



*Fairfax County*  
**VIRGINIA**

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# SUSTAINABILITY INITIATIVES

FY 2020









# FAIRFAX COUNTY BOARD OF SUPERVISORS

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Penelope A. Gross, Vice-Chairman. . . . . Mason District

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Pat Herrity. . . . . Springfield District

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# TABLE OF CONTENTS

Preface .....	9
Introduction .....	11
<b>Section 1: Fairfax County Government: An Overview .....</b>	<b>15</b>
1.1 Introduction.....	15
1.2 Fairfax County Government .....	16
1.2.1 County Governance .....	16
1.2.2 Cities and Towns .....	19
1.2.3 Boards, Authorities and Commissions .....	19
1.2.4 Other Authorities and Commissions.....	22
1.3 Energy and Environment Agencies and Business Areas.....	22
1.3.1 Office of Environmental and Energy Coordination.....	22
1.3.2 Department of Public Works and Environmental Services .....	23
1.3.3 Other County Departments .....	25
1.4 Interagency Collaboration and Coordination .....	26
1.4.1 Internal Collaboration and Coordination .....	26
1.4.2 Regional Collaboration .....	27
1.5 Partner Organizations .....	28
<b>Section 2: Regulatory, Policy and Strategic Framework. ....</b>	<b>31</b>
2.1 Introduction.....	31
2.2 Policies Adopted by the Board of Supervisors .....	31
2.2.1 Priorities and Goals .....	31
2.2.2 Environmental Vision .....	32
2.2.3 Cool Counties Climate Stabilization Initiative.....	33
2.2.4 Energy Policy.....	34
2.2.5 Operational Energy Strategy .....	35
2.2.6 Comprehensive Plan .....	36
2.2.7 Tree Action Plan .....	38
2.2.8 Solid Waste Management Plan.....	38
2.2.9 Sustainable Development Policy for Capital Projects.....	39
2.2.10 Fairfax County Park Authority Policy.....	39
2.3 Ordinances Adopted by the Board of Supervisors.....	41
2.4 Funding Mechanisms .....	42
2.4.1 Funds Used for Environmental Efforts .....	42
2.4.2 Environmental Improvement Program .....	44
<b>Section 3: Promoting a Sustainable Community .....</b>	<b>47</b>
3.1 Introduction.....	47
3.2 Growth and Land Use .....	47
3.2.1 Zoning and Planning .....	48
3.2.2 Transit-Oriented Mixed-Use Development .....	49
3.2.3 Revitalization .....	50
<b>5 Sustainability Initiatives</b>	



3.2.4	Green Buildings. . . . .	51
3.2.4.A	Green Building Policy. . . . .	52
3.2.4.B	Green Building Priority Plan Review . . . . .	53
3.2.4.C	County Incentives for Solar Installations. . . . .	53
3.2.5	Noise, Light Pollution and Visual Pollution. . . . .	53
3.2.5.A	Noise. . . . .	53
3.2.5.B	Light Pollution . . . . .	54
3.2.5.C	Visual Pollution . . . . .	55
3.3	<b>Air Quality and Transportation. . . . .</b>	<b>55</b>
3.3.1	Air Quality . . . . .	56
3.3.1.A	Air Quality Planning in the Washington Metropolitan Region . . . . .	56
3.3.1.B	Washington Metropolitan Air Quality Status . . . . .	57
3.3.2	Transportation. . . . .	57
3.3.2.A	Transportation Planning in the Washington Metropolitan Region. . . . .	57
3.3.2.B	Fairfax County Multimodal Transportation Initiatives . . . . .	58
3.4	<b>Water . . . . .</b>	<b>60</b>
3.4.1	Stormwater. . . . .	61
3.4.2	Wastewater . . . . .	62
3.4.3	Water Supply Planning. . . . .	63
3.5	<b>Solid Waste Management. . . . .</b>	<b>64</b>
3.5.1	Recycling . . . . .	65
3.5.2	SWMP Green Initiatives . . . . .	66
3.6	<b>Parks and Ecological Resources . . . . .</b>	<b>67</b>
3.6.1	Open Space in Fairfax County . . . . .	68
3.6.2	Natural Resource Management . . . . .	69
3.6.3	Policy and Regulatory Mechanisms for Protecting Natural Resources . . . . .	70
3.6.3.A	Chesapeake Bay Preservation Ordinance . . . . .	71
3.6.3.B	Stormwater Management Ordinance. . . . .	71
3.6.3.C	Floodplain Regulation . . . . .	72
3.6.3.D	Wetlands Zoning Ordinance . . . . .	73
3.6.3.E	Comprehensive Plan Policy . . . . .	74
3.6.4	Trees and Tree Conservation . . . . .	75
3.6.4.A	Urban Forest Management . . . . .	76
3.6.4.B	Tree Action Plan . . . . .	77
3.7	<b>Climate and Energy . . . . .</b>	<b>77</b>
3.7.1	Community Greenhouse Gas Emissions Inventory. . . . .	77
3.8	<b>Environmental Stewardship and Outreach . . . . .</b>	<b>79</b>
3.8.1	Community Stewardship Opportunities . . . . .	79
3.8.1.A	Watershed Volunteer Opportunities . . . . .	79
3.8.1.B	Volunteer Opportunities in County Parks. . . . .	79
3.8.1.C	Activities Offered by Northern Virginia Soil and Water Conservation District . . . . .	80
3.8.1.D	Additional Service Opportunities . . . . .	81
3.8.2	Education and Outreach . . . . .	81
3.8.2.A	Energy Action Fairfax. . . . .	82
3.8.2.B	Fairfax County Park Authority. . . . .	83
3.8.2.C	Department of Public Works and Environmental Services. . . . .	84



3.9	Environmental Health .....	84
<b>Section 4: Promoting Sustainable County Operations .....</b>		<b>89</b>
4.1	Introduction.....	89
4.2	Building Design and Construction.....	89
4.2.1	Green Building Policy for County Facilities.....	89
4.2.2	Sustainable Design Strategies .....	90
4.3	Purchasing and Materials Management.....	93
4.3.1	Sustainable Procurement Program .....	93
4.3.2	Surplus Equipment.....	95
4.4	Facilities and Site Management.....	96
4.4.1	Energy Efficiency Upgrades .....	96
4.4.2	Energy Monitoring .....	97
4.5	Information Technology .....	97
4.5.1	IT Energy Efficiency Initiatives .....	97
4.6	Waste Management.....	98
4.6.1	Landfill Gas Recovery and Reuse .....	98
4.6.2	Waste-to-Energy .....	99
4.6.3	I-66 Transfer Station Upgrades.....	100
4.6.4	Water Reuse.....	100
4.7	Vehicle Services .....	101
4.7.1	Hybrid and Electric Fleet .....	101
4.7.2	Other Vehicle Services Initiatives .....	102
4.8	Fairfax Employees for Environmental Excellence.....	103
<b>Section 5: Environmental Improvement Program: Objectives and Funded Projects .....</b>		<b>107</b>
5.1	Introduction.....	107
5.2	Objectives .....	107
5.3	FY 2020 EIP Projects.....	108
5.3.1	The EIP Project Selection Process .....	108
5.3.2	FY 2020 Funding and Projects.....	109
5.4	EIP Delivered Projects History .....	114
<b>Section 6: Awards and Recognitions.....</b>		<b>119</b>
6.1	Selected Environmental Awards and Recognitions .....	119
<b>Appendix I: How to Report Environmental Concerns .....</b>		<b>127</b>
<b>Appendix II: Acronyms.....</b>		<b>131</b>
<b>Appendix III: FY 2019 Operational Energy Strategy Projects .....</b>		<b>135</b>







*Fairfax County Sustainability Initiatives (FCSI)* provides an overview of many of the projects and programs carried out by Fairfax County and its partners in support of the energy and environmental targets, goals and policies adopted by the Board of Supervisors.

Specifically, FCSI is a summary of what Fairfax County is doing to promote sustainability and protect the environment, consolidated into a single go-to resource. Although FCSI is accessible to the general public, and formatted with clear text and engaging images, it is not a simple brochure intended for the casual reader. Rather, FCSI is geared toward those with a stronger, more specific interest in the county's environmental initiatives. It is a reference guide for county staff, residents and businesses, and a resource for members of environmental organizations or students conducting research.

FCSI would not have been possible without the tireless efforts of the many highly dedicated professionals who contributed to the development of this document. I would like to especially thank Susan Hafeli, Kate Daley, Emily Burton, Charlie Forbes, Joe Gorney, Jessica Lavender, Teagan Robinson and Aline Althen of Fairfax County.

It is our hope that the *Fairfax County Sustainability Initiatives* report will clearly demonstrate the Fairfax County Board of Supervisors' leadership and commitment to promoting sustainability in the county.

I hope that you will take up the challenge and work with us to further develop the county's sustainability initiatives.

Kambiz Agazi, Ph.D., P.E.  
Director, Office of Environmental and Energy Coordination  
Fairfax County, Virginia







A healthy environment enhances our quality of life and preserves the vitality that makes Fairfax County a special place to live and work. As such, the county government has a responsibility to be an environmental steward through its operational practices and to establish and implement policies and programs that will foster broader environmental protection and conservation efforts throughout the community and in the greater region.

On June 20, 2017, the Fairfax County Board of Supervisors (board) adopted its updated Environmental Vision, entitled *Fairfax County Environmental Vision*. The Environmental Vision, as described in more detail in Section 2.2.2, affirms that, in Fairfax County, environmental stewardship and prudent management of natural resources are not merely “add-ons,” or afterthoughts, but rather are essential and fundamental responsibilities of local government that must be given fullest consideration at all times. The Environmental Vision, which was initially adopted in 2004 and revised in 2007 and again in 2017, is available at [www.fairfaxcounty.gov/environment/environmental-vision](http://www.fairfaxcounty.gov/environment/environmental-vision). All actions described within this document support the 2017 update to the Environmental Vision.

On July 10, 2018, the board adopted its first ever Operational Energy strategy, entitled *Fairfax County Operational Energy Strategy*. The Operational Energy Strategy (OES), as described in more detail in Section 2.2.5, supports the board’s climate and energy goals in its Environmental Vision by providing guidance to Fairfax County agencies on the delivery of efficient, sustainable, and affordable operations. The OES is a call to action for county agencies to become more energy conscious and to find ways to reduce their energy consumption. Reducing energy consumption is often the most economical and effective strategy to advance climate protection efforts and provides an environmentally safe alternative to increased energy production. Appendix III provides estimated costs, savings, and emissions reductions associated with select OES projects. The Operational Energy Strategy is available at [www.fairfaxcounty.gov/energy/energy-strategy](http://www.fairfaxcounty.gov/energy/energy-strategy).

Achieving the goals and targets articulated in the board’s Environmental Vision and Operational Energy Strategy requires cooperation and coordination between county residents, agencies and elected officials. The board established the Office of Environmental and Energy Coordination (OEEC), effective July 1, 2019, to develop and implement environmental and energy policies, goals and programs, through coordination with other county agencies and community engagement. OEEC work is guided by the board’s environmental and energy priorities in the Environmental Vision and Operational Energy Strategy.

Environmental stewardship is both a key responsibility and a critical legacy of any elected public body.... It is the county’s overarching vision to attain a quality environment that provides for a high quality of life and is sustainable for future generations. These aspects of a quality environment are essential for everyone living and working in Fairfax County. No matter what income, age, gender, ethnicity, or address, everyone has a right to breathe clean air, to drink clean water, and to live and work in a quality environment.

*Board of Supervisors’  
Environmental Vision (2017)*



This document provides an overview of many of the projects and programs carried out by Fairfax County and its partners in support of the board's Environmental Vision and Operational Energy Strategy.

Section 1 describes the county government structure, particularly as it relates to sustainability initiatives.

Section 2 summarizes the regulatory, policy and strategic framework that guides the sustainability efforts of the Fairfax County Board of Supervisors and county staff.

Section 3 describes sustainability activities with a community-wide impact.

Section 4 highlights several innovative and successful efforts to implement environmental and energy goals for county facilities and operations.

Section 5 identifies those projects and programs that receive funding set aside by the Board of Supervisors for the county's Environmental Improvement Program, which supports the board's Environmental Vision and Operational Energy Strategy.

Section 6 lists selected sustainability awards and recognitions received by the county over the last decade.





# SECTION 1

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## FAIRFAX COUNTY GOVERNMENT: AN OVERVIEW



# FAIRFAX COUNTY GOVERNMENT: AN OVERVIEW

## Featured in this Section

1.1	Introduction .....	15
1.2	Fairfax County Government .....	16
1.2.1	County Governance .....	16
1.2.2	Cities and Towns.....	19
1.2.3	Boards, Authorities and Commissions.....	19
1.2.4	Other Authorities and Commissions .....	22
1.3	Energy and Environment Agencies and Business Areas .....	22
1.3.1	Office of Environmental and Energy Coordination .....	22
1.3.2	Department of Public Works and Environmental Services....	23
1.3.3	Other County Departments.....	25
1.4	Interagency Collaboration and Coordination .....	26
1.4.1	Internal Collaboration and Coordination.....	26
1.4.2	Regional Collaboration .....	27
1.5	Partner Organizations.....	28



# SECTION 1

## 1.1 Introduction

Fairfax County is a diverse and growing community. It is home to over 1.16 million residents, almost double its 1980 population. Over a third of the county's residents speak a language other than English at home, and more than 60 percent are college graduates. The county has a total land area of 395 square miles; a fiscal year (FY) 2020 (July 1, 2019 through June 30, 2020) adopted budget of \$8.43 billion, including the General Fund and appropriated funds such as state and federal grants; and a 2017 median household income of \$119,320. See [www.fairfaxcounty.gov/economic-success/median-average-household-income](http://www.fairfaxcounty.gov/economic-success/median-average-household-income).

The county is governed by the elected Fairfax County Board of Supervisors (board). The board engages residents and businesses, protects investment in the county's most critical priorities and maintains strong responsible fiscal stewardship to ensure:

- A quality educational system.
- Safe streets and neighborhoods.
- A clean, sustainable environment.
- Livable, caring and affordable communities.
- A vibrant economy.
- An efficient transportation network.
- Recreational and cultural opportunities.
- Affordable taxes.

To ensure the third priority – a clean, sustainable environment – the board has pledged to “continue to protect our drinking water, air quality, stream valleys and tree canopy through responsible environmental regulations and practices. We will continue to take a lead in initiatives to address energy efficiency and sustainability and to preserve and protect open space for our residents to enjoy.” See [www.fairfaxcounty.gov/boardofsupervisors/priorities](http://www.fairfaxcounty.gov/boardofsupervisors/priorities).

Advancing the board's priorities requires the coordinated efforts of many actors working within the governance structure provided by state law. This section describes the county's governance structure and briefly discusses the roles of key agencies and partners working to maintain a clean, sustainable Fairfax County.



## 1.2 Fairfax County Government

### 1.2.1 County Governance

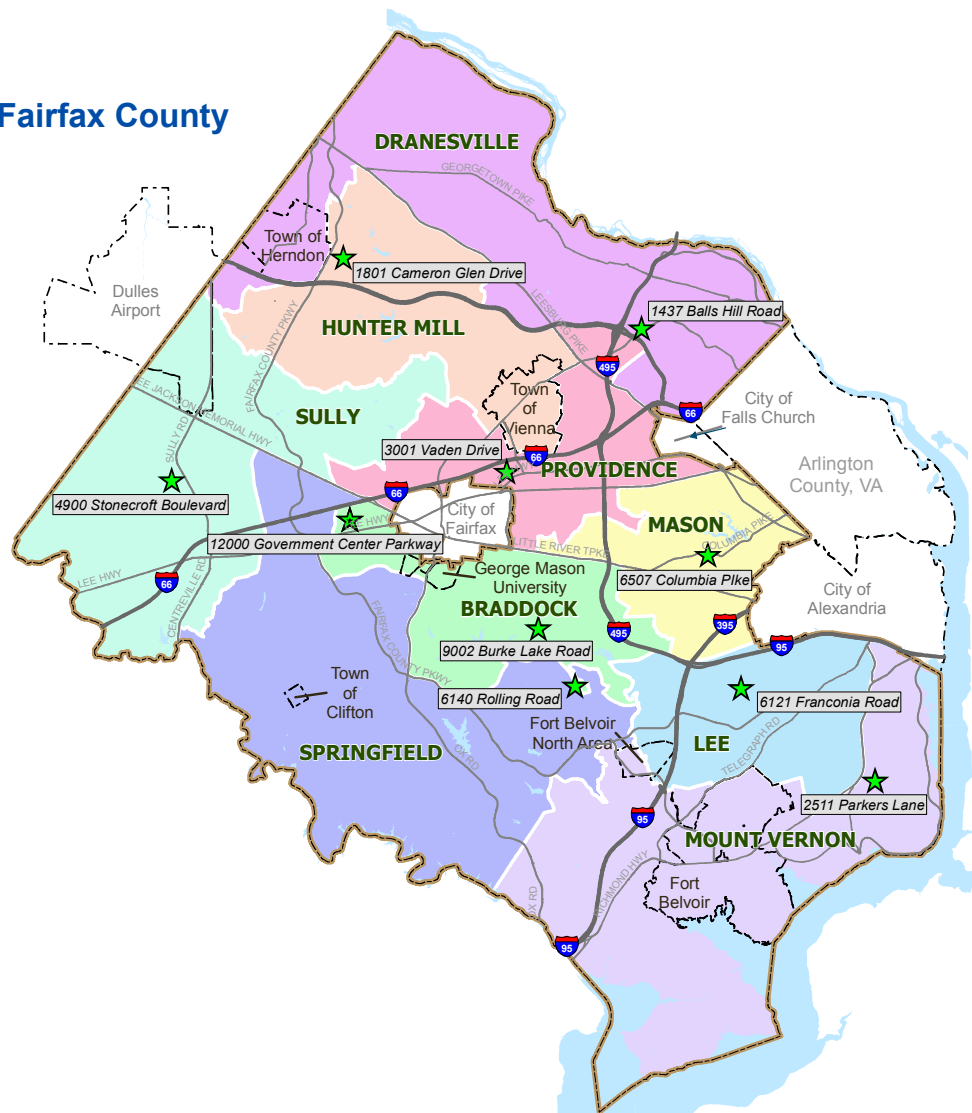
The Fairfax County government is organized under the Urban County Executive form of government as defined in the Code of Virginia. The county's governing body is the Board of Supervisors.

The Board of Supervisors (board) consists of ten members: the chairman (elected at large) and one member from each of the nine supervisor districts of approximately equal population. The supervisors (other than the chairman) must be residents and qualified voters of their districts and may be elected only by voters living in those districts. All voters in the county may vote for the chairman. Each year, the board elects the vice chairman from among its members at its first meeting in January. Board members are elected for four-year terms. There is no legal limit to the number of terms a member can serve.

### Supervisor Districts in Fairfax County

#### Supervisor Offices

- ★ Office Addresses
- ★ Chairman's Office





## The Fairfax County Board of Supervisors



*From left to right: Daniel G. Storck (Mount Vernon District); John C. Cook (Braddock District); Catherine M. Hudgins (Hunter Mill District); Jeffrey C. McKay (Lee District); Sharon Bulova (Chairman, At-Large); Penelope A. Gross (Mason District, Vice Chairman); John W. Foust (Dranesville District); Kathy L. Smith (Sully District); Linda Q. Smyth (Providence District); and Pat Herrity (Springfield District).*

Chairman, At-Large

**Sharon Bulova**

703-324-2321, TTY 711

[www.fairfaxcounty.gov/chairman/](http://www.fairfaxcounty.gov/chairman/)

Braddock District Supervisor

**John C. Cook**

703-425-9300, TTY 711

[www.fairfaxcounty.gov/braddock/](http://www.fairfaxcounty.gov/braddock/)

Dranesville District Supervisor

**John W. Foust**

703-356-0551, TTY 711

[www.fairfaxcounty.gov/dranesville/](http://www.fairfaxcounty.gov/dranesville/)

Hunter Mill District Supervisor

**Catherine M. Hudgins**

703-478-0283, TTY 711

[www.fairfaxcounty.gov/huntermill/](http://www.fairfaxcounty.gov/huntermill/)

Lee District Supervisor

**Jeff C. McKay**

703-971-6262, TTY 711

[www.fairfaxcounty.gov/lee/](http://www.fairfaxcounty.gov/lee/)

Mason District Supervisor and  
Vice Chairman

**Penelope A. Gross**

703-256-7717, TTY 711

[www.fairfaxcounty.gov/mason/](http://www.fairfaxcounty.gov/mason/)

Mount Vernon District Supervisor

**Daniel G. Storck**

703-780-7518, TTY 711

[www.fairfaxcounty.gov/mountvernon/](http://www.fairfaxcounty.gov/mountvernon/)

Providence District Supervisor

**Linda Q. Smyth**

703-560-6946, TTY 711

[www.fairfaxcounty.gov/providence/](http://www.fairfaxcounty.gov/providence/)

Springfield District Supervisor

**Pat Herrity**

703-451-8873, TTY 711

[www.fairfaxcounty.gov/springfield/](http://www.fairfaxcounty.gov/springfield/)

Sully District Supervisor

**Kathy L. Smith**

703-814-7100, TTY 711

[www.fairfaxcounty.gov/sully/](http://www.fairfaxcounty.gov/sully/)



The board establishes county government policy, passes resolutions and ordinances (within the limits of its authority established by the Virginia General Assembly), approves the budget, sets local tax rates, approves land use plans and makes appointments to various positions. These actions are taken in open meetings, which the public is encouraged to attend. All discussions are held in public, with the exception of issues exempt from the Virginia Freedom of Information Act, such as legal or personnel issues.

Board members also participate in various committees, subcommittees and regional agencies, which are listed at [www.fairfaxcounty.gov/boardofsupervisors/committees](http://www.fairfaxcounty.gov/boardofsupervisors/committees). Several board committees address aspects of sustainability, including the Environmental Committee, the Community Revitalization and Reinvestment Committee and the Transportation Committee. Each of these committees is a “committee of the whole,” or comprised of all board members.

Sustainability issues are also addressed in regional committees in which board members are active participants, including:

- Metropolitan Washington Council of Government (COG) Region Forward Committee.
- COG Climate, Energy and Environment Policy Committee.
- Metropolitan Washington Air Quality Committee.
- COG Chesapeake Bay and Water Resources Policy Committee.
- COG Task Force on Regional Water Supply Issues.
- Potomac Watershed Roundtable.
- Northern Virginia Regional Commission.

The Board of Supervisors appoints a County Executive to act as the administrative head of the county. The County Executive serves at the pleasure of the Board of Supervisors, carries out the policies established by the Board of Supervisors, directs business and administrative procedures and recommends officers and personnel to be appointed by the board.

Like other Virginia local governments, Fairfax County has limited powers. Virginia courts have concluded that local governments in Virginia have only those powers that are:

- Specifically conferred on them by the Virginia General Assembly.
- Necessarily or fairly implied from a specific grant of authority.
- Essential to the purposes of government – not simply convenient, but indispensable.



This doctrine of limited authority for local governments is commonly called the Dillon Rule.

The Board of Supervisors web page, [www.fairfaxcounty.gov/boardofsupervisors/](http://www.fairfaxcounty.gov/boardofsupervisors/), provides links to the board members' individual web pages, podcasts, RSS feeds, a "Find Your District Supervisor" application, Board of Supervisors' news, committee assignments, goals and priorities, pictures of presentations to residents and more. An organizational chart of Fairfax County government is available at [www.fairfaxcounty.gov/topics/sites/topics/files/assets/documents/pdf/county-org-chart.pdf](http://www.fairfaxcounty.gov/topics/sites/topics/files/assets/documents/pdf/county-org-chart.pdf).

### 1.2.2 Cities and Towns

In Virginia, cities and counties are distinct units of government and do not overlap. Fairfax County completely surrounds the City of Fairfax and is adjacent to the City of Falls Church and the City of Alexandria. Property within these cities is not subject to taxation by Fairfax County, and the county generally is not required to provide governmental services to their residents. However, pursuant to agreements with these cities, the county provides certain services to their residents.

Unlike cities, incorporated towns are overlapping units of government within the county. There are three incorporated towns in Fairfax County: Clifton, Herndon and Vienna. These towns have land use policies and regulations that are independent of the county's, although other county ordinances and regulations are generally effective in them. Property in these towns is subject to county taxation and the county provides certain services to their residents.

### 1.2.3 Boards, Authorities and Commissions

Advisory bodies and citizen participation play very important roles in Fairfax County government. The Board of Supervisors has established dozens of boards, authorities and commissions (BACs) to ensure that residents and other stakeholders are involved in all aspects of the county government's functions. Residents interested in serving on a county board, authority, commission or committee should contact their Supervisor.



A complete list of BACs is available at [www.fairfaxcounty.gov/bacs/](http://www.fairfaxcounty.gov/bacs/).

BACs with environmental roles include the following:

Boards, Authorities and Commissions	
Name	Purpose and Link
Agricultural and Forestal Districts Advisory Board	To advise the Board of Supervisors and Planning Commission regarding the proposed establishment, modification, renewal, continuation and determination of agricultural and forestal districts; to render expert advice on the desirability of establishing such districts. <a href="http://www.fairfaxcounty.gov/bacs/BoardDetails.aspx?BoardID=23335">www.fairfaxcounty.gov/bacs/BoardDetails.aspx?BoardID=23335</a>
Airports Advisory Committee	To advise the Board of Supervisors on all airports and aircraft operations affecting Fairfax County; to expand the committee's responsibilities and feasibility of establishing a countywide aircraft noise complaint center. <a href="http://www.fairfaxcounty.gov/bacs/BoardDetails.aspx?BoardID=23354">www.fairfaxcounty.gov/bacs/BoardDetails.aspx?BoardID=23354</a>
Board of Zoning Appeals	To hear and decide: (1) appeals of administrative decisions made pursuant to the Zoning Ordinance; (2) applications for special permits and variances as authorized by the Zoning Ordinance; and (3) applications for interpretation of the Zoning Map where there is uncertainty as to the location of a zoning district boundary. <a href="http://www.fairfaxcounty.gov/planning-development/board-zoning-appeals">www.fairfaxcounty.gov/planning-development/board-zoning-appeals</a>
Chesapeake Bay Preservation Ordinance Exception Review Committee	To review applications to conduct land disturbing activities within Resource Protection Areas. <a href="http://www.fairfaxcounty.gov/bacs/BoardDetails.aspx?BoardID=100122">www.fairfaxcounty.gov/bacs/BoardDetails.aspx?BoardID=100122</a>
Engineering Standards Review Committee	To provide technical and engineering advisory services to the Board of Supervisors; to thoroughly review the input data for the annual update of the Public Facilities Manual. <a href="http://www.fairfaxcounty.gov/bacs/BoardDetails.aspx?BoardID=23312">www.fairfaxcounty.gov/bacs/BoardDetails.aspx?BoardID=23312</a>
Environmental Quality Advisory Council	To advise the Board of Supervisors on environmental matters through ongoing review of the quality of the county's physical environment and to advocate and promote environmental preservation, protection and enhancement. <a href="http://www.fairfaxcounty.gov/bacs/BoardDetails.aspx?BoardID=23313">www.fairfaxcounty.gov/bacs/BoardDetails.aspx?BoardID=23313</a>
Fairfax County Park Authority	To be responsible for the acquisition, development and maintenance of the parks in the county. <a href="http://www.fairfaxcounty.gov/parks/">www.fairfaxcounty.gov/parks/</a>



Boards, Authorities and Commissions	
Name	Purpose and Link
Geotechnical Review Board	To adopt ordinance amendments, official map and criteria regulating development in areas of Marumsco/Marine Clay soils and other problem soil areas. <a href="http://www.fairfaxcounty.gov/bacs/BoardDetails.aspx?BoardID=23317">www.fairfaxcounty.gov/bacs/BoardDetails.aspx?BoardID=23317</a>
Health Care Advisory Board	To be responsible for a periodic review of a comprehensive health plan for the county; to initiate an on-going health care information process in coordination with local, regional, state and federal agencies. <a href="http://www.fairfaxcounty.gov/bacs/BoardDetails.aspx?BoardID=23320">www.fairfaxcounty.gov/bacs/BoardDetails.aspx?BoardID=23320</a>
Planning Commission	To advise the Board of Supervisors on all matters related to the orderly growth and development of Fairfax County; to approve or disapprove the location, character and extent of all public facilities in the county. <a href="http://www.fairfaxcounty.gov/bacs/BoardDetails.aspx?BoardID=23327">www.fairfaxcounty.gov/bacs/BoardDetails.aspx?BoardID=23327</a>
Redevelopment and Housing Authority	To be responsible for providing rental housing for low-income families in Fairfax County. <a href="http://www.fairfaxcounty.gov/bacs/BoardDetails.aspx?BoardID=23212">www.fairfaxcounty.gov/bacs/BoardDetails.aspx?BoardID=23212</a>
Trails, Sidewalks and Bikeways Committee	To report to the Board of Supervisors for the purpose of providing citizen input and oversight to planning and developing a countywide trails system. <a href="http://www.fairfaxcounty.gov/bacs/BoardDetails.aspx?BoardID=23333">www.fairfaxcounty.gov/bacs/BoardDetails.aspx?BoardID=23333</a>
Transportation Advisory Commission	To advise the Board of Supervisors and provide information and comments on major transportation issues faced by the county. <a href="http://www.fairfaxcounty.gov/transportation/tac">www.fairfaxcounty.gov/transportation/tac</a>
Tree Commission	To provide advice to the Board of Supervisors based on an annual reevaluation of the administration and implementation of local law relating to vegetation preservation and planting; to provide leadership in developing an understanding of the objectives and methods of tree conservation; to assist the Urban Forest Management Division in the development and maintenance of technical specifications and guidelines. <a href="http://www.fairfaxcounty.gov/publicworks/tree-commission">www.fairfaxcounty.gov/publicworks/tree-commission</a>
Wetlands Board	To preserve and prevent the despoliation and destruction of wetlands within its jurisdiction while accommodating necessary economic development in a manner consistent with wetlands preservation. <a href="http://www.fairfaxcounty.gov/bacs/BoardDetails.aspx?BoardID=23219">www.fairfaxcounty.gov/bacs/BoardDetails.aspx?BoardID=23219</a>



#### 1.2.4 Other Authorities and Commissions

The following authorities and commissions have regional environmental responsibilities:

**Fairfax County Water Authority (FCWA)** – FCWA, known as Fairfax Water, is Virginia’s largest water utility, serving nearly two million people. Fairfax Water operates two water treatment plants with a combined capacity of 376 million gallons per day and produces, on average, 163 million gallons of water per day. Fairfax Water also purchases up to 30 million gallons of water per day from the Washington Aqueduct. See [www.fairfaxwater.org/](http://www.fairfaxwater.org/).

