equipment to zero-emission alternatives
- Pursue opportunities to right-size fleet and equipment
- Implement sustainable best management strategies to ensure safety, fuel efficiency, and increased lifecycle of vehicles and equipment
- Encourage staff to engage in sustainable commuting and reduce vehicle miles traveled (VMT)
- Support expansion of the publicly accessible electric vehicle (EV) charging network in the County, including at Commission facilities.

COVID-19 most notably had an impact on GHG emissions related to staff commuting and the Departments' fleet due to increased teleworking and virtual meetings. The baseline GHG emissions referenced within this focus area were from the last fiscal year not impacted by COVID restrictions, so do not reflect this change in operations. The Commission has gradually transitioned back to pre-pandemic operations, but some changes, such as expansion of teleworking and virtual meetings, have and will continue to remain. As seen in the past couple of years, times of transition can offer opportunities to solidify positive changes, so the recommendations within this section consider the long-lasting changes due to pandemic-era changes.

Direct emissions from Montgomery Parks and Montgomery Planning fleet and equipment accounted for approximately 26%ⁱ of the annual GHG emissions for FY19. To reach emissions reductions goals set forth by the Montgomery County CAP, the Departments must reduce their operational GHG emissions through transitioning to zero emissions vehicles (ZEV) and equipment, which will require purchasing policies, staff training for use and maintenance of EVs, and installation of EV charging infrastructure. Rightsizing the Departments' fleet, removing or redeploying low usage vehicles from fleet inventory, and changing operations to lower VMT is essential to reduce the level of investment needed to transition to ZEVs. It is important for the Departments to prioritize transitioning vehicles and equipment with readily available zero-emissions alternatives.

Additional GHG emissions from transportation included staff commuting to and from work, mostly in single occupancy gas and diesel-powered vehicles, which attributed to 19% of FY19 emissionsⁱ. The pandemic has accelerated the shift to teleworking, which contributes to a reduction in GHG emissions by reducing VMT. M-NCPPC has updated their teleworking policy to be more flexible and normalize a hybrid schedule. However, many operational positions are not conducive to telework, so the Commission must continue to think strategically on how it can encourage commuting beyond single occupancy vehicles (SOVs) and ensure it is equitable for all staff.

Montgomery Parks and Montgomery Planning also play an important role in supporting community-wide reductions in GHG emissions associated with transportation, such as the CAP goal to expand the EV charging network within the County. Parks are an ideal location for publicly available EV chargers because patrons can charge their vehicles while enjoying park amenities. Montgomery Planning will be exploring provisions for EV charging infrastructure for new development projects through future zoning ordinance changes. Recommended actions related to land use policies to increase community walkability and promote alternative forms of transit will be in the [Plan to Thrive](#) Section.

ⁱ In FY19 3,258.10 MTCO₂e of emissions were produced by equipment and fleet and 2,470.32 MTCO₂e staff commuting to and from work, full data located in Figure 2.2

CURRENT PROGRESS AND ASSESSMENT

Current Fleet Inventory

The Parks and Planning Departments operate a large fleet inventory of 417 light duty vehicles and 157 heavy duty trucks. Additionally, there are hundreds of other smaller utility vehicles like golf carts and UTVs.

Figure 5.1: Light and Heavy-Duty Vehicle Fleet Inventory

Vehicle Type	Number of Gasoline/Diesel	Number of Hybrid	Number of Electric
Sedan	33	19	8
SUV	138	12	-
Van	64	-	-
Light Duty Truck	143	-	-
Medium Duty Truck	105	-	-
Heavy Duty Truck	29	-	-
Bucket Truck	6	-	-
Trash Truck	14	-	-
Total	538	31	8

Faster Fleet Database Report

Montgomery Parks recently purchased 3 all electric trucks, which will be the first electric trucks in the Commission.

Landscape Equipment Electrification

Montgomery Parks operates and maintains a park system that offers a wide range of services and amenities for recreation and leisure, while offering habitat and natural resources for the benefit of the community. A diverse array of equipment is required to support the operations and maintenance of this system. The operational divisions of the Department are dedicated to electrifying two-cycle landscape equipment and other pieces of equipment that have traditionally been gas powered. Below are some accomplishments in equipment electrification:

- Landscape Equipment:** In FY22, the Northern and Southern Regions purchased 9 electric zero-turn (z-turn) mowers and multiple electric paint sprayers, weed trimmers, and leaf blowers. Montgomery Parks is no longer purchasing gas powered trimmers or leaf blowers. When a piece of equipment is at the end of its life cycle an electric replacement will be purchased.
- Electric Trim Crews:** There are currently 4 fully electric trim crews who manage turf care within the parks. The crews are equipped with an enclosed trailer with electric trimmers, leaf blowers, and z-turn mowers. The inside of the trailer is outfitted with charging outlets.
- Tree Crews:** Tree maintenance staff have begun transitioning chainsaws for tree climbers to battery powered alternatives.

Heavy Equipment Rightsizing

In 2022, the Management Services and Facilities Management Divisions collaborated to conduct a heavy equipment inventory. The overall goal was to ensure staff had what they needed for safe and efficient park operations, without having more than needed. Prior to this, there had not been a high-level, cross Department review of the heavy equipment inventory. This study analyzed the following pieces of equipment:

- Backhoes
- Mortar Mixers
- Commercial Lawn Mowers
- Track Loaders
- Hydraulic Excavators
- Manlifts
- Skid Steers
- Rollers

Some high-level findings showed there are immediate opportunities for sharing equipment or divesting/renting and other opportunities to increase efficiency and safety. There are currently limited opportunities to procure zero-emissions heavy equipment, but technology is always evolving. By incorporating rightsizing into standard operating procedures, Montgomery Parks can operate more efficiently and reduce the amount of heavy equipment needed to transition.

Teleworking

Many Montgomery Parks and Montgomery Planning staff whose duties could be performed remotely were able to seamlessly transition to telework during the COVID-19 pandemic. In response, the Commission updated its official Telework Policy, which had not been updated since July 1, 1996. The policy discusses the many beneficial purposes of teleworking, including:

- Ensuring continuity of operations and services
- Offering staff an opportunity to minimize commute time while maintaining and/or increasing the agency's productivity and effectiveness
- Supporting the agency's efforts to be a more sustainable organization and regional efforts to improve air quality

Employees who have worked for the agency for a minimum of six (6) months are eligible to apply for scheduled telework arrangements. This revised policy has been widely supported by staff and is a key strategy to reducing GHG emissions associated with commuting.

Figure 5.2: Montgomery Parks and Planning Pre-Pandemic vs Current Telework Agreements

Fiscal Year	Number of Staff with Telework Agreements	Estimated Annual GHG Emission Reductions
2019	44	52.63 MTCO ₂ e
2022	243	290.64 MTCO ₂ e

GHG reductions were calculated using Greenhouse Gas Protocol: Technical Guidance for Calculating Scope 3 Emissions



Montgomery Parks and Planning Bike to Work Month 2021

Promotion of Sustainable Commuting Options

The Commission has a vanpool program established by Practice 6-10 M-NCPPC Vehicle Use Program. The vanpool, which is self-supported through payroll deductions from staff choosing to carpool to their work location with a fleet vehicle to promote resource conservation. This is incredibly useful for operational staff who cannot telework and are at locations without convenient access to public transit.

Additionally, the new Wheaton Headquarters building was sited across the street from the Wheaton Metro station with access to buses and Metrorail to encourage the use of public transit. The building currently houses most of the Montgomery Parks' administrative staff, all of Montgomery Planning, the Commissioner's Office, and some staff from the Office of the General Counsel. The Commission is also piloting a commuter stipend and benefits program that is currently open to M-NCPPC employees working out of Wheaton HQ. The program has two parts:

- Provides a monthly stipend to all M-NCPPC employees at Wheaton HQ, which can be used for any mode of transportation, including public transit, biking, and walking
- Gives employees opportunity to contribute to a pre-tax account for commuter expenses.

Publicly Accessible EV Chargers in Parks

Currently Montgomery Parks is working with both Pepco and BGE in their respective service areas to install up to 42 parking spaces with access to charging stations across 11 parks. The pilot program will provide useful data that will help with future expansion of the EV charging network on parkland.

GOALS AND RECOMMENDED ACTIONS

Goal: Reduce operational GHG emissions associated with fleet and equipment use through transition to zero emissions alternatives and right sizing.

Recommended Actions:

Action Number	Action Description
<p>R.1.1</p>	<p>Evaluate fleet vehicle use to account for decreased use of vehicles with the expansion of virtual meetings, telework, increased reliance on ride-shares and colocation of multiple divisions. Redeploy vehicles that are underutilized to other divisions in need of replacement vehicles. Evaluation of long-term use of ride-share programs to further reduce size of fleet for administrative positions should also be considered in decisions around redeployment.</p> <p>Lead: Montgomery Parks – Facilities Management and Management Services</p>
<p>R.1.2</p>	<p>Update vehicle procurement evaluation form to include electric or plug-in hybrid preference for certain vehicle types as technology and availability progresses.</p> <p>Lead: Montgomery Parks - Facilities Management and Management Services</p>
<p>R.1.3</p>	<p>Update Practice 6-10: Vehicle-Use Program to adopt language and policies around EVs to address:</p> <ul style="list-style-type: none"> • Language around fueling • Rules for use of Commission fueling stations • Special language for electric take home vehicles • Electrification of vanpools • Electric mileage rate <p>Lead: M-NCPPC Corporate Policy & Management Operation in coordination with M-NCPPC Sustainability Committee</p>
<p>R.1.4</p>	<p>Evaluate program enhancements for upfront increase in cost for zero-emission alternatives. Calculate long term maintenance and fuel costs reductions associated with zero-emission alternatives.</p> <p>Lead: Montgomery Parks – Facilities Management and Management Services</p>

Action Number	Action Description
R.1.5	<p>Create an internal fleet and equipment transition plan to evaluate:</p> <ul style="list-style-type: none"> • Organizational needs for full electrification of fleet and equipment • Charging infrastructure needs • Cost of electrical upgrades at facilities to support the electrification of vehicles and equipment • Feasibility of strategically placed onsite equipment at parks • Grid reliability and back-up power needs <p>Lead: Montgomery Parks – Facilities Management in coordination with Operational Divisions</p>

Goal: Implement sustainable best management practices around new zero-emission equipment and vehicles to ensure increased lifecycle and safety.

