

T&E COMMITTEE #2  
May 4, 2018

Worksession

MEMORANDUM

May 2, 2018

TO: Transportation, Infrastructure, Energy, and Environment (T&E) Committee  
FROM: Linda Price, Legislative Analyst  
SUBJECT: FY19 Operating Budget: Department of General Services  
PURPOSE: Vote on recommendations for the Council's consideration

Those expected to attend this worksession include:

- David Dise, Director, DGS
- Isami Ayala-Collazo, Deputy Director, DGS
- Eric Coffman, Manager, Office of Energy and Sustainability, DGS
- Mary Beck, Capital Budget Manager, Office of Management and Budget (OMB)
- Bruce Meier, Fiscal and Policy Analyst, OMB

**Budget Summary:**

- The Executive's FY19 Operating Budget for the Department of General Services is \$38,109,958 a decrease of \$902,008 or 2.31 percent from the FY18 Approved Budget.

**Council Staff Recommendation:**

- Approve the Executive's FY19 Recommended Operating Budget with the following items added to the Reconciliation List:
  - Add \$35,820 to fully fund the AFI budget request.

Relevant pages from the FY19 Recommended Operating Budget are attached on © 1-8.

## OVERVIEW

The Department of General Services proactively serves the diverse business and service requirements of all County departments, providing a single point of government-to-government service, enabling departments to successfully complete their respective missions, and thereby, adding value to the services performed by Montgomery County to County residents. DGS programs include Administration, Facilities Management, Real Estate, Energy and Sustainability, Central Duplicating, Imaging, Archiving, and Mail Services. An updated organization chart for DGS is attached at © 9.

The FY19 Recommended Operating Budget for DGS is \$38,109,958, a decrease of \$902,008 or 2.31 percent from the FY18 Approved Budget of \$39,011,966. Expenditures in the DGS budget are funded by the General Fund and the Printing and Mail Internal Service Fund (ISF). Building Design and Construction expenditures are charged to the Capital Improvements Program (CIP). The following table shows the FY16 - FY19 funding levels for DGS.

|                                    | <i>FY16<br/>Actual</i> | <i>FY17<br/>Actual</i> | <i>FY18<br/>Approved</i> | <i>FY19<br/>Recommended</i> | <i># Change<br/>FY18 -<br/>FY19</i> | <i>% Change<br/>FY18-<br/>FY19</i> |
|------------------------------------|------------------------|------------------------|--------------------------|-----------------------------|-------------------------------------|------------------------------------|
| <b><i>Expenditures by fund</i></b> |                        |                        |                          |                             |                                     |                                    |
| General Fund                       | \$33,604,642           | \$32,491,254           | \$30,965,577             | \$29,963,204                | -\$1,002,373                        | -3.2%                              |
| Printing & Mail ISF                | \$7,500,738            | \$7,610,129            | \$8,046,389              | \$8,146,754                 | \$100,365                           | 1.2%                               |
| Grant Fund                         | \$419,125              | \$230,529              | \$0                      | \$0                         | \$0                                 | 0.0%                               |
| <b><i>Expenditures by type</i></b> |                        |                        |                          |                             |                                     |                                    |
| Personnel Cost                     | \$16,408,445           | \$16,684,794           | \$16,259,240             | \$16,501,804                | \$242,564                           | 1.5%                               |
| Operating Expenses                 | \$25,116,060           | \$23,610,934           | \$22,393,316             | \$21,248,744                | -\$1,144,572                        | -5.1%                              |
| Capital Outlay                     | \$0                    | \$36,184               | \$359,410                | \$359,410                   | \$0                                 | 0.0%                               |
| <b><i>Total Expenditures</i></b>   | <b>\$41,524,505</b>    | <b>\$40,331,912</b>    | <b>\$39,011,966</b>      | <b>\$38,109,958</b>         | <b>-\$902,008</b>                   | <b>-2.3%</b>                       |
| <b><i>Positions</i></b>            |                        |                        |                          |                             |                                     |                                    |
| Full-Time                          | 223.0                  | 224.0                  | 231.0                    | 231.0                       | 0.0                                 | 0.0%                               |
| Part-Time                          | 2.0                    | 2.0                    | 2.0                      | 2.0                         | 0.0                                 | 0.0%                               |
| <b><i>FTEs</i></b>                 | <b>161.7</b>           | <b>164.0</b>           | <b>171.0</b>             | <b>169.8</b>                | <b>-1.2</b>                         | <b>-0.7%</b>                       |

The following shows changes in the approved operating budgets within DGS programs from FY16-FY19.

|                                      | <b>FY16 Appr.</b> | <b>FY17 Appr.</b> | <b>FY18<br/>Appr.</b> | <b>FY19 Rec.</b> | <b>\$</b>   | <b>%</b> |
|--------------------------------------|-------------------|-------------------|-----------------------|------------------|-------------|----------|
| <b>Administration</b>                | \$2,080,965       | \$3,041,802       | \$3,224,513           | \$3,098,626      | (\$125,887) | -3.9%    |
| <b>Facilities<br/>Management</b>     | \$23,333,232      | \$24,660,112      | \$25,950,691          | \$25,084,036     | (\$866,655) | -3.3%    |
| <b>Energy and<br/>Sustainability</b> | 575,118           | \$675,396         | \$812,235             | \$794,079        | (\$18,156)  | -2.2%    |
| <b>Real Estate</b>                   | \$949,700         | \$947,561         | \$978,138             | \$986,463        | \$8,325     | 0.9%     |
| <b>Central Duplicating</b>           | \$7,909,603       | \$7,963,862       | \$8,046,389           | \$8,146,754      | \$100,365   | 1.2%     |

## FY18 EXPENDITURE ISSUES

The Executive is recommending a number of changes to the FY18 Recommended Operating Budget from the Approved FY17 Operating Budget. These include several multi-program adjustments with no service impacts. The various same service adjustments are displayed in the following chart. There are also specific changes within the various DGS programs.

### I. Multi-Program Adjustments

| Item  | Amount          | FTEs        |
|---|-----------------|-------------|
| <b>General Fund</b>                             |                 |             |
| FY19 Compensation Adjustment                    | 354,306         | 0.0         |
| Annualization of FY18 Personnel Costs           | 16,444          | 0.0         |
| Printing and Mail                               | 1,399           | 0.0         |
| Motor Pool Adjustment                           | -15,836         | 0.0         |
| Shift 0.35 FTE to CIP (Planning Specialist III) | -38,169         | -0.35       |
| Shift 0.65 FTE to CIP (Program Manager III)     | -65,122         | -0.65       |
| Retirement Adjustment                           | -93,359         | 0.0         |
| Elimination of One-Time Items Approved in FY18  | -780,000        | 0.0         |
| <b>Printing &amp; Mail ISF</b>                  |                 |             |
| FY19 Compensation Adjustment                    | 82,589          | 0.0         |
| Annualization of FY18 Personnel Costs           | 26,153          | 0.0         |
| Motor Pool Adjustment                           | 2,793           | 0.0         |
| OPEB Adjustment                                 | 570             | 0.0         |
| Printing and Mail                               | 233             | 0.0         |
| Retirement Adjustment                           | -11,973         | 0.0         |
| <b>Total</b>                                    | <b>-519,972</b> | <b>-1.0</b> |

### II. Administration

The Administration program includes the Director's Office, the Office of Planning and Development, and the Division of Central Services. Overall leadership for the Department, oversight of the Smart Growth Initiative and other planning and development activities, and oversight and direction for the preparation and monitoring of the Operating and Capital Improvements Program (CIP) budgets are functions of this program.

The Executive's FY19 Recommended Budget for Administration is \$3,098,626, a \$125,887 or 3.9 percent decrease from the approved FY18 budget. The Administration budget accounts for 8.1 percent of the total Department budget.