**Northern Virginia Regional Commission (NVRC)** – NVRC is a regional council of 14 member governments in Northern Virginia. NVRC’s energy and environmental programs and projects include those addressing energy efficiency, water resources and solid waste and recycling. See [www.novaregion.org/](http://www.novaregion.org/).

**Northern Virginia Regional Park Authority (NVRPA)** – NVRPA was established in 1959 to protect natural resources from the threat of urban sprawl and provide recreational amenities. NVRPA currently owns about 7,000 acres in Fairfax County. See [www.novaparks.com/](http://www.novaparks.com/).

**Upper Occoquan Service Authority (UOSA)** – UOSA was formed in 1971 to construct, finance and operate a regional water reclamation facility. It is currently authorized to process 54 million gallons of wastewater a day. See [www.uosa.org/](http://www.uosa.org/).

### 1.3 Energy and Environment Agencies and Business Areas

#### 1.3.1 Office of Environmental and Energy Coordination

The Office of Environmental and Energy Coordination (OEEC) leads the county’s cross-organizational development and implementation of effective environmental and energy policies, goals, programs and projects. OEEC engages county departments, authorities, businesses, and residents to advance environmental and energy priorities and address community needs.

The OEEC officially launched on July 1, 2019, following the board’s establishment of the office as part of its adopted FY 2020 budget. OEEC initiatives address a range of topics and issues, including:

- The development of a Community-Wide Energy and Climate Action Plan (CECAP), including the establishment of CECAP outreach groups;



- Involvement in competitive procurements for solar power purchase agreements, electric vehicle charging stations, and administrative support for a Commercial Property Assessed Clean Energy program; and
- Soliciting and tracking projects in support of the Operational Energy Strategy, as shown in Appendix III.

In addition, OEEC has assumed responsibility for numerous on-going activities, projects and programs, including facilitating EnergyCap energy monitoring and evaluation; administering the county's Environmental Improvement Program; managing the county's energy education and outreach program Energy Action Fairfax; overseeing the county's energy consumption webpages; producing the Fairfax County Sustainability Initiatives report; and supporting the board's Environmental Committee, the inter-agency Environmental and Energy Advisory Committee, and the Environmental Quality Advisory Council. Future initiatives are expected to include CECAP implementation and climate resiliency planning.

See [www.fairfaxcounty.gov/environment-energy-coordination/](http://www.fairfaxcounty.gov/environment-energy-coordination/).

### 1.3.2 Department of Public Works and Environmental Services

The mission of the Fairfax County Department of Public Works and Environmental Services (DPWES) is to build and maintain healthy, safe and environmentally responsible communities in Fairfax County. DPWES's areas of responsibility include building and infrastructure construction, solid waste management and stormwater and wastewater management. The following highlights several DPWES divisions:

- *Capital Facilities* provides Fairfax County with quality, cost-effective buildings and infrastructure in a safe, timely, and environmentally-sound manner. The Capital Facilities division implements the county's Green Building policy, described in both Sections 2.2.9 and 4.2.1. See [www.fairfaxcounty.gov/publicworks/sites/publicworks/files/assets/documents/pdf/sdpolicy.pdf](http://www.fairfaxcounty.gov/publicworks/sites/publicworks/files/assets/documents/pdf/sdpolicy.pdf).
- *The Solid Waste Management Program (SWMP)* oversees the county's municipal solid waste management system through public outreach, demonstrations of best management practices, and enforcement of the county's solid waste management ordinance and related environmental requirements. The program mission and statutory authority covers the storage, collection, recycling, and disposal of all municipal solid waste (MSW) generated within the county. The program provides refuse and recyclables collection to 45,000 county residences and all county government facilities, and manages two MSW transfer and disposal sites. In addition, the SWMP implements the county's 20-year Solid Waste Management Plan, which is required by the Commonwealth to be



reviewed and updated every five years. For decades, the program has also provided a suite of services that further promote sustainable values, including:

- Source reduction, reuse and recycling education and outreach to residents and targeted industry/business sectors;
- Ready access to recycling, through curbside and drop-off programs, for as many materials as practical within market limits;
- The use of waste-to-energy (WTE) as the primary disposal technology;
- Resource recovery to minimize impacts from waste disposal systems (e.g., metal recovery from WTE ash, landfill gas-to-energy);
- Specialty waste collection such as E-waste, household hazardous waste, used tire recycling and document shredding events;
- Research and adoption of state-of-the-art technologies that support sustainable and efficient solid waste management and keep the county's integrated solid waste management system functioning well. Recent examples of the SWMP's work in this area include pilot programs to explore food waste composting and alternate technologies for recycling glass, and using the closed portion of the I-95 landfill as a potential host for pollinators and for the generation of solar power.

More information about these programs is contained in Sections 2, 3 and 4. Also refer to [www.fairfaxcounty.gov/publicworks/recycling-and-trash](http://www.fairfaxcounty.gov/publicworks/recycling-and-trash).

- *Stormwater Management* develops and maintains a comprehensive watershed and infrastructure management program that protects property, health and safety; enhances the quality of life; and preserves and improves the environment. The business area plans, designs, constructs, operates, maintains and inspects the county's extensive stormwater infrastructure. It also performs environmental assessments through coordinated stormwater and maintenance projects. Several Stormwater Management initiatives are discussed in Section 3.4.1. See [www.fairfaxcounty.gov/publicworks/stormwater](http://www.fairfaxcounty.gov/publicworks/stormwater).
- *Wastewater Management* safely collects and treats wastewater in compliance with all regulatory requirements using state-of-the-art technology. The county's wastewater collection and conveyance system, one of the nation's largest sanitary sewer systems, covers nearly 234 square miles. The total system capacity is 157.18 million gallons of wastewater per day for about 340,000 residential and business connections in Fairfax County. See [www.fairfaxcounty.gov/publicworks/wastewater](http://www.fairfaxcounty.gov/publicworks/wastewater).



### 1.3.3 Other County Departments

A number of other county departments and agencies play instrumental roles in promoting environmental stewardship and prudently managing natural resources.

- *Land Development Services* provides oversight and enforcement of site and building requirements for construction projects within the county including environmental requirements like erosion and sediment control and Chesapeake Bay watershed regulations. For an overview of the land development process in Fairfax County, see [www.fairfaxcounty.gov/landdevelopment/](http://www.fairfaxcounty.gov/landdevelopment/).

- *Fairfax County Park Authority (FCPA)*, which was created in 1950 by the Board of Supervisors, currently owns over 23,000 acres in Fairfax County. Its mission, as expressed in its *Great Parks, Great Communities Plan*, is:

*To set aside public spaces for and assist citizens in the protection and enhancement of environmental values, diversity of natural habitats and cultural heritage to guarantee that these resources will be available to both present and future generations. To create and sustain quality facilities and services that offer citizens opportunities for recreation, improvement of their physical and mental well-being, and enhancement of their quality of life.*

More information about FCPA, including its resource management practices, is provided in Section 3.6. See [www.fairfaxcounty.gov/parks/](http://www.fairfaxcounty.gov/parks/).

- *Department of Planning and Development (DPD)* provides proposals, advice and assistance on land use, development review and zoning issues to those who make decisions on such issues in Fairfax County. DPD's mission is to promote livable communities which enhance the quality of life for the present and the future. See [www.fairfaxcounty.gov/planning-development/](http://www.fairfaxcounty.gov/planning-development/).
- *Facilities Management Department (FMD)* provides a full range of facility management services to the approximately 240 county-owned and leased facilities in its portfolio. Key FMD services include energy management, capital renewal, maintenance, repair and renovation. The department also provides space planning and interior design services, as well as custodial, security and moving services. Several of FMD's energy-related initiatives and accomplishments are described in Section 4.4.
- *Department of Health*, through its Division of Environmental Health (DEH), protects and improves public health by using its regulatory authority and community-based outreach activities to prevent, minimize or eliminate exposure to biological, chemical or physical hazards. DEH's regulatory activities include the permitting and inspection of



the operations of various businesses that can potentially impact the community's health, pest surveillance and public health complaint investigations. Section 3.9 discusses five of the potential environmental hazards and exposures that pose a risk to human health that DEH addresses: contaminated ground and surface water; vector-borne diseases; rabies; radon; and naturally-occurring asbestos.

See [www.fairfaxcounty.gov/health/environment](http://www.fairfaxcounty.gov/health/environment).

- *Department of Vehicle Services (DVS)* provides fleet management services support to all county customers and ensures that county vehicles and equipment are maintained in accordance with all federal, state and county safety and environmental policies, procedures and regulations. DVS is fully committed to conservation of the county's natural environment and to initiatives that contribute to cleaner air and water. Section 4.7 discusses several of these DVS initiatives.

See [www.fairfaxcounty.gov/vehicleservices/](http://www.fairfaxcounty.gov/vehicleservices/).

## 1.4 Interagency Collaboration and Coordination

Fairfax County has long recognized the need for coordinated and proactive policies and initiatives to address its environmental and energy-related challenges. Federal and state guidelines and regulations demand diligence in the development of concrete strategies for a healthy environment, as well as inter-agency and inter-jurisdictional coordination to address environmental issues that know no organizational or political boundaries.

### 1.4.1 Internal Collaboration and Coordination

The county established two committees to facilitate agency collaboration and coordination: the Environmental Coordinating Committee (ECC) and its companion, the Energy Efficiency and Conservation Coordinating Committee (EECCC), which is now known as the Energy Core Team. Both groups are inter-agency management committees intended to facilitate communication among agencies and to break down walls that separate individual agencies and their respective missions. Committee members act as advisors to and a "sounding board" for each other about environmental and energy issues, including programs, initiatives and strategies.

Both committees develop recommendations on policies and practices related to the environment and energy efficiency, which are then presented to the appropriate parties (i.e., the County Executive and/or the Board of Supervisors Environmental Committee). Recognizing that federal and state legislation and administrative proceedings may affect county policies, the ECC and Energy Core Team keep abreast of the status of relevant legislation and administrative proceedings and provide guidance as to any application in Fairfax County.



Both committees also coordinate closely with the county's Environmental Quality Advisory Council (EQAC), which is an independent, board-appointed advisory committee. EQAC is tasked with reporting the state of the environment in Fairfax County and with recommending a variety of policy and programmatic actions that the board can take in support of the environment. EQAC also provides a forum for citizen input on environmental issues through its annual public hearing and e-mail address. See [www.fairfaxcounty.gov/planning-development/environmental-quality-advisory-council](http://www.fairfaxcounty.gov/planning-development/environmental-quality-advisory-council) for more information regarding EQAC and its *Annual Report on the Environment*.

### 1.4.2 Regional Collaboration

As discussed in Section 1.2.1, board members are active participants in committees and initiatives within the metropolitan Washington, D.C. region, particularly those sponsored by the Metropolitan Washington Council of Governments (COG) and the Northern Virginia Regional Commission.

County staff is also active on a regional basis. The COG committees and boards in which county staff participate include:

- Climate, Energy and Environment Policy Committee.
- Built Environment and Energy Advisory Committee.
- Metropolitan Washington Air Quality Committee (MWAQC) and the MWAQC Technical Advisory Committee.
- Transportation Planning Board.

Information about the Northern Virginia Regional Commission, including its programs and projects, is available at [www.novaregion.org/](http://www.novaregion.org/).



*Earth Day planting at  
the Government Center*

*Photo credit: Dennis O'Conner*



## 1.5 Partner Organizations

Fairfax County provides financial or other tangible support to a number of agencies and nonprofit organizations that promote the general health and welfare of the community. The county's environmental partners include:

**Clean Fairfax Council** works to prevent litter, encourage recycling and promote sustainability. See [www.cleanfairfax.org/](http://www.cleanfairfax.org/).

**Earth Sangha** promotes conservation through its native plant nursery and ecological restoration projects. See [www.earthsangha.org/](http://www.earthsangha.org/).

**Fairfax County Restoration Project** connects, creates and promotes efforts to restore ecosystem functions through collaboration with public, private, and volunteer organizations. See [www.fcrpp3.org/](http://www.fcrpp3.org/).

**Fairfax ReLeaf** works to conserve, restore and promote sustainable urban forests by engaging volunteers in tree planting projects.

See [www.fairfaxreleaf.org/FFR/Index.html](http://www.fairfaxreleaf.org/FFR/Index.html).

**Northern Virginia Conservation Trust** helps local governments and private landowners preserve natural areas, trails, streams and parks through voluntary conservation easements. See [www.nvct.org/](http://www.nvct.org/).

**Northern Virginia Soil and Water Conservation District** works for clean streams, protected natural resources and community engagement in Fairfax County. See [www.fairfaxcounty.gov/soil-water-conservation/](http://www.fairfaxcounty.gov/soil-water-conservation/).

**Volunteer Fairfax** matches the skills and interests of volunteers and donors to the needs of local nonprofit organizations, helping to build a better community through service. See [www.volunteerfairfax.org/](http://www.volunteerfairfax.org/).



# SECTION 2

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REGULATORY, POLICY AND  
STRATEGIC FRAMEWORK



# REGULATORY, POLICY AND STRATEGIC FRAMEWORK

## Featured in this Section

2.1	Introduction .....	31
2.2	Policies Adopted by the Board of Supervisors .....	31
2.2.1	Priorities and Goals .....	31
2.2.2	Environmental Vision .....	32
2.2.3	Cool Counties Climate Stabilization Initiative .....	33
2.2.4	Energy Policy .....	34
2.2.5	Operational Energy Strategy .....	35
2.2.6	Comprehensive Plan .....	36
2.2.7	Tree Action Plan .....	38
2.2.8	Solid Waste Management Plan .....	38
2.2.9	Sustainable Development Policy for Capital Projects .....	39
2.2.10	Fairfax County Park Authority Policy .....	39
2.3	Ordinances Adopted by the Board of Supervisors .....	41
2.4	Funding Mechanisms .....	42
2.4.1	Funds Used for Environmental Efforts .....	42
2.4.2	Environmental Improvement Program .....	44



## SECTION 2

### 2.1 Introduction

The Fairfax County Board of Supervisors (board) has set the framework for the county's environmental initiatives through its vision, goals, policies and ordinances and has dedicated considerable resources to implementing these initiatives. This section of the report addresses this framework.

The board's vision statement includes the following (paraphrased):

*Our vision is to protect and enrich the quality of life for the people, neighborhoods and diverse communities of Fairfax County by maintaining safe and caring communities, building livable spaces, connecting people and places, maintaining healthy economies, practicing environmental stewardship, creating a culture of engagement and exercising corporate stewardship.*

*We envision that local government, industry and residents will seek ways to use all resources wisely and to protect and enhance the county's natural environment and open space. As a result, residents will feel good about their quality of life and embrace environmental stewardship as a personal and shared responsibility.*

The county's Vision and Vision Elements are presented in the Strategic Plan to Facilitate the Economic Success of Fairfax County, which is available at [www.fairfaxcounty.gov/economic-success/sites/economic-success/files/assets/documents/pdf/strategic-plan-facilitate-economic-success-2015.pdf](http://www.fairfaxcounty.gov/economic-success/sites/economic-success/files/assets/documents/pdf/strategic-plan-facilitate-economic-success-2015.pdf).

### 2.2 Policies Adopted by the Board of Supervisors

#### 2.2.1 Priorities and Goals

Environmental initiatives are driven by goals, policies and priorities agreed upon at the highest levels of the county government. Through its Statement of Priorities, the board has pledged to engage residents and businesses and protect investments in eight critical areas, including "a clean, sustainable environment."

*Fairfax County will continue to protect our drinking water, air quality, stream valleys and tree canopy through responsible environmental regulations and practices. We will continue to take a lead in initiatives to address energy efficiency and sustainability and to preserve and protect open space for our residents to enjoy.*

The Fairfax County Statement of Priorities is available at [www.fairfaxcounty.gov/boardofsupervisors/priorities](http://www.fairfaxcounty.gov/boardofsupervisors/priorities).



The county's goals, adopted by the Board of Supervisors in 1988 and subsequently revised, serve as the basis for the Comprehensive Plan, discussed in Section 2.2.6, and encompass all aspects of the county government. Of the 20 adopted goals, many speak directly to environmental protection and resource conservation:

**Environmental Protection** – *The amount and distribution of population density and land uses in Fairfax County should be consistent with water quality, ambient air quality and other environmental standards. Development in Fairfax County should be sensitive to the natural setting, in order to prevent degradation of the County's natural environment*

**Energy Conservation** – *Fairfax County should promote energy efficiency and energy conservation within the public, commercial, residential, and industrial sectors.*

**Open Space** – *Fairfax County should support the conservation of appropriate land areas in a natural state to preserve, protect and enhance stream valleys, meadows, woodlands, wetlands, farmland, and plant and animal life. Small areas of open space should also be preserved in already congested and developed areas for passive neighborhood uses, visual relief, scenic value, and screening and buffering purposes.*

Three other goals, "Quality of Life," "Land Use" and "Transportation," also have environmental components. The Fairfax County goals reflect the belief of the community that environmental protection and preservation are overarching components of the quality of life. They demonstrate an understanding of the interdependence of decisions regarding private development, transportation and public works with the environment. How we use land affects, and is affected by, the natural environment.

See the board's statement of priorities at [www.fairfaxcounty.gov/boardofsupervisors/priorities](http://www.fairfaxcounty.gov/boardofsupervisors/priorities) and the county's goals at [www.fairfaxcounty.gov/planning-development/comprehensive-plan/policy-plan](http://www.fairfaxcounty.gov/planning-development/comprehensive-plan/policy-plan).

### 2.2.2 Environmental Vision

Fairfax County has long recognized the need for proactive policies and initiatives to address its environmental challenges. Indeed, environmental considerations are embedded in the county's policy and regulatory documents, and the county has pursued a myriad of environmental initiatives that continue to grow in number and complexity.

For this reason, among others, at its regular meeting on Monday, June 21, 2004, the board, in continuation of its long history of environmental vigilance and dedication, endorsed and adopted the "Environmental Excellence for Fairfax County: A 20-year Vision," also known as the



Environmental Vision, or Environmental Agenda. The Environmental Vision was revised in 2007 and was updated comprehensively in 2017; the updated Environmental Vision document was adopted by the Board of Supervisors on June 20, 2017, after an extensive community engagement process.

As articulated in a preface from Sharon Bulova, Chairman of the Board of Supervisors, the updated Environmental Vision document establishes *“an overarching vision to attain a quality environment that provides for a high quality of life and is sustainable for future generations. These aspects of a quality environment are essential for everyone living and working in Fairfax County. No matter what income, age, gender, ethnicity, or address, everyone has a need and right to breathe clean air, to drink clean water, and to live and work in a quality environment.”*

The updated Environmental Vision document is premised on the same two principles originally adopted by the board in 2004. First, that *“conservation of our limited natural resources must be interwoven into all government decisions.”* And, second, that *“the Board must be committed to providing the necessary resources to protect and improve our environment for quality of life now and for future generations.”*

The Vision now includes sections on:

- Land Use.
- Transportation.
- Water.
- Waste Management.
- Parks and Ecological Resources.
- Climate and Energy.
- Environmental Stewardship.

The Environmental Vision provides guidance for board members, county staff and the community when making decisions that have environmental impacts. Environmental concerns are not seen as trade-offs or compromises but, instead, are foundational to the decision-making process. The Environmental Vision is an aggressive, multi-year plan that will require a long-term financial commitment. The board’s Environmental Vision is available at [www.fairfaxcounty.gov/environment/environmental-vision](http://www.fairfaxcounty.gov/environment/environmental-vision).

### 2.2.3 Cool Counties Climate Stabilization Initiative

In collaboration with local, regional and national partners, Fairfax County led a national effort, called Cool Counties, to reduce global warming emissions. The Board of Supervisors signed the Cool Counties Climate Stabilization Declaration on July 16, 2007. In signing this pledge, the board





committed to certain actions, including working closely with local, state and federal governments to create a regional greenhouse gas emissions inventory and to limit regional emissions by 2050. As a result of these efforts, and despite a 13% growth in population, Fairfax County cut its total greenhouse gas emissions between 2005 and 2015 by nearly 10 percent, as did the metropolitan Washington, D C region.

Fairfax County's climate change actions and initiatives include:

- Reducing greenhouse gas emissions in county government operations through efficiency, conservation and education.
- Implementing air quality, land use planning and zoning, transportation, tree and open space preservation, solid waste management, recycling and water conservation and reuse initiatives.
- Encouraging similar efforts in the wider community by supporting transit-oriented mixed-use development, green building and energy-conserving design, particularly in redevelopment areas such as Tysons Corner.
- Encouraging similar efforts in the wider community by providing outreach to residents and businesses on a range of efforts that they can pursue in support of energy conservation and greenhouse gas emissions reductions.

More information about Cool Counties, including the text of the U.S. Cool Counties Climate Stabilization Declaration, is available at [www.fairfaxcounty.gov/environment/cool-counties](http://www.fairfaxcounty.gov/environment/cool-counties).

#### 2.2.4 Energy Policy

The Fairfax County Energy Policy, adopted in 2009, promotes pragmatic conservation and management of energy resources. The policy supports nine measures:

- Energy efficiency and conservation in buildings, facilities, operations and vehicles.
- The use of alternative and sustainable energy options.
- Waste reduction and recycling.
- The use of more fuel efficient and alternate fuel vehicles in the county's fleet.
- Implementation of energy efficiency and conservation projects.
- Generation of energy on-site.
- Land use patterns and transportation systems that serve to reduce energy use.
- Intergovernmental energy efficiency efforts.
- Energy efficiency and conservation efforts by county employees, employers and residents.



The energy policy is available at [www.fairfaxcounty.gov/environment/energy-policy](http://www.fairfaxcounty.gov/environment/energy-policy).

The primary implementation mechanism to address and support environmental and energy policies and goals set forth in the board's Environmental Vision, the 2007 Cool Counties Initiative and the 2009 Energy Policy is the county's Environmental Improvement Program. Two collaborative inter-agency committees – the Environmental Coordinating Committee and the Energy Efficiency and Conservation Coordinating Committee – are vital to implementation, as they help ensure that crosscutting action is coordinated across county agencies, authorities and schools. More information on the Environmental Improvement Program is presented in Sections 2.4.2 and 5 of this document.

### 2.2.5 Operational Energy Strategy

In adopting its updated Environmental Vision ([www.fairfaxcounty.gov/environment/environmental-vision](http://www.fairfaxcounty.gov/environment/environmental-vision), June 20, 2017), the Board of Supervisors approved objectives in the areas of energy efficiency, conservation and renewable energy intended to reduce both the county's operational use of energy from fossil fuel sources and the greenhouse gas (GHG) emissions associated with that energy use. These objectives include: (1) ensuring that cost-effective energy efficiency is an integral part of county operations, capital improvement and capital renovation projects; (2) seeking opportunities to incorporate cost-effective renewable energy generation at county facilities; (3) considering life-cycle energy costs when making procurement decisions; and (4) educating employees on the importance of energy efficiency and conservation.

During the meeting at which it adopted its updated Environmental Vision, the board directed the county's Environmental and Energy Coordinator to develop an energy strategy for internal county operations consistent with the updated Vision's new Climate and Energy section.

On July 10, 2018, the board adopted the Operational Energy Strategy, which sets specific goals and targets for reducing energy use, with the aim of lowering utility bills while also reducing greenhouse gas emissions. The Energy Strategy addresses 10 distinct focus areas, ranging from energy use and efficiency to reporting and collaboration.

As articulated by Sharon Bulova, Chairman of the Board of Supervisors, the "Fairfax County Energy Strategy will reduce greenhouse gas emissions, lower utility bills for county buildings and promote an energy conscious culture within the county's workplace. Fairfax County Government and Fairfax County Public Schools account for only three percent of total greenhouse gas emissions in Fairfax County, and the other 97 percent are generated by homes and businesses. It is important that we all do our part



to be leaders in energy efficiency to help support and protect a healthy environment well into the future.”

This Energy Strategy is intended to further the board’s Climate and Energy objectives in its Environmental Vision by providing goals, targets and actions in each of the following 10 focus areas:

- Energy Use and Efficiency.
- Water Use and Efficiency.
- Green Building and Sustainability.
- Innovative Energy Solutions.
- Electric Vehicles.
- Goods and Services.
- Waste Management.
- Awareness and Engagement.
- Utility Cost Management.
- Reporting and Collaboration.

No focus area is the responsibility of one department or agency alone. Fairfax County government leadership, management and employees will need to work together to successfully implement this ambitious Energy Strategy. Detailed action plans and increased inter-agency coordination and cooperation will be crucial. In some cases, leadership and management may need to expressly empower staff to act in furtherance of the goals, targets and actions in this Energy Strategy. Periodic reviews and updates will help ensure it remains viable despite expected advances in technology and legislative and regulatory change.

Achieving the Energy Strategy’s goals and targets requires financial commitments from the board, departments and agencies. Initial capital outlays, adequate staffing and resources, and dedicated funding are essential both to undertake the energy and cost-saving actions in this Energy Strategy and to realize their benefits. Investing in efficiency improvements and other actions to reduce energy and water consumption will generate returns for decades, well beyond initial payback periods.

### 2.2.6 Comprehensive Plan

The Comprehensive Plan guides land use-related decision-making about the environment by the county’s Board of Supervisors, Planning Commission and Board of Zoning Appeals. It is also a guide for county staff and the public about development and redevelopment in the county.

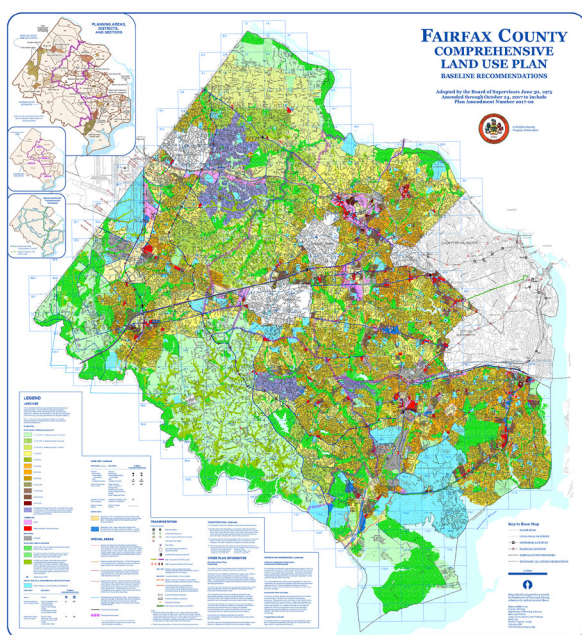
The Comprehensive Plan consists of the Policy Plan, four Area Plans, the Land Use Plan map, the Countywide Trails Plan map, the Bicycle Plan



map and the Transportation Plan map. The Policy Plan provides broad, countywide policy guidance, while the Area Plans provide more specific recommendations for smaller geographic areas, often specific to individual parcels of land. Development proposals requiring zoning approval are evaluated in regard to how they would implement or otherwise support both Policy Plan and Area Plan guidance.

The Policy Plan contains goals, objectives and policies relating to 11 functional elements:

- Land Use.
- Transportation.
- Housing.
- Economic Development.
- Environment.
- Heritage Resources.
- Public Facilities.
- Human Services.
- Parks and Recreation.
- Revitalization.
- Visual and Performing Arts.