Recommended Actions:

Action Number	Action Description
R.2.1	<p>Create best management practices for electric 2-cycle equipment. Standards should include:</p> <ul style="list-style-type: none"> • Best charging practices • Storage guidance • New care and maintenance schedule • Proper disposal protocols of batteries • Life cycle cost analysis of battery equipment <p>Lead: Montgomery Parks – Facilities Management in coordination with Operational Divisions</p>
R.2.2	<p>Create a database or online space for operations staff to share information about performance and best management practices for electric equipment and vehicles. Information will help guide purchasing as different pieces of electric equipment are piloted.</p> <p>Lead: Montgomery Parks – Operational Divisions</p>
R.2.3	<p>All facility renovations or new facilities that house equipment or vehicles are equipped to handle fleet and vehicle electrification, consider temperature controls, and have backup power source (generators).</p> <p>Lead: Montgomery Parks – Park Development and Facilities Management</p>

Goal: Reduce scope 3 greenhouse gas emissions associated with staff commuting.

Recommended Actions:

Action Number	Action Description
<p>R.3.1</p>	<p>Send out a survey to staff to get a more complete picture of commuting habits and which programs might encourage more sustainable commuting.</p> <p>Lead: M-NCPPC Montgomery County Sustainability Committee in coordination with Montgomery Parks’ and Montgomery Planning’s Management Services Divisions</p>
<p>R.3.2</p>	<p>Install charging infrastructure for staff to charge personal EVs while at work.</p> <p>Lead: Montgomery Parks – Facilities Management</p>
<p>R.3.3</p>	<p>Evaluate a program to provide financial incentives for staff to use public transit to travel to work at Commission facilities throughout Montgomery County.</p> <p>Lead: M-NCPPC Montgomery County Sustainability Committee in coordination with Montgomery Parks’ and Montgomery Planning’s Management Services Divisions</p>
<p>R.3.4</p>	<p>Identify opportunities to further expand teleworking for staff by increasing maximum allowable weekly telework days or providing more flexible options for staff with more on-site roles.</p> <p>Lead: Montgomery Parks’ and Montgomery Planning’s Management Services Divisions in coordination with all Divisions</p>

Goal: Support expansion of a publicly accessible EV charging network within Montgomery County.

Recommended Actions:

Action Number	Action Description
<p>R.4.1</p>	<p>Review annual use data on chargers installed on parkland to evaluate EV charger expansion. Coordinate with County EV charging planning efforts to choose locations.</p> <p>Lead: Montgomery Parks – Facilities Management</p>
<p>R.4.2</p>	<p>Consider installation of publicly available EV chargers when installing solar parking canopy within parks.</p> <p>Lead: Montgomery Parks – Facility Management</p>
<p>R.4.3</p>	<p>Encourage developers and public agencies to provide publicly available EV charging infrastructure in new developments and public facilities.</p> <p>Lead: Montgomery Planning</p>

Indicators

Indicators of progress for this focus area include the following:

- Percentage of:
 - Passenger vehicles purchased that are ZEV or plug-in hybrid
 - Underutilized vehicles redeployed or removed from fleet
 - Landscape equipment that is electric
- Reduction in total vehicle miles traveled by fleet vehicles
- Number of trim crews transitioned to all-electric equipment
- Reduction in GHG emissions associated with fleet and equipment use from FY19 baseline
- Percentage of staff commuters using alternatives to single occupant vehicles
- Number of staff utilizing telework and/or compressed work schedule
- Reduction in GHG emissions associated with staff commuting from FY19 baseline
- Number of EV chargers for fleet, staff, and public use on parkland or facilities

WASTE LESS, RECYCLE MORE



Community members participating in Martin Luther King Jr. Day of Service Park Clean Up

Montgomery Parks and Montgomery Planning will:

- Reduce the total amount of waste generated through operations and within the parks
- Increase diversion rate of organic and non-organic materials
- Implement sustainability-focused policy into the procurement process
- Implement marketing, education, and outreach campaigns to staff and park patrons around waste reduction, recycling, and litter prevention

Montgomery County continues to run a comprehensive recycling program and has the highest diversion rate in the state⁴. The Parks and Planning Departments actively participate in the program through operation of a comprehensive and proactive recycling and waste reduction program. In 2020, the Montgomery County Recycling and Resource Management Division recognized Montgomery Parks as a business with an outstanding recycling and waste reduction program.

The success of the Departments' waste management has not come without its challenges, and there are many ways in which it can improve. A successful sustainable waste management strategy cannot solely rely on recycling but must focus on actions that reduce items entering the recycling and waste streams. This strategy is consistent with Montgomery County's Solid Waste Management hierarchy¹.

¹ Montgomery County Comprehensive Solid Waste Management Plan 2020-2029 establishes a solid waste hierarchy of prioritizes waste reduction and reuse.

In addition to operational waste, a portion of Montgomery Parks' organizational waste stream is from the public use of parks. Providing spaces for social connectivity is an important function for the Department. Within the past couple of years Montgomery Parks has heavily focused on getting residents into public spaces by providing a wide variety of events and large festivals with food and drinks. Additionally, programs like Picnic in the Park and the relaxation of rules around alcoholic beverages in some parks provided community members opportunities to gather socially distanced and support local businesses during COVID-19 pandemic. These programs have been successful in providing opportunities for residents to connect, but also create more waste generation within the parks with the use of single use items.

Events with food and beverages hosted by Montgomery Parks provide recycling receptacles, but not all single-use items can be recycled. Some parks have recycling bins to collect bottles and cans, but these bins are often contaminated with non-recyclable items. Depending on the type and amount of contamination can lead to items in the recycling bin having to be collected as trash. To increase diversion of waste generated within parks, the Department will need to invest in additional infrastructure to support the recycling programs in the parks and at events. While also simultaneously enhancing communication to the public around proper waste sorting. The Department should also explore opportunities to work with vendors at events to provide more sustainable packaging options.

As a public land agency, illegal dumping of large household trash and littering has continued to be a challenge. These volumes of trash become part of the organization's waste stream. This waste is often removed by volunteers through stream and park clean-ups, which help prevent the waste from entering local waterways. Litter ending up in the parks is not always intentional, especially during storms which cause trash to be blown out of receptacles or dumpsters without securely fastened lids. Reducing the amount of litter in the parks will require strategic placement of waste receptacles, potentially upgrading bins to reduce 'unintentional' litter, and public outreach campaigns.

CURRENT PROGRESS AND ASSESSMENT

Recycling



Montgomery Parks recycling truck

Since 2016, Montgomery Parks and Montgomery Planning have maintained a diversion rate of over 60% of total waste with an annual average diversion rate of approximately 70%. Within all Montgomery County M-NCPPC facilities is a dual stream recycling system to collect paper, cardboard, glass, aluminum, steel/tin, and plastic. This simply means mixed paper and cardboard are separated from commingled materials. The success of the dual stream recycling program relies on effective communication, education, and monitoring practices to reduce contamination of the recycling stream.

Certain materials are mandated by the County to be recycled by an organization with more than 100 staff. The Departments have also added waste diversion programs for additional materials beyond what is mandated by the county, which has vastly increased diversion rates.

Below is a list of all the materials the Parks and Planning Departments divert from the incinerator:

Mandatory Recycled Materials:

Mixed Paper

Cardboard

Comingled Materials:

- Plastic – Containers, Jugs, and Bottles
- Glass – Jars and Bottles
- Aluminum – Cans and Foil Products
- Steel/Tin – Cans and Lids

Yard Trim: Grass, Leaves, and Brush

Scrap Metal

Additional Recycled Materials (Voluntary):

Batteries

Concrete/Asphalt

Construction Debris

Electronic Waste

Light Bulbs

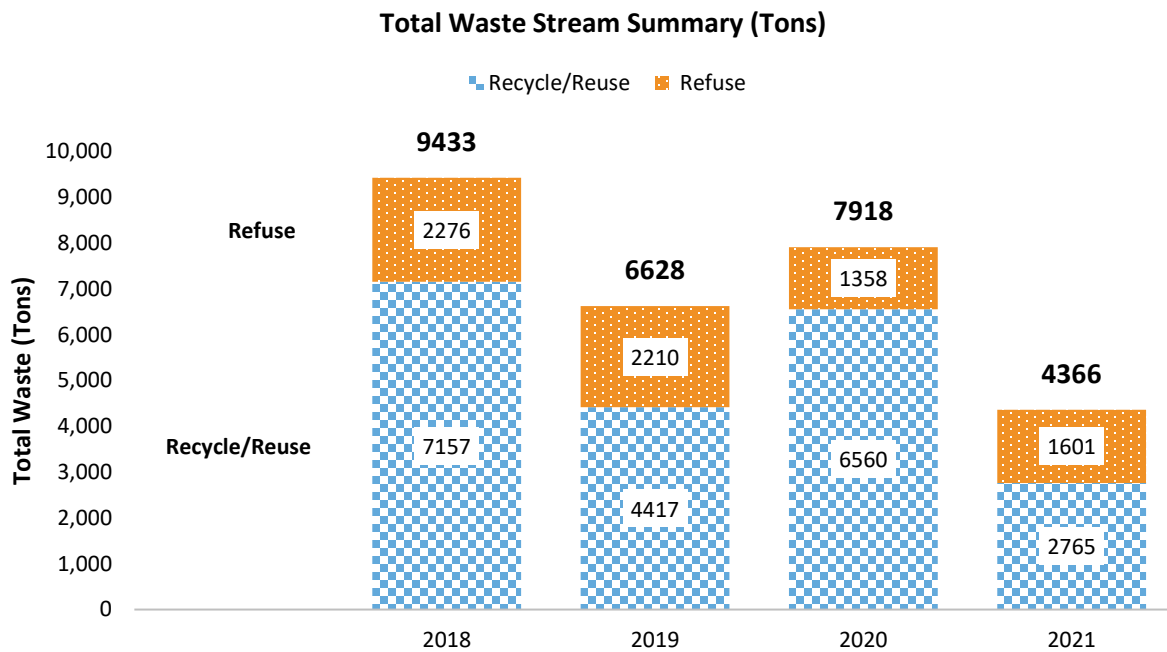
Motor Fuel

Tires from Fleet

Tires Illegally Dumped in Parks

The recycling program at Montgomery Parks is fueled heavily by construction and demolition waste. Concrete, asphalt, and other construction debris is extremely heavy and represents a significant tonnage of the yearly recycling numbers. Because of this, the overall waste diversion rate can vary year to year. For example, in 2020 the Heavy Equipment shop replaced the entire driveway at the Wheaton Maintenance Facility. This project alone was nearly 2,500 tons of recycling. That year asphalt, concrete, and other construction debris totaled 4,000 tons and was about 60% of all recycled material that year.