The Executive's recommendation includes a decrease of \$90,067 in multi-program adjustments. It also includes a reduction of \$35,820 for the AFI Silver Theatre and Cultural Center contract. This reduction reflects a 4 percent target reduction to AFI's budget request. AFI's total budget request was for \$895,491. In order to meet the reductions, AFI would reduce staffing levels for floor staff of the floor, such as box office and concessions staff. The Education Screenings program, which holds between 80-100 free sessions for middle and high school students each year, as well other community based programs

would need to be reduced. **Council staff does not concur with the Executive's recommendation, and recommends placing \$35,820 on the Reconciliation List to fully fund the AFI's budget request.**

### **III. Facilities Management**

The Division of Facilities Management is charged with providing comprehensive planning and delivery of maintenance services and oversight of building-related operations and County facilities used by County staff and residents. DFM is the largest program within the DGS budget, representing 65.8 percent of the total budget. The Executive's FY19 Recommended Operating Budget for Facilities Management is \$25,084,036, a decrease of \$866,655 or 3.3 percent over the FY18 approved budget. The Executive's recommendation includes a multi-program adjustments reduction of \$570,439 and seven additional changes, which include:

- Shift maintenance costs from Leases/ \$277,882;
- Increase Cost for Annualization of New Building Maintenance/ \$41,705;
- Increase Cost for Fire Alarms, Sprinkler Systems, & Fire Hydrants Inspection and Testing contract cost increases/ \$11,550;
- Increase Cost for Eastern Pool contract cost increase/ \$5,920;
- Shift Sr. Engineer - Facilities 0.20 FTE to CIP/ -\$28,305;
- Decrease Cost for Libraries special cleaning due to lower contract cost/ -\$300,000; and
- Decrease Cost for Recreation special cleaning due to lower contract cost/ -\$304,968.

#### **1. Personnel Cost Changes**

The Executive has shifted \$28,035 and 0.2 FTE's for a Senior Engineer to the CIP. This is to better reflect the allocation of work on a number of Level of Effort CIP projects. **Council Staff concurs with the Executive's recommendation.**

#### **2. New Buildings**

The Executive's recommendation includes an increase of \$41,705 in funding for the annualization of maintenance costs for buildings opening in FY18. The opening date for the Good Hope Recreation Center has slipped to Fall of 2018. The following table provides information on buildings openings in FY18 and FY19.

| <b>FY</b> | <b>Facility</b>                         | <b>Net Sq. Ft</b> | <b>Opening Date</b> | <b>Annual Maintenance Costs</b> |
|-----------|---|-------------------|---------------------|---------------------------------|
| FY18      | 2 <sup>nd</sup> District Police Station | 28,550            | January 22, 2018    | \$60,405                        |
| FY18      | Good Hope Rec Center                    | 14,000            | Fall 2018           | \$29,540                        |
| FY19      | Kensington Fire Station #25             | 25,850            | April 2019          | \$54,544                        |

**Council Staff concurs with the Executive's recommendation.**

#### **3. Contract Cost Changes**

The Executive has recommended four cost increases for contracts. The first increase would add \$11,550 for the preventative and corrective maintenance of fire alarms, sprinkler systems and fire

hydrants. A new contract was recently bridged for the services, which caused a cost increase. The contract for pool services expired, resulting in a new contract.

The contracts for special cleaning for Libraries and Recreation were recently rebid and savings were created due to switching to a performance based contract. The previous contracts were a time and material contract. Executive staff provided the following explanation for the decrease.

*Services that are not included at the base level under the current contract will be included under the new contracts (e.g. daily vacuuming). Once the new contracts are executed, custodial services will be provided in a consistent, performance-based approach reducing the need for deep cleaning services.*

The budgeted amount for Libraries special cleaning will be reduced by \$300,000, leaving \$90,000 for the new performance based contract. The budgeted amount for Recreation special cleaning will be reduced by \$304,968, leaving \$105,035. The new contracts are not expected to have any service impacts.

**Council Staff concurs with the Executive's recommendation. However, concern has been expressed each year regarding cleaning services at library and recreation centers. Council staff recommends a follow-up session in mid-FY19 to review implementation of the new performance contracts, which will be executed at the end of FY18.**

#### 4. Other Changes

The Executive has recommended shifting maintenance costs from the Leases NDA to cover the maintenance costs once the lease ends for the Emergency Communications Center. A total of \$780,000 for one-time items was eliminated from the Facilities program. This includes \$240,000 for the Public Safety Headquarters lab eyewash station as well as \$540,000 for the Public Safety Facilities comprehensive asset inventory system. Proposal are currently under review to implement the asset inventory system.

#### 5. Maintenance Funding

The Recommended FY19 Operating Budget for housekeeping and janitorial services is \$5,648,748. This funding provides for basic services, litter removal, emptying trash cans, bathroom cleaning, spot cleaning, periodic vacuuming as needed. Other services such as scheduled vacuuming, dusting, surface polishing, floor waxing, polishing/buffing, and carpet cleaning are not supported by current funding level. Executive staff provided the following information on changes to the housekeeping and janitorial services contract.

*During FY18 DGS, in coordination with the office of Procurement, issued a new solicitation for custodial services. To address many of the recurring issues regarding lack of cleaning and low-quality of services reported at county facilities, DGS implemented a performance-based solicitation. The prior contract used a time-and-material approach, where contractors are paid based on the number of hours allocated to clean a given building. Under the new contracts, which will be executed by the end of FY18, DGS established specific frequencies (e.g. daily, weekly, etc.) for all cleaning tasks and quality standards to be attained, and contractors will be paid a fix monthly cost to clean each building. This new approach will ensure that essential cleaning services*

*are provided for at the base-level funding. The increased provision of basic cleaning services will ultimately result in a reduction of the need for deep cleaning services, and attendant cost savings.*

#### **IV. Real Estate**

This program provides for leasing, site acquisition/disposition, space management and site evaluation. The Executive's FY19 Recommended Operating Budget for the Real Estate Program is \$986,463, a \$8,325 or 0.9 percent increase over the Approved FY18 Operating Budget. Real Estate Services represents 2.6 percent of the total DGS budget. The FY19 increase is entirely due to multi-program adjustments.

**Council Staff concurs with the Executive's recommendation.**

#### **V. Energy and Sustainability**

The Office of Energy and Sustainability (OES) is responsible for facilitating comprehensive energy and sustainability strategies across County facilities. Bill 6-14 requires the Office submit to the Council an annual report by February 1 of each year. In March, DGS issued the FY2017 Green Government Report (see © 10-53).

The Executive's FY19 Recommended Operating Budget for OES is \$794,079, a \$18,156 or 2.5 percent decrease from the FY18 approved budget. Energy and Sustainability represents 2.1 percent of the total DGS budget. The Executive's recommendation includes an increase of \$31,844 in multi-program adjustments. The Executive has recommended a reduction of \$50,000 to lapse a Sustainability Initiative intern. Executive staff provided the following explanation for the reduction.

*DGS has been able to leverage no-cost interns from major institutions to do much of the policy and outreach related work that was planned in FY18 and anticipates being able to do so in FY19. Utility related work that would have been part of the intern workplan has been absorbed by Project Search staff. The lapse is part of DGS's cost savings plan.*

**The intern position is an operating expense and these funds would become available again in FY20. Council Staff concurs with the Executive's recommendation.**

#### **VI. Central Duplicating, Imaging, and Archives**

The Central Duplicating, Imaging, Archiving, and Mail services program is supported by the Printing and Mail Internal Service Fund. The Executive's FY19 Recommended Operating Budget for the program is \$8,146,754, a \$100,365 or 1.2 percent increase over the Approved FY18 Operating Budget. Central Duplicating, Imaging and Archives represents 21.4 percent of the overall department budget. The FY19 increase is entirely due to multi-program adjustments.

**Council Staff concurs with the Executive's recommendation.**



# General Services

RECOMMENDED FY19 BUDGET  
**\$38,109,958**

FULL TIME EQUIVALENTS  
**169.80**

☼ **DAVID DISE, DIRECTOR**

## MISSION STATEMENT

The Department of General Services proactively serves the diverse business and service requirements of all County departments, providing a single point of government-to-government service, enabling departments to successfully complete their respective missions, and thereby, adding value to the services performed by Montgomery County to County residents.

## BUDGET OVERVIEW

The total recommended FY19 Operating Budget for the Department of General Services is \$38,109,958, a decrease of \$902,008 or 2.31 percent from the FY18 Approved Budget of \$39,011,966. Personnel Costs comprise 43.30 percent of the budget for 231 full-time position(s) and two part-time position(s), and a total of 169.80 FTEs. Total FTEs may include seasonal or temporary positions and may also reflect workforce charged to or from other departments or funds. Operating Expenses account for the remaining 56.70 percent of the FY19 budget.

In addition, this department's Capital Improvements Program (CIP) requires Current Revenue funding.