The Plan map may be viewed at a larger scale at: [www.fairfaxcounty.gov/planning-development/sites/planning-development/files/assets/documents/maps/comprehensive-plan-map.pdf](http://www.fairfaxcounty.gov/planning-development/sites/planning-development/files/assets/documents/maps/comprehensive-plan-map.pdf)



The Plan provides objectives, policies and guidelines for future development in Fairfax County, while protecting, restoring and enhancing natural and cultural resources. The policies and objectives in the Environment section address environmental resources, conservation, pollution, hazards and coordination as well as green building practices.

More information about the county's growth and land use policies is presented in Section 3.2 of this report. See also [www.fairfaxcounty.gov/planning-zoning/fairfax-county-comprehensive-plan](http://www.fairfaxcounty.gov/planning-zoning/fairfax-county-comprehensive-plan).

### 2.2.7 Tree Action Plan

The Tree Action Plan, adopted in December 2006, is a 20-year strategy to preserve and restore tree cover in the county. Tree Commission members, staff, residents and builders worked together to develop the initial plan, the goals within which were:

- Commit to preserve current tree assets by fostering health and regeneration of specimen trees and urban forest;
- Enhance the legacy for future generations by increasing the quantity and quality of trees and wooded areas; and
- More effectively integrate urban forestry with planning and policy-making.

After completing the initial plan, the Board of Supervisors adopted a 30-year goal to increase tree cover to 45 percent by the year 2037. A study in 2017, using high resolution satellite imagery, found that more than 53 percent of the county is covered by tree canopy, which shows prior years' efforts are producing beneficial results.

In 2017, the Tree Commission members, urban forestry staff and stakeholders began drafting an update to the Tree Action Plan. A draft of the updated plan was completed in 2018 and presented to the Board's Environmental Committee in October 2018. The draft will go back before the committee in October 2019. The revised plan will include an urban forestry strategic plan and an approach to its implementation.

More information is available at [www.fairfaxcounty.gov/publicworks/tree-action-plan](http://www.fairfaxcounty.gov/publicworks/tree-action-plan) and in Section 3.6.4.

### 2.2.8 Solid Waste Management Plan

The Virginia Department of Environmental Quality (VDEQ) requires that all jurisdictions prepare a 20-year integrated solid waste management plan. Fairfax County's Solid Waste Management Plan, accepted by VDEQ in 2005 and revised in 2010 and 2015, is a 20-year strategy to ensure



adequate capacity for the solid waste generated within Fairfax County. County staff, working with stakeholders throughout the solid waste management system, reviewed current waste generation, activities and programs. Staff designed the future solid waste management system around the following strategic goals:

- Maintain a balanced solid waste management system that benefits the community while following regulatory requirements.
- Provide efficient and economical refuse collection, recycling and disposal services.
- Reduce the volume of the solid waste stream through the implementation of waste reduction and recycling programs.
- Provide for the operation of sanitary waste disposal facilities, utilizing the most environmentally acceptable and economically viable methods available.

Solid waste planning is an ongoing process and county staff will continue to evaluate the need to update and modify the Plan throughout the 20-year planning period.

Program operations are summarized in Section 3.5. The Solid Waste Management Plan is available at [www.fairfaxcounty.gov/publicworks/recycling-trash/solid-waste-management-plan-update-2015-2035](http://www.fairfaxcounty.gov/publicworks/recycling-trash/solid-waste-management-plan-update-2015-2035).

### 2.2.9 Sustainable Development Policy for Capital Projects

The county supports green building in its capital projects and in private sector development. The Sustainable Development Policy for Capital Projects addresses county facilities. The Environment section of the Policy Plan volume of the Comprehensive Plan covers the private sector.

County projects larger than 10,000 square feet must have a goal of achieving Silver certification in the Leadership in Energy and Environmental Design, or LEED®, rating system; smaller facilities are recommended for LEED certification.

The policy for capital projects is available at [www.fairfaxcounty.gov/publicworks/sites/publicworks/files/assets/documents/pdf/sdpolicy.pdf](http://www.fairfaxcounty.gov/publicworks/sites/publicworks/files/assets/documents/pdf/sdpolicy.pdf). More information about green building policies is provided in Sections 3.2.4 and 4.2.

### 2.2.10 Fairfax County Park Authority Policy

The Fairfax County Park Authority Board approved new mission and vision statements for the Park Authority at its meeting on June 27, 2018.





Scotts Run

Its mission is: “To enrich quality of life for all members of the community through an enduring park system that provides a healthy environment, preserves natural and cultural heritage, offers inspiring recreational experiences, and promotes healthy lifestyles.” Its vision is to: “Inspire a passion for parks, healthy lifestyles, and stewardship by providing a sustainable, dynamic, and inclusive park system to support a thriving community.” These mission and vision statements, as well as values, are available at [www.fairfaxcounty.gov/parks/mission-vision-values](http://www.fairfaxcounty.gov/parks/mission-vision-values).

The Fairfax County Park Authority (FCPA) manages over 23,000 acres, 427 parks, five nature centers, a horticultural center, more than 300 miles of trails, over 650 public garden plots, 220 playgrounds, 779 athletic fields and one of only four state natural area preserves in Northern Virginia.

The Fairfax County Park Authority Board, appointed by the Board of Supervisors, works collaboratively with constituents, partners, stakeholders and government leaders to champion the preservation and management of natural and cultural resources and facilitate the development of park and recreational programs and facilities. To guide park planning and programs, numerous policies and plans have been adopted:

- *Fairfax County Comprehensive Plan – Parks and Recreation* – Provides guidance and goals for park planning and land use decisions affecting the conservation of natural and cultural resources, protection of environmental quality, and provision of parks and park facilities to meet countywide needs. More information is available at <https://wcmtrain.fairfaxcounty.gov/planning-development/sites/planning-zoning/files/assets/compplan/policy/parksrec.pdf>.



- *Fairfax County Park Authority Policy Manual* – This manual guides Park Authority Board and staff decision-making in accordance with the Park Authority mission, objectives and associated laws. More information is available at [www.fairfaxcounty.gov/parks/publications/policy-manual](http://www.fairfaxcounty.gov/parks/publications/policy-manual).
- *Great Parks, Great Communities Parks and Recreation System Master Plan (2018-2020)* – This document is a 10-year plan that includes goals and recommendations that set the policy framework for all FCPA plans, programs and initiatives. The master plan is guided by the 2016 *Parks Count!* needs assessment findings and provides a long-term vision for the park system. More information is available at [www.fairfaxcounty.gov/parks/sites/parks/files/assets/documents/plandev/master-plans/fcpa-park-system-master-plan.pdf](http://www.fairfaxcounty.gov/parks/sites/parks/files/assets/documents/plandev/master-plans/fcpa-park-system-master-plan.pdf).
- *Great Parks, Great Communities 2010-2020 Comprehensive Park System Land Use Plan* – This document offers a long-range plan for the place-based, physical aspects of the park system, its land, its natural and cultural resources and its facilities. More information is available at [www.fairfaxcounty.gov/parks/publications/2010-2020-comprehensive-plan](http://www.fairfaxcounty.gov/parks/publications/2010-2020-comprehensive-plan).
- *Natural Resource Management Plan* – This plan coordinates agency-wide efforts to achieve the natural resource preservation mission of the Fairfax County Park Authority and implement agency Policy 201 - Natural Resources. More information is available at [www.fairfaxcounty.gov/parks/sites/parks/files/assets/documents/naturalcultural/nrmp012914.pdf](http://www.fairfaxcounty.gov/parks/sites/parks/files/assets/documents/naturalcultural/nrmp012914.pdf).
- *Cultural Resource Management Plan* – This plan provides the tools, policies and practices to best manage and protect cultural resources, both on parkland and countywide. More information is available at [www.fairfaxcounty.gov/parks/sites/parks/files/assets/documents/naturalcultural/crmpfinal.pdf](http://www.fairfaxcounty.gov/parks/sites/parks/files/assets/documents/naturalcultural/crmpfinal.pdf).
- *Park Master Plans* – These plans serve as general guides for appropriate park uses and facilities and their approximate locations within a specific park site and guide future park development and programming. More information is available at [www.fairfaxcounty.gov/parks/planning-development/masterplan-archives](http://www.fairfaxcounty.gov/parks/planning-development/masterplan-archives).

## 2.3 Ordinances Adopted by the Board of Supervisors

Fairfax County's regulations support, complement and implement the county's environmental policies and state and federal mandates. They are the "shall" requirements that accompany the "should" policies. Both are critical to the success of the county's comprehensive environmental program.

The Fairfax County Code contains all county-adopted ordinances and associated requirements. These ordinances are not static but are reviewed



and updated as needed. The current set of county ordinances is available at [www.fairfaxcounty.elaws.us/code/coor/](http://www.fairfaxcounty.elaws.us/code/coor/).

Environmental ordinances and other ordinances with key environmental provisions in the County Code include:

- Chapter 62, Fire Protection.
- Chapter 67.1, Sanitary Sewers and Sewage Disposal.
- Chapter 68.1, Individual Sewage Disposal Facilities.
- Chapter 70.1, Private Water Well Ordinance.
- Chapter 101, Subdivision Provisions (including, by reference, the Public Facilities Manual).
- Chapter 103, Air Pollution Control.
- Chapter 104, Erosion and Sedimentation Control.
- Chapter 107, Problem Soils.
- Chapter 108.1, Noise Ordinance.
- Chapter 109.1, Solid Waste Management.
- Chapter 112, Zoning Ordinance (including Floodplain Regulations, the Airport Noise Impact Overlay District and the Water Supply Protection Overlay District). (Available at [www.fairfaxcounty.gov/planning-development/zoning-ordinance](http://www.fairfaxcounty.gov/planning-development/zoning-ordinance)).
- Chapter 113, Water Use, Emergency Regulations.
- Chapter 114, Agricultural and Forestal Districts of Statewide Significance.
- Chapter 115, Local Agricultural and Forestal Districts.
- Chapter 116, Wetlands Zoning Ordinance.
- Chapter 118, Chesapeake Bay Preservation Ordinance.
- Chapter 120, Heritage, Specimen, Memorial and Street Tree Ordinance.
- Chapter 122, Tree Conservation Ordinance.
- Chapter 123, Coastal Primary Sand Dune Zoning Ordinance.
- Chapter 124, Stormwater Management Ordinance.

Other ordinances also have environmental provisions that are secondary to other purposes.

## 2.4 Funding Mechanisms

### 2.4.1 Funds Used for Environmental Efforts

Environmental initiatives are supported through several agencies and funds. The General Fund supports priority projects through a rigorous



project selection process in support of the Environmental Vision. Going forward, this process will also support the Operational Energy Strategy. Recent projects include:

- LED solar parking lot lighting retrofits at Greenbriar Park.
- Automated heating and/or cooling controls at non-staffed facilities. There are currently 30 non-staffed facilities which include irrigation sheds, pump houses and outdoor restrooms. Funding will support installation at two non-staffed facilities.
- Propane extraction equipment to recover unused gas from cylinders that are disposed of as part of the county's Household Hazardous Waste program.
- Streambank and meadow restorations.
- The purchase of a no-till seed drill for planting native grasses and wildflower seeds.
- Support for the Invasive Management Area Program.
- Environmental education and outreach.
- The Green Purchasing Program.
- A watershed protection and energy conservation matching grant program.


General Fund support is provided as available on an annual basis.

The General Fund also supports Earth Sangha, an environmental nonprofit organization which provides numerous volunteer opportunities involving environmental work, and Fairfax ReLeaf, a nonprofit organization that plants and preserves trees on public and common lands.

Several environmental program areas are supported through funding sources outside of the General Fund.

- The Wastewater Management Program (WWMP) tracks the amount of pollutants that are discharged from the county's wastewater treatment plant. The plant is in full compliance with stringent requirements. The program is supported primarily by sewer service and connection fees. Funds are used to cover program costs, debt service payments and capital project requirements.
- The Solid Waste Management Program (SWMP) generates revenue through fees collected as part of the following services: a county-owned and operated refuse transfer station; a regional ash landfill; and refuse collection, disposal and recycling operations. Those funds support the maintenance of two closed landfills, environmental services such as household hazardous waste and electronic waste collection, code enforcement and source reduction and recycling outreach.



- 
- The Stormwater Services (tax) District supports environmental mandates that protect the Chesapeake Bay and local tributaries. This fund is supported by a special service district fee based on 3.25 cents per \$100 of the assessed value of real estate. Funds are used to maintain the stormwater system, meet state and federal regulatory standards and meet dam safety requirements, among other efforts. The stormwater fee also supports contributions to both the Northern Virginia Soil and Water Conservation District (NVSWCD) and the Occoquan Watershed Monitoring Program (OWMP). The NVSWCD is an independent subdivision of the Commonwealth of Virginia that provides leadership in the conservation and protection of Fairfax County's soil and water resources. The OWMP and the Occoquan Watershed Monitoring Laboratory were established to ensure that water quality is monitored and protected in the Occoquan Watershed.

#### 2.4.2 Environmental Improvement Program

The Environmental Improvement Program (EIP) was first developed in 2005 by the county's Environmental Coordinating Committee (ECC) in response to direction by the board following the adoption of its Environmental Vision on June 21, 2004. Initially, the EIP was largely a compilation of projects, initiatives and actions that the county had taken, was in the process of taking or could take to support board-adopted environmental and energy policies and goals.

The EIP was updated annually through a coordinated and collaborative process.

In consultation with the board and the county's Environmental Quality Advisory Council, staff revised the EIP in 2012 to include a more formal project selection and prioritization process to better support the board-adopted Environmental Vision.

In this revised process, EIP project proposals are evaluated and prioritized annually. Projects identified through this process are forwarded to the county executive for consideration for inclusion in the county's advertised budget. A description of the EIP project selection process and additional information about EIP projects are provided in Section 5.3 of this report.



## SECTION 3

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PROMOTING A  
SUSTAINABLE COMMUNITY



# PROMOTING A SUSTAINABLE COMMUNITY

## Featured in this Section

3.1	Introduction . . . . .	47
3.2	Growth and Land Use. . . . .	47
3.2.1	Zoning and Planning . . . . .	48
3.2.2	Transit-Oriented Mixed-Use Development . . . . .	49
3.2.3	Revitalization. . . . .	50
3.2.4	Green Buildings . . . . .	51
3.2.4.A	Green Building Policy . . . . .	52
3.2.4.B	Green Building Priority Plan Review. . . . .	53
3.2.4.C	County Incentives for Solar Installations . . . . .	53
3.2.5	Noise, Light Pollution and Visual Pollution. . . . .	53
3.2.5.A	Noise . . . . .	53
3.2.5.B	Light Pollution . . . . .	54
3.2.5.C	Visual Pollution . . . . .	55
3.3	Air Quality and Transportation . . . . .	55
3.3.1	Air Quality . . . . .	56
3.3.1.A	Air Quality Planning in the Washington Metropolitan Region. . . . .	56
3.3.1.B	Washington Metropolitan Air Quality Status . . . . .	57
3.3.2	Transportation. . . . .	57
3.3.2.A	Transportation Planning in the Washington Metropolitan Region. . . . .	57
3.3.2.B	Fairfax County Multimodal Transportation Initiatives . . . . .	58
3.4	Water. . . . .	60
3.4.1	Stormwater . . . . .	61
3.4.2	Wastewater . . . . .	62
3.4.3	Water Supply Planning . . . . .	63
3.5	Solid Waste Management . . . . .	64
3.5.1	Recycling . . . . .	65
3.5.2	SWMP Green Initiatives. . . . .	66
3.6	Parks and Ecological Resources. . . . .	67
3.6.1	Open Space in Fairfax County . . . . .	68
3.6.2	Natural Resource Management. . . . .	69
3.6.3	Policy and Regulatory Mechanisms for Protecting Natural Resources . . . . .	70
3.6.3.A	Chesapeake Bay Preservation Ordinance . . . . .	71
3.6.3.B	Stormwater Management Ordinance . . . . .	71
3.6.3.C	Floodplain Regulation . . . . .	72
3.6.3.D	Wetlands Zoning Ordinance. . . . .	73
3.6.3.E	Comprehensive Plan Policy. . . . .	74
3.6.4	Trees and Tree Conservation . . . . .	75
3.6.4.A	Urban Forest Management. . . . .	76
3.6.4.B	Tree Action Plan . . . . .	77
3.7	Climate and Energy. . . . .	77
3.7.1	Community Greenhouse Gas Emissions Inventory . . . . .	77
3.8	Environmental Stewardship and Outreach . . . . .	79
3.8.1	Community Stewardship Opportunities. . . . .	79
3.8.1.A	Watershed Volunteer Opportunities. . . . .	79
3.8.1.B	Volunteer Opportunities in County Parks . . . . .	79
3.8.1.C	Activities Offered by Northern Virginia Soil and Water Conservation District. . . . .	80
3.8.1.D	Additional Service Opportunities . . . . .	81
3.8.2	Education and Outreach. . . . .	81
3.8.2.A	Energy Action Fairfax . . . . .	82
3.8.2.B	Fairfax County Park Authority . . . . .	83
3.8.2.C	Department of Public Works and Environmental Services. . . . .	84
3.9	Environmental Health. . . . .	84



## SECTION 3

### 3.1 Introduction

Section 2 of this report identifies the broad policy framework guiding the county's sustainability initiatives. Section 3 addresses how the county advances that policy framework through the promotion of sustainability within the community.

Environmental stewardship is both a key responsibility and a critical legacy of the Fairfax County Board of Supervisors. The board's Environmental Vision, updated in 2017, affirms that environmental stewardship and prudent management of natural resources are essential responsibilities of local government that must be given fullest consideration at all times. The Environmental Vision is available at [www.fairfaxcounty.gov/environment/environmental-vision](http://www.fairfaxcounty.gov/environment/environmental-vision).

Achieving this goal of sustainability requires an on-going commitment to supporting environmental stewardship in every aspect of daily life.

Fairfax County's commitment to sustainability is demonstrated by an extensive range of policies, programs and efforts, including those promoting:

- Transit-oriented mixed-use development and green building practices.
- Healthy waterways and clean drinking water.
- Recycling and other waste management initiatives that minimize use of landfills.
- Adaptive, holistic management of natural resources, forests and access to open space.
- Outreach and educational programs that support environmental stewardship.
- Clean air and carbon emission reductions.
- Reduction of environmental hazards to human health and quality of life (e.g., biological, chemical and physical hazards; noise, light pollution and visual pollution).

### 3.2 Growth and Land Use

Both Fairfax County and the larger metropolitan Washington, D.C. area are expected to experience substantial growth into the future. Fairfax County's 2017 population of approximately 1.15 million is projected to increase to



over 1.39 million by 2045. Over this same period, the number of households is forecast to increase from nearly 406,000 to 519,000. The Metropolitan Washington Council of Governments (COG) estimates that the population in the region (i.e., jurisdictions within the COG/Transportation Planning Board Planning Area) will grow by over 1.5 million between 2015 and 2045, increasing from approximately 5.4 million to approximately 6.9 million. COG estimates that between 2015 and 2045, the region will add over 1.1 million jobs, with over 240,000 of these new jobs located in Fairfax County. The question, then, is not if the county will grow, but how it will grow.

The county's land use policies favor growth in mixed-use, transit-oriented centers. These centers provide for employment growth near both transit opportunities and residential areas. They also support vibrant communities by creating safe and attractive streets for pedestrians and reducing the need for vehicle trips and the resulting traffic congestion.

### 3.2.1 Zoning and Planning

Land use in Fairfax County is regulated by the Zoning Ordinance. Each parcel of land in the county is zoned, and the zoning classification establishes both rights and restrictions on the use and development of that parcel. These restrictions include allowed uses and standards, including setback, building height, open space and parking requirements. Additional requirements exist in "overlay" districts that have been established to address area-specific issues, such as water quality within the Occoquan Reservoir watershed.

Development that conforms to allowed uses and standards under the zoning ordinance proceeds "by right" - that is, it is approved administratively and does not require a public hearing. Legislative approvals following public hearings are required for other development. Specifically:

- Requests for special permit uses are subject to approval by the Board of Zoning Appeals.
- Requests for special exceptions or changes to the zoning of a parcel (i.e. rezonings) are subject to approval by the Board of Supervisors.

The Fairfax County Planning Commission holds public hearings and provides recommendations to the Board of Supervisors on all special exception and rezoning proposals.

In making decisions on these matters, members of the Board of Supervisors, Board of Zoning Appeals and the Planning Commission are guided by the Comprehensive Plan. This plan, which is discussed in Section 2.2.6, describes the county's land use vision for the future and includes countywide and area-specific policies to help attain this vision.



More information about the Zoning Ordinance is available at [www.fairfaxcounty.gov/planning-development/zoning-ordinance](http://www.fairfaxcounty.gov/planning-development/zoning-ordinance). Information about the zoning application and development review process is available at [www.fairfaxcounty.gov/planning-development/zoning/application-development-review-process](http://www.fairfaxcounty.gov/planning-development/zoning/application-development-review-process). The Comprehensive Plan is available at [www.fairfaxcounty.gov/planning-development/fairfax-county-comprehensive-plan](http://www.fairfaxcounty.gov/planning-development/fairfax-county-comprehensive-plan).

### 3.2.2 Transit-Oriented Mixed-Use Development

The Policy Plan volume of the county's Comprehensive Plan contains the Board of Supervisors' (board) goals, policies and objectives regarding land use, transportation, housing, the environment, human services, public facilities, parks and recreation, revitalization, economic development, heritage resources and visual and performing arts.

The land use and transportation policies of the Comprehensive Plan emphasize locating mixed-use development, including employment centers and multifamily housing, in activity centers (i.e., the Tysons Urban Center, suburban centers, community business centers and transit station areas) with transportation options, especially rail transit. Transit-oriented mixed-use development (TOD) guidelines were incorporated into the Policy Plan in March 2007.

In June 2010, the board adopted an amendment to the Comprehensive Plan for the Tysons area. The Plan amendment, which was the culmination of one of the largest targeted planning efforts in county history, supports TOD concepts, including the provision of housing in employment centers. This amendment, which was designed to take advantage of the four new Metro stations that have now been built in the area, received the 2011 Daniel Burnham Award from the American Planning Association. This award is granted to only one urban plan in the nation each year for advancing the science and art of planning.



*Plaza at Tysons Corner Center*

Other Plan amendments that support TOD concepts and/or mixed-use development and connectivity include those for Annandale, Baileys Crossroads, Seven Corners, Franconia-Springfield, the Lake Anne Village Center, the Fairfax Center Area, the Dulles Suburban Center, McLean, the Richmond Highway corridor (Embark study) and areas near existing and future rail stations in the Reston and Herndon areas. The Embark Richmond



Highway Plan amendment received the 2018 Commonwealth Plan of the Year award from the American Planning Association's Virginia Chapter. Efforts to incorporate TOD, mixed-use and connectivity concepts into the Comprehensive Plan are continuing.

The Plan's guidance is implemented through the approval of zoning applications. Approved and pending rezoning applications regarding TOD and mixed-use development include those affecting properties in Tysons, Reston, the Dulles Suburban Center, Merrifield, Springfield and the Huntington and Vienna Metrorail station areas.

The Policy Plan is available at [www.fairfaxcounty.gov/planning-zoning/comprehensive-plan/policy-plan](http://www.fairfaxcounty.gov/planning-zoning/comprehensive-plan/policy-plan). More information about TOD is available in the Land Use section of the Comprehensive Plan, available at [www.fairfaxcounty.gov/planning-development/sites/planning-development/files/assets/compplan/policy/landuse.pdf](http://www.fairfaxcounty.gov/planning-development/sites/planning-development/files/assets/compplan/policy/landuse.pdf), particularly Objectives 2, 6, 16 and Appendix 11.

### 3.2.3 Revitalization

Fairfax County's Department of Planning and Development (DPD) facilitates strategic redevelopment and investment opportunities within the older and transforming commercial activity centers of the county. These centers include the five Commercial Revitalization Districts (CRD) of Annandale, Baileys Crossroads/Seven Corners, McLean, Richmond Highway and Springfield; the two Commercial Revitalization Areas (CRA) of Lake Anne Village Center and Merrifield; the Springfield Town Center; Reston Transit



*Mosaic District*

Station Areas (TSA) and village centers; and the Tysons Urban Center (Tysons).

The Urban Centers and Community Revitalization Sections of DPD

include a dedicated team of planning and design professionals who work with developers, property owners, community stakeholders, cross-agency teams and consultants to provide review and direction on zoning applications, site plans, Comprehensive Plan amendments, streetscape and wayfinding projects, infrastructure improvement projects, public outreach, special studies, urban design guidelines, solicitations regarding county facilities and related development, and public-private partnerships.



Board policy and DPD's work program have been instrumental in promoting a sustainable community through redevelopment and reinvestment. New incentives to reduce barriers for redevelopment and facilitate revitalization are being implemented through countywide initiatives aimed at improving the development process.

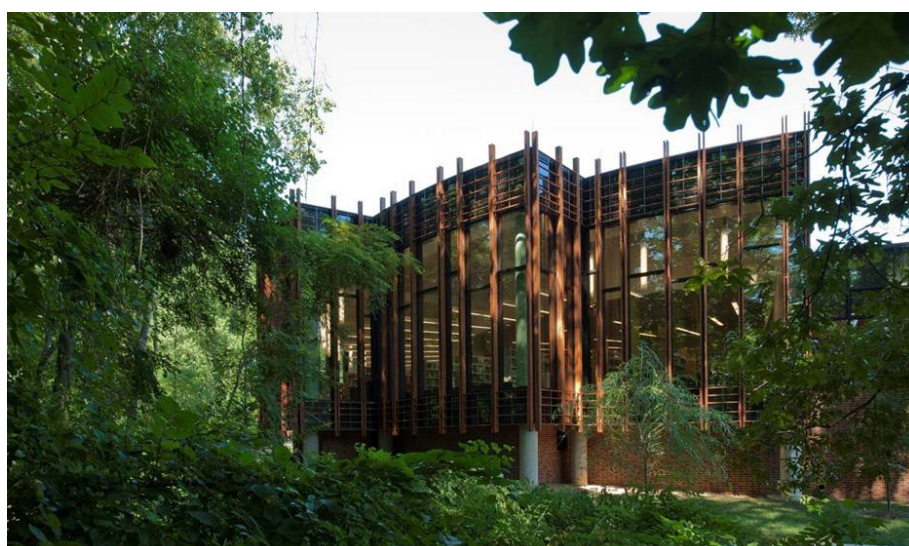
To achieve and sustain revitalization goals and objectives, the county has adopted Plan guidance for each CRD/CRA, Tysons and Reston; incorporated the Urban Parks Framework into the Policy Plan; and adopted Urban Design Guidelines for many of its mixed-use activity centers, with the goal of adopting such standards for additional areas. These guidelines promote walkable, pedestrian-oriented, sustainable development and are used to evaluate development applications and site plans. In December 2017, the Board of Supervisors adopted an amendment to the Policy Plan volume of the Comprehensive Plan to facilitate, within county activity centers, the repurposing of office buildings for other uses. Plan guidance facilitating such repurposing efforts outside of these centers was adopted in May 2018.

Through the use of strategic financing mechanisms, such as the Community Development Authority/Tax Increment Financing (CDA/TIF) that was used for the Mosaic-Merrifield Town Center project, the county forms partnerships with the private sector to complete major projects that serve the public interest.

More information about revitalization is available at [fcrevit.org/](http://fcrevit.org/).

### 3.2.4 Green Buildings

Green building techniques are encouraged in Fairfax County through policy and incentives.



*Dolley Madison Library*



#### 3.2.4.A Green Building Policy

In addition to adopting a green building policy that applies to county capital projects, as discussed in Section 4.2.1, Fairfax County has adopted green building policies for private sector development. These policies are found in the Comprehensive Plan and are implemented through the zoning process.

The Policy Plan volume of the Comprehensive Plan includes broad support for green building practices. It also establishes links between green building/energy conservation practices and the attainment of certain Comprehensive Plan options and planned uses, as well as development densities and intensities. One example of these linkages involves proposals at the high end of the planned density/intensity range in the county's activity centers. In these centers, green building certification through the Leadership in Energy and Environmental Design (LEED®) program or its equivalent is recommended for certain nonresidential and multi-family residential proposals. Another example that applies countywide is the recommendation for other residential projects to incorporate green building practices sufficient to attain certification under an established residential green building rating system that incorporates multiple green building concepts and includes an ENERGY STAR® Qualified Homes designation or comparable level of energy performance.

The Area Plan volumes of the Comprehensive Plan include area-specific green building policies. For example, the Tysons Urban Center Area Plan recommends a LEED Silver, or equivalent level of certification, for nonresidential development. Plan guidance recommends similar efforts for areas near or adjacent to the Town of Herndon, Reston's Transit Station Areas and the Huntington and Franconia-Springfield Metrorail stations. Another example of an area-specific policy is found in the Annandale Community Business Center Plan. This Plan includes an incentivized development option that allows for increased building heights in certain areas where any of a number of benefits are provided, including commitments to LEED Gold or LEED Platinum certifications.

During the zoning application review process, county staff receives commitments from applicants to achieve green building certification and other green building efforts. Commitments to green building certification have been made for more than 200 buildings that have been approved through the zoning process. A majority of these buildings are linked to LEED certification, with many buildings linked to LEED Silver certification or higher.