Figure 6.1: Montgomery Parks and Planning Departments' Diversion Rate, 2018-2021



Calendar Year	2018	2019	2020	2021
Total Tons of Recycling/Reuse	7,157	4,417	6,560	2,765
Total Tons of Refuse	2,276	2,210	1,358	1,601
Total Amount of Waste Generated	9,433	6,327	7,918	4,366
Diversion Rate	73%	67%	83%	63%

Montgomery Parks' Annual Haulers Report

Reduction in Recycling Contamination

A reduction in recycling contamination is integral to maintaining a successful recycling program. Montgomery Parks Facilities Management Division has implemented a few programs to reduce contamination rates in Parks' indoor facilities:

Began Self-Hauling all Dual Stream Recycling: Instead of contracting out recycling pick-ups, Parks decided to purchase a large recycling truck to service dumpsters at maintenance facilities and select other facilities. The decision to self-haul was made to provide another level of quality control when it comes to contamination reduction and allows for more accurate data of total amount of recycled materials.

Established a Waste Audit Initiative: The Sustainability Team began auditing waste and recycling dumpsters for improper sorting of materials. A report is sent to facility/park managers and division chiefs with information on how to properly sort. Initial round of audits for 22 sites was completed and add an additional layer of accountability for the materials disposed of.

Consistent Education and Outreach to Staff: Trainings on how to properly recycle and the importance of recycling right at facilities is offered annually to Montgomery Parks and Montgomery Planning staff. In 2022 alone, 119 staff were engaged in an online training on recycling.

Parks Green Waste Recycling Program

The Parks' Arboriculture Section in the Horticulture, Forestry, and Environmental Education Division manages a comprehensive tree care program that includes tree inspection, tree maintenance and hazardous tree removal on parkland. This program and the maintenance division's turf care operations produce a significant amount of organic waste, also known as green waste. Almost all the green waste removed from the parks is processed at Pope Farm Nursery, where it is composted or salvaged and reused within the parks. This is a circular model of resource management.

The Parks' green waste recycling program:

- Diverts an average of 2,100 tons of organic waste annually from the incinerator.
- Converts organic waste into wood chips, mulch, firewood for Parks programs, compost, and milled wood.
- Produces wood products using a portable sawmill. Example products include tree stakes and replacement wood boards for trailers and trucks used in park operations.
- Utilizes processed timber from tree removals, to build furniture for parks and buildings. Examples include desks and wall paneling at Wheaton Headquarters that were made from ash trees removed from parks due to emerald ash borer.
- Holds periodic public urban wood sales. The urban wood sale brings public awareness to urban wood recycling, generates revenue to support the green waste program, and reduces carbon emissions associated with tree removal.



2022 Urban Wood Sale

Volunteer Park Clean-Ups

Another way Montgomery Parks can remove waste from the parks and contribute to our overall recycling efforts is through the Volunteer Clean-Ups Program. These events are typically held at watersheds, particularly creeks or streams, to help remove waste from waterways. Whenever possible, the waste picked up at the clean-ups is sorted and recycled.

Annually the clean-up volunteers:

- Donate nearly 80,000 hours of volunteer labor
- Collect 30,000 lbs of waste from parks and watersheds
- Remove and recycle approximately 100 tires illegally dumped on parkland

GOALS AND RECOMMENDED ACTIONS

Goal: Reduce the total amount of waste generated through operations and within the parks.

Recommended Actions:

Action Number	Action Description
<p>W.1.1</p>	<p>Execute a countywide initiative to reduce litter, which includes a public outreach campaign about reducing litter and caring for our parks.</p> <p>Lead: Montgomery Parks – Facilities Management, Public Affairs and Community Partnerships, and Northern and Southern Parks</p>
<p>W.1.2</p>	<p>Create internal sustainable guidelines for events and programs for all Divisions.</p> <p>Lead: Montgomery Parks – Facilities Management in coordination with Public Affairs and Community Partnerships and Horticulture, Forestry, and Environmental Education</p>
<p>W.1.3</p>	<p>Create sustainable waste management requirements for Parks Special Permits when events have food or drinks provided.</p> <p>Lead: Montgomery Parks – Facilities Management, Public Affairs and Community Partnerships, Horticulture, Forestry and Environmental Education, and Northern and Southern Parks</p>
<p>W.1.4</p>	<p>Create a green rental guide for patrons when they obtain a rental permit to inform patrons on how to be more sustainable.</p> <p>Lead: Montgomery Parks – Facilities Management and Public Affairs and Community Partnerships</p>

Goal: Maintain 70% average diversion rate, explore opportunities to increase diversion rate of organic and non-organic materials, and reduce contamination of waste streams.

Recommended Actions:

Action Number	Action Description
<p>W.2.1</p>	<p>Evaluate additional staffing and infrastructure needs for consistent recycling program within parks.</p> <p>Lead: Montgomery Parks – Facilities Management and Northern and Southern Parks</p>
<p>W.2.2</p>	<p>Implement strategies to reduce recycling contamination in parks recycling bins, by:</p> <ul style="list-style-type: none"> • Working with park managers to identify common contaminants • Placement of clear consistent signage • Message development for internal and external audiences • Develop and execute a communications strategy <p>Lead: Montgomery Parks - Facilities Management, Northern and Southern Parks, and Public Affairs and Community Partnerships</p>
<p>W.2.3</p>	<p>Identify potential additional waste streams that can be diverted and expand recycling program to include additional materials.</p> <p>Lead: All Divisions within Montgomery Parks and Planning in coordination with Facilities Management</p>
<p>W.2.4</p>	<p>Provide annual education and training for commission staff on best practices for recycling and refuse.</p> <p>Lead: Montgomery Parks - Facilities Management</p>
<p>W.2.5</p>	<p>Provide proper infrastructure and equipment for operation of a kiln at Pope Farm to increase efficiency and increase the long-term sustainability of products produced by processed timber from tree removals.</p> <p>Lead: Horticulture, Forestry, and Environmental Education in coordination with Park Development and Facilities Management</p>

Goal: Implement sustainability-focused policies into the procurement process.

Recommended Actions:

Action Number	Action Description
<p>W.3.1</p>	<p>Creation of a Commission-wide Sustainable purchasing policy, which might include:</p> <ul style="list-style-type: none"> • Potential update or amendment to M-NCPPC Practice 4-10 • Adding sustainability practices and requirements to the Commission Purchasing Manual • Updates to the RFP process • Development of environmentally preferable product and service (EPPS) specifications • Sustainable certification requirements (Green Seal, Energy Star, etc.) • Working with suppliers to ensure compliance <p>Lead: M-NCPPC – Purchasing Services Division and Bi-County Sustainability Committee in coordination with all Departments</p>
<p>W.3.2</p>	<p>Provide education and training for commission staff on best practices for sustainable purchasing.</p> <p>Lead: M-NCPPC - Purchasing Services Division and Bi-County Sustainability Committee</p>

Indicators:

Indicators of progress for this focus area include the following:

- Reduction in annual total waste generated
- Percentage of waste diverted from incinerator
- Number of staff engaged in recycling, waste reduction, and sustainable purchasing training
- Tonnage of organic materials brought to the Pope Farm for recycling into compost, mulch, wood chips, and topsoil and quantity of finished product utilized in Park projects
- Average contamination rate of recycling dumpsters and outdoor bins within parks
- Number of waste streams collected for recycling, reuse, or compost

PRESERVE OUR PARKS, GREEN OUR GROUNDS



Rachel Carson Conservation Park

Montgomery Parks will:

- Integrate sustainable best management practices (BMPs) into operations and maintenance of managed park spaces
- Retain natural resources within parks
- Enhance ecological services and biodiversity on parkland
- Create sustainable park design standards that enhance ecosystem services and increase resiliency of parks to impacts of climate change

A core tenet of Montgomery Parks mission is to “balance the demand for recreation with the need for conservation.” In the past, goals to provide recreation and steward land have been viewed as binary, and parks were designated as either for recreation or stewardship. The newly adopted PROS 2022 plan sets a goal of designing parks, facilities, and amenities to support physical activity and social connections, while simultaneously stewarding environmental resources. Park spaces planned to achieve multiple goals in practice will result in more environmental stewardship opportunities in recreation spaces.

Montgomery Parks has been a leader in environmental stewardship, through acquisition of high priority natural areas for parkland and conducting environmental improvement projects, such as stream restorations and wetland creations. About 76% of parkland is considered conservation oriented, a designation that provides distinct provisions for development and use. Some of that parkland is designated as Best Natural Areas (BNAs), which contain the best examples of park natural resources within the County. Features such as large wetlands, high quality aquatic resources and forests; diverse native vegetation; uniquely spectacular topography and bedrock formations; and/or unique habitats that are scarce and fragile help determine an area as a BNA. Montgomery Parks has historically prioritized land acquisitions within stream valleys. The preservation of these natural areas plays a critical

role in preserving biodiversity, providing wildlife corridors, protecting local watersheds, and connecting people to nature.

Most of the Montgomery Parks system's natural areas were acquired during a time when it was believed these spaces were self-sustaining and not in need of management. Management requirements for natural resource stewardship have grown more rapidly than the staffing or funding resources required to manage them. Additionally, climate change and sprawling, auto-oriented development patterns have put additional stress on these natural habitats and increased the need to actively manage these resources. An increased focus on managing natural areas within parkland will be important to the long-term health of habitats and survival of species.