## LINKAGE TO COUNTY RESULT AREAS

While this program area supports all eight of the County Result Areas, the following are emphasized:

- ❖ **Healthy and Sustainable Neighborhoods**
- ❖ **A Responsive, Accountable County Government**
- ❖ **Strong and Vibrant Economy**

## DEPARTMENT PERFORMANCE MEASURES

Performance measures for this department are included below (where applicable), with multi-program measures displayed at the front of this section and program-specific measures shown with the relevant program. The FY18 estimates reflect funding based on the FY18 approved budget. The FY19 and FY20 figures are performance targets based on the FY19 recommended budget and funding for comparable service levels in FY20.

| Measure   | Actual<br>FY16 | Actual<br>FY17 | Estimated<br>FY18 | Target<br>FY19 | Target<br>FY20 |
|---|----------------|----------------|-------------------|----------------|----------------|
| <b>Multi-Program Measures</b>   |                |                |                   |                |                |
| Building Design and Construction: Percent of projects meeting initial design timeline       | 100            | 100            | 100               | 100            | 100            |
| Building Design and Construction: Percent of projects meeting initial construction timeline | 91             | 91             | 100               | 100            | 100            |
| Building Design and Construction: Percent of projects meeting initial design costs          | 100            | 100            | 100               | 100            | 100            |
| Building Design and Construction: Percent of projects meeting initial construction costs    | 91             | 100            | 100               | 100            | 100            |

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## ACCOMPLISHMENTS

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- ✓ Negotiated new performance-based contracts that provide improved service to DGS customers and the public at a lower cost.
- ✓ The County owns, operates, and/or maintains 428 facilities totalling 10,531,149 square feet.
- ✓ Constructed an accessible community garden at the Holiday Park Senior Center.
- ✓ Trained more than 7,800 employees and volunteers on responsibilities under Title II of the Americans with Disabilities Act, including specialized training for Public Safety employees and staff.
- ✓ Montgomery County facilities and fleets are now 100% carbon neutral.
- ✓ Supported the Minority, Female and Disabled (MFD) program with 518 or 29.2% of actions; and \$36 million, or 19.74 % of dollars, awarded to MFD firms.
- ✓ DGS participation in the MFD program has increased consistently since FY14.
- ✓ Implemented more productive and energy efficient Xerox iGen 5 digital press to replace the Xerox 1000 in the Print Shop, at no additional cost to the County.
- ✓ Installed solar photovoltaic systems on five county facilities total 3.3 megawatts in capacity, reducing energy costs by \$15 million over the next twenty years, and reducing greenhouse gas emissions as much as taking 1,630 cars off the road would.
- ✓ Provided 100% clean electricity to County facilities and electric vehicle charging stations.
- ✓ Coordinated \$41 million in direct financial benefits and other policy commitments as a result of the merger of Pepco and Exelon. Financial benefits include seed capital for the nation's first Green Bank, and funding for weatherization, workforce development, and other programs. Other commitments include improvements in the reliability of the utility grid, plans to improve the resiliency of utility services to disruption from storms, and the co-use of select utility corridors for recreational purposes.

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## INNOVATIONS AND PRODUCTIVITY IMPROVEMENTS

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- ✱ Expanded the use of the SharePoint Intranet as a tool for communication across DGS divisions.

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## COLLABORATION AND PARTNERSHIPS

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- ✱ **DGS Department-wide**

In collaboration with Office of Emergency Management and Homeland Security, DGS created the Critical Facilities Message Board on the Emergency Operations Center web portal to provide up-to-date facility status for Public Libraries, Recreation, Police, Fire and Rescue, Health and Human Services, Transportation, DGS, and multi-agency sites including the Executive Office Building.

- ✱ **Building Design & Construction**

Montgomery County Public Libraries Refresh Program won the 2016 Top Innovator Award from the Urban Libraries Council, an organization that represents the largest library systems in the USA and Canada.

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## PROGRAM CONTACTS

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Contact Angela Dizelos of the Department of General Services at 240.777.6028 or Bruce Meier of the Office of Management and Budget at 240.777.2785 for more information regarding this department's operating budget.

## PROGRAM DESCRIPTIONS

### ☀ Central Duplicating, Imaging, Archiving, & Mail Services

This program provides timely and efficient document management to County Government through: high-speed digital printing services; desktop and electronic publishing; high-speed color digital printing; full service bindery; large format and banner printing; digital imaging; and electronic and physical archiving of County records. The program administers and manages the countywide paper and copier contracts. A full service mail operation processes all classes of incoming, interoffice, and outgoing mail to the U.S. Postal Service and County departments and agencies.

| FY19 Recommended Changes  | Expenditures     | FTEs         |
|---|------------------|--------------|
| <b>FY18 Approved</b>  | <b>8,046,389</b> | <b>34.07</b> |
| Multi-program adjustments, including negotiated compensation changes, employee benefit changes, changes due to staff turnover, reorganizations, and other budget changes affecting multiple programs. | 100,365          | 0.00         |
| <b>FY19 Recommended</b>   | <b>8,146,754</b> | <b>34.07</b> |

### ☀ Real Estate Program

This program provides for leasing, site acquisition/disposition, space management, and site evaluation. The leasing function recommends, plans, coordinates, implements, and administers the leasing of real property for both revenue and expense leases, including closed school facilities, at the best economic and operational value to the County. Site acquisition is the purchase of property for County use and disposition is the sale or lease of surplus property. The space management function provides for the efficient and aesthetic utilization of space in County-owned and leased facilities. The site evaluation function provides technical support to site evaluation committees for Capital Improvements Program (CIP) projects.

| Program Performance Measures  | Actual<br>FY16 | Actual<br>FY17 | Estimated<br>FY18 | Target<br>FY19 | Target<br>FY20 |
|---|----------------|----------------|-------------------|----------------|----------------|
| Real Estate: Average amount Montgomery County pays in rent (in dollars per square foot) | 27.67          | 28.64          | 29.64             | 30.68          | 31.75          |

| FY19 Recommended Changes  | Expenditures   | FTEs        |
|---|----------------|-------------|
| <b>FY18 Approved</b>  | <b>978,138</b> | <b>7.00</b> |
| Multi-program adjustments, including negotiated compensation changes, employee benefit changes, changes due to staff turnover, reorganizations, and other budget changes affecting multiple programs. | 8,325          | 0.00        |
| <b>FY19 Recommended</b>   | <b>986,463</b> | <b>7.00</b> |

### ☀ Energy and Sustainability

The Energy and Sustainability (ES) program is responsible for facilitating comprehensive energy and sustainability strategies across County operations. It leads the County's green government programs which crosscuts County Departments and DGS Divisions. ES specifically implements or facilitates programs to improve energy efficiency; expand clean energy use; promote sustainable sites; enable clean transportation; encourage environmentally preferable purchasing; and foster resource saving behaviors by County employees. These initiatives foster collaboration, leadership, innovation, and performance measurement to ensure the County delivers the highest quality services at the lowest environmental impact.

| Program Performance Measures   | Actual<br>FY16 | Actual<br>FY17 | Estimated<br>FY18 | Target<br>FY19 | Target<br>FY20 |
|--|----------------|----------------|-------------------|----------------|----------------|
| Environmental Stewardship: Carbon footprint from facilities and fleet operations (in metric ton carbon dioxide equivalents) <sup>1</sup> | 37,755         | -31,177        | -31,177           | 0              | 0              |

<sup>1</sup> The County's renewable energy and carbon offset purchases are planned several years in advance based on estimated consumption. Growth in County consumption has been dramatically lower than forecast. DGS will begin reducing the purchase of offsets in 2020 to more closely match its actual emissions. Negative net carbon values indicate that the County's greenhouse gas emission reductions due to efficiency, renewable energy initiatives and greenhouse gas offsets exceed its annual emissions.

| FY19 Recommended Changes | Expenditures   | FTEs        |
|--------------------------|----------------|-------------|
| <b>FY18 Approved</b>     | <b>812,235</b> | <b>5.00</b> |

| <b>FY19 Recommended Changes</b>   | <b>Expenditures</b> | <b>FTEs</b> |
|---|---------------------|-------------|
| Reduce: Lapse Sustainability Initiative Intern  | (50,000)            | 0.00        |
| Multi-program adjustments, including negotiated compensation changes, employee benefit changes, changes due to staff turnover, reorganizations, and other budget changes affecting multiple programs. | 31,844              | 0.00        |
| <b>FY19 Recommended</b>   | <b>794,079</b>      | <b>5.00</b> |

## **Facilities Management**

The Division of Facilities Management's mission is to provide for the comprehensive planning and delivery of maintenance services and oversight of building-related operations at County facilities used by County staff and residents. Components of these programs are routine, preventive, and corrective maintenance; housekeeping; grounds maintenance; recycling; building structure and envelope maintenance; electrical/mechanical systems operations and maintenance; small to mid-sized remodeling projects; snow removal, and damage repair from snow, wind, rain, and storm events; and customer service. Through the Building Automation Systems, technicians implement an energy management program to monitor and maintain heating and cooling systems, ensuring the most efficient use of these services. In addition, Facilities Management oversees moving services and several comprehensive Capital Improvements Program (CIP) projects aimed at sustaining efficient and reliable facility operations to protect and extend the life of the County's investment in facilities and equipment.