For more information about the county's green building policies for private sector development, see Objective 13 at [www.fairfaxcounty.gov/planning-development/sites/planning-development/files/assets/compplan/policy/environment.pdf](http://www.fairfaxcounty.gov/planning-development/sites/planning-development/files/assets/compplan/policy/environment.pdf).



### 3.2.4.B Green Building Priority Plan Review

Both residential and commercial development projects that will be designed to attain certain thresholds of green building design are eligible for shorter waiting times during the building plan review process. Commercial projects designed to reach a minimum LEED rating of Silver or equivalent are eligible for this incentive, as are residential projects designed to, at a minimum, attain one of the following rating levels: LEED for Homes Silver; National Green Building Standards™ Silver; Earthcraft™ Select; or three “Globes” in the Green Globes™ rating system. Other green building rating programs are evaluated for approval on a case-by-case basis.

### 3.2.4.C County Incentives for Solar Installations

Current solar incentives include a zero cost for the permit fee (for solar hot water or solar photovoltaic projects) and a limited solar tax incentive in accordance with Virginia Code Section 58.1-3661. This is covered by the county ordinance in Article 18, Chapter 4 of the Fairfax County Code. Essentially, qualifying solar equipment as approved by the Department of Public Works and Environmental Services (DPWES) can result in a tax credit (not an exemption) against the amount of property taxes due. The credit is determined by applying the local tax rate to the value of the solar equipment (the value is typically the cost of the equipment).

The tax credit is available the first tax year following the date of application. The credit is good for five years. Although the concept for this was generally aimed at homes, both commercial and multi-unit residential properties qualify. More information about this program, along with application procedures and the application form, are available at [www.fairfaxcounty.gov/taxes/relief/real-estate-solar-equipment](http://www.fairfaxcounty.gov/taxes/relief/real-estate-solar-equipment).

In addition, it is possible to obtain a same-day solar permit if sufficient structural and electrical design information is provided to the walk-through counter at the county’s Permit Application Center, located at the Fairfax County Government Center.

## 3.2.5 Noise, Light Pollution and Visual Pollution

Noise, light pollution and visual pollution are considered to be sustainability issues, given that each can adversely affect the county’s environment and quality of life.

### 3.2.5.A Noise

The county has long had a Noise Ordinance that limits the noise that can be generated from stationary and other sources. However, noise generated from airport and highway operations is outside of the county’s regulatory purview.



Although noise generated from airport operations is not addressed in the Noise Ordinance, the county has taken steps to ensure that land uses near Washington Dulles International Airport will remain compatible with airport operations into the future. The Zoning Ordinance includes an Airport Noise Impact Overlay District in the area of the county near the airport, which establishes interior noise standards and associated acoustical mitigation requirements that apply to development that is pursued within the district. Additionally, Comprehensive Plan policy recommends against new residential development within specific areas near the airport.

The Comprehensive Plan also provides guidance regarding land use compatibility near highways. Applying this guidance during the zoning process, the county has obtained commitments from developers to implement or install noise mitigation measures, including highway noise barriers and acoustical mitigation for noise-sensitive indoor areas.

A comprehensive set of links addressing various transportation and other noise-related concerns is available at [www.fairfaxcounty.gov/planning-zoning/environment/noise](http://www.fairfaxcounty.gov/planning-zoning/environment/noise).

### 3.2.5.B Light Pollution

“Light pollution” is used to describe light output, primarily from exterior (outdoor) sources, that is excessive in amount and/or that causes harmful glare directed into: (1) the path of travel; (2) light-sensitive areas such as residential neighborhoods; or (3) the sky in general. Light pollution can occur in commercial, residential and roadway settings.

Light pollution can interfere with enjoyment of the night sky. Improper lighting can also waste energy. In recognition of these impacts, the county has established an Outdoor Lighting Ordinance. To reduce glare, the ordinance requires full cut-off lighting fixtures in most cases. Such fixtures prevent light from being emitted at or above a horizontal plane drawn through the bottoms of the fixtures.

The requirements of the Outdoor Lighting Ordinance do not affect outdoor lights used by most homeowners. Requirements apply to roof and canopy lighting, architectural and landscape lighting, recreation/sports facility lighting and internally-illuminated signs. In addition, the ordinance establishes after-hours parking lot lighting reduction requirements for developed nonresidential lots that contain four or more parking light poles.

More information about the county’s outdoor lighting rules is available at [www.fairfaxcounty.gov/planning-development/sites/planning-development/files/assets/documents/zoning/lightingbrochure.pdf](http://www.fairfaxcounty.gov/planning-development/sites/planning-development/files/assets/documents/zoning/lightingbrochure.pdf).



### 3.2.5.C Visual Pollution

Litter, unkempt properties and poorly placed signs are typically considered examples of visual pollution that degrade the environment. Fairfax County has taken steps to address visual pollution, including:

- Public outreach on litter-related issues. See [www.fairfaxcounty.gov/publicworks/recycling-trash/litter](http://www.fairfaxcounty.gov/publicworks/recycling-trash/litter).
- A blight abatement program that provides for the reporting and remediation of vacated or dilapidated structures. See [www.fairfaxcounty.gov/code/blight](http://www.fairfaxcounty.gov/code/blight).
- Zoning Ordinance limitations on signs. See [www.fairfaxcounty.gov/planning-zoning/zoning/sign-permits](http://www.fairfaxcounty.gov/planning-zoning/zoning/sign-permits).
- A review process for proposed telecommunications towers. See [www.fairfaxcounty.gov/planning-zoning/public-facilities-review/telecommunications](http://www.fairfaxcounty.gov/planning-zoning/public-facilities-review/telecommunications).

In addition, in early 2013, Fairfax County and the Virginia Department of Transportation (VDOT) finalized an agreement regarding signs placed in VDOT public rights-of-way. State law makes all such signs, including political advertising, illegal. The agreement authorizes the county, acting on behalf of VDOT, to remove the illegal signs and fine the offenders in accordance with the state code.

## 3.3 Air Quality and Transportation

The federal Clean Air Act was passed in 1970 to protect public health and welfare. Congress amended the Act in 1990 to establish requirements for areas not meeting the National Ambient Air Quality Standards (NAAQS) for ground-level ozone (smog), nitrogen oxide (NO<sub>x</sub>), sulfur dioxide (SO<sub>2</sub>), carbon monoxide (CO), lead and particulate matter (PM). The metropolitan Washington region is a “Marginal” nonattainment area for the 2008 eight-hour standard for ground level ozone. The region is in compliance with the NAAQS for the other five criteria pollutants.

Since 1970, significant progress has been made in reducing mobile source emissions in the Washington Metropolitan region, despite increases in population, employment and vehicle miles traveled. Most of these emissions reductions have resulted from cleaner vehicles and cleaner fuels.



### 3.3.1 Air Quality

#### 3.3.1.A Air Quality Planning in the Washington Metropolitan Region

The Clean Air Act Amendments of 1990 (CAAA) established a legal process for evaluating air quality and identifying and classifying nonattainment areas according to the severity of their air pollution problems. Under Section 174 of the CAAA, the governors of Maryland and Virginia and the mayor of the District of Columbia certified the Metropolitan Washington Air Quality Committee (MWAQC) to develop specific recommendations for a regional air quality plan in the Washington, DC-MD-VA nonattainment area.

Members of MWAQC include: elected officials from the Cities of Bowie, College Park, Frederick, Gaithersburg, Greenbelt, Rockville and Takoma Park in Maryland, and Alexandria, Fairfax, Falls Church, Manassas and Manassas Park in Virginia; representatives of the Montgomery and Prince George's county councils; Montgomery and Prince George's county executives; the mayor of the District of Columbia and representatives of the Council of the District of Columbia; and representatives of Calvert, Charles and Frederick counties in Maryland, and Arlington, Fairfax, Loudoun and Prince William counties in Virginia. Representatives of the general assemblies of Maryland and Virginia, the state air management directors, the state transportation directors and the chairman of the National Capital Region Transportation Planning Board also are members of MWAQC.

The Metropolitan Washington Council of Governments (COG), in close cooperation with state air quality and transportation agencies, provides technical support to MWAQC. Staff from the local counties and cities mentioned above provide additional technical support. MWAQC also has established an Air Quality Public Advisory Committee (AQPAC) to provide recommendations regarding public participation in the development of the air quality plans. AQPAC members represent academic, business, civic and environmental groups.

In addition, MWAQC works with the Interstate Air Quality Council (IAQC), a cabinet-level collaboration between the District of Columbia, the state of Maryland and the Commonwealth of Virginia that includes the secretaries of the environment and transportation in each of these jurisdictions. The purpose of the IAQC is to address issues of interstate air pollution and to provide a sound process for improving regional air quality.

Once MWAQC approves the air quality attainment plan, it will be forwarded to the Interstate Air Quality Council for approval. The governors and the mayor (or their designees) are then required to submit the air quality State Implementation Plans (SIPs) to the U.S. Environmental Protection Agency (EPA) to meet the requirements of the CAAA.



### 3.3.1.B Washington Metropolitan Air Quality Status

The metropolitan Washington region has met National Ambient Air Quality Standards, often referred to as NAAQS, for carbon monoxide and fine particulate matter, but not for ozone pollution.

**Carbon Monoxide** – The region has been in attainment of the carbon monoxide NAAQS for more than the twenty-year period covered in its carbon monoxide maintenance plan and is projected to remain so into the future. Therefore, there are now fewer requirements to assess the effects of transportation projects and other developments on carbon monoxide emissions.

**Fine Particulate Matter (PM<sub>2.5</sub>)** – The region is in attainment of both annual and daily PM<sub>2.5</sub> NAAQS. Based on the 2014-2016 data, the Washington region's design values for the annual PM<sub>2.5</sub> standard (12 pg/m) is 9.1 pg/m<sub>3</sub> and the daily PM standard (35 pg/m<sub>3</sub>) is 21 pg/m<sub>3</sub>. Also, there was no exceedance of the daily PM<sub>2.5</sub> standard in 2016.

**Ozone** – In May 2018, the Washington region was designated as a “Marginal” nonattainment area for the 2015 ozone NAAQS of 70 parts per billion (ppb). This determination was based on the quality assured data for 2014-2016 and the preliminary data for 2015-2017. The ozone design values for both time periods were 72 ppb. Though not required to develop a new SIP containing new enforceable measures to reduce ozone levels, the region is required to attain the 2015 NAAQS by mid-2021.

The Washington region attained the 2008 ozone NAAQS (75 ppb) in 2015. In January 2018, the region submitted a request to EPA to re-designate the region to attainment/maintenance along with a maintenance plan for the 2008 ozone NAAQS. The maintenance plan contains motor vehicle emissions budgets (mobile budgets) for volatile organic compounds (VOCs) and nitrogen oxides (NOx). Once EPA approves, or finds these mobile budgets adequate for transportation conformity purposes, transportation emissions for VOCs and Nox in the region would need to remain below these mobile budgets.

## 3.3.2 Transportation

### 3.3.2.A Transportation Planning in the Washington Metropolitan Region

Transportation planning in the Washington metropolitan region is substantially informed by air quality planning. Transportation plans are tested to ensure that planned projects, when considered collectively, contribute to the air quality improvement goals outlined in the Clean Air Act Amendments of 1990 (CAAA). Computer models predict how much air





*Fairfax Connector Bus*

pollution will be generated over the next 25 years by facilities in the plan, and can evaluate many other factors, such as cleaner gasoline standards.

If the transportation plan achieves regional air quality goals in the models, federal agencies certify that the plan is “in conformity.” If the plan does not achieve these goals, transportation agencies may be required to adopt Transportation Emission Reduction Measures, such as ridesharing and telecommuting programs, improved transit and bicycling facilities, clean fuel vehicle programs, or other measures.

State and local transportation agencies use various strategies to reduce transportation emissions, including providing transit services, transportation system management (TSM), transportation demand management (TDM), and pedestrian and bicycle programs. Still, vehicular emissions remain a significant contributor to overall air quality issues, air toxins, and greenhouse gas emissions, and continue to concern regulatory agencies and the general public.

### **3.3.2.B. Fairfax County Multimodal Transportation Initiatives**

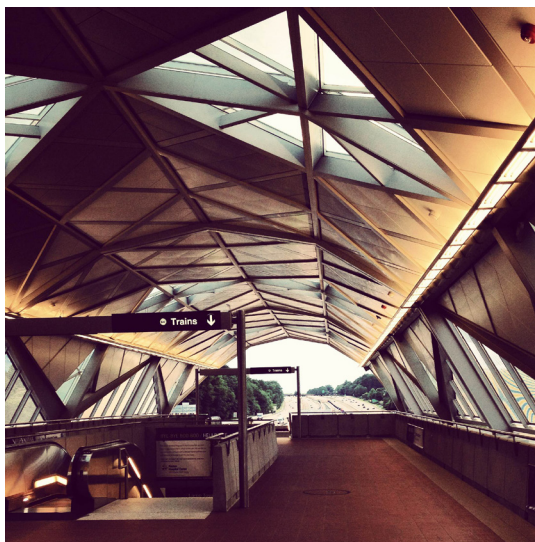
Fairfax County’s transportation network connects its communities internally and regionally through an extensive system of roads and highways, bus and Metro routes, bike lanes, trails, and sidewalks. The county is committed to mitigating the negative environmental effects of its transportation network.

The Fairfax County Department of Transportation (FCDOT) oversees several initiatives supporting mass transit and alternative transportation modes in Fairfax County.

Fairfax Connector – FCDOT operates the Fairfax Connector Bus system, which transports 30,000 passengers per day on 89 local and express



routes. The system provides access between many destinations within Fairfax County, as well as access to Metrorail for regional trips. Since the 2018-2019 school year, Fairfax Connector has operated a Free Student Bus Pass Program allowing middle and high school students to ride for free. Currently, the Free Student Bus Pass users account for nearly 7 percent of all Fairfax Connector ridership.



*Wiehle-Reston East Metro Station*

In the 2018-2019 school year, Fairfax County offered free trips on Metrobus for Justice High School students, through a pilot program, to provide bus access in the area of the County where Fairfax Connector does not currently provide coverage. More information on Fairfax Connector and the Free Student Bus Pass Program is available at: [www.fairfaxcounty.gov/connector/](http://www.fairfaxcounty.gov/connector/).

**Bicycle Program** – Fairfax County has 130 miles of bike lanes and 500 miles of bikeable trail, with 30 miles of bike lanes and 1 mile of bikeable trails added in the last year. The County's Bicycle Master Plan and Countywide Trails Plan are being implemented in partnership with the Virginia Department of Transportation (VDOT), Fairfax County Park Authority (FPCA), and private developers through the Northern Virginia Paving Program striping, road improvement projects, property development, and as standalone capital projects. Fairfax County also promotes bicycling through Safe Routes to School educational programming, and through events like Bike to Work Day, Bike to Market Days, Bike & Walk to Worship Week, Bike Your Park Day and Bike to School Day. More information on the Bicycle Program is available at: [www.fairfaxcounty.gov/transportation/bike-walk](http://www.fairfaxcounty.gov/transportation/bike-walk).

**Capital Bikeshare** – In October 2016, the Capital Bikeshare system launched in Fairfax County with 17 stations in Reston and Tysons. The program has since expanded to 32 stations. From May 2018 to April 2019, riders took 12,193 trips from these 32 stations totaling 4,659 hours. FCDOT has secured funding for an additional 50 stations, which will be installed at locations in Reston, Tysons, Merrifield, West Falls Church, and south of the Vienna/Fairfax-GMU Metrorail station in 2020.



Fairfax County Commuter Services (FCCS) – FCCS promotes alternative commuting options and strategies to reduce single-occupant vehicle (SOV) travel and corresponding greenhouse gas emissions through outreach and marketing to employers, residential communities, and individual commuters. Strategies promoted and services offered by FCCS include comprehensive and customizable assistance to employers and large residential communities to establish commuter programs and ride-matching services through a regional database; the promotion of park-and-ride facilities with HOV/HOT lane access; employer assistance in establishing telework and commuter incentive programs; and support for recognition programs for Commuter Friendly Communities and Best Workplaces for Commuters. Fairfax County also has a Commuter Benefits Program for county employees. More information on Commuter Services is available at: [www.fairfaxcounty.gov/transportation/commuter-services](http://www.fairfaxcounty.gov/transportation/commuter-services).

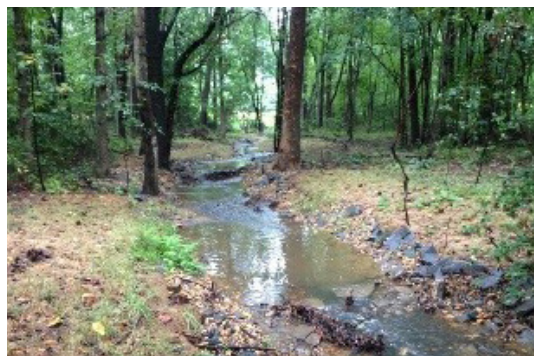
### 3.4 Water

Protecting the Potomac and Occoquan Rivers as sources for public drinking water, recreation and habitat for fish, shellfish and wildlife is a legal requirement. The Federal Water Pollution Control Act of 1948 was the first law to address water pollution. Increased awareness led to amendments to the law in 1972, which became known as the Clean Water Act (CWA). The CWA was significantly amended in 1977 and again in 1987.



The county and the state are required by the CWA to meet certain water quality standards for all contaminants in surface waters. The Act, and its subsequent amendments, established:

- Authority for the Environmental Protection Agency (EPA) to implement pollution control programs, such as watershed “pollution diets,” like the Chesapeake Bay Total Maximum Daily Load (TMDL).



*Government Center Stream  
Restoration Before and After*



- A structure for regulating pollutant discharges through permits.
- Water quality standards for surface waters.

In 1974 Congress passed the Safe Drinking Water Act, which regulates public drinking water supplies and requires actions be taken to protect drinking water and its sources. The law has been amended twice – once in 1986 and again in 1996.

The Clean Water Act and the Safe Drinking Water Act have been generally successful in controlling pollution and in protecting public water supplies. However, in recent years an increase of sodium and

chloride concentrations in streams has been observed. Fairfax County staff have been actively participating in the Virginia Department of Environmental Quality's (VDEQ) Salt Management Strategy (SaMS) for Northern Virginia. Active participation and utilization of the tools resulting from the effort will provide strategies to help reverse the increasing salt trends observed in county streams and help protect the Potomac and Occoquan Rivers.



*Pond Retrofit Before and After*

### 3.4.1 Stormwater

Fairfax County has made significant investments in stormwater management and water pollution control mechanisms. The county is proactive in reducing the negative effects of stormwater runoff and preventing water pollution. For more information on stormwater management funding, see Section 2.4.

**Watershed Management Planning** – The Board of Supervisors has adopted watershed management plans covering all 30 watersheds in the county. Each plan assesses watershed conditions, recommends protection strategies and prioritizes improvement projects. Watershed management plans can be found online at [www.fairfaxcounty.gov/publicworks/stormwater/watersheds](http://www.fairfaxcounty.gov/publicworks/stormwater/watersheds).

**Stormwater Capital Projects** – The county and its partners continue to implement stormwater management-related capital projects, including flood mitigation projects and stream restorations.



**Operations** – Stormwater facilities and drainage infrastructure are operated consistent with the requirements of their Municipal Separate Storm Sewer System (MS4) permits, which regulate stormwater pollution. Inspections are conducted on both public and private stormwater facilities to keep them maintained and functioning. Industrial and commercial facilities are also inspected if they have the potential to discharge significant pollutant loads to county streams.

**Monitoring and Assessment** – The county conducts water quality monitoring in its streams, which includes physical habitat evaluations and biological assessments of fish and benthic macroinvertebrates.

**Public Outreach and Education** – The county’s stormwater public education, outreach and stewardship efforts are described in Sections 3.8.1 and 3.8.2.

Stormwater Management Status Reports are available at [www.fairfaxcounty.gov/publicworks/stormwater/stormwater-management-status-reports](http://www.fairfaxcounty.gov/publicworks/stormwater/stormwater-management-status-reports).

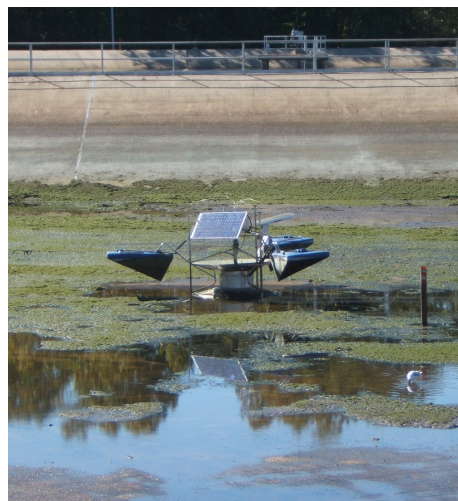
### 3.4.2 Wastewater

The Wastewater Management Program (WWMP) provides wholesale sewer service to county residents and several towns and cities in the region. The county’s wastewater system has been featured on the EPA website for innovative use of capacity, management, operation and maintenance techniques; system rehabilitation; and diagnostic methods for minimizing sanitary sewer overflows. Plant upgrades resulted in nitrogen discharge loads that are consistently below permitted limits.

**Operations** – The WWMP includes approximately 3,400 miles of sewer lines, 63 sewage pumping stations, 280 sewage grinder pumps and 53 flow metering stations. Approximately 100 million gallons of wastewater are generated, collected and treated daily at the Noman M. Cole, Jr. Pollution

Control Plant and at five regional treatment facilities.

**Public Outreach** – Wastewater Management employees develop and implement targeted outreach events and educational programs. Targeted outreach includes community events designed to educate the public about the proper disposal of so-called flushable wipes, medications, and fats, oil and grease (FOG).



*Solar mixer at Noman M. Cole, Jr.  
Pollution Control Plant*



One such educational program, the Sewer Science program, is a hands-on classroom learning experience that teaches students about wastewater treatment in a laboratory setting. The Sewer Science program meets the requirements of the Virginia Standards of Learning. For more information visit [www.fairfaxcounty.gov/publicworks/wastewater/sewer-science-program](http://www.fairfaxcounty.gov/publicworks/wastewater/sewer-science-program).

The WWMP achieved the highest level of certification in the Extraordinary Environmental Enterprise (E4) program, which is the highest level of certification in the Virginia Environmental Excellence Program. The program promotes the development of environmental management systems and pollution prevention programs by Virginia businesses and local and state government agencies.

### 3.4.3 Water Supply Planning

Virginia experienced serious droughts in 1999 and 2002. Largely as a result of these droughts, in November 2005, the State Water Control Board (SWCB), a regulatory board comprised of citizen-appointees, enacted regulations requiring that all local governments develop local or regional water supply plans, using criteria developed by the SWCB.

The purposes of these regulations, codified at 9 Virginia Administrative Code (VAC) 25-780, Local and Regional Water Supply Planning, are to: (1) ensure that adequate and safe drinking water is available to all citizens of the Commonwealth; (2) encourage, promote and protect all other beneficial uses of the Commonwealth's water resources; and (3) encourage, promote and develop incentives for alternative water sources, including but not limited to desalinization. Localities are required to submit their Water Supply Plans (WSPs) to the Virginia Department of Environmental Quality (VDEQ), which administers regulations enacted by the SWCB.

Fairfax County has participated in the development of a regional water supply plan (WSP) encompassing 22 Northern Virginia jurisdictions. In 2007, these jurisdictions designated the Northern Virginia Regional Commission (NVRC) as the lead agency responsible for developing the initial Northern Virginia WSP. Fairfax Water ([www.fairfaxwater.org](http://www.fairfaxwater.org)), which provides water service to nearly two million people in the Northern Virginia counties of Fairfax, Loudoun and Prince William, the cities of Fairfax, Falls Church and Alexandria, and the Towns of Vienna and Herndon, served as the county's designated agent in the WSP development process.

The Northern Virginia WSP includes numerous elements, such as: descriptions of existing water uses, sources and resource conditions; an assessment of projected water demand; water management actions that address water conservation; and an evaluation of alternative water sources to address projected deficits in water supplies.



WSPs must be reviewed, revised if necessary, and resubmitted to VDEQ every ten years from the date of last approval. The SWCB also conducts an intermediate five-year review to assess the adequacy of the WSP to meet water demands. A revised WSP must be submitted within five years if the circumstances have changed significantly or new information renders a WSP inadequate. The Northern Virginia WSP five-year review process was completed in December 2018 and the WSP was deemed fully-compliant by VDEQ. The next WSP submission is required by December 2023.

The planning horizon for the current Northern Virginia's WSP extends to the year 2040. The WSP assessment indicates that new sources of supply are needed in the 2035-2040 timeframe in order to avoid emergency restrictions and potential water shortages.

Fairfax Water has planned proactively to meet future water supply demands. In June 2015, the Fairfax County Board of Supervisors and Fairfax County Board of Zoning Appeals approved a series of zoning applications from Fairfax Water and Vulcan Construction Materials that will provide for a two-phase conversion of a quarry into a water supply storage facility. This effort has been designed to address the need for new water supply sources in the 2035-2040 timeframe and ultimately into the next century.

The county also has adopted regulations restricting water use during drought and emergencies. These regulations, located in Chapter 113 (Water Use, Emergency Regulations) of the County Code, satisfy state requirements for drought response and contingency plans.

More information regarding the Northern Virginia WSP is available at [www.novaregion.org/1214/Northern-Virginia-Regional-Water-Supply-](http://www.novaregion.org/1214/Northern-Virginia-Regional-Water-Supply-).

### 3.5. Solid Waste Management

The Solid Waste Management Program (SWMP) is responsible for providing trash and recycling services in an efficient and cost-effective manner while complying with federal and state environmental regulations. Approximately 90 percent of the municipal solid waste (MSW) generated in Fairfax County is managed by private-sector collection, recycling, and disposal companies. One of the largest challenges facing the community is the closure of the privately-operated Lorton Construction Landfill in August 2018. The landfill managed almost half of the construction and demolition debris generated in Fairfax County, along with components that would be considered MSW, such as cardboard and wood. The facility included processing capacity to recover and recycle construction wastes in a manner certifiable for LEED development standards. As a result of the closure, it is anticipated that



these wastes will have to travel farther to reach a recycling or final disposal site, which may in turn decrease the amount of material being recycled.

### 3.5.1 Recycling

In 1990, the SWMP established residential curbside recycling collection services for customers and required private haulers to provide recycling services to all of their residential and business customers. Since 2015, the county has reported a recycling rate of approximately 50 percent. In addition to curbside recycling, the SWMP has established a number of related recycling and waste disposal programs for county residents and businesses:



*E-Waste Recycling*

- Two permanent collection sites for household hazardous waste (HHW).
- Two permanent collection sites for recycling, including equipment to recycle glass.
- E-waste recycling at two permanent Recycling and Disposal Centers. See [www.fairfaxcounty.gov/publicworks/recycling-trash/electronics](http://www.fairfaxcounty.gov/publicworks/recycling-trash/electronics).

While the SWMP does not directly provide specialty disposal and recycling services to the commercial sector, the program has provided the following assistance:

- Hosting Conditionally Exempt Small Quantity Generator (CESQG) events to allow businesses that produce small quantities of hazardous waste a low-cost solution for disposal.
- Engaging various segments of the commercial sector such as office buildings, hotels, and restaurants through more than 1,000 recycling outreach and education site visits.
- Creating toolkits that provide information on source reduction and recycling for use by property managers and the hospitality industry.



Until recently, approximately one-third of U.S. recyclables were exported to China. Beginning in 2017, however, China began enforcing a series of progressively tougher import restrictions that raised the quality standard required for imported recyclables culminating in a 2019 ban on many such imports. The loss of demand from China created a glut in the global market for post-consumer recyclables, causing prices to collapse. In the face of greatly diminished revenues from recovered recyclables, the SWMP began educating residents against the “wishful recycling” of non-recyclable materials. Keeping non-recyclable materials out of the curbside bin and recycling stream reduces costs by avoiding both contamination of the recycling stream and the cost of collecting and processing materials that ultimately will need to be shipped to a landfill for disposal.

More information about the SWMP recycling programs is available at [www.fairfaxcounty.gov/publicworks/recycling-and-trash](http://www.fairfaxcounty.gov/publicworks/recycling-and-trash).

### 3.5.2 SWMP Green Initiatives

In addition to offering environmentally responsible recycling and waste disposal options to residents, the SWMP strives to maintain environmentally responsible operations. These operations include:

**Waste-to-Energy** – Solid waste disposal is provided by a privately owned and operated waste-to-energy facility. The facility processes about 3,000 tons of solid waste per day. The facility’s pollution control system removes



roughly 98 percent of regulated air pollutants generated by the plant. See [www.fairfaxcounty.gov/publicworks/recycling-trash/energy-resource-recovery-facility](http://www.fairfaxcounty.gov/publicworks/recycling-trash/energy-resource-recovery-facility).

**Landfill Gas** – SWMP hosts two landfill gas-to-energy (LFGTE) systems. They support beneficial use of landfill gas as an alternative to natural gas and other fossil fuels.