There is a considerable amount of green infrastructure and habitat outside of conservation designated parkland that provides biodiversity enhancement, carbon sequestration, urban heat island mitigation, and flood mitigation. There is also the potential to add additional forested, meadow, and wetland habitat on parkland.

Parks are critical natural infrastructure that protect communities from the effects of climate change. At the same time, climate change puts additional stress and threatens the natural habitats and green infrastructure needed for climate resiliency. Sustainability and climate resiliency must be incorporated into the planning, design, and maintenance of all parks regardless of park classification. Actions and recommendations within this section related to the enhancement of biodiversity and natural resources are related to nature-based climate solutions (NCS) and the goals set forth by the Montgomery County CAP.

CURRENT PROGRESS AND ASSESSMENT

Urban Forestry in Parks

Montgomery Parks has a dedicated crew and staff who oversee the inspection, maintenance, preservation, and care of trees in 420 parks. The Arboriculture Section maintains a tree inventory of over 29,600 landscape trees. The tree inventory is a valuable tool and helps the Department:

- Provide long-term maintenance of trees on a regular cycle
- Understand tree species distribution to plan for tree planting
- Track and combat tree pests and diseases
- Increase the public's awareness of the benefits of trees

The section has implemented a preventative tree maintenance program in addition to the hazard tree removal program. The program focuses on maintaining the health and resiliency of existing landscape trees in the parks by putting trees on a regular pruning cycle throughout all life stages from planting to tree removal. Regular pruning allows trees to remain structurally durable, protect them from storm damage, and provide clearance from park amenities.

The Arboriculture Section also recently mapped out urban forest patches in local, urban, and neighborhood parks. Data collected included species diversity, invasive cover, and understory health of the patches. Most of these patches are not currently managed but serve a deep ecological purpose in identified equity focus areas that are low in forest and tree canopy cover which results in high urban heat island effect. Sustained and consistent management and technical expertise will improve forest patch health, providing for productive urban forests that mitigate climate impacts and remain resilient to climate change.

Integrated Pest Management

Montgomery Parks follows Integrated Pest Management (IPM) principles to steward resources and protect them from pests. IPM principles combine multiple strategies and techniques to manage pests such as mechanical removal of pests, cultural methods to improve soil and plant health, conserving and introducing beneficial biological controls, and using organic as well as conventional pesticides.

The Department has implemented multiple programs to reduce the use of conventional pesticides, while effectively managing pests on parkland. Pesticides are not used cosmetically and are selected as a last resort to control noxious weeds, non-native invasive (NNI) plants and pests, maintaining safe and playable athletic fields and courts, and prevent significant economic damage to park infrastructure.

Alternative practices such as mechanical removal of pests with hand tools and equipment, or cultural methods like improving soil health and addressing drainage issues, or the use of beneficial organisms to manage pests are prioritized. There are currently 55 parks that are managed without conventional pesticides and all park playgrounds are managed without the use of these products.



Volunteer removing NNI plant during a Weed Warrior Workday

Montgomery Parks NNI program is a great example of a strategy for mechanically managing undesirable plants that pose a major threat to our parks by out-competing native understory plants, killing trees, affecting bird and insect populations, and altering the composition of forest landscapes. Montgomery Parks uses IPM strategies to control NNI on parkland and follows species-specific best management practices for control. When mechanical strategies are exhausted or deemed ineffective, chemical management strategies are considered with emphasis placed on using the smallest effective dose of the least harmful product necessary to manage the pest.

The Weed Warrior Program trains and activates volunteers to identify and remove NNI plants, primarily through mechanical strategies. In 2022 the volunteers donated 10,403 hours and saved approximately over 12,000 trees, which is a new record. The volunteers are incredibly important in protecting the health of terrestrial resources within the parks.

Montgomery Parks Plant Production

Pope Farm Nursery provides a cost-effective program dedicated to the production of high-quality trees, shrubs, perennials, native plants, and annual plants to support the development, maintenance, beautification, and conservation of over 37,000 acres of parkland. Pope Farm has 75 acres of growing facilities that include greenhouses, overwintering houses, containerized trees and shrubs, and irrigated field plots. Pope Farm Nursery grows most of the trees, shrubs, and ornamental plants featured within the parks. The nursery also grows herbaceous plants for stormwater facilities located on parkland. Last fiscal year, Pope Farm grew and planted 1,500 trees and 1,125 shrubs on parkland.



Meadow at Agricultural History Farm Park

Meadow Management and Restoration

Montgomery Parks operates a Meadow Management and Restoration Program. Meadows are plant communities composed primarily of herbaceous plants and some shrubs that typically take anywhere from 2-5 years to fully establish themselves. These areas are generally “no-mow zones,” but the occasional spot mowing and brush cutters or chainsaws are used to control NNI species and keep woody vegetation low.

The Department has been working to prioritize meadow habitats within parks and create detailed management plans for each meadow site. Management objectives range from simple invasive species control for naturally diverse meadows to full scale restoration for meadows dominated by invasive species. Native meadow restoration enhances soil carbon sequestration, tolerance to drought conditions, and native species diversity and resources. Currently, this Program manages 124 meadows across our park system.

Stormwater Management

Currently, watershed restoration efforts are driven by state and federal mandates. Montgomery Parks holds National Pollutant Discharge Elimination System (NPDES) permits. The Phase II General Permit for discharges from small Municipal Separate Storm Sewer Systems (MS4) requires the Department to provide stormwater treatment for 20% of untreated impervious surface on parkland by 2025. Parks is currently on track to meet that goal through various projects such as stormwater retrofits, stream restorations, and outfall stabilizations. Smaller watershed restoration projects may include riparian restoration after bridge or culvert construction, repair of erosion associated with storm drain outfalls, small wetland/floodplain improvements, or riparian stream buffer plantings. Maintenance yards each have Industrial NPDES permits that guide best management practices to reduce pollution and runoff from the facilities that pose the highest risks to receiving waterbodies.

Due to the significant percentage of streams in the County flowing through stream valley parks, many of the County watershed restoration projects are implemented on parkland. Montgomery Parks assists the Montgomery County Department of Environmental Protection with watershed restoration projects so the County can meet their impervious acre goal.

Sustainable Park Design

Montgomery Parks has been investing in sustainable park design for new and renovated parks. **Evans Parkway Neighborhood Park** in Silver Spring is a notable example of sustainable design and is certified through the Sustainable SITES Initiative. The park was expanded and renovated after the Department acquired an adjacent 2.4-acre vacant lot. The renovation included environmental restoration, interactive public areas, and active recreation designed for inclusivity.

Some of the sustainable features added to the park during the renovation included:

- Use of recycled materials
- Creation of meadow and riparian habitat with native plants
- Reduction of stormwater runoff with bioswales
- Removal of 300-foot-long section of concrete-lined stream channel and the naturalization and restoration of that stream and its banks
- A new boardwalk, bridge, and paved pedestrian loop trails

In addition to these features, artwork was integrated into the overall design through a nationwide competition.

Brookside Gardens has also gone through a sustainable parking lot renovation. The project added a new entry driveway and parking lot with permeable paving. The renovation also included an elevated boardwalk utilizing locally harvested non-exotic hardwood, living water features, stormwater management facilities, upgraded lighting and utilities, and biofilters.



Evans Parkway Neighborhood Park renovation

GOALS AND RECOMMENDED ACTIONS

Goal: Integrate sustainable best management practices (BMPs) into operations and maintenance of managed park spaces.

Recommended Actions:

Action Number	Action Description
<p>P.1.1</p>	<p>Update park maintenance strategies that help the parks thrive in a changing climate. Strategies should reduce maintenance and labor inputs, increase soil moisture retention, and account for climate impacts. Some examples include:</p> <ul style="list-style-type: none"> • Leaf retention in parks • Installation of surplus logs • Installation of larger more efficient tree wells • Tree placement and tree mulching to reduce mower blight • Increase pollinator habitat • Removal and naturalization of underutilized turf areas • Restoration of floodplains, stream buffers, and historical wetlands • Turf species chosen from Alliance for Low Input Sustainable Turf (A-List) <p>Lead: Montgomery Parks – Northern and Southern Parks, Horticulture, Forestry and Environmental Education, and Facilities Management in coordination with multiple other Divisions</p>
<p>P.1.2</p>	<p>Develop planting best management practices that consider current/projected climate conditions for various park’s planting projects.</p> <p>Lead: Montgomery Parks - Park, Planning, and Stewardship and Horticulture, Forestry, and Environmental Education</p>

Goal: Retain natural resources and enhance ecological services and biodiversity within parks.

Recommended Actions:

Action Number	Action Description
P.2.1	<p>Reduce managed turf areas on parkland. Work with park managers to identify hard to mow areas that are ideal for transition to natural areas. Develop informational signage to educate the public on the ecological benefits of this operational change. Ensure sufficient unprogrammed open space remains for informal community use.</p> <p>Lead: Montgomery Parks - Park Planning and Stewardship, Northern and Southern Parks, and Horticulture, Forestry, and Environmental Education</p>
P.2.2	<p>Assess the management needs for natural areas on parkland and consider the funding and creation of a maintenance crew dedicated to management of targeted natural areas.</p> <p>Lead: Montgomery Parks – Park, Planning, and Stewardship</p>
P.2.3	<p>Expand NNI management program and staff to address parkland outside Best Natural Areas and Biodiversity Areas.</p> <p>Lead: Montgomery Parks - Park, Planning, and Stewardship</p>
P.2.4	<p>Expand the Park’s Tree Planting and Maintenance program to:</p> <ul style="list-style-type: none"> • Evaluate species performance using landscape tree inventory data to create an optimized species list for future plantings • Identify priority planting sites for trees in developed park areas utilizing available data on equity focus areas and urban heat islands with special focus on improving species and size class diversity. • Inventory, develop, and implement management plans for urban forest patches, to improve survivability and improve species and size class diversity. • Develop urban forest pest monitoring program to predict and respond to pest infestations impacting forest health more effectively. • Formalize and implement a cyclical landscape tree monitoring program to assess survival during establishment, verify correct installation, ensure maintenance standards met, assess species performance, and identify planting stock issues. <p>Lead: Montgomery Parks – Horticulture, Forestry, and Environmental Education</p>

Goal: Create sustainable park design standards that enhance ecosystem services and increase resiliency of parks to the impacts of climate change.