| <b>Program Performance Measures</b>  | <b>Actual<br/>FY16</b> | <b>Actual<br/>FY17</b> | <b>Estimated<br/>FY18</b> | <b>Target<br/>FY19</b> | <b>Target<br/>FY20</b> |
|--|------------------------|------------------------|---------------------------|------------------------|------------------------|
| Facilities Maintenance: Number of hours offline for power systems  | 153.0                  | 206.1                  | 179.6                     | 179.6                  | 179.6                  |
| Facilities Maintenance: Number of hours offline for elevator systems   | 1443                   | 4768                   | 2460                      | 2460                   | 2460                   |
| Facilities Maintenance: Number of hours offline for heating / cooling systems  | 74                     | 25                     | 49                        | 49                     | 49                     |
| Facilities Maintenance: Number of hours offline for water sewage systems   | 81                     | 66                     | 73                        | 73                     | 73                     |
| Condition of non-critical building systems and aesthetics: Dollars of custodial and ground maintenance on all County properties (\$000) <sup>1</sup> | 7,889                  | 6,616                  | 6,150                     | 6,150                  | 6,150                  |
| Facilities: Customer rating of the aesthetics and comfort of County-maintained buildings (4 point scale)   | 3.68                   | 3.82                   | 3.82                      | 3.82                   | 3.82                   |

<sup>1</sup> Dollars reflect budget numbers.

| <b>FY19 Recommended Changes</b>   | <b>Expenditures</b> | <b>FTEs</b>   |
|---|---------------------|---------------|
| <b>FY18 Approved</b>  | <b>25,950,691</b>   | <b>108.90</b> |
| Shift: Maintenance costs from Leases  | 277,882             | 0.00          |
| Increase Cost: Annualization of New Building Maintenance  | 41,705              | 0.00          |
| Increase Cost: Contract cost increase: Fire Alarms, Sprinkler Systems, & Fire Hydrants Inspection and Testing   | 11,550              | 0.00          |
| Increase Cost: Contract cost increase: Eastern Pool   | 5,920               | 0.00          |
| Shift: 0.20 FTE to CIP (Sr. Engineer - Facilities)  | (28,305)            | (0.20)        |
| Decrease Cost: Libraries special cleaning due to lower contract cost  | (300,000)           | 0.00          |
| Decrease Cost: Recreation special cleaning due to lower contract cost   | (304,968)           | 0.00          |
| Multi-program adjustments, including negotiated compensation changes, employee benefit changes, changes due to staff turnover, reorganizations, and other budget changes affecting multiple programs: | (570,439)           | 0.00          |
| <b>FY19 Recommended</b>   | <b>25,084,036</b>   | <b>108.70</b> |

## **Administration**

The Administration program provides services in three key areas: 1) The Director's Office provides overall leadership for the Department including policy development, strategic planning, emergency preparedness and operations, accountability, service integration, performance measures, and customer service. 2) The Office of Planning and Development in the Director's Office oversees the County Executive's Smart Growth Initiative and other key strategic capital initiatives. 3) The Division of Central Services provides oversight and direction for the preparation and monitoring of the Operating and Capital Improvements Program (CIP) budgets for the Department; payment processing; management and administration of information technology; oversight of all personnel activities; and oversight and management for compliance with the Americans with Disabilities Act (ADA), increasing access to County facilities for residents and employees with disabilities. The Division of Central Services also handles administration of the day-to-day operations of the Department including direct service delivery, training, and oversight of procurements and contract management for the Department.

| <b>Program Performance Measures</b> | <b>Actual</b> | <b>Actual</b> | <b>Estimated</b> | <b>Target</b> | <b>Target</b> |
|-------------------------------------|---------------|---------------|------------------|---------------|---------------|
|-------------------------------------|---------------|---------------|------------------|---------------|---------------|



|   | FY16 | FY17 | FY18 | FY19 | FY20 |
|---|------|------|------|------|------|
| Internal customer satisfaction: Average score given to all DGS operations in a survey across Montgomery County Government (4 point scale) | 3.13 | 3.07 | 3.10 | 3.13 | 3.16 |

| FY19 Recommended Changes  | Expenditures | FTEs   |
|---|--------------|--------|
| FY18 Approved   | 3,224,513    | 16.03  |
| Decrease Cost: American Film Institute (AFI)  | (35,820)     | 0.00   |
| Multi-program adjustments, including negotiated compensation changes, employee benefit changes, changes due to staff turnover, reorganizations, and other budget changes affecting multiple programs. | (90,067)     | (1.00) |
| FY19 Recommended  | 3,098,626    | 15.03  |

## Building Design and Construction

This program provides for the overall management of the Department's Capital Improvements Program (CIP) for facilities. This program includes the comprehensive, timely, economic, and environmentally efficient planning, design, and construction of buildings for County use, as well as public venues owned by the County. This program also provides comprehensive architectural and engineering services from planning through design. Functional elements include programming, contract administration, planning management, design management, and project management. Each County project includes an array of sustainable features to reduce the impact of the facility on the environment and lifecycle costs. These features are derived from an integrated design process that evaluates each measure, such as energy efficiency, onsite renewables environmental site design, and enhanced monitoring, collectively reducing utility and other costs. The planning and design of facilities follows best practices in project design and construction estimating and the timely delivery of facilities based on project schedules in the County CIP. This program is fully charged to the CIP.

| FY19 Recommended Changes | Expenditures | FTEs |
|--------------------------|--------------|------|
| FY18 Approved            | 0            | 0.00 |
| FY19 Recommended         | 0            | 0.00 |

## BUDGET SUMMARY

|  | Actual<br>FY17    | Budget<br>FY18    | Estimate<br>FY18  | Recommended<br>FY19 | %Chg<br>Bud/Rec |
|--|-------------------|-------------------|-------------------|---------------------|-----------------|
| <b>COUNTY GENERAL FUND</b>                 |                   |                   |                   |                     |                 |
| <b>EXPENDITURES</b>                        |                   |                   |                   |                     |                 |
| Salaries and Wages                         | 10,578,018        | 9,842,468         | 10,591,252        | 10,000,231          | 1.6 %           |
| Employee Benefits                          | 3,806,806         | 3,685,712         | 3,884,679         | 3,673,744           | -0.3 %          |
| <b>County General Fund Personnel Costs</b> | <b>14,384,824</b> | <b>13,528,180</b> | <b>14,475,931</b> | <b>13,673,975</b>   | <b>1.1 %</b>    |
| Operating Expenses                         | 18,105,911        | 17,437,397        | 17,216,437        | 16,289,229          | -6.6 %          |
| Capital Outlay                             | 519               | 0                 | 0                 | 0                   | —               |
| <b>County General Fund Expenditures</b>    | <b>32,491,254</b> | <b>30,965,577</b> | <b>31,692,368</b> | <b>29,963,204</b>   | <b>-3.2 %</b>   |
| <b>PERSONNEL</b>                           |                   |                   |                   |                     |                 |
| Full-Time                                  | 196               | 198               | 198               | 198                 | —               |
| Part-Time                                  | 1                 | 1                 | 1                 | 1                   | —               |
| FTEs                                       | 135.25            | 136.93            | 136.93            | 135.73              | -0.9 %          |
| <b>REVENUES</b>                            |                   |                   |                   |                     |                 |
| Miscellaneous Revenues                     | 425,821           | 120,000           | 120,000           | 120,000             | —               |
| <b>County General Fund Revenues</b>        | <b>425,821</b>    | <b>120,000</b>    | <b>120,000</b>    | <b>120,000</b>      | <b>—</b>        |

## PRINTING & MAIL INTERNAL SERVICE FUND

|  |                  |                  |                  |                  |              |
|--|------------------|------------------|------------------|------------------|--------------|
| <b>EXPENDITURES</b>  |                  |                  |                  |                  |              |
| Salaries and Wages   | 1,637,109        | 1,971,933        | 1,912,529        | 2,027,443        | 2.8 %        |
| Employee Benefits  | 650,332          | 759,127          | 733,172          | 800,386          | 5.4 %        |
| <b>Printing &amp; Mail Internal Service Fund Personnel Costs</b> | <b>2,287,441</b> | <b>2,731,060</b> | <b>2,645,701</b> | <b>2,827,829</b> | <b>3.5 %</b> |
| Operating Expenses   | 5,287,023        | 4,955,919        | 4,955,919        | 4,959,515        | 0.1 %        |
| Capital Outlay   | 35,665           | 359,410          | 359,410          | 359,410          | —            |
| <b>Printing &amp; Mail Internal Service Fund Expenditures</b>    | <b>7,610,129</b> | <b>8,046,389</b> | <b>7,961,030</b> | <b>8,146,754</b> | <b>1.2 %</b> |