**Wastewater Reuse** – The SWMP partnered with the county’s Wastewater Management Program to develop a wastewater reuse



Water Reuse



project. Daily, about 1.3 million gallons of treated but non-potable water is pumped from the wastewater treatment plant to the waste-to-energy facility, where it is used as cooling water.

**Glass Recycling** – In response to operational and economic challenges associated with glass recycling, the SWMP invested in a large-scale glass crushing and screening operation that converts source-separated glass from drop-off sites into sand and gravel that can be used in a wide variety of civil engineering and other technical applications (e.g., road building, pipe laying, drainage features). As the Fairfax project evolved, the City of Alexandria and Arlington County joined with the county in establishing a regional program to encourage the public’s use of designated purple drop-off dumpsters for the disposal of waste glass. The “Purple Can Club” has since expanded to include Prince William County, with additional jurisdictions expected to join.

**Other Sustainability Initiatives** – In 2011, the I-66 Transfer Station workers’ facility was designed and built as a LEED Silver facility. At the I-95 Landfill Complex, the SWMP is exploring the development of additional renewable power generating capacity. Also, the SWMP is partnering with George Mason University on a project to assist in honeybee habitat sustainability. This project, known as the Honeybee Initiative Pollinator Program or HIPP, involves the installation of honeybee hives at the I-95 landfill.

Additional information about some of these SWMP green initiatives can be found in Section 4.6.

### 3.6 Parks and Ecological Resources

Almost 20 percent of the county is owned as open space by government and partnering organizations. The vast majority of this open space hosts ecological resources and natural capital that benefits county residents.



Burke Lake Park



### 3.6.1 Open Space in Fairfax County

Fairfax County contains approximately 50,800 acres of open space owned by local, state and federal agencies and organizations. (This number does not include unknown but substantial acreage under special tax district, rural or low-density residential areas or lands owned by civic associations within subdivisions.)

Almost half of the open space in the county — over 23,000 acres — is owned by the Fairfax County Park Authority (FCPA). The Board of Supervisors created FCPA in December 1950 and authorized it to make decisions concerning land acquisition, park development and park operations in the county. Today, FCPA manages and operates over 425 parks. In addition to its role in providing recreational facilities and services, FCPA is the primary public mechanism for preserving environmentally sensitive land and resources and areas of historic significance in Fairfax County. More information about FCPA is available at [www.fairfaxcounty.gov/parks/](http://www.fairfaxcounty.gov/parks/).

Listed below are other owners of substantial open space in the county, including state and federal agencies and organizations.

**Northern Virginia Regional Park Authority/NOVA Parks (NVRPA)** – NVRPA was established in 1959 to protect natural resources from the threat of urban sprawl and to provide recreational amenities. NOVA Parks owns about 8,270 acres in Fairfax County, primarily along the Bull Run-Occoquan River Corridor and Reservoir, the Potomac River and on Pohick Bay on Mason Neck. See [www.novaparks.com/](http://www.novaparks.com/).

**Reston Association (RA)** – Reston was founded as Virginia's first planned residential community in the mid-1960s. RA owns over 1,350 acres of open space. Its holdings include 55 miles of paved and natural surface trails, more than 700 acres of forest, 50 meadows and numerous water resources including four lakes and 20 miles of stream. See [www.reston.org](http://www.reston.org).

**U.S. Department of Defense** – Fort Belvoir is a strategic sustaining base for the U.S. Army that houses numerous agencies providing logistical, intelligence and administrative support. The county considers about 4,990 of Fort Belvoir's 8,500 acres to be open space. See [www.belvoir.army.mil/](http://www.belvoir.army.mil/).

**U.S. Department of Interior, Bureau of Land Management (BLM)** – In October 2001, BLM exchanged a portion of the former Lorton Prison property with Fairfax County to acquire, in return, the 800-acre Meadowood Special Recreation Management Area. The acquisition was intended to preserve open space on Mason Neck and provide wildlife habitat, recreation and environmental education. See [www.blm.gov/visit/meadowood-special-recreation-management-area](http://www.blm.gov/visit/meadowood-special-recreation-management-area).



**U.S. Department of the Interior, Fish and Wildlife Service** – The 2,277-acre Elizabeth Hartwell Mason Neck National Wildlife Refuge, located on Mason Neck, is the oldest and largest refuge within the Potomac River refuge complex. Established in 1969 under the Endangered Species Act, its focus is on forest, marsh and riverine habitat important to the bald eagle. See [www.fws.gov/refuge/mason\\_neck/](http://www.fws.gov/refuge/mason_neck/).

**U.S. Department of the Interior, National Park Service** – George Washington Memorial Parkway is a 7,600-acre national park protecting the landscape, historic sites and native habitat along the Potomac River shoreline. See [www.nps.gov/gwmp/index.htm](http://www.nps.gov/gwmp/index.htm).

**Virginia Department of Conservation and Recreation** – Mason Neck State Park is comprised of 1,825 acres within the Elizabeth Hartwell Mason Neck National Wildlife Refuge that include wetlands, forest, open water, ponds and open fields. See [www.dcr.virginia.gov/state-parks/mason-neck#general\\_information](http://www.dcr.virginia.gov/state-parks/mason-neck#general_information).

Additionally, certain organizations work to preserve open space through the negotiation and acquisition of conservation easements. A conservation easement typically restricts an owner's rights to subdivide or develop his or her property, to remove trees or to excavate or fill the property.

One such organization active in Fairfax County is the Northern Virginia Conservation Trust (NVCT). NVCT, which was founded in 1994, helps local governments and private landowners voluntarily preserve natural areas, trails, streams and parks. NVCT has helped preserve 739 acres in Fairfax County. See [www.nvct.org/](http://www.nvct.org/).

### 3.6.2 Natural Resource Management

Until a few decades ago, land management consisted of benign neglect, with areas left alone under the assumption that they were self-sustaining. Land management professionals now understand that there are tremendous pressures on remaining natural areas, that their conditions are declining, and that active management is necessary to restore their health.

Today, natural resources are considered natural capital. This capital consists of various elements: living organisms; non-living components such as air, water and soil; the ecosystems they form; and the environmental services they provide, including cleaning air and water, supporting wildlife and contributing to the quality of life. Natural capital is not self-sustaining; instead, deliberate care and investment are required to enhance, protect and preserve it.

Agencies that manage natural resources in Fairfax County include FCPA, Urban Forest Management and Stormwater Divisions of the Department of



*Blue Heron at Huntley  
Meadows Park*



Public Works and Environmental Services, the Police Department and the Northern Virginia Soil and Water Conservation District. Additionally, the county has engaged many partners, including nonprofit organizations such as the Audubon Society of Northern Virginia, Earth Sangha, Fairfax ReLeaf, the Fairfax Chapter of Virginia Master Naturalists, the Virginia Native Plant Society and organized Friends Groups.

Examples of the county's natural resource/capital management programs include:

- Fairfax County Watershed Planning and Watershed Plan Implementation ([www.fairfaxcounty.gov/publicworks/stormwater/watersheds](http://www.fairfaxcounty.gov/publicworks/stormwater/watersheds)).
- Fairfax County Park Authority Natural Resource Management Plan Implementation ([www.fairfaxcounty.gov/parks/nature/natural-resource-management-plan](http://www.fairfaxcounty.gov/parks/nature/natural-resource-management-plan)).
- Fairfax County Deer Management Program ([www.fairfaxcounty.gov/wildlife/deer-management-program](http://www.fairfaxcounty.gov/wildlife/deer-management-program)).
- Fairfax County Geese Management Program ([www.fairfaxcounty.gov/wildlife/geese-management-program](http://www.fairfaxcounty.gov/wildlife/geese-management-program)).

### 3.6.3 Policy and Regulatory Mechanisms for Protecting Natural Resources

Section 2 describes the regulatory, policy and strategic framework of the county's environmental programs, including a brief introduction to the county's Comprehensive Plan and environmental ordinances. Section 3.6.3 discusses four county regulations that play a key role in the protection of natural resources: the Chesapeake Bay Preservation Ordinance, the



Stormwater Management Ordinance, the Floodplain Regulations of the county's Zoning Ordinance and the Wetlands Zoning Ordinance. This section also discusses the Environmental Quality Corridor policy in the Comprehensive Plan, which plays a significant role in protecting natural resources.

### 3.6.3.A Chesapeake Bay Preservation Ordinance

All of Fairfax County drains into the Potomac River and ultimately the Chesapeake Bay. As a result, land use and development activities in the county can adversely impact the water quality of both county streams and downstream resources.

In 1988, the Commonwealth of Virginia enacted the Chesapeake Bay Preservation Act, which required 84 localities in Virginia, including Fairfax County, to institute water quality protection measures to improve the declining health of the Chesapeake Bay and its tributaries.

The county adopted the Chesapeake Bay Preservation Ordinance in 1993 to protect both local streams and the Chesapeake Bay from pollution due to land use and development in the county. The ordinance was substantially revised in 2003 and 2014.

Through the Chesapeake Bay Preservation Ordinance, sensitive areas along streams, rivers and other waterways throughout the county are designated as Resource Protection Areas (RPAs). With some exemptions and exceptions, most land disturbance within RPAs is prohibited. Other areas of the county that are not in RPAs have been designated as Resource Management Areas (RMAs). RMAs are comprised of lands that, if improperly used or developed, have the potential to significantly harm water quality or diminish the functional value of the RPA. Collectively, RPAs and RMAs are known as Chesapeake Bay Preservation Areas.

More information about the Chesapeake Bay Preservation Ordinance, including maps and FAQs, is available at [www.fairfaxcounty.gov/landdevelopment/stormwater-management-ordinance](http://www.fairfaxcounty.gov/landdevelopment/stormwater-management-ordinance).

### 3.6.3.B Stormwater Management Ordinance

In 2014, the County adopted the Stormwater Management Ordinance to implement changes to the Virginia Stormwater Management Act and Regulations. By establishing requirements for stormwater management and procedures whereby those requirements are administered and enforced, the Stormwater Management Ordinance ensures the general health, safety, and welfare of the citizens of Fairfax County and protects properties, state waters, stream channels, and other natural resources from the potential harm of both illicit discharges of pollutants and unmanaged stormwater.



More information about the Stormwater Management Ordinance is available at: [www.fairfaxcounty.gov/landdevelopment/stormwater-management-ordinance](http://www.fairfaxcounty.gov/landdevelopment/stormwater-management-ordinance)

### 3.6.3.C Floodplain Regulation

A floodplain is the flat area located adjacent to a stream channel that is prone to flooding. When stream banks overflow during or after a storm, the floodplain provides natural storage for the excess water. In Fairfax County, the 100-year frequency storm is used to determine the limits of the floodplain.

The Floodplain Regulations of the Zoning Ordinance establish two types of regulated floodplain areas:

- The “Minor Floodplain,” associated with streams with drainage areas between 70 and 360 acres.
- The “Major Floodplain,” associated with streams with drainage areas equal to or greater than 360 acres.

The Floodplain Regulations serve a number of purposes. They are intended to protect against loss of life, health or property from flood or other dangers. They are also intended to preserve and protect floodplains in as natural a state as possible, thereby (1) preserving wildlife habitats; (2) maintaining the natural integrity and function of the streams; (3) protecting water quality; and (4) promoting a zone for ground water recharge.

A limited number of uses are permitted in floodplains, although additional uses can be approved by the Board of Supervisors through a special exception. All floodplain uses are subject to a series of limitations that



*Difficult Run*



serve to protect public safety and minimize adverse environmental impacts associated with these uses.

Floodplain Regulations are addressed in Part 9 of Article 2 of the Zoning Ordinance, available at [www.fairfaxcounty.gov/planning-development/sites/planning-development/files/assets/documents/zoning/zoning%20ordinance/art02.pdf](http://www.fairfaxcounty.gov/planning-development/sites/planning-development/files/assets/documents/zoning/zoning%20ordinance/art02.pdf).

### 3.6.3.D Wetlands Zoning Ordinance

The Virginia Tidal Wetlands Act, adopted by the General Assembly in 1972, states the following:

*Therefore, in order to protect the public interest, promote the public health, safety and the economic and general welfare of the Commonwealth, and to protect public and private property, wildlife, marine fisheries and the natural environment, it is declared to be the public policy of this Commonwealth to preserve the wetlands, and to prevent their despoliation and destruction and to accommodate necessary economic development in a manner consistent with wetlands preservation.*

In the 45 years since the Act was adopted by the General Assembly, the Commonwealth has improved, modified and fine-tuned the program to keep up with advances in wetlands science.

Fairfax County takes great pride in its tidal shoreline. According to the Center for Coastal Resources Management at the Virginia Institute of Marine Science, the county contains 112 linear miles of tidal shoreline. The shoreline traverses south along the Potomac River from Cameron Run to the Occoquan Reservoir, where the tidal influence terminates at the Occoquan Dam. The county views tidal wetlands as valuable natural resources that help to prevent flooding, improve water quality and provide habitat. The Wetlands Zoning Ordinance was adopted in recognition of the environmental functions provided by tidal wetlands and the need to ensure that development activities in tidal areas occur in a manner that minimizes adverse impacts to these wetlands. More information is available at [www.fairfaxcounty.gov/landdevelopment/tidal-shoreline](http://www.fairfaxcounty.gov/landdevelopment/tidal-shoreline).

Current wetland science promotes natural shoreline stabilization (living shoreline treatment) where the conditions are appropriate. In support of living shoreline stabilization, the Fairfax County Wetlands Board adopted a “Living Shoreline” Policy in 2007. The policy is available at [www.fairfaxcounty.gov/landdevelopment/sites/landdevelopment/files/assets/documents/pdf/finallivingshorelinepolicy.pdf](http://www.fairfaxcounty.gov/landdevelopment/sites/landdevelopment/files/assets/documents/pdf/finallivingshorelinepolicy.pdf).

In 2015, the Virginia Marine Resources Commission finalized permitting regulations to support the use of living shoreline as the preferred



alternative to stabilizing tidal shorelines. The Living Shoreline General Permit can be found at [mrc.virginia.gov/Regulations/fr1300.shtm](http://mrc.virginia.gov/Regulations/fr1300.shtm) or [www.mrc.virginia.gov/Regulations/MRC\\_Scanned\\_Regs/Habitat/fr1330\\_11-01-17.pdf](http://www.mrc.virginia.gov/Regulations/MRC_Scanned_Regs/Habitat/fr1330_11-01-17.pdf).

The Board of Supervisors has advocated that staff make information readily available to homeowners about the regulations for tidal shoreline property that protect against negative impacts to the environment. In support of this goal, staff developed an information sheet for owners of tidal shoreline properties. Before making changes to a waterfront property or undertaking land-disturbing activities, a property owner may need to obtain a permit from the Wetlands Board and other agencies. An information brochure is available at [www.fairfaxcounty.gov/landdevelopment/sites/landdevelopment/files/assets/documents/tidal-shoreline-mailing-brochure.pdf](http://www.fairfaxcounty.gov/landdevelopment/sites/landdevelopment/files/assets/documents/tidal-shoreline-mailing-brochure.pdf). Additional information is available at [www.fairfaxcounty.gov/landdevelopment/tidal-shoreline/how-do-i-apply-wetlands-permit](http://www.fairfaxcounty.gov/landdevelopment/tidal-shoreline/how-do-i-apply-wetlands-permit).

The Wetlands Board requires mitigation or compensation for unavoidable tidal wetlands loss, as explained in its policy, available at [www.fairfaxcounty.gov/planning-development/sites/planning-development/files/assets/documents/wetlands/mitigation\\_compensation\\_policy\\_adopted.pdf](http://www.fairfaxcounty.gov/planning-development/sites/planning-development/files/assets/documents/wetlands/mitigation_compensation_policy_adopted.pdf).

### 3.6.3.E Comprehensive Plan Policy

The Environment section of the Policy Plan volume of the Comprehensive Plan provides broad environmental policy guidance that is applied during the zoning process. The Environment section includes numerous policies, including those recommending the identification, protection and restoration of Environmental Quality Corridors (EQCs) and streams and buffer areas upstream of EQCs.

The EQC system is an open space system in Fairfax County designed to preserve, restore and link natural resource areas. The core of this system is the county's streams. The EQC policy recommends protection and restoration of environmentally-sensitive lands, including a number of features near streams (steep slopes in stream valleys, wetlands connected to stream valleys and 100-year floodplains). The policy also recommends protection and restoration of upland habitats that augment the habitats and buffers provided by stream valleys. The EQC policy has been refined since its initial adoption in 1975, but it continues to be a centerpiece of Fairfax County's environmental policy.

The Department of Planning and Development, which negotiates zoning commitments made by developers, estimates that EQC commitments have protected thousands of acres of land that would not otherwise have been protected through regulation. Flexible zoning provisions

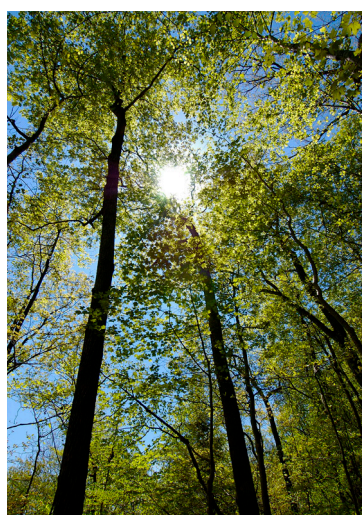


often allow developers to concentrate densities/intensities on the less-sensitive portions of their sites, thereby achieving both desired levels of development and the protection of EQCs and other open spaces.

The EQC policy is found in Objective 9 of the Environment section of the Policy Plan, available at [www.fairfaxcounty.gov/planning-development/sites/planning-development/files/assets/compplan/policy/environment.pdf](http://www.fairfaxcounty.gov/planning-development/sites/planning-development/files/assets/compplan/policy/environment.pdf).

### 3.6.4 Trees and Tree Conservation

Trees are critical to enhancing the livability and sustainability of the county. Management of the urban forest to maximize the benefits trees provide is an essential step in reaching the goals of the Environmental Vision, the Tree Action Plan, the Cool Counties Initiative and other public health initiatives and programs. The value of trees to human's physical and mental well-being is well documented. Trees build a sense of community and enhance economic development.



A December 2017 study using the i-Tree Ecosystem Analysis, a model developed by the U.S. Forest Service, assessed the structure, function and value of the urban forest. According to the assessment, there are more than 44 million trees that provide significant environmental, economic and social benefits in Fairfax County.

Each year, the urban forest removes 4,538 tons of air pollutants and stores more than 7.5 million tons of carbon dioxide. Additional economic benefits include residential energy savings of approximately \$34 million annually, through the natural shading, cooling and wind blocking services that trees provide.

The i-Tree Ecosystem Analysis is available at [www.fairfaxcounty.gov/publicworks/sites/publicworks/files/assets/documents/ffcounty\\_ecoreport.pdf](http://www.fairfaxcounty.gov/publicworks/sites/publicworks/files/assets/documents/ffcounty_ecoreport.pdf).

An Urban Tree Canopy Analysis conducted by the University of Vermont and published in March 2017 indicated that the county's tree canopy has increased by one percent in five years. This is the first time the county has had comparable, high resolution imagery to monitor land use changes over time. The report is available at [www.fairfaxcounty.gov/publicworks/sites/publicworks/files/assets/documents/tree-canopy-report-2015.pdf](http://www.fairfaxcounty.gov/publicworks/sites/publicworks/files/assets/documents/tree-canopy-report-2015.pdf).



### 3.6.4.A Urban Forest Management

The Urban Forest Management Division (UFMD) of the Department of Public Works and Environmental Services is the primary county agency responsible for managing trees and forests in Fairfax County. UFMD coordinates and implements the county's efforts to manage our urban forest resources, including advancing the Environmental Vision to:

- Improve energy conservation, air quality, water quality and stormwater management.
- Increase tree conservation in land development.
- Incorporate tree planting and tree preservation in stormwater management policies and practices to help meet water quality regulatory requirements.
- Achieve climate and energy benefits by implementing policies and practices to increase tree canopy.
- Preserve, protect, maintain, enhance and restore healthy native trees, forests, waterbodies, and ecosystems to promote natural capital, ecological services, and green infrastructure.
- Foster an appreciation for the urban forest and inspire county residents to protect, plant and manage trees and forest stands on public and private lands.
- Draw on science, education and strong partnerships to achieve a healthy urban forest.

UFMD's key responsibilities and activities include:

- Implementing the Tree Action Plan. See [www.fairfaxcounty.gov/publicworks/tree-action-plan](http://www.fairfaxcounty.gov/publicworks/tree-action-plan).
- Conducting vegetation mapping and surveys.
- Developing ordinances and policies for tree preservation.
- Providing public education and outreach at a range of venues.
- Partnering with others in support of the county's tree planting and conservation efforts.
- Providing assistance on tree and landscape requirements to residents, the development community and other county agencies throughout the land development process.



- Identifying, monitoring and providing limited suppression of forest insect pest infestations throughout the county. See [www.fairfaxcounty.gov/publicworks/forest-pest/](http://www.fairfaxcounty.gov/publicworks/forest-pest/).

### 3.6.4.B Tree Action Plan

The Tree Action Plan is a 20-year strategy for conserving and managing tree resources. The Plan, adopted in December 2006, was developed by Tree Commission members, county staff, residents and builders. The plan reflects three goals: to preserve current tree assets; to enhance the legacy of trees and wooded areas for future generations; and to more effectively integrate urban forestry with planning and policy making.

To achieve these goals, the Tree Action Plan includes 12 core recommendations through which trees are accorded a high priority and integrated into urban planning. Trees are not considered ornamental or decorative, but are recognized as infrastructure, providing environmental, economic and social benefits.

More information, including links to the Tree Action Plan is available at [www.fairfaxcounty.gov/publicworks/tree-action-plan](http://www.fairfaxcounty.gov/publicworks/tree-action-plan).

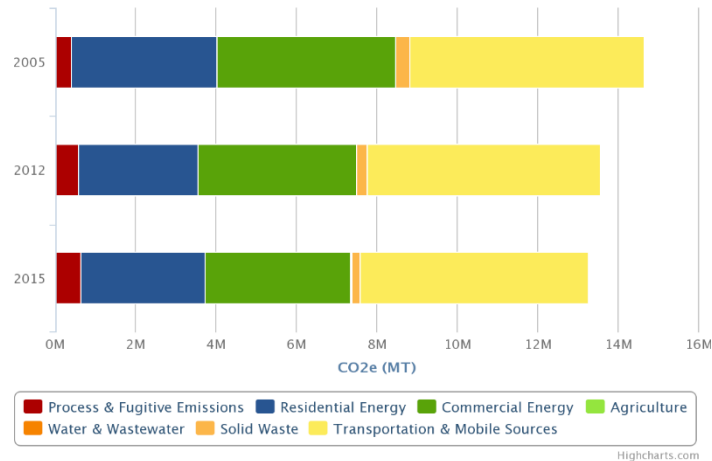
## 3.7 Climate and Energy

The Environmental Vision commits the county to promoting and encouraging energy efficiency, conservation efforts and renewable energy initiatives by residents and businesses. The county has developed several programs intended to help the community reduce fossil fuel use with the objective of achieving sustainable reductions of the county's geographical greenhouse gas (GHG) emissions. These reductions in GHG emissions will contribute to attaining the objectives of the Cool Counties Climate Stabilization Declaration, as discussed in Section 2.2.3, and the regional GHG reduction targets adopted by the Metropolitan Washington Council of Governments (COG).

### 3.7.1 Community Greenhouse Gas Emissions Inventory

Pursuant to its 2007 Cool Counties Climate Stabilization Declaration, Fairfax County conducted, and in 2013 released, its GHG emissions inventory for the period 2006-2010. This inventory was intended to provide a baseline measurement of the county's GHG emissions as well as to guide future efforts to reduce those emissions. Subsequently, COG released both its regional emissions inventory and inventories specific to its member jurisdictions. To ensure consistent reporting among the COG member jurisdictions, Fairfax County agreed to the COG methodology, which differs





*Fairfax County Emissions  
2005 - 2015 (COG)*

slightly from the methodology used by Fairfax County. As a result, Fairfax County no longer conducts and releases its own inventories.

COG's Fairfax County emissions inventory measures GHG-emitting activities undertaken by residents, businesses, industries and government agencies located in Fairfax County, as well as emissions from visitors. Emissions sources accounted for in the inventory include electricity consumption, combustion of natural gas and other fuels, mobile transportation (including on-road vehicular traffic, air travel and off-road activities), collection and treatment of solid waste, pumping and treatment of water and wastewater, and hydrofluorocarbon release.

As reported by COG, over the ten-year period 2005-2015, Fairfax County reduced its per capita GHG emissions by 20 percent, from 14.6 metric tons of carbon dioxide equivalent (MT CO2e) in 2005 to 11.7 MT CO2e in 2015. According to the inventory, in 2015, residential and commercial energy use accounted for 51 percent of GHG emissions, while transportation and mobile sources accounted for 43 percent. COG's community-wide GHG inventory Summary Factsheet for Fairfax County is available at [www.fairfaxcounty.gov/environment/sites/environment/files/assets/documents/pdf/fairfax-county-greenhouse-gas-emissions-factsheet-may-2018.pdf](http://www.fairfaxcounty.gov/environment/sites/environment/files/assets/documents/pdf/fairfax-county-greenhouse-gas-emissions-factsheet-may-2018.pdf).

COG's regional GHG emissions inventory for the period 2005-2015 is available at [www.mwcog.org/newsroom/2018/07/26/inventory-shows-region-halfway-to-greenhouse-gas-emissions-2020-goal/](http://www.mwcog.org/newsroom/2018/07/26/inventory-shows-region-halfway-to-greenhouse-gas-emissions-2020-goal/).

Fairfax County's 2013 GHG inventory is available at [www.fairfaxcounty.gov/environment/community-greenhouse-gas-inventory](http://www.fairfaxcounty.gov/environment/community-greenhouse-gas-inventory).



## 3.8 Environmental Stewardship and Outreach

### 3.8.1 Community Stewardship Opportunities

A variety of Fairfax County programs engage adults and youth in volunteer opportunities and other hands-on environmental stewardship activities. Sections 3.8.1.A through 3.8.1.D highlight environmental stewardship opportunities and activities in several areas.

#### 3.8.1.A Watershed Volunteer Opportunities

- **Stream Monitoring** – Volunteers monitor local stream health four times each year. Training, equipment and certification are provided by the Northern Virginia Soil and Water Conservation District.
- **Storm Drain Marking** – The county’s network of storm drains directs stormwater to streams, not to wastewater treatment plants. As a result, substances dumped in the storm drains — from pet waste to trash — flow into county streams. To remind residents to protect the streams, program volunteers label storm drains with watershed-specific “no dumping” markers.
- **Stream Clean-ups** – Free supplies for litter cleanups in parks, streams and neighborhoods are provided through partnerships with community organizations including Clean Fairfax and the Alice Ferguson Foundation.
- **Tree Planting** – Fairfax County and partner organization Fairfax ReLeaf support volunteer tree plantings in the spring and fall on community properties, schoolyards and other sites.



*Community Stream Cleanup  
Event-Difficult Run*

More information about these and other watershed volunteer opportunities is available at [www.fairfaxcounty.gov/publicworks/stormwater/volunteer-opportunities-and-educational-programs](http://www.fairfaxcounty.gov/publicworks/stormwater/volunteer-opportunities-and-educational-programs).

#### 3.8.1.B Volunteer Opportunities in County Parks

- **Invasive Management Area Program** – This Fairfax County Park Authority (FPCA) program recruits and trains volunteers to lead and participate in invasive plant removal in county parklands. See [www.fairfaxcounty.gov/parks/invasive-management-area](http://www.fairfaxcounty.gov/parks/invasive-management-area).



- **Trail Improvements** – FCPA has seven trail partner groups that have adopted sections of the Cross County Trail. Each group is responsible for oversight and routine maintenance of its individual section. Re-routings and other trail improvements are also coordinated through these groups. See [www.fairfaxcounty.gov/parks/trails/cross-county-trail](http://www.fairfaxcounty.gov/parks/trails/cross-county-trail).
- **Park Volunteer Teams** – The Park Volunteer Team (PVT) Program is an option for individual volunteers interested in working as a team to provide recurring operational, programmatic, maintenance, and/or fundraising support for a FCPA site or program. See [www.fairfaxcounty.gov/parks/park-volunteer-team](http://www.fairfaxcounty.gov/parks/park-volunteer-team).

More information about volunteer opportunities in county parks is available at [www.fairfaxcounty.gov/parks/volunteer](http://www.fairfaxcounty.gov/parks/volunteer).