Recommended Actions:

Action Number	Action Description
<p>P.3.1</p>	<p>Utilize regenerative landscaping principles to add more landscape beds with herbaceous plants into new park development projects, park renovation, and refresher projects. Ensure long term success of projects by:</p> <ul style="list-style-type: none"> • Creating a task force for design, review, and management of open space natural areas • Including funding for installation and maintenance • Making plant selections that consider the adaptive capacity to climate change, low maintenance requirements, and visual interest <p>Lead: Montgomery Parks – Park Development in coordination with Horticulture, Forestry, and Environmental Education and Park, Planning, and Stewardship</p>
<p>P.3.2</p>	<p>Create climate smart park design standards to maximize climate change mitigation and resiliency of parks.</p> <p>Lead: Montgomery Parks – Park Development</p>

Indicators

Indicators of progress for this focus area include the following:

- Acreage of impervious surfaces treated with stormwater management on parkland
- Percentage of parkland that is managed turf area
- Percentage of landscape trees pruned within the 3-year cycle of preventative maintenance
- Species diversity and age distribution of trees on parkland
- Percentage of climate adaptive species utilized in parkland plantings
- Acreage of NNI plant management and habitat restoration occurring on parkland

PLAN TO THRIVE



Fairland Placemaking Festival 2022

Montgomery Parks and Montgomery Planning will:

- Facilitate inclusive community engagement in planning and project development, particularly for communities that have been historically underrepresented in the planning process
- Ensure equitable distribution of services, programs, natural environment, and parks
- Apply and incorporate an equity lens to plans, policies, and practices
- Incorporate environmental justice principles and climate vulnerabilities into land-use decision making
- Implement land use policies and practices that reduce use of personal automobiles and increase use of transit and active transportation
- Implement land use policies that simultaneously improve environmental quality and public health

Thrive Montgomery 2050 is the recently adopted update to Montgomery County’s General Plan—the long-term policy document that guides future growth and development in the county. Thrive lays out what Montgomery County could look like when we come together to realize an equitable future that works for all of us. The General Plan sets the vision and provides guidance not only for private sector

development, but also for how public agencies, including the Commission, plan, grow, and do their work for the residents of Montgomery County.

This Plan is consistent with the Thrive Montgomery 2050 vision, but with a specific mission to outline strategies for the Commission to achieve sustainable outcomes in the areas of its own stewardship. This includes not only the operations and management of Commission facilities, but also how staff can approach and prioritize work to support regional and Commission sustainability goals. The Sustainability Plan does not add to the recommendations and outcomes of Thrive Montgomery 2050, but rather builds upon the sustainability foundation it provides. Supported by the General Plan, the Sustainability Plan is a tailored blueprint for how the Commission as an agency will be a sustainable stakeholder and steward in Montgomery County.

The goals and vision of Thrive Montgomery 2050 will inform all land use planning through development of master plans. Regulatory approvals of developments by the Planning Board are guided by the policy recommendations of Thrive. The mission of Montgomery Planning is to improve the quality of life in the County by planning the natural and built environments for current and future generations. Thrive aims to do this through recommendations that achieve three overarching objectives: racial equity and social justice, environmental health and resilience, and economic competitiveness. These objectives are similar to the pillars of sustainability that guide the development of this Plan and are in line with goals of M-NCPPC Practice 6-40.

Thrive includes a Parks and Recreation chapter, which describes the role of public and privately-owned parks and gathering spaces in encouraging social interaction, promoting a healthy lifestyle through physical activity, and mitigating the effects of climate change through environmental stewardship. Montgomery Parks submits a Parks, Recreation, and Open Space (PROS) Plan every five years to the State of Maryland. The PROS Plan serves as the primary planning document for parks and recreation in Montgomery County and is informed by the recommendations in Thrive.

This section of the Sustainability Plan outlines current progress of the sustainability focused work of the Parks and Planning Departments. It also provides some recommendations as to how the two departments continue to implement the three pillars of sustainability into community and parks planning.

CURRENT PROGRESS AND ASSESSMENT

Equity Data Analysis Tools

Montgomery Planning is in the process of developing several analytic tools to understand socioeconomic conditions in different parts of the county and facilitate discussion and decision-making about the equitable allocation of resources. This work is being completed as part of the Department's [Equity Agenda in Planning](#), a multi-faceted initiative launched by Montgomery Planning in 2020 to make equity a foundation for its planning work and department operations. A recent accomplishment is the Department's Racial and Ethnic Diversity GIS Story Map. It is an interactive visual representation for the racial and ethnic changes that have happened in Montgomery County from 1990-2020. It uses the historical and latest Decennial Census data to illustrate the trends and spatial concentration of each race and Hispanic ethnicity. Lastly, it shows which of the four major groups (Black, White, Hispanic, and non-Hispanic Asian) is predominant, majority, or the most common group in each Census tract.

One of these tools is the [Equity Focus Area Analysis](#). Completed in 2021, the EFA mapping tool identified areas of the County with a majority of residents who are people of color, have low incomes, and speak English less than very well. After careful analysis, Montgomery Planning identified over 275,000 people, roughly 27% of the population, in the county who live in EFAs. Unlike other regional and national racial equity analysis, the Equity Focus Areas Analysis used a methodology tailored to Montgomery County, which makes it a particularly useful tool to aid and guide numerous planning projects for both the Park and Planning Departments. For example, the tool has been used to inform recommendations in Thrive Montgomery 2050; Corridor Forward: the I-270 Transit Plan; a prioritization strategy for the Reforest Montgomery Program; and Parks Department's Capital Improvement Program Prioritization.

In addition, Montgomery Planning completed an analysis of [Neighborhood Change in the Washington, DC region](#). This analysis identified neighborhoods in the region where change has trended towards concentrated poverty, gentrification, or inclusive growth. In Montgomery County, low-income concentration is more prevalent than gentrification; neighborhoods with new housing development grew inclusively; and neighborhoods with little to no new development tended to have concentrated poverty.

Lastly, Planning staff are completing work on an analysis of a [Community Equity Index \(CEI\)](#). Where the EFA analysis is binary (census tracts are either in or out), the goal of the CEI is to characterize all tracts and provide a relative comparison of neighborhood conditions. It will also serve as a benchmark against which to gauge future progress.



Day 4 of Thrive Montgomery Week at Ellsworth Fountain Plaza

Thrive Montgomery 2050

Thrive Montgomery 2050, the update to the county's General Plan, is the policy document approved by the Montgomery County Council on October 25, 2022. In general, Thrive's recommendations encompass the following themes:

- Focus new growth near transit in downtowns, activity centers, and along key corridors
- Create communities that offer equitable access to jobs, more housing, transportation, parks, and public spaces
- Create economic competitiveness through quality of place; transportation; and housing
- Emphasize walking, biking, rolling and transit
- Enhance public and private spaces with arts and culture
- Target place-based environmental sustainability and resilience

In addition, Thrive aims to address land use impacts on GHG emissions and climate related risk. Actions recommended by Thrive Montgomery 2050 and the County CAP are meant to be complementary rather than duplicative. The integration of the principles of sustainability and climate actions in Thrive will ensure other master plans and regulatory controls will prioritize social equity, environmental resilience, and economic competitiveness.

Equitable Community Engagement in Action

As part of Montgomery Planning's Equity Agenda in Planning initiative, the Department applies an equity lens during the development of master plans and uses multiple strategies to conduct equitable engagement with the County's diverse communities. As a recent example, for the **Fairland and Briggs Chaney Master Plan** currently underway, Montgomery Planning held in-person and virtual community listening sessions and workshops, canvassing to reach residents of multi-family buildings, conducted a placemaking festival in partnership with community members, and translated plan materials to reach this community's majority Black and African American residents.

The Fairland and Briggs Chaney community falls within an identified EFA, so community resilience is a deep focus for the upcoming plan to address existing inequities and future vulnerabilities to climate change. One way the plan is looking to do this is by mitigating identified urban heat islands through potential development design guidelines. Fairland Recreational Park was also cited as a potential location for an agro-tech park that could teach and mentor growers, create local green jobs, and address food security issues.

Climate Assessments

Signed into law by the Montgomery County Council on July 25, 2022, Bill 3-22, "Climate Assessments" requires the Office of Legislative Oversight (OLO) to conduct a climate assessment of introduced county bills starting January 1, 2023, and the Planning Board to conduct a climate assessment of proposed Zoning Text Amendments (ZTAs) and master plans and master plan amendments (collectively called master plans) starting March 1, 2023. Bill 3-22 replaces an existing requirement for the Planning Board to assess a master plan's potential impact on greenhouse gas emissions in the county, including a carbon footprint analysis, and consider ways to reduce vehicle miles traveled and options to minimize GHG emissions. On December 8, 2022, Montgomery County Planning Board approved a methodology and a template for Montgomery Planning staff to conduct climate assessments of Zoning Text Amendments (ZTAs) and master plans as required by Bill 3-22.

The goal of Bill 3-22 is to enhance the County Council's understanding of the potential impacts of proposed legislation on climate change. While climate assessments for master plans will be required to be submitted when Planning Board draft of master plans are transmitted to the Council, Montgomery Planning's assessment methodology is designed to incorporate consideration of potential climate impacts of master plan recommendations earlier, during the plan development process. This approach also will allow planners to develop master plan recommendations to support implementation of the county's Climate Action Plan and Thrive Montgomery 2050. Policies and strategies in both plans support eliminating greenhouse gas emissions and making land use and infrastructure more resilient and sustainable.



Community members filling out survey for the Montgomery Parks Long Branch Initiative, which is an effort to update multiple parks in the area together with the community and conduct placemaking. Community engagement included mixed-methods of door-to-door canvassing, in-person and online surveys, hosting events and public meetings, and conducting focus groups.