## BUDGET SUMMARY

|  | Actual<br>FY17 | Budget<br>FY18 | Estimate<br>FY18 | Recommended<br>FY19 | %Chg<br>Bud/Rec |
|--|----------------|----------------|------------------|---------------------|-----------------|
| <b>PERSONNEL</b>                               |                |                |                  |                     |                 |
| Full-Time                                      | 28             | 33             | 33               | 33                  | —               |
| Part-Time                                      | 1              | 1              | 1                | 1                   | —               |
| FTEs   | 28.75          | 34.07          | 34.07            | 34.07               | —               |
| <b>REVENUES</b>                                |                |                |                  |                     |                 |
| Imaging/Archiving Revenues                     | 0              | 1,314,059      | 1,314,059        | 1,508,760           | 14.8 %          |
| Investment Income                              | 10,004         | 13,110         | 13,110           | 7,804               | -40.5 %         |
| Mail Revenues                                  | 2,503,470      | 2,357,694      | 2,357,694        | 2,246,857           | -4.7 %          |
| Miscellaneous Revenues                         | 42,456         | 0              | 0                | 0                   | —               |
| Other Charges/Fees                             | 2,831,865      | 1,825,650      | 1,825,650        | 1,843,208           | 1.0 %           |
| Print Revenues                                 | 2,548,520      | 2,510,012      | 2,510,012        | 2,538,079           | 1.1 %           |
| Printing & Mail Internal Service Fund Revenues | 7,936,315      | 8,020,525      | 8,020,525        | 8,144,708           | 1.5 %           |

### GRANT FUND - MCG

#### EXPENDITURES

|   |                |          |          |          |          |
|---|----------------|----------|----------|----------|----------|
| Salaries and Wages                      | 9,630          | 0        | 0        | 0        | —        |
| Employee Benefits                       | 2,899          | 0        | 0        | 0        | —        |
| <b>Grant Fund - MCG Personnel Costs</b> | <b>12,529</b>  | <b>0</b> | <b>0</b> | <b>0</b> | <b>—</b> |
| Operating Expenses                      | 218,000        | 0        | 0        | 0        | —        |
| <b>Grant Fund - MCG Expenditures</b>    | <b>230,529</b> | <b>0</b> | <b>0</b> | <b>0</b> | <b>—</b> |

#### PERSONNEL

|           |      |      |      |      |   |
|-----------|------|------|------|------|---|
| Full-Time | 0    | 0    | 0    | 0    | — |
| Part-Time | 0    | 0    | 0    | 0    | — |
| FTEs      | 0.00 | 0.00 | 0.00 | 0.00 | — |

#### REVENUES

|                                  |                |          |          |          |          |
|----------------------------------|----------------|----------|----------|----------|----------|
| State Grants                     | 230,528        | 0        | 0        | 0        | —        |
| <b>Grant Fund - MCG Revenues</b> | <b>230,528</b> | <b>0</b> | <b>0</b> | <b>0</b> | <b>—</b> |

### DEPARTMENT TOTALS

|                           |            |            |            |            |        |
|---------------------------|------------|------------|------------|------------|--------|
| Total Expenditures        | 40,331,912 | 39,011,966 | 39,653,398 | 38,109,958 | -2.3 % |
| Total Full-Time Positions | 224        | 231        | 231        | 231        | —      |
| Total Part-Time Positions | 2          | 2          | 2          | 2          | —      |
| Total FTEs                | 164.00     | 171.00     | 171.00     | 169.80     | -0.7 % |
| Total Revenues            | 8,592,664  | 8,140,525  | 8,140,525  | 8,264,708  | 1.5 %  |

## FY19 RECOMMENDED CHANGES

|   | Expenditures      | FTEs          |
|---|-------------------|---------------|
| <b>COUNTY GENERAL FUND</b>  |                   |               |
| <b>FY18 ORIGINAL APPROPRIATION</b>  | <b>30,965,577</b> | <b>136.93</b> |
| <b>Changes (with service impacts)</b>   |                   |               |
| Reduce: Lapse Sustainability Initiative Intern [Energy and Sustainability]  | (50,000)          | 0.00          |
| <b>Other Adjustments (with no service impacts)</b>  |                   |               |
| Increase Cost: FY19 Compensation Adjustment   | 354,306           | 0.00          |
| Shift: Maintenance costs from Leases [Facilities Management]  | 277,882           | 0.00          |
| Increase Cost: Annualization of New Building Maintenance [Facilities Management]  | 41,705            | 0.00          |
| Increase Cost: Annualization of FY18 Personnel Costs  | 16,444            | 0.00          |
| Increase Cost: Contract cost increase: Fire Alarms, Sprinkler Systems, & Fire Hydrants Inspection and Testing [Facilities Management] | 11,550            | 0.00          |
| Increase Cost: Contract cost increase: Eastern Pool [Facilities Management]   | 5,920             | 0.00          |
| Increase Cost: Printing and Mail  | 1,399             | 0.00          |
| Decrease Cost: Motor Pool Adjustment  | (15,836)          | 0.00          |
| Shift: 0.20 FTE to CIP (Sr. Engineer - Facilities) [Facilities Management]  | (28,305)          | (0.20)        |
| Decrease Cost: American Film Institute (AFI) [Administration]   | (35,820)          | 0.00          |
| Shift: Shift 0.35 FTE to CIP (Planning Specialist III - OPD)  | (38,169)          | (0.35)        |
| Shift: Shift 0.65 FTE to CIP (Program Mgr III - OPD)  | (65,122)          | (0.65)        |

## FY19 RECOMMENDED CHANGES

|   | Expenditures      | FTEs          |
|---|-------------------|---------------|
| Decrease Cost: Retirement Adjustment  | (93,359)          | 0.00          |
| Decrease Cost: Libraries special cleaning due to lower contract cost [Facilities Management]  | (300,000)         | 0.00          |
| Decrease Cost: Recreation special cleaning due to lower contract cost [Facilities Management] | (304,968)         | 0.00          |
| Decrease Cost: Elimination of One-Time Items <del>Approved</del> in FY18                      | (780,000)         | 0.00          |
| <b>FY19 RECOMMENDED</b>   | <b>29,963,204</b> | <b>135.73</b> |

## PRINTING & MAIL INTERNAL SERVICE FUND

|  |                  |              |
|--|------------------|--------------|
| <b>FY18 ORIGINAL APPROPRIATION</b>                   | <b>8,046,389</b> | <b>34.07</b> |
| <b>Other Adjustments (with no service impacts)</b>   |                  |              |
| Increase Cost: FY19 Compensation Adjustment          | 82,589           | 0.00         |
| Increase Cost: Annualization of FY18 Personnel Costs | 26,153           | 0.00         |
| Increase Cost: Motor Pool Adjustment                 | 2,793            | 0.00         |
| Increase Cost: OPEB Adjustment                       | 570              | 0.00         |
| Increase Cost: Printing and Mail                     | 233              | 0.00         |
| Decrease Cost: Retirement Adjustment                 | (11,973)         | 0.00         |
| <b>FY19 RECOMMENDED</b>                              | <b>8,146,754</b> | <b>34.07</b> |

## PROGRAM SUMMARY

| Program Name   | FY18 APPR<br>Expenditures | FY18 APPR<br>FTEs | FY19 REC<br>Expenditures | FY19 REC<br>FTEs |
|--|---------------------------|-------------------|--------------------------|------------------|
| Central Duplicating, Imaging, Archiving, & Mail Services | 8,046,389                 | 34.07             | 8,146,754                | 34.07            |
| Real Estate Program                                      | 978,138                   | 7.00              | 986,463                  | 7.00             |
| Energy and Sustainability                                | 812,235                   | 5.00              | 794,079                  | 5.00             |
| Facilities Management                                    | 25,950,691                | 108.90            | 25,084,036               | 108.70           |
| Administration   | 3,224,513                 | 16.03             | 3,098,626                | 15.03            |
| Building Design and Construction                         | 0                         | 0.00              | 0                        | 0.00             |
| <b>Total</b>   | <b>39,011,966</b>         | <b>171.00</b>     | <b>38,109,958</b>        | <b>169.80</b>    |