### 3.8.1.C Activities Offered by Northern Virginia Soil and Water Conservation District

- **Conservation Assistance Program** – The Northern Virginia Soil and Water Conservation District (NVSWCD) provides technical and financial assistance for the installation of rain gardens, conservation landscaping, dry well/infiltration trenches, porous pavement and more. See [www.fairfaxcounty.gov/soil-water-conservation/conservation-assistance-programs](http://www.fairfaxcounty.gov/soil-water-conservation/conservation-assistance-programs).
- **Native Seedling Sale** – NVSWCD distributes low-cost native shrubs and trees to residents each spring for planting on private property. See [www.fairfaxcounty.gov/soil-water-conservation/native-seedling-sale](http://www.fairfaxcounty.gov/soil-water-conservation/native-seedling-sale).
- **Sustainable Garden Tour** – Rain gardens, green roofs, porous pavers and other features are highlighted in this annual tour of innovative home, school and community gardens. See [www.fairfaxcounty.gov/soil-water-conservation/sustainable-garden-tour](http://www.fairfaxcounty.gov/soil-water-conservation/sustainable-garden-tour).
- **Rain Barrel Program** – Participants build and take home low-cost rain barrels, which reduce runoff and allow residents to harvest rainwater for reuse. Since 2007, more than 3,000 barrels have been distributed. See [www.fairfaxcounty.gov/soil-water-conservation/rain-barrel](http://www.fairfaxcounty.gov/soil-water-conservation/rain-barrel).





- **Build-Your-Own Composter** – Each workshop participant builds and takes home a low-cost tumbler-style composter built from a recycled pickle barrel, gas pipe and pre-cut 2x4s. See [www.fairfaxcounty.gov/soil-water-conservation/build-your-own-tumbler-composter](http://www.fairfaxcounty.gov/soil-water-conservation/build-your-own-tumbler-composter).
- **Youth Engagement and Investment Programs** – Every year, NVSWCD sponsors student participation in a Youth Conservation Camp at Virginia Tech, Young Conservation Leadership Scholarships, and in local, regional, and state Envirothon competitions. More information about all of these programs can be found at [www.fairfaxcounty.gov/soil-water-conservation/](http://www.fairfaxcounty.gov/soil-water-conservation/).

### 3.8.1.D Additional Service Opportunities

County residents can also pursue service on one of the county's many boards, authorities and commissions that address environmental issues (see Section 1.2.3). Residents interested in serving on a board, authority or commission should contact their Supervisors.

### 3.8.2 Education and Outreach

The county needs the community's help to fulfill the Board of Supervisor's Environmental Vision of having a quality environment that is sustainable for future generations. For this reason, outreach is an integral part of many of the county's environmental initiatives.

County staff reaches out to the public through meetings, seminars, festivals, special events, websites, and social media. Speakers from county agencies and partner organizations present to neighborhoods and community groups on a range of topics. For example:

- Master Gardener, Master Naturalist and Tree Steward courses educate and establish a volunteer base for environmental projects and programs.
- Green Breakfast presentations sponsored by the NVSWCD engage county residents six times a year on emerging and innovative green topics.
- Meetings of the Fairfax County Environmental Quality Advisory Council ([www.fairfaxcounty.gov/planning-development/environmental-quality-advisory-council](http://www.fairfaxcounty.gov/planning-development/environmental-quality-advisory-council)) and other boards and commissions are open to the public and offer opportunities to hear from speakers about environmental issues in the county.

Award ceremonies also create opportunities to increase environmental awareness. For example, each year the Board of Supervisors recognizes those who dedicate their time and energy to benefit the environment



and support county environmental initiatives. Since 2000, over 70 Environmental Excellence Award winners have been selected. These awardees, who have been honored by the Board of Supervisors during its public meetings, include individuals, organizations, businesses, and county employees. A list of award recipients is available at [www.fairfaxcounty.gov/environment/environmental-excellence-awards](http://www.fairfaxcounty.gov/environment/environmental-excellence-awards).

Residents of all ages can watch television programs with environmental themes produced by the county and broadcast on its Channel 16 station. Programs include *Live Energy Efficient Now*, *Stop Bagging our Streams*, and *What's in Your Water*. These and other programs are available on demand at [www.fairfaxcounty.gov/cableconsumer/channel-16/video-on-demand](http://www.fairfaxcounty.gov/cableconsumer/channel-16/video-on-demand). The county also promotes environmental awareness on social media, through Facebook, Twitter and Next Door accounts.

Highlighted below are education and outreach initiatives undertaken by the county's Energy Action Fairfax program, the Fairfax County Park Authority and the Department of Public Works and Environmental Services.

### 3.8.2.A Energy Action Fairfax

Energy Action Fairfax is the county's energy education and outreach program, with programs for residents, businesses and employees. Energy Action Fairfax offers a range of resources, including energy saving tips and videos, information about home energy assessments, and descriptions of program offerings and special initiatives. Energy Action Fairfax also hosts community presentations, booths and tables, and "Home Performance Get Togethers" to community members upon request. In its Home Performance Get-Togethers, Energy Action Fairfax provides free home energy assessments to homeowners who organize an educational gathering and agree to share the assessment results with neighbors. The Energy Action Fairfax website is available at [www.fairfaxcounty.gov/energy/energyactionfairfax](http://www.fairfaxcounty.gov/energy/energyactionfairfax).

Energy Action Fairfax has established a number of initiatives under the program umbrella. These initiatives include:

- **Green Business Partners** – Launched in April 2016, the Green Business Partners program recognizes local businesses that are leaders in environmental stewardship. The website's Green Business Partners Directory provides a sustainability profile for each Partner highlighting its achievements. More information can be found at [www.fairfaxcounty.gov/energy/greenbusiness](http://www.fairfaxcounty.gov/energy/greenbusiness).
- **Thermal Camera Loan Program** – Through this program, which was initiated in 2017, county residents can reserve a thermal camera just like



a book from any branch of the Fairfax County Public Library. Thermal cameras enable residents to inspect their homes or businesses for hot and cold spots, which often indicate energy saving opportunities. The website, located at [www.fairfaxcounty.gov/energy/energyactionfairfax/cameras](http://www.fairfaxcounty.gov/energy/energyactionfairfax/cameras), provides camera instructions and weatherization project ideas.

- **Solarize Fairfax County** – Each spring, Energy Action Fairfax coordinates a “Solarize Fairfax County” campaign in collaboration with the Northern Virginia Regional Commission and the Local Energy Alliance Program. The campaign helps residents and businesses reduce the cost and complexity of installing solar panels by providing free onsite solar assessments, a bulk purchase discount, access to vetted contractors and community workshops and support. More information can be found at [solarizenova.org/solarize-fairfax-county](http://solarizenova.org/solarize-fairfax-county).
- **LED Lightbulb Exchanges.** Energy Action Fairfax hosts events each spring where it offers residents one free LED lightbulb and up to four more if they bring in incandescent lightbulbs or compact fluorescent lights (CFLs) to exchange. More information is available at [www.fairfaxcounty.gov/energy/energyactionfairfax/led-exchanges](http://www.fairfaxcounty.gov/energy/energyactionfairfax/led-exchanges).

### 3.8.2.B Fairfax County Park Authority

Environmental outreach is a natural fit for the Fairfax County Park Authority (FCPA), whose mission includes assisting citizens in the protection and enhancement of environmental values, diverse natural habitats and cultural heritage.

Fairfax County public and private school students can take a field trip to a Fairfax County park to experience an up-close look at county habitats and nature. FCPA naturalists will also visit schools to bring nature education to the students in an outreach program. Science and stewardship-related field trip programs are offered at 11 FCPA sites. For more information, visit [www.fairfaxcounty.gov/parks/field-trips](http://www.fairfaxcounty.gov/parks/field-trips).

For older children and teens, educational programs sponsored by FCPA supplement the hands-on activities described in Section 3.8.1.B. For example, the county’s Hidden Pond Nature Center and Park offers teens a chance to be on an Envirothon team. Envirothon is North America’s largest high school environmental education competition. More information on the county’s Envirothon program can be found at [www.fairfaxcounty.gov/soil-water-conservation/envirothon](http://www.fairfaxcounty.gov/soil-water-conservation/envirothon).

Families can learn about stewardship and the environment through the hundreds of educational program offerings each year at FCPA’s five nature centers, horticultural center, farm and three lake front parks. Programs



range from educational campfires to birdwatching hikes and live animal programs. Listings for these programs are available at [www.fairfaxcounty.gov/parks/parktakes](http://www.fairfaxcounty.gov/parks/parktakes).

FCPA also offers programs for various scout groups like the Boy Scouts of America and Girl Scouts of America, as well as 4H, American Heritage Girls and other organizations. These programs focus on helping local scouts earn badges in nature and science. More details can be found at [www.fairfaxcounty.gov/parks/scouts](http://www.fairfaxcounty.gov/parks/scouts).

Stewardship Brochures published by FCPA address topics ranging from beavers to wildlife conflicts, while its Nature Pages help visitors explore the county's environmental and cultural resources. See [www.fairfaxcounty.gov/parks/nature/stewardship-brochures](http://www.fairfaxcounty.gov/parks/nature/stewardship-brochures).

### 3.8.2.C Department of Public Works and Environmental Services

The Department of Public Works and Environmental Services (DPWES) promotes environmental awareness through: public education campaigns; presentations on Slideshare, YouTube and other social media platforms; staff interviews with news media; articles in professional magazines; TV Channel 16 programs; events; public meetings and the county website.

The “Stormy the Raindrop” program education campaign encourages children to appreciate and take better care of their environment. The campaign includes activity books, puppet shows and appearances at county events. See [www.fairfaxcounty.gov/publicworks/stormwater/stormy-raindrop](http://www.fairfaxcounty.gov/publicworks/stormwater/stormy-raindrop).

The Solid Waste Management Program arranges tours of the county's solid waste facilities and provides information, in a variety of formats, about recycling for businesses and residents.

## 3.9 Environmental Health

The Division of Environmental Health (DEH), within the county's Department of Health, seeks to promote public health and safety by protecting residents from exposure to biological, chemical, and physical hazards. DEH achieves this endeavor by maintaining three program areas: The Consumer Protection Program; the Onsite Sewage and Water Program; and the Disease-Carrying Insects Program. The primary services conducted by these programs include issuance of permits, regulatory safety inspections, complaint investigations, commercial and residential plan reviews, surveillance and control activities, and community outreach. DEH



supports the general public, the regulated community and other agencies in encouraging healthy behaviors and maintaining voluntary, long-term compliance with state and local regulations.

DEH strives to integrate Health in All Policies (HiAP). By definition, HiAP recognizes that health and well-being are influenced by a variety of factors beyond health care, including the social and environmental conditions in our communities. HiAP is a collaborative approach to improving community health by incorporating health considerations into decision-making across sectors and policy areas, including policies related to environmental sustainability and stewardship. The Health Department conducted a Health Impact Assessment (HIA) of the Richmond Highway Transit Center with the Fairfax County Department of Transportation in August 2014. The HIA incorporated data, research, and stakeholder input to determine a project's potential impact on the health of a population and the environment.

DEH addresses sustainability and environmental wellness within the following areas:

**Ground and Surface Water** – DEH regulates the design, installation, operation and maintenance of private sewage disposal and well water systems. Effective installation and maintenance allows for appropriate treatment of sewage and protection of ground water and drinking water supplies from contamination. DEH also partners with the DPWES to maintain the infrastructure of the public sewer system and reduce sanitary sewer overflows or accidental discharges to the environment. For instance, DEH produced a brochure titled *Understanding Your Grease Trap-Interceptor*, which informs regulated food establishments of the procedures to prevent or reduce the amounts of fats, oil and grease (FOG) being discharged into the sewer. See [www.fairfaxcounty.gov/health/sites/health/files/assets/documents/pdf/grease-trap.pdf](http://www.fairfaxcounty.gov/health/sites/health/files/assets/documents/pdf/grease-trap.pdf).

**Disease-Carrying Insects Program** – The bite of an infected mosquito or tick may result in a life-changing illness, such as West Nile virus, Zika virus, Chikungunya virus or Lyme disease. The DEH's Disease Carrying Insects Program (DCIP), established in 2003, works to minimize the threat of vector-borne diseases through active surveillance, community education, and vector control. The DCIP utilizes an ecological approach to control pests of public health importance, guided by the principles of Integrated Pest Management (IPM). IPM combines appropriate pest control strategies into a unified, site-specific plan. The goal of an IPM program is to reduce pest numbers to acceptable levels in ways that are practical, cost-effective and safe for people and the environment. For instance, most larvicides used by DCIP are derived from naturally-occurring soil bacteria that specifically target mosquitoes, minimizing the impact on non-target organisms that may



be beneficial to the environment. Products with different modes of action and active ingredients are routinely rotated to help minimize pesticide resistance in local vector populations. DCIP staff also survey and apply vector control interventions throughout various stormwater ponds in Fairfax County. See [www.fairfaxcounty.gov/health/fightthebite](http://www.fairfaxcounty.gov/health/fightthebite). Pesticides are just one component of IPM. Other methods include public education and personal protection, which encourages behavior change at the individual and community level to help reduce the need for pesticide applications.

**Rabies** – Rabies is a preventable viral disease of mammals most often transmitted through the bite of a rabid animal. The vast majority of rabies cases reported to the Centers for Disease Control and Prevention each year occur in wild animals like raccoons, skunks, bats and foxes. Domestic animals account for less than 10 percent of the reported rabies cases. State law and county ordinance require dogs and cats four months of age and older to be inoculated against rabies. Each year, Fairfax County offers several reduced-cost rabies vaccination clinics for pets. See [www.fairfaxcounty.gov/health/rabies](http://www.fairfaxcounty.gov/health/rabies).

**Radon** – Radon is a naturally-occurring radioactive gas produced by the breakdown of uranium in soil, rock and water. It cannot be seen, smelled or tasted. Long-term exposure to elevated radon levels is estimated to cause thousands of lung cancer deaths nationally each year. The EPA has identified Fairfax as having a high risk for radon. The County's **Radon Potential Map** provides a general description of radon within Fairfax County. The County's radon webpage also provides links for more information from the Virginia Department of Health and EPA to help homeowners assess their risk of radon exposure and learn how to mitigate elevated radon levels in their homes. The county's Radon Potential Map is available at [www.fairfaxcounty.gov/health/sites/health/files/Assets/images/radon-potential-map.gif](http://www.fairfaxcounty.gov/health/sites/health/files/Assets/images/radon-potential-map.gif). See [www.fairfaxcounty.gov/health/environment/air/radon](http://www.fairfaxcounty.gov/health/environment/air/radon).

**Naturally-Occurring Asbestos** – Naturally-occurring asbestos has been mapped in approximately 11 square miles of Fairfax County and Fairfax City. Asbestos-bearing rock is interspersed in the greenstone rock formations that underlie the surface soils in the orange soils group. Specific locations have been identified to help reduce exposure to asbestos during construction or other earth-disturbing activities. Surface exposures of these rock formations are not usually seen. See [www.fairfaxcounty.gov/health/environment/asbestos](http://www.fairfaxcounty.gov/health/environment/asbestos)



# SECTION 4

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PROMOTING SUSTAINABLE  
COUNTY OPERATIONS



# PROMOTING SUSTAINABLE COUNTY OPERATIONS

## Featured in this Section

4.1	Introduction . . . . .	89
4.2	Building Design and Construction . . . . .	89
4.2.1	Green Building Policy for County Facilities . . . . .	89
4.2.2	Sustainable Design Strategies . . . . .	90
4.3	Purchasing and Materials Management . . . . .	93
4.3.1	Sustainable Procurement Program . . . . .	93
4.3.2	Surplus Equipment . . . . .	95
4.4	Facilities and Site Management . . . . .	96
4.4.1	Energy Efficiency Upgrades . . . . .	96
4.4.2	Energy Monitoring . . . . .	97
4.5	Information Technology . . . . .	97
4.5.1	IT Energy Efficiency Initiatives . . . . .	97
4.6	Waste Management . . . . .	98
4.6.1	Landfill Gas Recovery and Reuse . . . . .	98
4.6.2	Waste-to-Energy . . . . .	99
4.6.3	I-66 Transfer Station Upgrades . . . . .	100
4.6.4	Water Reuse . . . . .	100
4.7	Vehicle Services . . . . .	101
4.7.1	Hybrid and Electric Fleet . . . . .	101
4.7.2	Other Vehicle Services Initiatives . . . . .	102
4.8	Fairfax Employees for Environmental Excellence . . . . .	103



## SECTION 4

### 4.1 Introduction

Fairfax County government has long been proactive in its environmental stewardship, as described in the preceding sections. This section describes several of the county's innovative and successful efforts to implement environmental and energy goals and policies for county facilities and operations.

Significant efforts have been made over time to reduce the county's operational demand for energy through efficiency, conservation and education. The basis for these efforts is Fairfax County's strategic direction and commitment to achieve environmental and energy goals, including those set forth in the board's Environmental Vision, originally adopted in 2004 and updated in 2017; the 2007 Cool Counties Initiative; the 2009 Energy Policy; and the county's Comprehensive Plan.

Two collaborative inter-agency committees – the Environmental Coordinating Committee and the Energy Efficiency and Conservation Coordinating Committee – are vital to achieving these goals. These committees help ensure coordinated action across county agencies, authorities and schools. Their meetings provide a forum for participants to share project updates, discuss emerging trends and technologies, candidly review their experiences with equipment and systems and raise issues of mutual interest.

### 4.2 Building Design and Construction

#### 4.2.1 Green Building Policy for County Facilities

In 2008, the county Board of Supervisors adopted the Sustainable Development Policy for Capital Projects, which is applicable to the construction of new county buildings and renovations or additions to existing buildings. The policy requires buildings with more than 10,000 square feet to meet or exceed minimum green building standards, and applies only to county government capital projects. County public school projects are designed using the Virginia-Collaborative for High Performance Schools (VA-CHPS) criteria.

The county's government buildings are certified under established green building rating systems that recognize outstanding performance in key areas:

- **Location and Transportation** – encourages site design strategies that take advantage of existing infrastructure, transportation, pedestrian patterns and utilities with improved land-use patterns.



- **Sustainable Sites** – discourages development on undeveloped land and seeks to minimize a building's environmental impacts.
- **Water Efficiency** – encourages the smarter use of water inside and out of facilities.
- **Energy & Atmosphere** – encourages the implementation of energy-wise strategies.
- **Materials & Resources** – encourages the use of sustainably produced materials and waste reduction, reuse and recycling strategies.
- **Indoor Environmental Quality** – promotes strategies that improve indoor air quality, acoustics and access to natural daylight.
- **Innovation in Design** – encourages the use of technologies and strategies that improve a building's performance.
- **Regional Priority** – encourages builders to consider and address local high-priority environmental concerns.

Thirty-one county buildings have satisfied the certification criteria established by the Leadership in Energy and Environmental Design (LEED) program of the U.S. Green Building Council. Of these 31 buildings, 16 are certified as LEED Gold buildings, with the remaining 15 certified as LEED Silver. There are 30 projects in the design, construction or post-construction phase that have the goal of achieving LEED Silver certification. The county also has implemented horizontal projects under the Sustainable Infrastructure Envision rating system.

The county's green building policies for private sector development are discussed in Section 3.2.4. These policies are found in the Environment section of the Comprehensive Plan and are implemented through the zoning process. Information about the county's green building policy for its capital facilities, including a list of green buildings and their key features, is available at [www.fairfaxcounty.gov/environment/green-buildings](http://www.fairfaxcounty.gov/environment/green-buildings).

#### 4.2.2 Sustainable Design Strategies

The County's green building policy is intended to reduce the consumption of non-renewable resources, reduce greenhouse gas emissions, minimize waste, and foster healthy, productive environments. The County implements a number of design strategies to contribute to positive social, economic and environmental impacts to the community.

The Huntington Levee project, completed in June 2019, achieved Envision Bronze for sustainable infrastructure. This project is designed to protect the communities that fall within the FEMA-designated flood plain from extreme





100-year flooding events – floods that have a one percent chance of occurring in any given year. This system has a 2,800 foot long levee that consists of an earthen embankment and steel reinforced concrete I-wall, as well as a two-stage pumping station. The project also includes a collection drain system to

control ground water seepage, new storm drains to connect the existing storm drains to the pump station, and vegetated swale to divert stormwater collected behind the levee to the pumping station. Included in the project is a trail system for pedestrians and cyclists which will connect to a larger network of trails, thereby improving access to recreational opportunities for residents.

The Fairfax County Public Safety Headquarters (PSHQ), completed in October 2017, achieved LEED Gold certification in June 2018. This nine-story, 274,000 square-foot building accommodates both Police and Fire and Rescue Department



administrative staff to maximize shared resources among first responder agencies that often work together in the field. The PSHQ uses light-emitting diode (LED) lighting throughout the facility. Other sustainable design strategies include:

- Green roofs, permeable pavements and stormwater management features that work together to slow down, filter, absorb and purify rainwater as it leaves the site.
- A 25,000-gallon tank that harvests some of the water runoff and reuses it for on-site irrigation.
- Daylight harvesting sensors that take advantage of natural lighting and adjust indoor light levels depending on the amount of sunlight available.
- The use of low-flow plumbing fixtures and recycled materials.
- The use of low VOC emitting materials to improve interior air quality.



The PSHQ project included improvements to the surrounding area, including a new traffic signal, bus shelter, sidewalks, and pedestrian safety features.



The county's sustainable design strategy also includes enhanced building commissioning by an independent authority to verify all systems are designed, installed and operated to meet project requirements.

- Green roofs minimize heating and air conditioning costs, in addition to reducing stormwater runoff. A feasibility study of the use of green roofs is included in each project scope. Green roofs have been installed at the West Ox Bus Operations Center, Merrifield Center, Dolley Madison Library, Great Falls Volunteer Fire Station, Providence Community Center, Herndon Fire Station, and PSHQ.
- Projects are analyzed in their early design phase for the possible inclusion of a solar photovoltaic system. A solar photovoltaic system was installed in 2016 on the roof of the Stringfellow Road Park and Ride Transit Building. This system, which consists of photovoltaic panels made of tempered, low-iron crystalline silicon glass, was determined to be the most efficient technology to provide solar-generated electricity to the facility. Several additional projects are in design with solar photovoltaic systems.





## 4.3 Purchasing and Materials Management

### 4.3.1 Sustainable Procurement Program

Fairfax County's Sustainable Procurement Program harnesses the county's purchasing power – over \$700 million annually – to obtain cleaner, safer, more sustainable and equitable products and services.

The Board of Supervisors has charted the county's direction through its adoption of policies including One Fairfax and the Environmental Vision. The Sustainable Procurement Program directly supports these and other policies and works to ensure that the goods and services procured, as well as the thousands of suppliers making up the supply chain, directly reflect the county's values. When applied on a long-term basis, sustainable procurement can help achieve the county's social equity, environmental and economic development goals. In addition, with such a large market share, public buyers like Fairfax County can help drive the market towards sustainable solutions.

# EPP

Environmentally  
Preferable  
Purchasing

Buyer's Guide  
*What we buy matters*



The Department of Procurement and Material Management (DPMM) manages Fairfax County's Sustainable Procurement Program and acts as a catalyst for innovative solutions. Recent DPMM accomplishments include improvements to operational environmental performance. These improvements have been achieved through the following actions:

- Facilitating the establishment of a catalog of contracts for goods and services with demonstrated environmental benefits. The catalog includes the procurement of LEED-compatible furniture, EPEAT-certified computers, energy- and paper-saving multi-function devices, and office supplies; water recycling car wash services; carpet recycling; and more.
- Establishing an office supply contract that offers over 6,500 "green" products that are verified and certified by third-party organizations.
- Purchasing and using environmentally-friendly cleaning products in county facilities, where feasible.
- Establishing a standard of at least 30 percent recycled content in copy paper purchased by the county.
- Education, outreach and sustainability action campaigns: DPMM played a formative role in, and continues to partner with, the Fairfax Employees for Environmental Excellence (FEEE), an advisory group of employees that supports efforts to promote environmental awareness.



- **Leadership, recognition, and market influence:** In addition to promoting and facilitating sustainable procurement within the county, DPMM plays an important role in the development of sustainable solutions in a national marketplace. DPMM works with national cooperative procurement organizations – which host the combined potential purchasing power of up to 90,000 public agencies – to strengthen green language in national solicitations. DPMM is also a member of the Sustainable Purchasing Leadership Council, a network of purchasing professionals and other market stakeholders focused on the issue of sustainability.
- **Shifting from opportunistic to systematic consideration of sustainability in the procurement process:** In early FY 2019 DPMM completed a planned reorganization, blending its Green Purchasing Program with its Supplier Diversity Program to create a Sustainable Procurement Program (SPP) with dedicated staff resources. The reorganization will achieve operational efficiencies and is critical to both maintaining current efforts and developing future enhancements.

DPMM has planned several initiatives that will serve as important milestones to achieving a leading program:

- **Creation and Implementation of a Sustainable Procurement Policy.** DPMM is in the process of updating its existing Environmentally Preferable Purchasing (EPP) Policy to a broader SPP that will align with existing county initiatives including One Fairfax and the Operational Energy Strategy. The SPP will establish guidelines to embed sustainability into the procurement process and ensure forward momentum by requiring performance reports.
- **Expanded Education and Outreach.** As a complement to the newly adopted SPP, DPMM will develop a suite of educational materials and detailed policy guidance. DPMM aims to enhance its Environmentally Preferable Purchasing Buyer's Guide as well as develop resources such as model solicitation language, in-person training and learning opportunities. DPMM recognizes that education and outreach are important policy elements given the organization's decentralized procurement model.
- **Supply Chain Sustainability.** Fairfax County's supply chain includes thousands of suppliers and spans hundreds of sectors. DPMM will be piloting a Supply Chain Sustainability Program to assess and improve key segments of the county's supply chain.



### 4.3.2 Surplus Equipment

DPMM promotes responsible reuse and disposal of surplus items through a variety of approaches, including:

- Expanding recycling options by using trade-in, “producer responsibility” and take-back clauses in vendor contracts.
- Marketing and selling surplus equipment on consignment and by on-line and sealed-bid auctions.
- Fostering strategic donations of surplus equipment to charities that further the county’s mission.



DPMM’s on-line *Reuse, Sale, Recycle* program to manage surplus property countywide is a notable success in this area. Its use of e-auctions, which are open to the public, optimizes revenue from the sale of surplus sporting goods, office furniture, office equipment, industrial machinery, tools, household and industrial appliances, fleet vehicles and specialized vehicles such as fire trucks and trash trucks. In addition, the on-line reuse program allows employees to shop for surplus equipment from their desks and have items delivered, all at no direct cost to the requesting department. The *Reuse, Sale, Recycle* program has increased the item reuse rate, decreased disposal costs and saved thousands of dollars on the purchase of new equipment. In FY 2017, the county redistributed or sold 93.6 percent of excess surplus property, achieving \$1.5 million in sales revenue.

The county’s surplus electronics disposal program, encompassing any item with a circuit board, balances information protection, environmental considerations and revenue. DPMM’s e-cycling contract offers robust recycling options that include de-manufacturing the equipment for recycling and refurbishing components for continued use in new manufacturing. Other recycling initiatives address toner cartridges, batteries, scrap metal, used tires and spent oil.

Using its toolbox of options, DPMM promotes and leads collaborative and innovative approaches to reducing waste. These approaches also improve the county’s bottom line by reducing disposal costs and generating revenue. More information about DPMM’s environmentally-responsible surplus property programs is available at [www.fairfaxcounty.gov/procurement/logistics/surplus](http://www.fairfaxcounty.gov/procurement/logistics/surplus).



## 4.4 Facilities and Site Management

Fairfax County's Facilities Management Department (FMD) portfolio is comprised of 238 properties, totaling over 11 million square feet of space. This space includes offices, libraries, residential treatment facilities and 24/7 facilities such as fire stations, police stations and detention facilities. FMD's portfolio does not include facilities operated by the Department of Public Works and Environmental Services, the Park Authority, the Redevelopment and Housing Authority or Fairfax County Public Schools.

### 4.4.1 Energy Efficiency Upgrades

Energy management is an important focus area for FMD. Over a decade ago, FMD established the goal of reducing energy use by one percent per year, as measured in one thousand British thermal units (kBtu) per square foot. Recent numbers show FMD meeting or exceeding its goal, despite a substantial increase in the square footage of its portfolio. By reducing energy consumption, FMD reduces both greenhouse gas emissions and energy costs. During the period FY 2012 through FY 2018, FMD saved over \$2.4 million dollars on utility bills.

FMD undertakes a wide range of energy improvement projects to achieve energy savings. It installs energy management control systems; right-sizes heating, ventilation and air conditioning (HVAC) equipment; installs lighting controls and efficient LED lighting, replaces aging roofs, caulking, and window sealant; and maximizes energy-recovery systems.

Over the past three years, more than 18,000 light fixtures across county government facilities have been retrofitted to LED. Over just the last year, 14 facilities have had full-building LED retrofits, including Government Centers, fire and police stations, libraries, health centers, parking structures and the animal shelter. On a per-fixture basis, these lighting retrofits reduce energy consumption by 40 to 80 percent. For example, FMD retrofitted 390 high intensity discharge (HID) fixtures to LED at the Burke VRE Park and Ride, saving 60 percent on electricity consumption. A project that coupled LED retrofits at the Herndon-Monroe Park and Ride with the installation of daylight and motion control fixtures saved 84 percent on electricity consumption. FMD LED lighting retrofit projects have replaced hundreds of outdated fluorescent fixtures with LED fixtures, in some cases with motion sensors.