2022 PROS Plan

Montgomery Parks' 2022 Park, Recreation, and Open Space (PROS) Plan, which updated the 2017 PROS Plan, will guide the future development and management of Montgomery County's parks system. This Plan aims to provide equitably activated, centrally located community spaces that meet recreational needs and protect and manage natural and cultural resources for future generations. The PROS Plan was influenced by and supports Thrive Montgomery 2050.

Receiving community input was important for the Plan's development. Staff used statistically valid surveys to inform the plan and engaged with residents to understand what the Department should prioritize. Two criteria were used for targeting resources: services of highest importance and lowest satisfaction. Priorities rated highest in importance by respondents include access to restrooms, maintenance, safety, options for seniors, preservation of nature, and recreational opportunities for teensⁱ.

ⁱ Full report of the survey results: [2021 Maryland-National Capital Park & Planning Commission Survey Findings Report](#)

PROS is a dynamic plan that includes several key recommendations for the Department to focus on within the next 5 years related to equity, environmental stewardship, and increasing walkability of communities. Below are a few:

- Develop a Racial and Social Equity Plan incorporating and building on data driven tools such as the Equity Focus Areas and Energized Public Spaces (EPS) Plan to ensure the quantity and quality of park facilities and programming are available to all residents on an equitable basis.
- Acquire and develop parks in locations served by good transportation options with a focused investment in places accessible by walking, biking, and transit.
- Improve active transportation and safe access to parks by working with public agencies.
- Integrate park trails and paths into transportation planning and better use them to connect residents to jobs, centers of activity, and other parks and trails.
- Strive for more attractive and culturally appropriate public spaces.
- Build more community gardens in or accessible to underserved and high-density areas to increase access to fresh, healthy foods and promote social engagement.
- Update policies and plans to acknowledge the evolution of the business of agriculture and develop recommendations to enhance the economic viability of farming, facilitate locally grown food, provide opportunities for outdoor recreation and tourism, and advance environmental quality.
- All recommendations listed in Chapter 4: Natural Resources & Environmental Stewardship

This Plan is not meant to replicate the recommendations within PROS but will address some of them that can promote Commission sustainability and County Climate Action goals.



Little Falls Parkway closed off to vehicle traffic on the weekend as part of the Montgomery Parks Open Parkways Program

Food Donations

Parks plays a role in expanding access to healthy, fresh, local food through the Community Gardens Program. A core priority of the program is to reduce food waste and food insecurity within the county through food recovery and donations. Food insecurity is defined by the United States Department of Agriculture as the lack of access, at times, to enough food for an active, healthy life. In Montgomery County, food insecurity also examines what other potential inequities exist that would hinder a person or household from accessing and consuming fresh local produce. In 2019, the median food insecurity rate of Montgomery County was 8.6%⁵. The program contributes to a more holistic and equitable food system through two key partnerships:

Food Donations with HarvestShare: HarvestShare is a local organization that is committed to reducing food insecurity in Montgomery County. The Parks Community Garden program has partnered with this organization since its inception, sharing healthy, nutritious, fresh produce with neighbors in need through local food assistance providers. In 2022 alone, community gardens donated over **3,000 lbs** of food to support members of the community.

Grown@Pope: Grown@Pope is an internal partnership between the Community Garden Program and Pope Farm Nursery. The focus of this project is to build and support food security in Montgomery County. This past year, nearly **950 lbs** of food was grown and donated by Pope Farm to the local community.



Fenton Street Urban Park Community Garden Harvest event, where produce from the garden was donated to HarvestShare

GOALS AND RECOMMENDED ACTIONS

Goal: Facilitate inclusive community engagement in planning and project development, particularly for communities that have been historically underrepresented in the planning process.

Recommended Actions:

Action Number	Action Description
<p>T.1.1</p>	<p>Employ outreach efforts using mixed methods that are tailored to the community and will engage the public in the planning process. This should be done to reach underserved populations and include diverse sets of voices. Communication methods might include:</p> <ul style="list-style-type: none"> • Focus groups • Online Surveys • Digital communications • Tabling at events and meetings • Inviting community to site visits • Sending personal invitations via email • Knocking on doors/visiting houses, via consultant <p>Lead: Montgomery Parks – Public Affairs and Community Partnerships and Montgomery Planning</p>
<p>T.1.2</p>	<p>When Montgomery Parks or Montgomery Planning determines external public outreach expertise will enhance equitable engagement during plans or projects, judiciously select vendors that specialize in engaging communities that are typically not included in the planning and development process.</p> <p>Lead: Montgomery Parks – Public Affairs and Community Partnerships and Montgomery Planning</p>

Goal: Apply an equity lens into plans, policies, and practices to ensure equitable distribution of services, programs, natural environment, and parks.

Recommended Actions:

Action Number	Action Description
<p>T.2.1</p>	<p>Expansion of Parks' community garden program with a focus on reduction of food insecurity in the county. Explore expansion of the current food donation program and placing gardens in areas of the county with the highest food-insecure populations</p> <p>Lead: Montgomery Parks – Horticulture, Forestry, and Environmental Education</p>
<p>T.2.2</p>	<p>Increase prioritization of Reforest Montgomery trees and outreach efforts to residents in Equity Focus Areas to participate in this program.</p> <p>Lead: Montgomery Planning – Intake and Regulatory Coordination Division</p>
<p>T.2.3</p>	<p>Provide additional resources for protection and maintenance of critical natural resources within EFAs. Some examples include maintenance of urban forest patches and preventative tree maintenance programs. Consider acquisition of natural resource-based parkland in EFAs where most needed.</p> <p>Lead: Montgomery Parks - Horticulture, Forestry, and Environmental Education and Park Planning and Stewardship</p>

Goal: Incorporate environmental justice principles and climate vulnerabilities into parks operations and delivery of services to residents of the county and master plans.

Recommended Actions:

Action Number	Action Description
<p>T.3.1</p>	<p>Review metrics to ensure equitable access to green spaces within the county as envisioned by the Energized Public Space Functional Master Plan and PROS Plan. Target should be set to prioritize expansion of green spaces in parts of the county where deficient has been identified.</p> <p>Lead: Montgomery Parks – Park Planning and Stewardship</p>

Action Number	Action Description
T.3.2	<p>Explore and/or develop tools to identify areas vulnerable to the negative impacts of climate change and develop strategies to mitigate these impacts in parks plans and land use master plans. Prioritize areas with historically disadvantaged populations who are most vulnerable to climate impacts. Leverage County Government efforts such as the Climate Action Plan vulnerability analysis, Flood Management Study, and other climate impact analyses to support CAP implementation.</p> <p>Lead: Montgomery Parks, Montgomery Planning, and other County Departments</p>
T.3.3	<p>Use urban heat map of Montgomery County to prioritize new tree plantings on parkland in areas with high urban heat island effect.</p> <p>Lead: Montgomery Parks – Horticulture, Forestry, and Environmental Education</p>

Goal: Implement land-use policies and practices that reduce use of personal automobiles and increase use of transit and active transportation.

Recommended Actions:

Action Number	Action Description
T.4.1	<p>Continue to implement and update methodologies, tools and strategies that enhance and expand a comprehensive network of natural and hard surface trails for physical activity and connect habitats. Trails should link stream valleys, natural lands, parks, open spaces, and tree-lined boulevards throughout the county.</p> <p>Lead: Montgomery Parks – Park Planning and Stewardship</p>
T.4.2	<p>Collaborate with Montgomery County Department of Transportation to increase public transit access to parks, including Nature Centers and Regional Parks.</p> <p>Lead: Montgomery Parks – Park Planning and Stewardship</p>
T.4.3	<p>Implement Thrive Montgomery 2050’s policies focusing future growth along transit corridors and promoting multi-modal transportation access across the county in development review and area and functional master plans.</p> <p>Lead: Montgomery Planning</p>

Indicators:

Indicators of progress for this focus area include the following:

- Pounds of food donated by Community Garden Program
- Natural area restoration projects occurring in EFA zones or adjacent
- Percentage of Nature Centers and Regional Parks accessible by public transit
- Percentage new tree plantings in parks identified as areas with high urban heat island effect
- Miles of additional trails constructed

FOSTER COMMUNITY ACTION



Wee Little Nature Explorers Camp, Maydale Conservation Park

The Parks and Planning Departments will:

- Increase public outreach and program offerings that inform and engage local community members in sustainability, climate change, conservation, and health/wellness
- Increase opportunities for Commission staff to engage in sustainability training and professional development, sustainable habits in the workplace, and implementation of the Sustainability Plan
- Remove cultural, physical, and economic barriers to accessing Parks’ programs, services, and facilities

The degree to which community members and staff are actively engaged in sustainability is critical to achieving the County-wide sustainability goals and goals in this Plan. Creating opportunities outside a traditional classroom for all community members to engage in sustainability will help create a culture of sustainability and environmental stewardship within the community. The natural areas on parkland and nature-based education opportunities provided by Montgomery Parks serve a fundamental role in connecting people to nature. When environmental knowledge and a connection to nature are paired together, they promote sustainable behaviors.

Montgomery Parks currently provides a multitude of volunteer opportunities, nature-based education programs, and activities that promote health and wellness for the community to participate in. However, there are still ways to improve and enhance engagement opportunities that creates new entry points for residents to be involved in sustainability and climate action. Montgomery Parks has an opportunity to integrate sustainability and climate education more intentionally into additional program offerings. Nature-based education or activities should address climate change and sustainable solutions. Implementing sustainable standards into events can provide sustainability education in action while reducing environmental impact.

To successfully achieve the goals set forth in this Plan, staff and resources across both Departments must be leveraged. This will involve facilitating opportunities for staff to engage in training and education around the goals of the Sustainability Plan and how they can specifically help achieve those goals within their work programs. The Sustainability Team has already begun this work by engaging over 100 staff members in working groups to build the recommendations in this Plan. Internal buy-in at the start of the planning process will help implementation of recommended actions. However, after approval there must be a continued effort to facilitate opportunities for all staff to implement sustainable solutions within their work.