## CHARGES TO OTHER DEPARTMENTS

| Charged Department         | Charged Fund                          | FY18<br>Total\$  | FY18<br>FTES | FY19<br>Total\$   | FY19<br>FTES |
|----------------------------|---------------------------------------|------------------|--------------|-------------------|--------------|
| <b>COUNTY GENERAL FUND</b> |                                       |                  |              |                   |              |
| General Services           | Central Duplicating (Printing & Mail) | 52,765           | 0.52         | 53,699            | 0.52         |
| Fleet Management Services  | Motor Pool                            | 567,439          | 2.80         | 620,472           | 2.80         |
| Solid Waste Services       | Solid Waste Disposal                  | 48,223           | 0.10         | 48,223            | 0.10         |
| Liquor Control             | Liquor                                | 359,565          | 1.20         | 568,265           | 1.20         |
| CIP                        | Capital Fund                          | 7,911,313        | 54.45        | 8,170,329         | 55.65        |
| Not Defined                | Not Defined                           | 749,029          | 3.50         | 749,029           | 3.50         |
| <b>Total</b>               |                                       | <b>9,688,334</b> | <b>62.57</b> | <b>10,210,017</b> | <b>63.77</b> |

## FUTURE FISCAL IMPACTS

### CE RECOMMENDED (\$000S)

| Title   | FY19          | FY20          | FY21          | FY22          | FY23          | FY24          |
|---|---------------|---------------|---------------|---------------|---------------|---------------|
| <b>COUNTY GENERAL FUND</b>  |               |               |               |               |               |               |
| <b>EXPENDITURES</b>   |               |               |               |               |               |               |
| <b>FY19 Recommended</b>   | <b>29,963</b> | <b>29,963</b> | <b>29,963</b> | <b>29,963</b> | <b>29,963</b> | <b>29,963</b> |
| No inflation or compensation change is included in outyear projections. |               |               |               |               |               |               |
| <b>Labor Contracts</b>  | <b>0</b>      | <b>156</b>    | <b>156</b>    | <b>156</b>    | <b>156</b>    | <b>156</b>    |

These figures represent the estimated annualized cost of general wage adjustments, service increments, and other negotiated items.

## FUTURE FISCAL IMPACTS

### CE RECOMMENDED (\$000S)

| Title                 | FY19   | FY20   | FY21   | FY22   | FY23   | FY24   |
|-----------------------|--------|--------|--------|--------|--------|--------|
| Subtotal Expenditures | 29,963 | 30,119 | 30,119 | 30,119 | 30,119 | 30,119 |

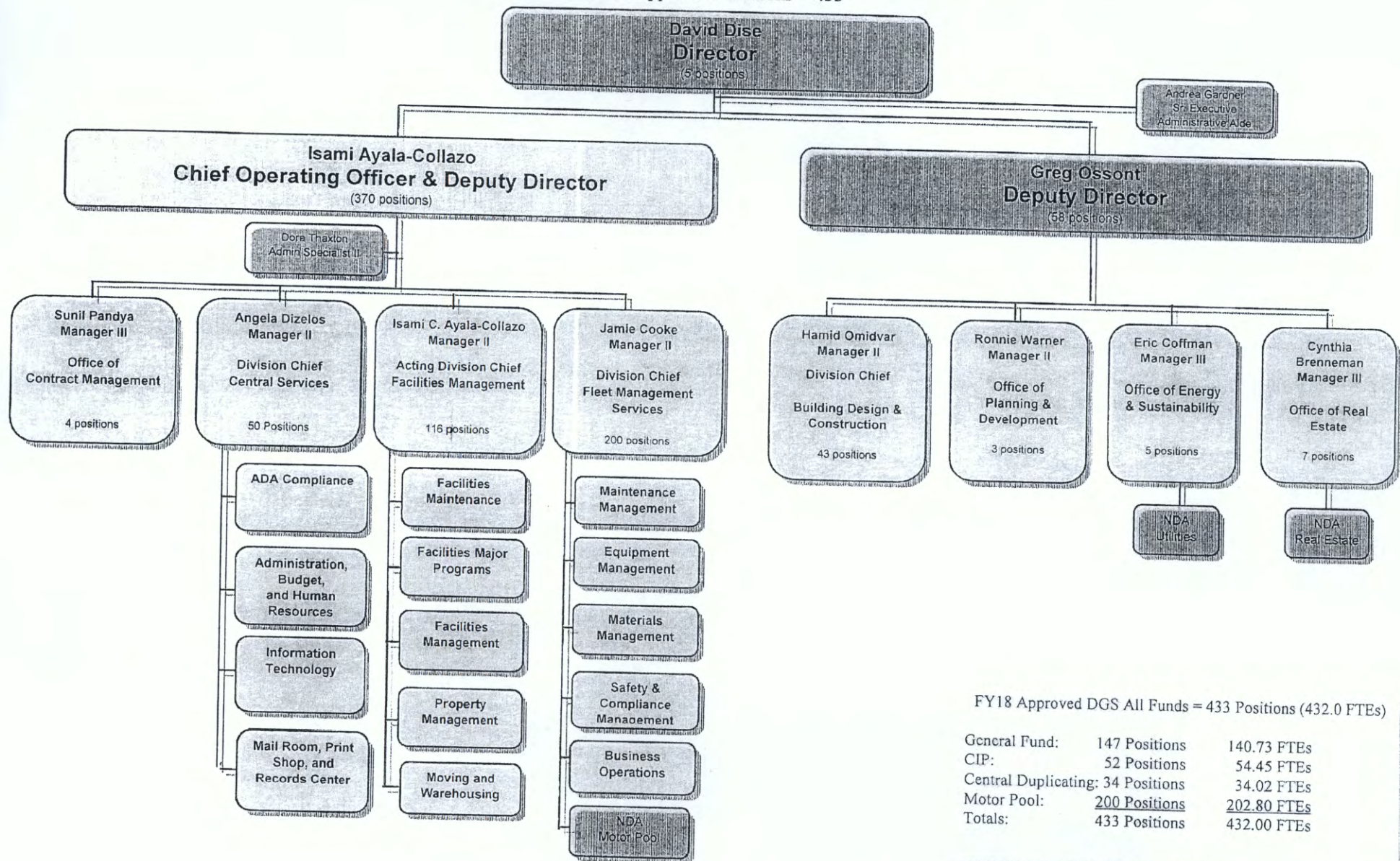
### PRINTING & MAIL INTERNAL SERVICE FUND

#### EXPENDITURES

|  |       |       |       |       |       |       |
|--|-------|-------|-------|-------|-------|-------|
| FY19 Recommended   | 8,147 | 8,147 | 8,147 | 8,147 | 8,147 | 8,147 |
| No inflation or compensation change is included in outyear projections.  |       |       |       |       |       |       |
| Retiree Health Insurance Pre-funding   | 0     | 2     | 2     | 3     | 3     | 3     |
| Labor Contracts  | 0     | 42    | 42    | 42    | 42    | 42    |
| These figures represent the estimated annualized cost of general wage adjustments, service increments, and other negotiated items. |       |       |       |       |       |       |
| Subtotal Expenditures  | 8,147 | 8,191 | 8,191 | 8,192 | 8,192 | 8,192 |

# FY18 DEPARTMENT OF GENERAL SERVICES

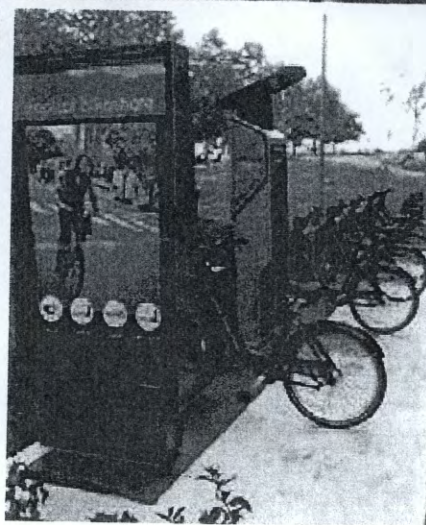
FY18 Approved Positions = 433



FY18 Approved DGS All Funds = 433 Positions (432.0 FTEs)

|                      |                      |                    |
|----------------------|----------------------|--------------------|
| General Fund:        | 147 Positions        | 140.73 FTEs        |
| CIP:                 | 52 Positions         | 54.45 FTEs         |
| Central Duplicating: | 34 Positions         | 34.02 FTEs         |
| Motor Pool:          | <u>200 Positions</u> | <u>202.80 FTEs</u> |
| Totals:              | 433 Positions        | 432.00 FTEs        |

SUPERIOR GOVERNMENT SERVICE WITH THE SMALLEST POSSIBLE ENVIRONMENTAL FOOTPRINT



# FY2017

Montgomery County  
Green Government Report



March 2018

10

## TABLE OF CONTENTS

|  |    |
|--|----|
| Message from Montgomery County Executive Isiah Leggett .....             | 3  |
| Message from Department of General Services Director David E. Dise ..... | 4  |
| The Year in Review.....  | 5  |
| Financial Stewardship .....  | 6  |
| Energy and Climate .....   | 7  |
| Green Buildings .....  | 13 |
| Resiliency and Energy Policy .....                                       | 16 |
| Transportation.....  | 18 |
| Community Engagement and Partnerships.....                               | 22 |
| Water.....   | 24 |
| Waste Reduction .....  | 26 |
| Biodiversity and Green Purchasing.....                                   | 29 |
| Data Tables.....   | 32 |
| Planning Ahead .....   | 43 |

All references throughout this document to the number of cars off the road, trees planted, and homes powered are according to the U.S. Environmental Protection Agency Greenhouse Gas Equivalencies Calculator. <https://www.epa.gov/energy-greenhouse-gas-equivalencies-calculator>.