FMD's recent HVAC energy improvements include the recommissioning of a chiller energy-recovery system at the county courthouse, resulting in a reduction in summertime natural gas use by 80 percent. In 2017, FMD replaced HVAC controls and implemented real-time metering at the Herndon Fortnightly Library and replaced HVAC controls at the Adult



Detention Center (ADC). In FY 2014, FMD replaced or retrofitted 644 variable air volume boxes and added direct digital controls.

FMD also has undertaken improvements to reduce water use. Part of a multi-phase two-year project at the Government Center replaced all restroom and locker room flush valves and faucets with low-flow, infrared sensor-operated fixtures and replaced shower heads with low-flow fixtures. This aspect of the project has reduced water consumption by more than 45 percent, as compared to the prior year's usage. Similar replacements were undertaken in FY 2016 at the Herrity and Pennino buildings and at smaller buildings throughout the county. Submeters have been installed on most major cooling towers throughout the county to monitor water use and reduce sewer costs.

#### 4.4.2. Energy Monitoring

In late 2017, FMD launched the on-line Fairfax County Public Energy Dashboard. The dashboard, available at [www.fairfaxcounty.gov/apps/energycap/](http://www.fairfaxcounty.gov/apps/energycap/), is a tool that allows residents to view up-to-date usage data and charts for hundreds of FMD and Park facilities.

FMD is responsible for over 700 energy and water accounts at county government facilities. Utility consumption is tracked, monitored and managed using monthly utility bill data, online electric 30-minute trend data, real-time metering systems, and building energy management systems (BMS).

FMD's 98 BMS systems provide real-time operational data that can be used for trouble-shooting. These systems allow for remote adjustments to HVAC and other energy related systems. Using information from these systems, FMD can identify cost-saving opportunities and achieve utility savings by resolving leaks, enhancing equipment efficiencies and correcting problems with building controls or HVAC systems.

### 4.5 Information Technology

#### 4.5.1 IT Energy Efficiency Initiatives

Fairfax County's information technology (IT) infrastructure is designed to ensure the continuous delivery of quality services in a cost-effective and resource-efficient manner. IT initiatives related to energy efficiency reduce the power consumption of IT equipment, decrease greenhouse gas emissions and reduce the county's carbon footprint.

Virtualization and cloud-computing technologies are the foundation of the county's agile enterprise infrastructure architecture. Elements of this



strategic approach include consolidating and standardizing IT resources while ensuring visibility, security and accountability. The county's server virtualization and consolidation initiative, which was established in FY 2007-2008, has reduced the need for physical servers from 870 to fewer than 300.

The FY 2010 federal stimulus award also helped accelerate the deployment of a personal computer (PC) power management program. The "NightWatchman" program automatically shuts down over 10,000 end-user PCs across 55 offices when not in operation. The NightWatchman program also supports the county's virtualization initiative. Because it measures server workloads, the program helps determine which servers are underutilized and thus are good candidates for virtualization and consolidation.

Both the virtualization initiative and PC power management programs have been nationally recognized for achieving carbon reductions and operational efficiencies. More information about Fairfax County's IT program and initiatives is available at [www.fairfaxcounty.gov/informationtechnology/it-plan](http://www.fairfaxcounty.gov/informationtechnology/it-plan).

## 4.6 Waste Management

### 4.6.1 Landfill Gas Recovery and Reuse

Landfill gas (LFG) is a mixture of methane, carbon dioxide, and a host of volatile organic compounds (VOCs) that are the by-products of the decomposition of organic matter buried in sanitary landfills. The county recovers LFG from several hundred gas wells at the county's two landfills and uses the LFG to produce electricity, incinerate bio-solids and heat maintenance facilities. The county's LFG use prevents the release of an estimated 260,000 tons (CO<sub>2</sub> equivalents) of greenhouse gases annually.



LFG captured from the I-95 Landfill fuels generators at the site, the electricity from which is sold into the wholesale electric market. In 2016, these generators produced an average of four megawatts of electricity. In



addition, LFG from the I-95 Landfill is transmitted by pipeline to the nearby Noman M. Cole, Jr. Pollution Control Plant for use in the plant's incineration process to destroy bio-solids and to fuel afterburners that reduce hydrocarbon emissions. At the I-66 Transfer Station, LFG is used to heat an on-site maintenance shop, truck wash, workers' facility and nearby bus maintenance facilities.



#### 4.6.2 Waste-to-Energy

The Energy Resource Recovery Facility (ERRF) is one of the largest waste to-energy (WTE) facilities in the country. Since 1990, energy production by the ERRF has replaced the equivalent of approximately two million barrels of crude oil per year.

Municipal solid waste serves as the fuel for the ERRF, which is designed and operated in a similar manner to a typical power plant. The combustion of municipal solid waste produces steam, which is used to spin turbine-generators capable of generating over 80 megawatts of electricity, which is then sold into the wholesale electricity market. The ERRF's four industrial boilers burn about 1.1 million tons of municipal solid waste per year.

Incineration eliminates methane gas and other greenhouse gases on a ton-for-ton basis. It also reduces waste by up to 90 percent in volume, leaving an ash product that is landfilled. As a result of pre-incineration sorting and post-incineration recovery, enough metal is recycled each year to build over 20,000 automobiles. The ERRF is privately owned and operated by Covanta Fairfax, Inc., a subsidiary of Covanta Energy, under contract to Fairfax County. More information about the ERRF is available at [www.fairfaxcounty.gov/publicworks/recycling-trash/energy-resource-recovery-facility](http://www.fairfaxcounty.gov/publicworks/recycling-trash/energy-resource-recovery-facility).



#### 4.6.3 I-66 Transfer Station Upgrades

Since it opened in 1982, the I-66 Transfer Station has been accepting waste that is aggregated and trucked to the ERRF and other disposal sites. Despite regular cleaning, the floors, walls and ceiling had been due for an update to remove years of built-up grease, exhaust, dust and particulates. Recent improvements at the Transfer Station significantly brightened the



facility by cleaning and repainting surfaces, and installing new energy-efficient LED lighting.

Additional changes are coming to the Transfer Station, as the SWMP moves forward with plans to update the traffic flow, improve

the user experience and increase the sustainability of site operations. More information about the facility is available at [www.fairfaxcounty.gov/publicworks/recycling-trash/i-66-transfer-station](http://www.fairfaxcounty.gov/publicworks/recycling-trash/i-66-transfer-station).

#### 4.6.4 Water Reuse

Fairfax County's Water Reuse Program delivers clean but non-potable water from the Noman M. Cole Jr. Pollution Control Plant to non-residential customers for irrigation and industrial purposes. Reusing water conserves valuable treated drinking water and reduces the amounts of nitrogen and phosphorus that reach the Chesapeake Bay. Water reuse also generates revenue for the county. The program delivered 500 million gallons of reclaimed water in 2018.

The Water Reuse Program sells water that is not safe for drinking but is safe for other uses, such as watering lawns. Prior to delivery, the water is extensively filtered, disinfected and treated to remove harmful organisms,



bacteria, viruses and heavy metals. To avoid confusion, every pipe that carries the reclaimed water is painted purple, and purple signs are posted at any public location where reclaimed water is being used.

A purple water reuse pipeline installed along Lorton Road connects the Pollution Control Plant to the county's waste-to-energy plant, delivering treated reclaimed



non-potable water to the ERRF for its use in generating electricity. The pipeline also delivers reclaimed water to both the Laurel Hill Golf Course and the Lower Potomac Ball Fields for irrigation purposes.

The county's use of reclaimed water has both economic and environmental benefits. It requires an estimated 2,300 kilowatt hours of electricity to pump, treat, transmit and distribute one million gallons of potable water.

The electricity use associated with reclaimed water is substantially reduced because the water is not treated to the levels required for potable water. Lower electricity costs translate to lower purchase costs. Reductions in electricity use also translate to reductions in greenhouse gas emissions. County staff estimates that using reclaimed water saves approximately 1.1 pounds of equivalent carbon dioxide (CO<sub>2</sub>e) per kilowatt hour, based on the mix of generation sources that supply electricity to the Northern Virginia region.

More information about Fairfax County's water reuse program is available at [www.fairfaxcounty.gov/publicworks/sites/publicworks/files/assets/documents/water\\_reuse.pdf](http://www.fairfaxcounty.gov/publicworks/sites/publicworks/files/assets/documents/water_reuse.pdf).

## 4.7 Vehicle Services

The Department of Vehicle Services (DVS) provides management and maintenance services to the county's vehicle fleet and maintenance support to Fairfax County Public Schools. The Department of Transportation (DOT) provides, among many other services, the Fairfax Connector transit bus system for public transportation throughout the county. Both agencies strive for economically responsible environmental stewardship by working increased fuel efficiency and reduced emissions and petroleum consumption characteristics into vehicle specifications. Specifications for new, heavy duty trucks favor the cleanest diesel engines.

### 4.7.1 Hybrid and Electric Fleet

DVS's responsibilities include management of the county's Vehicle Replacement Fund. In June 2017, the board updated its Environmental Vision and in 2018 approved an Operational Energy Strategy that provides goals, targets and actions. One of these goals and targets pertains to the county's vehicle fleet and provides that 10 percent of government passenger vehicles will be electric or plug-in hybrid by 2030. As a result, a conventional gasoline-fueled county fleet vehicle at the end of its service life may be replaced with a hybrid vehicle, if acceptable to the applicable agency and as conditions warrant. Staff is coordinating with



the Department of Public Works and Environmental Services (DPWES) to include electric vehicle infrastructure in building plans and with the Facilities Management Department to build out infrastructure required at existing facilities.

As plug-in hybrid and electric vehicle models continue to come to market, DVS will procure them in place of traditional gasoline-powered vehicles, as appropriate. The county fleet currently includes 105 hybrids and two all-electric vehicles. Use of these vehicles saves over 16,000 gallons of gasoline on average each year. Where feasible, DVS is also considering propane and biodiesel for inclusion in the fleet.

#### 4.7.2 Other Vehicle Services Initiatives

Specifications for new vehicles purchased by DVS and DOT include features designed to reduce emissions and increase fuel efficiency. Since FY 2015, DVS has purchased school buses with Selective Catalytic Reduction (SCR) technology. SCR meets the EPA 2010 requirement of reducing engine emissions to near zero.

Since 2009, DOT has included variable frequency cooling fans in the buses it purchases. These fans have reduced fuel consumption by 12 percent compared to vehicles with hydraulic fans. Currently, 184 Fairfax Connector buses, or 65 percent of the fleet, are equipped with variable frequency cooling fans.

DVS and DOT also have established a number of initiatives to improve the energy and environmental performance of the vehicles they manage and maintain. For example:

- To reduce fuel consumption and vehicular emissions, DVS and DOT programmed automatic idle shutdown into all county solid waste trucks and Fairfax Connector buses.
- DOT transitioned to nitrogen filled tires to provide longer vehicle life and increased fuel mileage.
- After determining it to be cost-effective, DVS installed three Diesel Exhaust Fluid (DEF) dispensers adjacent to diesel fuel pumps, thereby allowing customers to purchase diesel fuel or DEF without moving their vehicles.

In 2019, all four DVS maintenance facilities renewed as Environmental Enterprise (E2) participants in the Virginia Environmental Excellent Program (VEEP). DVS has been a proud VEEP participant since 2003. In support of its 2019 renewal application, DVS described a range of its environmentally-responsible actions, including:



- The use of bio-degradable hydraulic fluids in DVS vehicle-lifting equipment;
- The purchase of two refrigerant recovery and recycling machines and a breathing-air system;
- An automotive parts recycling program for metals and catalytic converters; and
- A partnership with a local middle school and elementary school to donate over 200 pounds of unwanted clean plastic materials to Trex Company, Inc. for recycling into environmentally-responsible outdoor products.

DVS manages many environmental aspects daily to decrease the potential for any environmental impact using a comprehensive Environmental Management System.

In FY 2018, DVS received funding from the Environmental Improvement Program to design and plant a pollinator meadow at the Alban Maintenance Facility. In FY 2019, DVS coordinated with DPWES to convert 50,000 square feet of highly-compacted soils that supported sparse, poor quality vegetation to an “unmowed” meadow and planted over 700 plants in support of pollinators.

## 4.8 Fairfax Employees for Environmental Excellence

Fairfax Employees for Environmental Excellence (FEEE) serves as Fairfax County’s employee green team. The group consists of county employees who are committed to environmental stewardship within Fairfax County government. FEEE’s mission is to foster a greener workplace culture through education, outreach and engagement.

Cumulatively, the habitual behaviors of Fairfax County’s 13,000 employees can have a significant environmental impact. FEEE focuses on steps that any employee can take in the areas of recycling, green purchasing, energy efficiency and more.

FEEE uses a quarterly newsletter and the county’s internal website to share information and highlight sustainability initiative champions around the county. The website features a blog that enables all employees to join the conversation. FEEE also hosts presentations, webinars, booth displays, and educational tours of places and projects such as green roofs, stream restoration projects and recycling centers.



FEEE's FY 2019 highlights include:

- Hosting an Earth Day Fair for employees with seven booths related to sustainability.
- Sponsoring the county's first Sustainability Challenge, which inspired employees to practice sustainable habits at work.
- Launching an online Employee Office Supply Exchange, where employees can list and find free office supplies to reuse from other agencies.
- Participating in Employee Field & Fitness Day by leading an effort to help the event recycle and compost, and teaching employees about food waste.
- Hosting a lunch-and-learn presentation about native plants.
- Hosting an informational table display for America Recycles Day.

More information about FEEE can be found at [www.fairfaxcounty.gov/energy/employees](http://www.fairfaxcounty.gov/energy/employees).





# SECTION 5

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## ENVIRONMENTAL IMPROVEMENT PROGRAM: OBJECTIVES AND FUNDED PROJECTS






# ENVIRONMENTAL IMPROVEMENT PROGRAM: OBJECTIVES AND FUNDED PROJECTS

## Featured in this Section

5.1	Introduction .....	107
5.2	Objectives .....	107
5.3	FY 2020 EIP Projects .....	108
	5.3.1 The EIP Projects Selection Process.....	108
	5.3.2 FY 2020 Funding and Projects .....	109
5.4	EIP Delivered Projects History .....	114





## SECTION 5

### 5.1 Introduction

The Environmental Improvement Program (EIP) was first developed in 2005 by the county's Environmental Coordinating Committee (ECC) in response to direction by the Board of Supervisors (board) following the adoption of its Environmental Agenda on June 21, 2004. The ECC is a collaborative interagency management committee established to ensure an appropriate level of coordination and review of the county's environmental policies and initiatives.

The EIP provides the county executive and board with environmental and energy action-oriented opportunities to support board-adopted environmental and energy targets, policies and goals. EIP opportunities are updated annually using a collaborative project solicitation and selection process.

The Department of Management and Budget, with input from the county executive and his or her deputies, determines the appropriate level of funding that will be proposed for EIP projects in any given budget year. Since EIP project funding is supported by the county's General Fund, the amount of funding available varies from year to year. See Section 2.4.2 in this report for more information regarding the EIP. This section describes the EIP projects solicitation, selection and funding process; provides details on current projects; and lists past projects.

### 5.2 Objectives

It is the county's overarching vision to attain a quality environment that provides for a high standard of living and is sustainable for future generations. No matter what income, age, gender, ethnicity, or address, everyone has a need and right to breathe clean air, to drink clean water, and to live and work in a quality environment. However, the rapid growth and development that have characterized Fairfax County over the past half century have challenged the county's ability to maintain a healthy environment.

Federal and state guidelines and regulations have demanded not only extra diligence in the development of concrete strategies for a healthy environment, but also inter-jurisdictional coordination to address pollution that knows no boundaries.



Stewardship and prudent management of our natural environment and resources are not merely add-ons, or afterthoughts, but rather are essential and fundamental responsibilities that must be given fullest consideration at all times. The environmental impact of every decision the county makes must be carefully and purposefully evaluated. Decisions involve long-term strategic planning that prevent the occurrence of any environmental or public health emergencies. Clearly, cooperation among county residents, agencies and elected officials will be required to effect lasting solutions to the environmental challenges we face. The EIP serves as a primary mechanism through which such planning occurs.

Fairfax County has long recognized the need for proactive policies and initiatives to address its environmental challenges. Indeed, environmental considerations are embedded in the county's policy and regulatory documents, and the county has pursued a myriad of environmental initiatives that continue to grow in number and complexity. The county's dedication to meeting its environmental challenges is reflected in the numerous awards and recognitions it has earned, including designation by the Chesapeake Bay Program as a Gold Chesapeake Bay Partner Community. Other awards and recognitions are listed in Section 6.

Nevertheless, both the board and county staff recognize the need for enhanced environmental efforts, in that environmental challenges are continuing and, in many cases, becoming more daunting.

## 5.3 FY 2020 EIP Projects

Fairfax County supports environmental and energy initiatives in the board-adopted Environmental Excellence 20-year Vision (Environmental Vision) and the Operational Energy Strategy through several county agencies and funds. There are also many environmental initiatives and projects carried out by individuals and groups each year. Section 2.4 provides a broad discussion of funds used for environmental efforts.

This section focuses on environmental and energy initiatives and projects that are supported through the EIP and selected through a collaborative and coordinated process.

### 5.3.1 The EIP Project Selection Process

In its 2012 Annual Report on the Environment, the Environmental Quality Advisory Council (EQAC) recommended that the EIP project selection process be formalized. In response to this recommendation, an interagency staff committee developed a rigorous project selection process to support



the board-adopted Environmental Vision. This process, which was reviewed and supported by EQAC, has resulted in funding for many high-quality environmental projects beginning with the fiscal year (FY) 2014 Adopted Budget (July 1, 2013 - June 30, 2014).

Under this process, each fiscal year, county agencies have the opportunity to submit proposed projects for review, scoring and consideration. Each project proposal must include technical and cost/benefit analyses. After the submission period closes, a staff committee conducts agency interviews for each project, then evaluates and prioritizes all proposals. A final matrix of prioritized projects is submitted to the Department of Management and Budget and the Chief Financial Officer/Deputy County Executive for consideration in the County Executive's advertised budget.

Staff developed submission criteria to provide guidance to the agencies as they identify and develop their project proposals. Selection criteria guide committee members as they evaluate and prioritize the projects. Both the submission and selection criteria are derived from the board's 2017 Environmental Vision and the seven core service areas it addresses (see [Environmental Vision](#)) as well as the 2018 Operational Energy Strategy and the ten focus areas it addresses (see [Operational Energy Strategy](#)).

The EIP selection process occurs over a period of 6 months, as shown by this timeline:

- **June:** Memo sent to agencies soliciting submission of EIP proposal(s) for funding consideration.
- **August:** EIP Project Selection Committee (PSC) screens proposals to confirm compliance with submission criteria. Additional information may be requested from agencies, if necessary.
- **September:** PSC conducts preliminary scoring of proposals and schedules interviews.
- **October:** Agencies present proposal(s) to PSC and answer questions. PSC concludes final scoring based on preliminary scores and presentations, and presents its final list of prioritized EIP projects to the Chief Financial Officer.
- **November:** Chief Financial Officer presents final prioritized list of EIP projects to the County Executive.

### 5.3.2 FY 2020 Funding and Projects

The Board of Supervisors FY 2020 Adopted Budget included \$916,615 for EIP projects. This was an increase of \$381,615 over allocated funds in the FY 2019 Adopted Budget Plan for this program. Funded projects for FY 2020 are detailed below.



Four of the EIP projects funded for FY2020 have received EIP funding for a number of years:



- **Invasive Management Area (IMA) Program.** An amount of \$250,000 is included to continue the IMA program. The Park Authority manages this volunteer program, as well as other invasive removal initiatives. These programs restore hundreds of acres of important natural areas, protect tree canopy, and reach thousands of volunteers. More than 20,000 trained volunteer leaders have contributed 67,000 hours of service since the program's inception in 2005, improving over 1,000 acres of parkland. FY 2020 funding for this program increased by \$50,000. Funds will allow staff and volunteers to control non-native invasive vegetation at two high quality natural areas. Two hundred and forty acres will be treated at Ellick Park and Natural Area Preserve, and 22 acres will be treated at South Run District Park. IMA program activities will ensure the ecological integrity of these natural areas and prevent further degradation of their native communities.
- **Watershed Protection and Energy Conservation Matching Grant Program.** An amount of \$75,000 is included to support energy education and outreach initiatives and promote community engagement around sustainability and conservation issues. Specifically, in FY 2020, the program will provide financial incentives to empower civic associations, homeowner associations and places of worship to implement on-the-ground sustainability projects. This initiative will build on current programs that provide technical assistance, hands-on support, outreach and education to Fairfax County homeowners and residents. Projects will improve water quality, reduce greenhouse gas emissions and conserve energy and water. FY 2020 funding will support printing materials, site assessments, inspections and one limited full-time position to conduct outreach and education. This grant enables project managers to seek and utilize matching grants for additional expenses.





- **Green Purchasing Program.** An amount of \$10,000 is included for the Green Purchasing Program. This program is designed to support limited-term staff to assist in clearly specifying environmental attributes during the County's procurement process. Fairfax County has a current inventory of over 2,400 contracts. Emphasizing environmental attributes such as recycling, energy efficiency, durability and reduced toxicity during the procurement process can contribute to the purchase of green products, creating fiscal and environmental savings.
- **Spring Outreach Programs.** An amount of \$7,115 is included for the county's award-winning spring outreach programs. These programs reach thousands of people in the county and have a deep impact on residents of all ages. Programs include classroom presentations, outdoor learning experiences, outreach events and festivals, high school Envirothon competitions, rain barrel workshops, seedling sales, high school science fair support, stream monitoring events, Enviroscape training programs, storm drain marking events, the Sustainable Garden Tour and more.

Six of the FY2020 EIP projects are new projects:

- **Energy Efficiency and Renewable Energy.** An amount of \$250,000 is included for energy efficiency and renewable energy systems to be incorporated into the Sully Woodlands Stewardship Education Center. The Stewardship Education Center will be an indoor/outdoor, state-of-the-art interpretive facility, providing educational and visitor services in environmental stewardship, natural and cultural resource management, and land management of the Sully Woodlands region. A major goal of the program is to achieve net positive energy use, meaning the facility must produce more energy than it uses. The building will be used as an educational tool, demonstrating renewable energy and energy efficient technologies that can be adopted in residential buildings.



- **Natural Landscaping.** An amount of \$75,000 is included for projects associated with the Natural Landscape Implementation Plan. Staff will identify cost-effective retrofit projects that apply natural landscaping concepts and techniques in the design, implementation, and maintenance of landscapes on county-owned properties. Natural landscaping is guided by the planting of local native plant species, which can be used to mitigate climate change; improve and preserve air quality; and protect and enhance existing natural resources, including soil and water.
- **Irrigation Controllers.** An amount of \$138,000 is included for the installation of water smart web-based irrigation controllers at Green Spring Gardens.

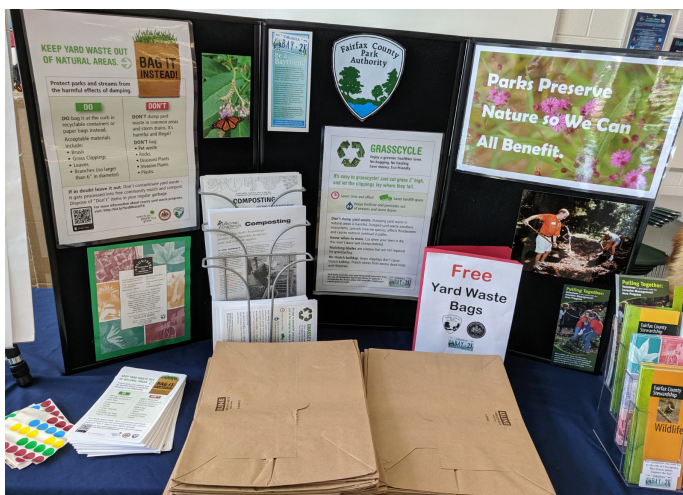


Green Spring Gardens is a public park where more than 30 acres are watered with 400 feet of hoses and oscillating sprinklers. Current practices lead to an excess of inefficiencies. The new irrigation controller will use local weather data to automatically adjust watering times. The system will save water consumption by watering only when needed.

The manufacturer estimates that smart irrigation technology can save 40 percent on water consumption per year.

- **Bike Rack Installation.** An amount of \$60,000 is included for the “Bike to Parks” bike rack installation pilot project. The pilot project will promote biking as a safe and reliable transportation choice for recreational destinations. The Park Authority will add 60 bike racks in about 15 parks and RECenters that are near countywide trails in two high density revitalization areas: Annandale and Richmond Highway. In addition to the bike rack installations at these locations, this project will include public outreach and targeted improvements, such as adding bike lanes, connections at appropriate locations, signage, and wayfinding systems from major regional trails to the bicycle parking locations at park entrances.
- **“Watch the Green Grow” Education and Outreach Program.** An amount of \$41,500 is included for the Watch the Green Grow pilot program, which is an outreach and education program that aims to create natural area buffer zones by encouraging “green” behaviors on surrounding private properties. The





outcome will be a web map “snapshot” of citizen stewardship and volunteer activities that protect and enhance Fairfax County’s natural areas and wildlife corridors. This project is designed as a public education program to increase residents’ awareness of the value of public green spaces (especially wildlife corridors), and lead them to adopt small but important stewardship behaviors that will help buffer these places from urban stressors like invasive plants.

- **LED Light Bulb Exchange.** An amount of \$10,000 is included for the Energy Action Fairfax (EAF) LED Light Bulb Exchange Program to support nine LED Lightbulb Exchange events. In the spring of 2018, EAF hosted seven LED Lightbulb Exchanges throughout the county in conjunction with the Fairfax County Public Library system. The LEDs that EAF distributed in 2018 were 60W equivalent, warm white and ENERGY STAR® certified. These LEDs use 85 percent less energy than a comparable “old” incandescent bulb and 33 percent less energy than a compact fluorescent light (CFL). In total, 8,000 LEDs were distributed in 2018 to approximately 1,600 people at seven events. Based on an average home’s lighting consumption, use of these LEDs will





result in an annual avoidance of nearly 200,000 kilowatt hours (kWh) and energy savings of \$22,000. Avoided emissions associated with these lighting conversions equates to approximately 280,000 pounds of carbon dioxide, which is about the same as taking 28 passenger vehicles off the road.

In addition, an amount of \$58,140 has been provided in the Contributory Fund, to continue partnering with two non-profit agencies to support tree planting efforts throughout the County.

## 5.4 EIP Delivered Projects History

EIP projects were first funded as part of the FY 2004 Carryover Review (September 2004). To date, roughly \$10.2 million in EIP project funding has been awarded, including projects funded under the FY 2020 Adopted Budget Plan. These initiatives support the board's Environmental Vision and/or the Operational Energy Strategy.

Projects funded through the EIP to date include:

- Purchase of wind energy.
- Air quality education and Clean Air Partners program (media sponsorship to continue public outreach to improve air quality).
- Conversion of 163 Fairfax Connector buses to ultra-low sulfur fuel and installation of particulate traps to reduce emissions.
- Community cleanup/revitalization/blight abatement projects.
- Toxicity reduction public outreach program.
- Expansion of the business recycling program.
- Pedestrian improvements in the Richmond Highway corridor.
- Restoration of riparian buffer zones.
- Cleanup of unauthorized dumpsites.
- Park Authority stewardship education programs.
- GIS-data green infrastructure for park natural resource management.
- Low impact development demonstration projects.
- Park trails mapping program (comprehensive mapping program to allow the Park Authority to better manage and plan the trail system).
- Invasive Management Area program.
- Landfill gas utilization project at the I-66 and I-95 Landfills.
- Remote household hazardous waste collection events.



- Tree canopy campaign at county facilities.
- Energy efficiency/renewable energy initiatives at county facilities.
- Litter campaign.
- Lighting retrofits and upgrades at Fairfax County Park Authority facilities.
- Energy education and outreach programs.
- Green Purchasing Program.
- Water conservation and efficiency measures at park golf courses and facilities.
- Watershed Protection and Energy Conservation Matching Grant Program.
- Energy efficiency measures at RECenter pools.
- Installation of real-time water leak and freeze detection controls at county RECenters and historic buildings.
- Protected Bike Lane Demonstration Project.
- Pollinator meadows at county facilities.
- Honey Bee Initiative Pollinator Program (HIPP) at the I-95 landfill property.
- Purchase of electric ride-on mowers for Park Authority mowing operations.
- Restoration of stream banks and meadows (including the purchase of a no-till seed drill for planting native grasses and wildflower seeds).
- Installation of LED Solar parking lot lighting and automated heating and/or cooling controls at unmanned Park Authority facilities.
- Purchase of propane extraction equipment to recover unused propane from cylinders that are disposed of as part of the county's Household Hazardous Waste Program.





The projects listed above have been supported by the county's General Fund. Other environmental projects have been supported by the Energy Efficiency and Conservation Block Grant (as part of the American Recovery and Reinvestment Act of 2009) and by the county's Contributory Fund (the latter of which funded tree planting partnerships with two nonprofit organizations). In addition, as discussed in Section 2.4, several important environmental program areas and initiatives are supported through funding sources outside of the EIP and General Fund.