Montgomery Parks must adapt its programs and facilities to meet the specific needs and desires of an increasingly diverse population that includes historically marginally and underserved neighborhoods and groups. Removing barriers to accessing Parks' programs will require a better understanding of what each community's barriers to participation may be through surveys, focus groups, and community listening sessions. This will help the Department make informed decisions on how to effectively use resources to increase participation by certain target communities.

CURRENT PROGRESS AND ASSESSMENT



Montgomery County Greenfest 2022 EV Car Show at Brookside Gardens

Montgomery County Greenfest

Greenfest is the largest environmental festival in Montgomery County. Held in the month of April, for the past few years, it has been hosted by Brookside Gardens. The event is free for attendees and provides an opportunity for residents, businesses, and nonprofits to collaborate, share ideas, and learn together. The festival is led by Montgomery Parks with direct support by a coalition of public, non-profit, and university partners including:

- Bethesda Green
- Montgomery County Department of Environmental Protection
- Montgomery County Government
- One Montgomery Green
- Pooleville Green
- Montgomery County Department of Transportation
- University of Maryland
- Washington Suburban Sanitary Commission

Greenfest includes children’s activities, local food and craft vendors, a multitude of different local environmental non-profits and governmental organizations, and opportunities for residents to learn how to be more sustainable in their daily lives. In 2022, GreenFest had the largest turnout to date with nearly 5,000 attendees.

Latino Conservation Week

Montgomery Parks hosts a series of special programs to celebrate Latino Conservation Week. The goal of the week, founded in 2014 by the Latino Access Foundation and observed nationwide, is to inspire the next generation of environmental stewards by breaking barriers for Latino communities to access public lands and waters. In support, Montgomery Parks holds a variety of bilingual entertainment, nature, and conservation programs.

Nature Centers

Montgomery Parks has five nature centers and a mobile nature center that provide nature-based education to local communities and schools. The nature centers are an important asset in providing formative outdoor learning experiences and making connections to climate related issues. Below are some of the ways the nature centers are supporting local environmental education:

- **Certified Green Centers:** Two nature centers, Black Hill Visitor Center and Meadowside Nature Center, are certified as Green Centers through the Maryland Association for Environmental & Outdoor Education (MAEOE) Green Schools Program. To be a certified Green Center, sites must support schools applying for Maryland Green Schools Program, model sustainable practices, and support community environmental learning.
- **Programming:** All nature centers and classrooms provide a variety of programming. Programs range from curriculum-guided school field experiences to summer camps. These experiences connect people to nature and make them more open to protecting parkland.
- **Native Plant Sales:** Nature centers promote native gardening through education and annual native plant sales. Getting native plants into residential areas provides much needed habitat for wildlife, supports critical pollinators, and helps preserve biodiversity. In FY22 alone, the nature centers sold 12,400 native plants, with most of the plants grown at the Park's plant production facility, Pope Farm Nursery.
- **Sustainable Buildings as Teaching Tool:** Maydale Nature Classroom is the first facility in the Montgomery Parks' system designed to net-zero standards. The classroom serves as a teaching tool in sustainable practices and material selection. With this same idea in mind, Parks is currently designing and constructing the Black Hill SEED classroom. The net-zero space is specifically designed to encourage STEM and climate change education through the building's living and technical components.



Locust Grove Nature Center Fall 2022 Native Plant Sale

The nature centers and local non-profits have implemented programs to help remove barriers to accessing environmental education programs through the following:

- **Bus Voucher Program:** Bus transportation fees can often be a barrier for public schools to take field trips to the nature centers. Friends of Black Hill Nature Programs offers bus vouchers to Montgomery County Title I schools to visit Black Hill Nature Center.
- **Summer Camp Scholarship Fund:** In partnership with the Montgomery Parks Foundation, Montgomery Parks provides scholarships for children to attend camps run through the nature centers. Friends of Black Hill Nature Programs also offers a summer camp scholarship for 1-2 children a year and a paid stipend for the summer Teacher-Naturalist program.
- **Fee Reduction Program:** This program is available to Montgomery County Residents to reduce costs of Parks' programming. Residents could receive a 50% reduction in fee for programming and camps offered by nature centers and other Parks' facilities.
- **Nature on Wheels (NOW):** Nature on Wheels is a new mobile natural field science station that travels all over the county. The NOW Program makes it possible to bring nature center programming to many locations and events.
- Offering of multilingual programming at all nature centers. Meadowside Nature Center offers Spanish-language programs, bilingual programs, and American Sign Language programming.

Other Community Opportunities to Engage in Sustainability

Parks provides a wide array of programs and opportunities for residents to engage in sustainability and preservation of natural resources, such as:

- **Volunteer Programs:** Annually donates more than 80,000 hours of service to Montgomery Parks. Volunteer programs such as the Weed Warriors and Stream/Park Clean-Ups help preserve the natural resources on parkland and provide meaningful opportunities for environmental education.
- **Community Gardens:** The Parks' Community Garden program currently provides 442 gardening plots and 27 accessible gardening tables for local food production. The program provides an opportunity for residents to spend time outside, grow healthy and sustainable food, and addresses food insecurity in the county.

Staff Engagement - Wellness

To address the physical, emotional/mental, environmental, cultural, financial, occupational, spiritual, and intellectual health of the Commission's employees, an M-NCPPC Workplace Wellness Program was established in 2018. The Program is run by the Commission Wellness Manager and Wellness Coordinator who cultivate creative and diverse wellness program offerings to staff. Some of the Wellness programs and services include Staff Fitness Week, stress and pain management seminars, mental health first aid, wellness incentives, financial webinars, and nutritional screenings.

Staff Engagement - Sustainability

The Sustainability Team is always eager to spread awareness and educate staff on various sustainability topics. This involves the creation of educational materials, trainings, and opportunities to get involved with sustainability in the workplace. Below are some of the many ways Parks and Planning staff are engaged in sustainability:

- **Virtual and In-Person Trainings:** Staff are offered trainings on a multitude of sustainability topics. To inform staff on recycling and waste management, the Sustainability Team offers an annual training called 'Talking Trash.' In 2022, it was offered virtually and over 100 staff participated.
- **Sustainability Snippets:** Quarterly newsletters are sent out to Parks staff, which dive deep into a specific sustainability topic.
- **Creation of this Plan:** Staff across all divisions and departments were invited to participate in 8 different working groups to provide recommendations within this plan.
- **County-Wide Climate Action:** Many Montgomery Parks and Montgomery Planning staff are active participants in multiple working groups around certain climate action topics.



The Sustainability Team engages staff in recycling training at 2022 Northern Parks Fall Forum

GOALS AND RECOMMENDED ACTIONS

Goal: Increase public outreach offerings that inform and engage local community members in sustainability, climate change, conservation, and health/wellness.

Recommended Actions:

Action Number	Action Description
<p>F.1.1</p>	<p>Build dynamic educational programming and experiences for all ages around climate change. Provide training for staff around climate change and create common language to speak about the topic.</p> <p>Lead: Montgomery Parks – Horticulture, Forestry, and Environmental Education and Facilities Management in coordination with local schools and organization</p>
<p>F.1.2</p>	<p>Provide and expand on existing programs for people to engage in community science.</p> <p>Lead: Montgomery Parks - Horticulture, Forestry, and Environmental Education in coordination with Park Planning and Stewardship and local organizations</p>
<p>F.1.3</p>	<p>Reinstate Parks Rx to engage and educate the public on the interconnection of nature and human health and wellness.</p> <p>Lead: Montgomery Parks - Horticulture, Forestry, and Environmental Education in coordination with local organizations and agencies</p>
<p>F.1.4</p>	<p>Work to incorporate green building features into all nature centers to serve as a teaching tool to the public on sustainability in action.</p> <p>Lead: Montgomery Parks – Facilities Management in coordination with Horticulture, Forestry, and Environmental Education</p>

Goal: Increase opportunities for Commission staff to engage in sustainability training and professional development, sustainable habits in the workplace, and implementation of Sustainability Plan.

Recommended Actions:

Action Number	Action Description
F.2.1	<p>Create a competitive Green Office Program, which is points based and rewards/recognizes teams for implementing sustainable practices.</p> <p>Lead: M-NCPPC Montgomery County - Sustainability Committee</p>
F.2.2	<p>Expand education and training for current Commission staff on sustainability topics and sustainability goals of the Commission. This could include:</p> <ul style="list-style-type: none"> • In-person and virtual trainings on sustainable best management practices for specific work programs • Specialized training course for staff to gain an internal M-NCPPC Sustainability Certification • E-newsletters with tips on how to be sustainable • Award ceremonies for staff going above and beyond in sustainability in their work program <p>Lead: M-NCPPC Montgomery County - Sustainability Committee in coordination with Management Services Divisions</p>
F.2.3	<p>Continue to create opportunities for all staff to provide solutions to achieve sustainable operations within their work programs and implementation of the Sustainability Plan.</p> <p>Lead: M-NCPPC Montgomery County – Sustainability Committee in coordination with all Divisions</p>

Goal: Remove cultural, physical, and economic barriers to accessing Parks’ programs, services, and facilities.