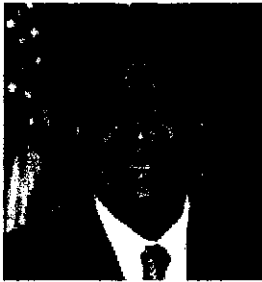
## ACKNOWLEDGEMENTS

*The County's environmental success is due to the ongoing engagement of staff across the County. Many thanks to the Departments who execute innovative efforts to help the County reduce the environmental impacts of its operations and assisted the Department of General Services, Office of Energy and Sustainability in compiling this report.*

- Department of Correction and Rehabilitation
- Department of Environmental Protection
- Department of Finance
- Department of General Services
- Department of Health and Human Services
- Department of Liquor Control
- Department of Permitting Services
- Department of Police
- Department of Public Libraries
- Department of Recreation
- Department of Technology Services
- Department of Transportation
- Office of the County Attorney
- Office of Human Resources
- Office of Public Information
- Office of Procurement

The data and information in this report replaces information found in the FY2016 Sustainable Government Operations Report published on March 1, 2017. The information in this FY2017 Green Government Operations Report includes new information about FY2016 green government operations that became available after the publication of the previous report.

## MESSAGE FROM MONTGOMERY COUNTY EXECUTIVE ISIAH LEGGETT



Isiah Leggett, County Executive

achieving and maintaining healthy and sustainable communities for all County residents, businesses, and visitors is one of my highest priorities. During my 12 years as County Executive, Montgomery County has advanced approaches to “greening” government operations because it is the right thing to do for our residents and future generations.

I am especially proud to announce that through energy efficiency, renewable energy investment and energy purchases, we now have a carbon-neutral government. We are on track to save \$70 million over the next 20 years through energy efficiency improvements, negotiations with energy suppliers, and solar energy generation on County facilities.

Clean, local energy generation through solar power is reducing greenhouse gas emissions while relieving utility grid stress. In addition, we have received national attention for two microgrid projects currently underway that use solar and high-efficiency generators to allow critical public-safety services to operate without interruption even during major storms or disasters. This is part of an overall effort to improve the resiliency of public facilities, approaches we look forward to replicating in future facilities.

Montgomery County has a strong team of professionals dedicated to meeting our community’s greenhouse gas emissions reduction targets and other goals. The Office of Energy and Sustainability, within the Department of General Services, is responsible for coordinating and assisting all County Departments in “greening” their operations. “Greening” Montgomery County’s government operations allows us to provide superior service while minimizing resource consumption, protecting clean air and water, saving costs, and improving the health, vitality, and resiliency of communities.

We know that protecting our environment begins at the local level, which is why I called on County Departments to take a leadership role in special policy initiatives to benefit our community. Recent examples include our advocacy before the Maryland Public Service Commission that has resulted in millions of dollars in direct benefits to residents and businesses, increased reliability of the region’s power supply, and investments in energy-efficiency, renewable energy, and job creation.

Montgomery County will not waiver on its responsibility to its residents, the local economy, and future generations. Together, we will continue to build on the policies and programs that will enable Montgomery County to maintain its leadership position while making our County an even more eco-friendly community.

## MESSAGE FROM DEPARTMENT OF GENERAL SERVICES DIRECTOR DAVID E. DISE



David E. Dise, Director

The Department of General Services (DGS) minimizes the environmental impact of government operations while delivering superior service to all County departments and the public. DGS sets the highest standards for sustainability, launches innovative initiatives to reduce costs, uses renewable energy, conserves energy in our buildings and fleet, and plans sustainable strategies for our future. Sustainability is core to our fleet management, facilities maintenance, print management, and building construction. We apply stringent standards to ensure we meet sustainability goals across DGS's operations and support our partners in improving the sustainability of their work.

While all of DGS is engaged in greening County government, its Office of Energy and Sustainability (OES) is the hub of these efforts. OES provides support and expertise to enable DGS divisions and our partners across County government to adopt sustainable practices, prioritize energy and cost-saving projects, obtain funding, and communicate successes. OES is tasked with implementing large-scale solar projects, identifying other solutions to ensure clean and resilient energy supply to government facilities, managing the County's energy use, and developing action plans to reduce energy consumption and costs. OES has also taken a leadership role in supporting a number of high profile energy policy initiatives that benefit the community. OES is instrumental in the County's approach to critical matters before the Maryland Public Service Commission including utility rate cases, the proposed merger of AltaGas Ltd. and WGL Holdings, Inc., and more.

DGS multiplies the environmental and financial benefits of the County's sustainability efforts by investing a portion of the cost savings into new sustainability initiatives. This investment in people and projects such as the County's growing solar energy initiative and implementation of low and no cost energy saving opportunities in County facilities has provided incredible results in a short amount of time. We look forward to continuing to help our partners across County government expand upon these achievements throughout 2018 and beyond.


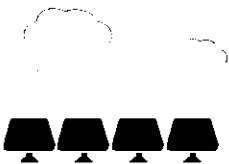


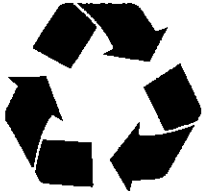
I am pleased that we can continue to partner with other Departments and support key initiatives that ensure Montgomery County continues to deliver nation leading government services while greening our community.



The Office of Energy and Sustainability Team. From left to right: Eric Coffman (Chief), Leah Miller, Valerie Myers, Odohi Ettah, Chris Weatherly, Michael Yambrach, Ryan Sheppard, Cindy Myers, and Sharon Ossi.

## EXECUTIVE SUMMARY/ THE YEAR IN REVIEW

This report highlights the progress and accomplishments of Montgomery County's green government initiatives through Fiscal Year (FY) 2017. For more details, as well as our latest green government news, please visit [www.montgomerycountymd.gov/dgs-oes](http://www.montgomerycountymd.gov/dgs-oes).



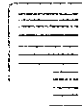




|   | The Challenge  | Our Targets   | Our Accomplishments   |
|---|--|---|---|
|    | Greenhouse gas levels are currently 400 parts per million (ppm). Climate scientists say the levels need to be reduced to 350 ppm to avoid the negative impacts of climate change.<br><small>(Source: United Nations Intergovernmental Panel on Climate Change)</small> | Reduce greenhouse gas emissions 80% below FY2005 levels. <sup>1</sup>                                   | <b>Achieved Carbon Neutrality</b><br>As of FY16, Montgomery County has achieved carbon neutrality for County government buildings and fleet operations.     |
|   | Electricity generation is the largest source of greenhouse gas emissions in the U.S.<br><small>(Source: <a href="https://www.epa.gov/ghgemissions/sources-greenhouse-gas-emissions">https://www.epa.gov/ghgemissions/sources-greenhouse-gas-emissions</a>)</small>     | Generate emissions-free electricity by installing six megawatts of solar projects on County facilities. | <b>Installed 5.3 megawatts</b><br>of solar projects on County facilities. Installation of an additional 5.7 megawatts of solar is underway.                 |
|  | Buildings account for 40% of U.S. energy consumption and 39% of CO <sub>2</sub> emissions.<br><small>(Source: U.S. Green Building Council)</small>   | Improve energy efficiency of buildings to maximize savings and greenhouse gas emissions reductions.     | <b>Saved \$1.5M</b><br>on utilities and reduced greenhouse gas emissions by 9,375 metric tons through energy efficiency upgrades to buildings since FY2013. |
|  | In 2015, the U.S. used 385 million gallons of petroleum a day for vehicles.<br><small>(Source: <a href="https://www.eia.gov/tools/faqs/faq.cfm?id=307&amp;t=11">https://www.eia.gov/tools/faqs/faq.cfm?id=307&amp;t=11</a>)</small>                                    | Reduce petroleum consumption of vehicles in the County's fleet 20% over FY2014 levels by 2020.          | <b>Saved 395,150 gallons</b><br>of fuel representing a 7.4% reduction in petroleum use compared to FY2014 levels.   |
|  | Marylanders sent 6.11 lbs of waste to landfills each day – 2.8 lbs more than the average person in the U.S.<br><small>(Source: Maryland Dept. of the Environment Zero Waste Plan)</small>  | Divert 70% of waste from landfills.   | <b>~61% waste diverted</b><br>through recycling. <sup>2</sup>   |

<sup>1</sup> This goal for reducing greenhouse gas emissions is based on the County's 2009 Climate Protection Plan. On 12/5/17, Montgomery County Council passed the Emergency Climate Mobilization resolution, which accelerates the greenhouse gas reduction goals. The new goal will be addressed in the FY18 Sustainable Government Operations Report. As of FY2016, Montgomery County's combined energy efficiency, renewable energy investment and energy purchases have resulted in a carbon neutral government.