# SECTION 6

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## AWARDS AND RECOGNITIONS






## AWARDS AND RECOGNITIONS

### Featured in this Section

6.1	Selected Environmental Awards and Recognitions . . . . .	119
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## SECTION 6

### 6.1 Selected Environmental Awards and Recognitions

The following is a summary of recent awards Fairfax County has received for its environmental and energy initiatives.

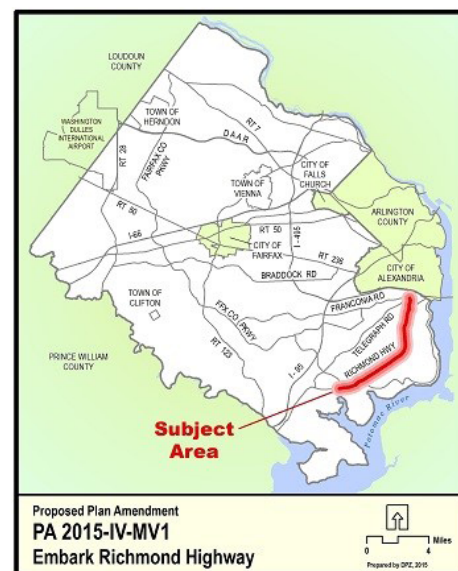
#### 2019 Awards

**2019 Chesapeake Stormwater Network (CSN), Best BMP in the Bay Award (BUBBA), Habitat Creation Category.** The Silas Burke Park Reforestation Planting project, undertaken by the Department of Public Works and Environmental Services (DPWES), in partnership with the Fairfax County Park Authority (FCPA), was awarded first place in the Best Habitat Creation category of the Chesapeake Stormwater Network's "Best Urban BMP in the Bay Award" (BUBBA) contest. A BUBBA award recognizes exemplary urban best management practices (BMPs) in the Chesapeake Bay watershed, while the Best Habitat category recognizes restoration projects that create or restore a high-quality blend of wetland or upland wildlife habitats. The Silas Burke Reforestation project converted over 10 acres of county parkland from turf grass and invasive species to forest, increasing the diversity of the local native plant community.

**2019 National Recreation and Park Association (NRPA), Gold Medal Finalist for Excellence in Parks and Recreation, Class I Category.** Since 1965, the American Academy for Park and Recreation Administration in partnership with NRPA, has honored communities that demonstrate excellence in long-range planning, resource management and innovative approaches to delivering superb park and recreation services with fiscally sound business practices. This is the seventh time FCPA has been a NPRA finalist in this category. The agency has received the Gold Medal three times previously, in 1983, 2002 and 2010.

**2019 SolSmart Program, Gold Designation.** SolSmart is a national designation program funded by the U.S. Department of Energy's Solar Technologies Office that recognizes cities, counties, and regional organizations that foster the development of mature local solar markets. In August 2019, Fairfax County was designated a "SolSmart Gold" community in recognition of its long-standing efforts to encourage solar energy growth and remove obstacles to solar development. The county also received special recognition in the Inspections category.

**2019 National Association of Counties (NACo), Civic Education and Public Information Achievement Award.** The DPWES Watershed Education and Outreach Group won a NACo Achievement Award in Civic Education and Public Information for its Stream Critter Cube Lab. The lab connects students with freshwater ecologists who demonstrate how they monitor biodiversity in streams to determine stream ecosystem health. NACo's Achievement



**2018 Commonwealth Plan of the Year Award from the Virginia Chapter of the American Planning Association for Embark Richmond Highway.**







Award is a non-competitive awards program that seeks to recognize innovative county government programs.

### 2018 Awards

**2018 National Association of Clean Water Agencies (NACWA), Platinum Peak Performance Award.** Fairfax County's Noman M. Cole, Jr. Pollution Control Plant received NACWA's Platinum Peak Performance Award for 100 percent permit compliance for the plant's National Pollutant Discharge Elimination System (NPDES) permit. Eligibility requirements include conducting more than 6,700 tests to verify compliance with the Clean Water Act. The 2018 award marked the 20th consecutive year the Noman M. Cole, Jr. Pollution Control Plant earned the Platinum Peak Performance Award.

**2018 American Planning Association (APA), Virginia Chapter, Commonwealth Plan of the Year Award.** The Virginia Chapter of the American Planning Association awarded Fairfax County its Commonwealth Plan of the Year award for the county's "Embark Richmond Highway" planning effort. "Embark Richmond Highway" will transform the 7.5 mile Richmond Highway Corridor into a multi-modal destination with continuous walking and bike paths in addition to a bus rapid transit system. Fairfax County's plan was chosen for its outstanding planning processes, vision, implementation strategies and innovative approaches.

**2018 Water Environment Federation (WEF), Gold and Silver Levels for MS4 Program.** Fairfax County's Municipal Separate Storm Sewer System (MS4) program was awarded both a Gold Level in Program Management and a Silver Level in Innovation by the not-for-profit Water Environment Federation in their National Municipal Stormwater and Green Infrastructure Awards Program.

### 2017 Awards

**2017 Governor's Environmental Excellence Awards, Gold Medal.** Fairfax County's Huntley Meadows Park Wetland Restoration project was awarded a Gold Medal in the Environment Category of the Governor's Environmental Excellence Awards, which are sponsored by the Virginia Department of Environmental Quality and Virginia Department of Conservation and Recreation. The restoration project included FCPA's use of innovative technology to aid in the rehabilitation of rare species and the development of stewardship education in the community.

**2017 National Association of County Park and Recreation Officials (NACPRO), Environmental/Conservation Award.** The association honored FCPA for its Invasive Management Area program, which trains volunteers to lead other volunteers in removing non-native, invasive plants from parkland and planting native plants.



## 2016 Awards

**2016 Public Technology Institute (PTI), Sustainability Solutions Winner Award.** FCPA received a PTI Sustainability Solutions award for its Smart Irrigation Systems project. This award-winning project replaced existing irrigation controllers with a web-based smart irrigation control system that uses local weather data to automatically adjust watering times. The web-based system allows FCPA to shut off the water from anywhere at any time.

**2016 Utility of the Future Today, Recognition.** The Utility of the Future Today recognition program honors water resource recovery facilities for community engagement, watershed stewardship, and recovery of resources such as water, energy, and nutrients. In 2016, Fairfax County's Wastewater Management Program was named a Utility of the Future Today along with 61 other utilities from the U.S., Canada, and Denmark. The recognition program is a partnership of water sector organizations including the National Association of Clean Water Agencies, the Water Environment Federation, the Water Research Foundation and the WaterReuse Association, with input from the U.S. Environmental Protection Agency (EPA).

## 2015 Awards

**2015 PTI, Sustainability Solutions Significant Achievement Award.** FCPA received a Sustainability Solutions award from the Public Technology Institute for its Athletic Courts Lighting Control project. In this project, FCPA installed push-button strobe-control units for all tennis, basketball and volleyball court lighting systems, reducing both electricity use and required maintenance. Astronomical time clocks ensure that the push-button controls are active only during the hours specified by FCPA.

**2015 NACo, Children and Youth Best in Category Achievement.** The National Association of Counties honored the Stream Crime Investigation laboratory that teaches high school students about stormwater, watersheds and water quality monitoring. The lab exercise replicates how stormwater professionals identify and track the sources of pollutants in a storm drainage network.

## 2014 Awards

**2014 CSN, BUBBA, Habitat Creation Category.** The county's Brookfield Park wet pond rehabilitation project won second place in the Best Habitat Creation category in this award contest sponsored by the Chesapeake Stormwater Network. Several divisions of DPWES and FCPA worked together to restore the dam in the Brookfield Park and plant native vegetation for habitat.





**2014 NACo, Best in Environmental Protection and Energy Achievement Award.** DPWES's Stormwater Planning Division received this 2014 award for developing "A Field Guide to Fairfax County's Plants and Wildlife." DPWES and Fairfax County Public Schools collaborated in developing this field guide as part of the fifth-grade science curriculum to highlight the links between ecology and our watersheds.

**2014 NACWA, Platinum Peak Performance Award.** The NACWA Platinum Awards recognize outstanding compliance with NPDES permit limits for five or more consecutive years. At the time of the 2014 award, Fairfax County's Noman M. Cole Jr. Pollution Control Plant had achieved 100 percent NPDES compliance for 16 consecutive years – one of only nine municipal water treatment plants across the nation to do so.

### 2013 Awards

**2013 NACo, Achievement Award in Environmental Protection and Energy.** This NACo award honored the county's Government Center stream restoration project, an innovative water quality project that included a stream restoration and pond retrofits on county property.

**2013 Coalition for Smarter Growth, The Sanders-Henn Community Hero Award.** The non-profit Coalition for Smarter Growth honored Fairfax county staff in the areas of planning, revitalization, transportation, housing, parks and public services for their on-going efforts to make Tysons a green, walkable urban center.

**2013 National Association of Government Communicators (NAGC), Best in Show Award.** The association's Board of Directors awarded FCPA Best in Show for its invasive plant management program, "Take Back the Forest." This program, which involves a partnership between county government and schools, brings more than 500 volunteers into parks over a 30-day period to remove non-native invasive plants and replace them with native plants.

### 2012 Awards

**2012 NACo, Achievement Award in Public Education.** Fairfax County was recognized for its "Stormy the Raindrop" public education campaign. The campaign, which was developed by the Stormwater Division of DPWES, centers on a child-friendly character named Stormy the Raindrop.

**2012 NACWA, Silver Excellence in Management Award.** The NACWA award recognized the Fairfax County Wastewater Management Program for its significant achievements in the utility management arena. The Excellence in Management Award honors agencies that have implemented and sustained, for a continuous three-year period, successful programs that address the range of management challenges faced by public clean water utilities in today's competitive environment.



## 2011 Awards

**2011 APA, Daniel Burnham Award.** This award, which recognizes advancement of the science and art of planning, is granted to only one urban plan in the nation each year. The American Planning Association honored the county's Comprehensive Plan for the Tysons Corner Urban Center. Award-winning plan elements include a tiered approach to density, incentives to reserve 20 percent of new housing units for moderate-income households, and innovative stormwater management facilities designed to retain at least the first inch of rainfall on site.

**2011 Governor's Environmental Excellence, Bronze Award.** The Governor's Environmental Excellence Awards recognize the significant contributions of environmental and conservation leaders in the areas of sustainability and land conservation. Fairfax County received a Bronze award for its stormwater outreach.

## 2010 Awards

**2010 NRPA, Gold Medal Award, Class 1 Category.** The National Recreation and Park Association awarded FCPA the association's Gold Medal for demonstrating excellence in long-range planning, resource management, and agency recognition.

**2010 Virginia Mosquito Control Association, Outstanding Service Award.** The Virginia Mosquito Control Association recognized the Health Department's Disease Carrying Insects Program for its consistent contributions to mosquito control awareness and education throughout Virginia; its on-going commitment to serving county residents; and its provision of educational opportunities to partner organizations.

**2010 Governor's Environmental Excellence, Bronze Award.** DPWES's Wastewater Management Program received a Bronze award for its Community Outreach Program.

## 2009 and Prior Awards

- 2009 NACo Achievement Award for the Herrity Building Garage Vegetative Roof.
- 2008 MarCom Platinum Winner and Communicator Award of Excellence, presented to FCPA for its Non-Native Invasive Plant Identification and Control Handbook.
- 2008 PTI Solutions Award in the Sustainability Category for the county's plug-in electric hybrid vehicle fleet trial program.
- 2007 U.S. EPA Green Power Partner.
- 2007 EPA EnergyStar Partner.



- 2007 Solid Waste Association of North America Bronze Excellence Award in the Integrated Solid Waste Management Program category.
- 2006 Businesses for the Bay Environmental Excellence Award for Outstanding Achievement for Nutrient Reduction by a Local Government.
- 2006 NACo Achievement Award for Environmental Excellence, recognizing the county's 2005-2006 Environmental Improvement Program.
- 2006 EPA Landfill Methane Outreach Program Community Partner of the Year.
- 2005 Businesses for the Bay Environmental Excellence Award for Local Government for Outstanding Nutrient Reduction.
- 2005 NACo Achievement Award in the Environmental Protection and Energy Category for Fairfax County's air quality protection strategy.
- 2004 Chesapeake Bay Program, Gold Chesapeake Bay Partner Community.
- 2004 NACo Achievement Award for Watershed Management Planning.
- 2004 NACWA Excellence in Management Award.
- 2003 EPA Clean Water Partner for the county's leadership role in the protection of the Chesapeake Bay.
- 2003 NACo Achievement Award for Keep It Green E-Waste Program.



# APPENDIX

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## APPENDIX

### Featured in this Section

Appendix I: How to Report Environmental Concerns . . . . .	127
Appendix II: Acronyms . . . . .	131
Appendix III: FY 2019 Operational Energy Strategy Projects . . . . .	135





TTY 711 for all phone numbers	
Type of Incident	Phone Number
<b>RELEASE OF HAZARDOUS MATERIALS INTO THE ENVIRONMENT</b> To report the dumping of any materials into a stream, manhole, storm sewer or onto the ground, call 9-1-1. When calling, be prepared to provide specific information about the location of the incident. County inspectors will investigate complaints within the county; Cities of Fairfax and Falls Church; and the Towns of Clifton, Herndon and Vienna.	911
<b>ILLEGAL DUMPING</b> While any of a number of county and/or state agencies may ultimately have authority over dump sites, depending on circumstances, the Department of Code Compliance is an intake center for complaints (call or visit <a href="http://www.fairfaxcounty.gov/code">www.fairfaxcounty.gov/code</a> ).	703-324-1300
<b>LAND CLEARING; TREE REMOVAL; DUMPING OF FILL</b> To report the suspected illegal removal of trees, clearing of land, digging or dumping of fill dirt, contact the Department of Code Compliance, or visit <a href="http://www.fairfaxcounty.gov/code">www.fairfaxcounty.gov/code</a> .	703-324-1300
<b>SOIL EROSION</b> To report soil erosion from private properties or construction sites, call the Hotline of the Site Development and Inspection Division of the Department of Public Works and Environmental Services or visit <a href="http://www.fairfaxcounty.gov/landdevelopment/site-development">www.fairfaxcounty.gov/landdevelopment/site-development</a> to submit a complaint online.	703-324-7470
<b>GENERATION OF DUST FROM CONSTRUCTION, GRADING OR LAND CLEARING</b> Contact the Virginia Department of Environmental Quality. This phone number is for the Northern Regional Office.	703-583-3800
<b>TRASH/DEBRIS ON CONSTRUCTION SITES</b> Call the Hotline of the Site Development and Inspection Division of Land Development Services or visit <a href="http://www.fairfaxcounty.gov/landdevelopment/site-development">www.fairfaxcounty.gov/landdevelopment/site-development</a> to submit a complaint online.	703-324-7470



Type of Incident	Phone Number
<b>CONSTRUCTION NOISE</b> To report construction noise outside between 9 p.m. and 7 a.m. on Sunday through Thursday, or between 9 p.m. and 9 a.m. on Fridays, Saturdays and the day before federal holidays, contact the following: <ul style="list-style-type: none"> <li>• If the construction activity is occurring at the time of the complaint, call the Fairfax County Police non-emergency number.</li> <li>• Otherwise, if the construction activity is ongoing or recurring, call the Department of Code Compliance, or visit <a href="http://www.fairfaxcounty.gov/code">www.fairfaxcounty.gov/code</a>.</li> </ul>	<b>703-691-2131</b>  <b>703-324-1300</b>
<b>NOISE IN A RESIDENTIAL AREA</b> To make a complaint about noise from animals, amplified sound, vehicles or people, contact the following: <ul style="list-style-type: none"> <li>• If the noise is currently occurring during non-business hours in a residential area, call the Fairfax County Police non-emergency number</li> <li>• Otherwise, if the noise is ongoing or recurring, call the Department of Code Compliance, or visit <a href="http://www.fairfaxcounty.gov/code">www.fairfaxcounty.gov/code</a>.</li> </ul>	<b>703-691-2131</b>  <b>703-324-1300</b>
<b>TRASH COLLECTION BETWEEN 9:00 P.M. AND 6:00 A.M.</b> Call the Department of Public Works and Environmental Services. If possible, provide descriptive information about the truck, such as name of company, color, truck number and license plate number.	<b>703-324-5230</b>
<b>OTHER SOLID WASTE COMPLAINTS ASSOCIATED WITH WASTE COLLECTORS/HAULERS</b> Call the Department of Public Works and Environmental Services. If possible, provide descriptive information about the truck, such as name of company, color, truck number and license plate number.	<b>703-324-5230</b>
<b>SIGNS ON ROADS AND MEDIANS</b> If a sign on a road or median poses a safety hazard, you may call the Virginia Department of Transportation. Fairfax County performs monthly collections of illegal roadway signs on certain designated roads. More information at <a href="http://www.fairfaxcounty.gov/code/signs-information-complaints">www.fairfaxcounty.gov/code/signs-information-complaints</a> .	<b>1-800-367-7623</b>
<b>SIGNS ON PRIVATE PROPERTY</b> There are restrictions for signs on private property. To report a complaint, contact the Department of Code Compliance, or visit <a href="http://www.fairfaxcounty.gov/code/signs-information-complaints">www.fairfaxcounty.gov/code/signs-information-complaints</a> .	<b>703-324-1300</b>



Type of Incident	Phone Number
<b>POORLY MAINTAINED HOMES OR OTHER BLIGHTED PROPERTIES</b> To report problems including broken windows and gutters, junk or debris in yards and tall, uncut grass, contact the Department of Code Compliance, or visit <a href="http://www.fairfaxcounty.gov/code/blight">www.fairfaxcounty.gov/code/blight</a> .	703-324-1300
<b>ABANDONED VEHICLES (FIVE OR FEWER)</b> Contact the Fairfax County Police Department's Traffic Division Impound Section; e-mail: <a href="mailto:FCPDJunkVehicle@fairfaxcounty.gov">FCPDJunkVehicle@fairfaxcounty.gov</a> .	703-280-0716
<b>ABANDONED VEHICLES (SIX OR MORE)</b> Contact the Department of Code Compliance, or visit: <a href="http://www.fairfaxcounty.gov/code">www.fairfaxcounty.gov/code</a> .	703-324-1300
<b>OUTDOOR LIGHTING CONCERNS</b> To report problems with glare, overlighting or other issues, contact the Department of Code Compliance, or visit <a href="http://www.fairfaxcounty.gov/code/glare">www.fairfaxcounty.gov/code/glare</a> .	703-324-1300
<b>AIR POLLUTANTS</b> Air pollutants are emitted by stationary sources, such as power plants, gasoline service stations and dry cleaners, as well as by mobile and area sources, such as from automobiles, trucks and other highway activities. This phone number is for the Virginia Department of Environmental Quality Northern Regional Office.	703-583-3800 After hours, call 1-800-468-8892
<b>NO RECYCLING IN SCHOOLS</b> Section IX of the Fairfax County School Board's Policy 8541 states that "Schools and centers will have mandatory recycling programs for paper products, cans, and bottles. Construction waste materials will be separated and recycled." To report schools that are not recycling in accordance with this policy, contact the Fairfax County Public Schools Office of Facilities Management, Plant Operations Section. An FCPS recycling site is available at: <a href="http://www.fcps.edu/facilitiesmanagement/recycling">www.fcps.edu/facilitiesmanagement/recycling</a> .	703-764-2459
<b>BUSINESS OR RESIDENTIAL RECYCLING</b> To report a suspected violation of recycling requirements (whether residential or business), contact the Department of Public Works and Environmental Services—Solid Waste at the phone number provided or through the Solid Waste Feedback Form at: <a href="http://www.fairfaxcounty.gov/publicworks/recycling-trash/solid-waste-feedback-form">www.fairfaxcounty.gov/publicworks/recycling-trash/solid-waste-feedback-form</a> .	703-324-5230



Type of Incident	Phone Number
<b>HEALTH HAZARDS</b> For information and guidance on a suspected environmental hazard that may pose a public health risk, call the Health Department's Division of Environmental Health. These hazards include unburied dead animals; rat infestations; and mosquito breeding sites.	<b>703-246-2201</b>
<b>MEDICAL WASTE</b> Improper storage or disposal of medical waste should be reported to the Virginia Department of Environmental Quality. This phone number is for the Northern Regional Office.	<b>703-583-3800</b> <b>After hours, call 1-800-468-8892</b>
<b>WILDLIFE/ANIMAL CONTROL ISSUES</b> Contact the Police Department's non-emergency dispatch number.	<b>703-691-2131</b>



## APPENDIX II

The following acronyms are used in this document:

ADC	Adult Detention Center
APA	American Planning Association
AQPAC	Air Quality Public Advisory Committee
BACs	Boards, Authorities and Commissions
BLM	Bureau of Land Management
BMP	Best Management Practice
Board	Fairfax County Board of Supervisors
BUBBA	Best Urban BMP in the Bay Award
BMS	Building Energy Management System
CAAA	Clean Air Act Amendments
CDA	Community Development Authority
CESQG	Conditionally Exempt Small Quantity Generator
CFL	Compact Fluorescent Light
CO	Carbon Monoxide
CO <sub>2</sub> e	Carbon Dioxide Equivalent
COG	Council of Governments (see also MWCOG)
CRA	Commercial Revitalization Area
CRD	Commercial Revitalization District
CWA	Clean Water Act
DCIP	Disease-Carrying Insects Program
DEF	Diesel Exhaust Fluid
DEH	Division of Environmental Health
DOT	Department of Transportation
DPD	Department of Planning and Development
DPMM	Department of Procurement and Material Management
DPWES	Department of Public Works and Environmental Services
DVS	Department of Vehicle Services
E2	Environmental Enterprise
E4	Extraordinary Environmental Enterprise
EAF	Energy Action Fairfax
ECC	Environmental Coordinating Committee
EECCC	Energy Efficiency and Conservation Coordinating Committee



EIP	Environmental Improvement Program
EPA	Environmental Protection Agency
EPEAT	Electronic Product Environmental Assessment Tool
EPP	Environmentally Preferable Purchasing
EQAC	Environmental Quality Advisory Council
EQC	Environmental Quality Corridor
ERRF	Energy Resource Recovery Facility
FCCS	Fairfax County Commuter Services
FCDOT	Fairfax County Department of Transportation
FCPA	Fairfax County Park Authority
FCSI	Fairfax County Sustainability Initiatives
FCWA	Fairfax County Water Authority
EEEE	Fairfax Employees for Environmental Excellence
FEMA	Federal Emergency Management Agency
FMD	Facilities Management Department
FOG	Fats, Oil and Grease
FY	Fiscal Year
GHG	Greenhouse Gas
GIS	Geographic Information System
HHW	Household Hazardous Waste
HIA	Health Impact Assessment
HiAP	Health in All Policies
HID	High Intensity Discharge
HIPP	Honeybee Initiative Pollinator Program
HOT	High Occupancy Toll Lane
HOV	High Occupancy Vehicle
HVAC	Heating, Ventilation and Air Conditioning
IAQC	Interstate Air Quality Council
IMA	Invasive Management Area
IPM	Integrated Pest Management
IT	Information Technology
kBtu	One Thousand British Thermal Units
kWh	Kilowatt Hour



LED	Light Emitting Diode
LEED	Leadership in Energy and Environmental Design
LFG	Landfill Gas
LFGTE	Landfill Gas-to-Energy
MS4	Municipal Separate Storm Sewer Systems
MSW	Municipal Solid Waste
MT CO <sub>2</sub> e	Metric Tons Carbon Dioxide Equivalent
MWAQC	Metropolitan Washington Air Quality Committee
MWCOG	Metropolitan Washington Council of Governments (see also COG)
NAAQS	National Ambient Air Quality Standards
NACo	National Association of Counties
NACPRO	National Association of County Parks and Recreation Officials
NACWA	National Association of Clean Water Agencies
NAGC	National Association of Government Communicators
NOVA Parks	Northern Virginia Regional Park Authority (see also NVRPA)
NO <sub>x</sub>	Nitrogen Oxide
NPDES	National Pollutant Discharge Elimination System
NRPA	National Recreation and Park Association
NVCT	Northern Virginia Conservation Trust
NVRC	Northern Virginia Regional Commission
NVRPA	Northern Virginia Regional Park Authority
NVSWCD	Northern Virginia Soil and Water Conservation District
OWMP	Occoquan Watershed Monitoring Program
PC	Personal Computer
PM	Particulate Matter
PM <sub>2.5</sub>	Fine Particulate Matter
Ppb	Parts per Billion
PSC	Project Selection Committee
PSHQ	Public Safety Headquarters
PTI	Public Technology Institute
PVT	Park Volunteer Team
RA	Reston Association



RMA	Resource Management Area
RPA	Resource Protection Area
SaMS	Salt Management Strategy
SCR	Selective Catalytic Reduction
SIP	State Implementation Plan
Smog	Ground-Level Ozone
SOV	Single-Occupant Vehicle
SO <sub>2</sub>	Sulfur Dioxide
SPP	Sustainable Procurement Policy
SWCB	State Water Control Board
SWMP	Solid Waste Management Program
TDM	Transportation Demand Management
TIF	Tax Increment Financing
TMDL	Total Maximum Daily Load
TOD	Transit-Oriented Mixed-Use Development
TSA	Transit Station Areas
TSM	Transportation System Management
Tysons	Tysons Urban Center
UFMD	Urban Forest Management Division
UOSA	Upper Occoquan Service Authority
VAC	Virginia Administrative Code
VA-CHPS	Virginia-Collaborative for High Performance Schools
VDEQ	Virginia Department of Environmental Quality
VDOT	Virginia Department of Transportation
VEEP	Virginia Environmental Excellence Program
VOC	Volatile Organic Compound
VRE	Virginia Railway Express
WEF	Water Environment Federation
WSP	Water Supply Plan
WTE	Waste-To-Energy
WWMP	Wastewater Management Program



# APPENDIX III

## KEY

BMS	Building Management System	OL	Outdoor Lighting
HVAC	Heating, Ventilation, and Air Conditioning	S	Streetlights
IL	Indoor Lighting		

FY 2019 Operational Energy Strategy Projects – Electric				
Location Name	Project Type	Completion Date	Annual Electric Savings (kWh)	Equivalent Carbon Emissions (MT CO <sub>2</sub> e)
Adult Detention Center	BMS	January-19	453,310	294
Animal Shelter	IL	May-19	67,041	43
Burke Centre Library	IL	April-19	75,583	49
Burke VRE Garage	OL	April-18	454,000	295
Courthouse	IL	August-18	99,600	65
Cub Run RECenter	HVAC	February-19	738,900	479
Dolly Madison Library	IL	May-19	34,752	23
Fred Crabtree Field	OL	January-19	17,940	12
Gartlan Health Center	IL	February-19	74,722	48
Government Center	IL	June-19	2,014,000	1,307
James Lee Community Center	IL	February-19	264,190	171
Judicial Center Visitors Garage	OL	February-19	785,000	509
Martha Washington Library	IL	May-19	23,616	15
Mason District Park	OL	October-18	13,500	9
Mason Government Center	IL	July-18	98,200	64
Mount Vernon Fire Station	IL	July-18	74,938	49
Mount Vernon Government Center	IL	July-18	139,061	90
Mount Vernon Ice Rink	IL	June-19	434,016	282
Nottoway Park	OL	March-19	24,000	16
Oak Marr Driving Range	OL	March-19	46,828	30
Oakton Library	IL	March-19	20,980	14
Poplar Tree Fields	OL	March-19	106,507	69
Poplar Tree Fields	HVAC	April-19	13,500	9
South Run Park Fields	OL	February-19	39,112	25
Southgate Community Center	IL	March-19	73,211	47
Spring Hill RECenter	BE	March-19	180,000	117
Springfield CRD Phase 1	S	September-18	18,284	12
Springfield CRD Phase 2	S	November-18	41,140	27
Sully Government Center	IL	April-19	97,880	64
Thomas Jefferson Library	IL	April-19	50,181	33
West Springfield Police & Fire Station	IL	March-19	257,968	167
Total			6,831,960	4,433



**KEY**

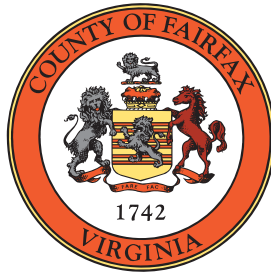
BE Building Envelope  
 BMS Building Management System  
 HVAC HVAC

FY 2019 Operational Energy Strategy Projects – Natural Gas				
Location Name	Project Type	Completion Date	Annual Gas Savings (Therms)	Equivalent Carbon Emissions (MT CO <sub>2</sub> e)
Adult Detention Center	BMS	January-19	49,716	264
Cub Run RECenter	HVAC	February-19	62,600	332
Jennings Building	HVAC	July-19	173,807	922
Juvenile Detention Center	HVAC	November-19	9,910	53
Spring Hill RECenter	BE	March-19	10,300	55
Total			306,333	1,626









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12000 Government Center Parkway  
Fairfax, VA 22035  
703-324-7329 TTY 711  
[www.fairfaxcounty.gov](http://www.fairfaxcounty.gov)

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