Recommended Actions:

Action Number	Action Description
F.3.1	<p>Have interpreters for large special events and programs. Include questions around translation needs in registrations for programming, events, and outreach.</p> <p>Lead: Montgomery Parks – Public Affairs and Community Partnerships in coordination with all Divisions holding events or programming for the public</p>

Action Number	Action Description
F.3.2	<p>Increase the number of community gardens, especially in underserved areasⁱ, and use recycled materials in the development process. Consider reserving a percentage of plots available at a discounted or free rate.</p> <p>Lead: Montgomery Parks – Park Planning and Stewardship and Horticulture, Forestry, and Environmental Education</p>
F.3.3	<p>Decrease barriers to accessing nature programming and nature centers’ summer camps by:</p> <ul style="list-style-type: none"> • Increasing visibility to targeted audiences through marketing and outreach of the reduced fee program and scholarship program • Simplifying awards process • Working to secure funding so all nature centers can provide bus vouchers for schools <p>Lead: Montgomery Parks - Horticulture, Forestry, and Environmental Education, Montgomery Parks Foundation, and Public Affairs and Community Partnerships</p>

Indicators

Indicators of progress for this focus area include the following:

- Number and type of programming and engagement opportunities made available to the public about sustainability-related topics, climate change, and health and wellness
- Percentage of nature centers with exhibits or displays that incorporate climate change, sustainability, and/or use green building features as teaching tools
- Number of staff participants who engage in:
 - Sustainability and wellness trainings, programming, or events
 - External sustainability or climate related working groups
 - Trainings on sustainable best management practices for specific work programs
 - Professional development courses or certifications related to sustainability
 - Green Office Program
- Pounds of food donated from community gardens
- Number of community gardens in EFAs
- Number of reduced fee and scholarships utilized by community members to access parks programs
- Number of multilingual events and programs offered

ⁱ Recommendation in 2020 Montgomery County PROS Plan, p. 45

INVEST IN OUR FUTURE



Hard hat and gloves at Montgomery Parks work site

The Montgomery Parks and Montgomery Planning will:

- Create and maintain reliable indicators to measure and track sustainability project performance and cost-effectiveness
- Reduce upfront investment of taxpayer monies for sustainability projects using innovative funding sources
- Increase economic opportunities in services area communities

Many recommendations set forth in this plan will see an immediate and continued return-on-investment (ROI) that can be measured and quantified. It is important for the Departments to focus on and prioritize actions with a measurable return on investment. However, there are gaps in data and information that can make it difficult to measure the effectiveness of a sustainability project in reducing environmental impact. Also, some actions provide benefits, such as ecosystem services, resiliency, and equity, which may be more difficult to quantify and track. To ensure an efficient use of public dollars, the Departments must create tools to understand the cost-benefit of projects implemented.

To reach an elimination of GHG emissions from operations by 2035, the Parks and Planning Departments will need to include costs in operational and CIP budget requests. The Departments cannot solely rely

on internal funds and must identify and proactively apply for creative funding sources. New federal, state, and county laws have significantly increased the amount of funding available to agencies like the M-NCPPC to implement projects that help reduce GHG emissions and increase climate resiliency.

The Inflation Reduction Act (IRA) of 2022 made the single largest investment in climate and clean energy in American history. The bill will increase federal funding availability for local governments and agencies to employ renewable energy and energy conservation projects, pursue vehicle electrification, and implement nature-based climate solutions. The bill directly reduces the cost of installing solar for tax-exempt organizations, like M-NCPPC, by providing a direct payment in-lieu of solar tax credits. State grants and rebate programs run by Maryland Energy Administration (MEA) will see an increase in funding, due to the passing of the Climate Solutions Now Act. Local funds, like the Montgomery County Green Bank, can provide zero-interest loans for solar or energy conservation projects. M-NCPPC must be proactive in taking advantage of external funding sources to implement sustainability projects.

The Departments currently provide many well-paying jobs within the county. Like other organizations in the country, the Commission has recently experienced difficulties filling positions. The Commission is also facing an increase in vacancies since many staff will retire within the next couple of years. There is a unique opportunity to work on creating employment and professional development opportunities for young people in the county. Creating a clear employment pathway program can provide well-paying entry-level positions and opportunities for growth and advancement - building the Commission's capacity for strong future leadership.

CURRENT PROGRESS AND ASSESSMENT

Solar Energy Cost Savings

The Parks and Planning Departments have been saving money through the installation of on-site renewable energy. The amount of money saved on utility bills is determined by how the solar was obtained. All roof mounted solar arrays were purchased, owned, and maintained by Parks, but the two ground mounted systems were obtained through a Power Purchase Agreement (PPA).

A PPA is financial agreement where a third-party developer owns, operates, and maintains the solar system, and a host customer agrees to site the system on its property and purchases the system's electric output from the solar services provider. The solar PPAs have allowed the departments to purchase electricity at a lower cost than other utility providers, while also supporting more localized renewable energy being added to the grid.

Figure 10.1: Estimated Annual Savings of Solar

Solar Type	Estimated Annual Savings
Solar Power Purchase Agreement	\$125,000
Roof Mount Solar – Owned by M-NCPPC	\$19,100
Total Annual Savings	\$144,100

Savings calculated based on current utility contracts

The additional solar installations planned for Wheaton, Meadowbrook, and Black Hill Maintenance Facilities are projected to save an additional \$27,100 annually in utility bills.

EmPOWER Maryland Rebates

Energy utility companies operating throughout the state of Maryland manage energy rebates programs for their customers through the EmPOWER Maryland program. The rebates help reduce the upfront costs of energy conservation measures and speed up the return on investment for the project. Montgomery Parks has utilized this program for multiple energy conservation projects. A recent example includes a LED exterior lighting retrofit project at South Germantown Park. The project replaced 62 high-pressure sodium (HPS) light fixtures to newer, more efficient LED technology.

Project Costs	EmPOWER MD Rebate	Costs After Rebate Deduction
\$9,700	\$6,200	\$3,500

The rebates from the EmPOWER MD program covered about 64% of the project costs. The LED replacement lights only draw 4,560 watts, accounting for an almost 90% reduction in energy-use. With the increase in efficiency, reduction in maintenance costs, and low up-front cost due to the awarded rebate, this project had only a 1-year payback period.

Local Workforce Development

Parks is dedicated to fostering a strong culture of learning and career advancement for the local communities served by providing entry level and youth work force development opportunities.

The Department has done this through:

- Partnerships with local organizations such as, SEEC and Project SEARCH to provide internships to individuals with disabilities
- Management of the Summer RISE work skills youth program in partnership with Montgomery County Public Schools
- Relaunching the Facilities Management Apprentices Program for the trades
- Partnerships with LAYC (Latin American Youth Center) and Conservation Corps Summer Latinx Youth Work and Learn Program
- Serving as sites for the Chesapeake Conservation Corps



Montgomery Parks' Arborist teaching RISE interns tree climbing techniques in Washington Square Neighborhood Park

GOALS AND RECOMMENDED ACTIONS

Goal: Create and maintain reliable indicators to measure and track sustainability project performance and cost-effectiveness.

Recommended Actions:

Action Number	Action Description
<p>I.1.1</p>	<p>Utilize PowerBI or similar system to consolidate sustainability data into one space and create public facing dashboards to track progress towards sustainability goals. Metrics may include:</p> <ul style="list-style-type: none"> • Renewable energy production • Utility use • Trash and recycling rates • Operational greenhouse gas emissions <p>Lead: Montgomery Parks – Facilities Management in coordination with Management Services</p>
<p>I.1.2</p>	<p>Create in-house application that integrates utility data on to GIS map with:</p> <ul style="list-style-type: none"> • Utility meter location • Exterior lighting information • Building sqft • Energy conservation projects <p>Lead: Montgomery Parks – Facilities Management in coordination with Management Services</p>
<p>I.1.3</p>	<p>Require the inclusion of sustainability metrics (greenhouse gas emissions, energy, water, utility savings, etc.) and calculation on return-on-investment as a factor in prioritization for major maintenance projects.</p> <p>Lead: Montgomery Parks – Facilities Management in coordination with Management Services</p>

Goal: Reduce upfront costs for sustainability projects by utilizing innovative funding sources.

Recommended Actions:

Action Number	Action Description
<p>I.2.1</p>	<p>Explore the use of Energy Savings Performance Contracts and the Montgomery County Green Bank as potential options to fund large energy conservation projects.</p> <p>Lead: Montgomery Parks – Facilities Management and Park Development</p>
<p>I.2.2</p>	<p>Proactively apply for rebates for energy conservation or renewable energy projects. When projects are completed by a contractor, language within a requisition should include rebate support and recovery within the scope of work.</p> <p>Lead: Montgomery Parks – Facilities Management and Park Development</p>
<p>I.2.3</p>	<p>Identify potential partnerships with private companies, universities, and non-governmental organizations to fund environmental restoration projects, reforestation, or management of natural spaces. Partnerships might include:</p> <ul style="list-style-type: none"> • Carbon offsets • Conservation Corps • Collaboration on a grant <p>Lead: Montgomery Parks in coordination with the Parks Foundation</p>

Goal: Increase economic opportunities for service area communities.

Recommended Actions:

Action Number	Action Description
<p>I.3.1</p>	<p>Investigate creating a Montgomery Parks green careers pathway program. The program should:</p> <ul style="list-style-type: none"> • Create job opportunities for recent high school graduates (18-23) interested in entering the workforce or individuals seeking a career path change • Provide on the job training and certification to work in parks operation and maintenance • Establish mentorship opportunities with Parks staff <p>Lead: Montgomery Parks – Management Services in coordination with M-NCPPC Central Administration Services</p>

Action Number	Action Description
I.3.2	<p>Partner with Montgomery County Public Schools in Youth Apprenticeship Program as an employer.</p> <p>Lead: Montgomery Parks – Management Services in coordination with Divisions with potential employment opportunities</p>
I.3.3	<p>Create training for Commission employees on legal requirements of bringing youth onsite.</p> <p>Lead: Montgomery Parks – Management Services</p>

Indicators

Indicators of progress for this focus area include the following:

- Number of sustainability metrics tracked and analyzed on public facing dashboard
- Annual utility savings from:
 - Installation of on-site renewables
 - Energy and water conservation projects
 - Utility bill recovery
- Annual money received via grants, incentives, and partnerships
- Number of apprenticeships and career pathway opportunities offered

REFERENCES

- ¹ Montgomery County Department of Environment. 2021. Montgomery County Climate Action Plan: [Appendix C: Climate Vulnerability Assessment](#)
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- ³ Scofield, J.H., Cornell, J. A critical look at “Energy savings, emissions reductions, and health co-benefits of the green building movement”. J Expo Sci Environ Epidemiol 29, 584–593 (2019). <https://doi.org/10.1038/s41370-018-0078-1>
- ⁴ Maryland Department of Environment: 2021. Maryland Solid Waste Management and Diversion Report 2021 (CY20 data)
- ⁵ Feeding America. (2019). [Food Insecurity among Overall \(all ages\) Population in Montgomery County - Before COVID-19](#).