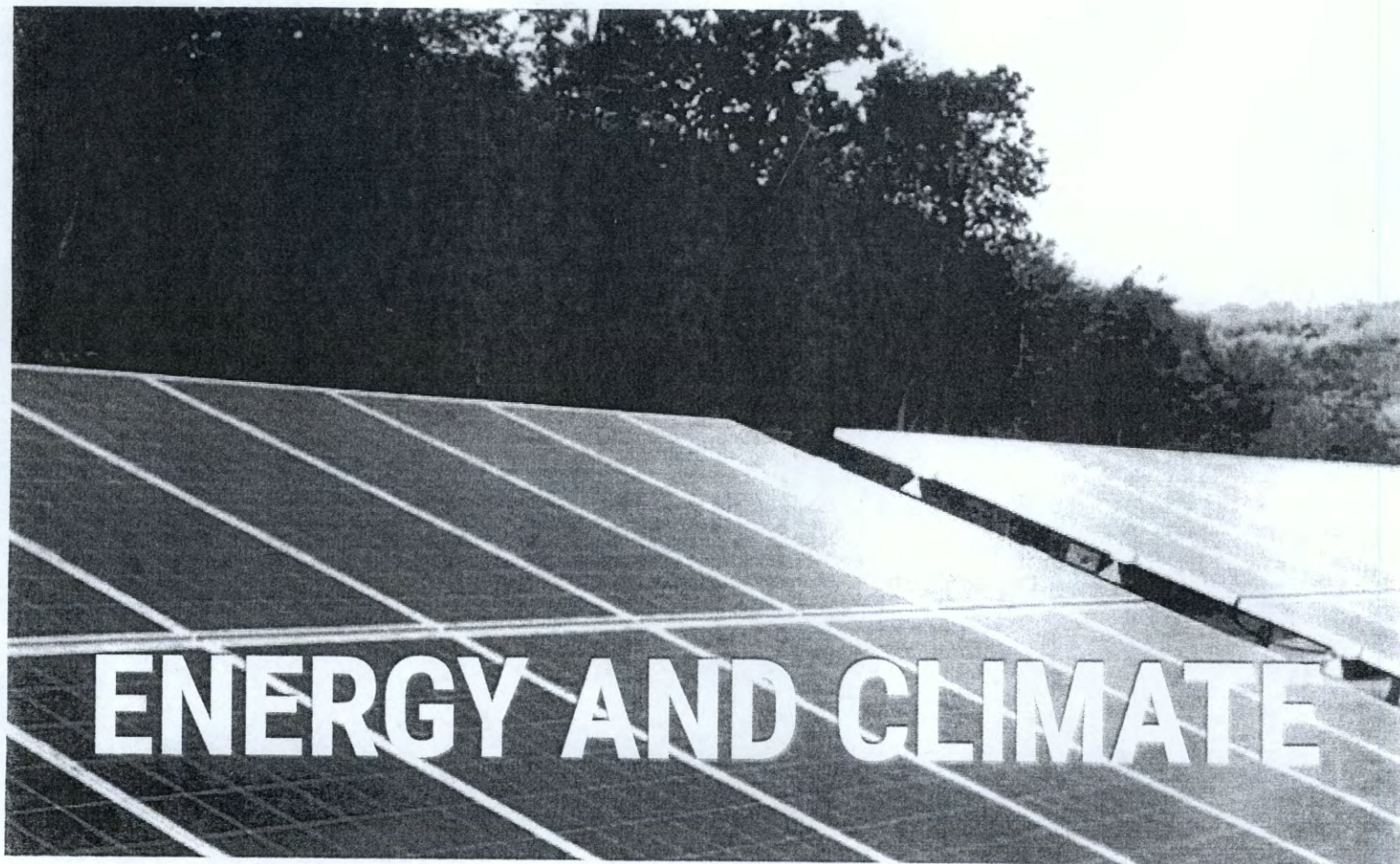
<sup>2</sup> Includes all Montgomery County businesses, residences, and government facilities.

## FINANCIAL STEWARDSHIP

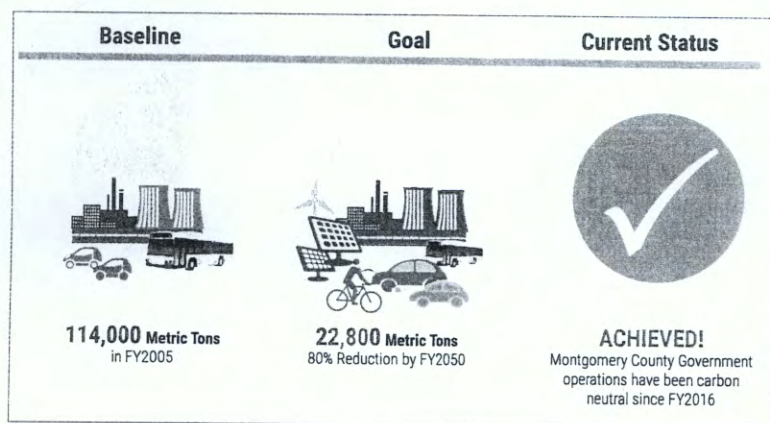
Not only has Montgomery County shown leadership in environmental sustainability, we also strive for excellence in stewardship of financial resources. The Department of General Services, including staff from the Office of Energy and Sustainability, the Division of Building Design and Construction, and the Division of Facilities Management, have cumulatively saved more than \$7 million from FY2013 through FY2017. With the addition of solar energy systems, energy efficiency projects, and water saving projects planned through FY2019, we expect to save more than \$70 million over the next 20 years.

|   |   |  |  |
|---|---|--|--|
| <b>Billing Recovery</b><br>          | <b>FY2017 Savings \$117,289</b><br><b>Cumulative Savings \$664,511</b><br><small>Analyzed utility bill information and recovered funds from billing mistakes and contractor use during building construction. Billing error recovery from electric, gas, and water/sewer utilities.</small> | <b>Sub-Meter Installation</b><br> | <b>FY2017 Savings \$189,977</b><br><b>Cumulative Savings \$387,493</b><br><small>Installed water sub-meters on the cooling towers of several facilities. Sub-meters show the amount of water lost to evaporation and result in reduced sewer charges.</small>                |
| <b>Grants &amp; Incentives</b><br> | <b>FY2017 Grants \$264,024</b><br><b>Cumulative Grants \$3,235,446</b><br><small>Secured grants and incentives for energy saving projects in County facilities.</small>   | <b>Solar</b><br>                | <b>FY2017 Savings \$191,886</b><br><b>Cumulative Savings \$445,015</b><br><small>Secured solar power purchase agreements from solar panels installed on County facilities in 2016-2017.</small>  |
| <b>Energy Efficiency</b><br>       | <b>FY2017 Savings \$402,432</b><br><b>Cumulative Savings \$1,446,898</b><br><small>Saved on utility costs from energy savings projects in County facilities.</small>  | <b>Demand Response</b><br>      | <b>FY2017 Savings \$17,448</b><br><b>Cumulative Savings \$216,072</b><br><small>Participated in demand response, where the County takes action to reduce energy demand in select buildings during periods of peak energy demand, usually on the hottest summer days.</small> |
| <b>Energy Purchasing</b><br>       | <b>FY2017 Savings &gt;\$550,000</b><br><b>Cumulative Savings &gt;\$775,000</b><br><small>Negotiated electricity supply contract to save costs on electricity in County facilities from mid-FY2016 through FY2018. An additional \$550,000 in savings is expected in FY2018.</small>         |  |  |

\* Cumulative savings includes FY2013 through FY2017



In the 2009 Climate Protection Plan, Montgomery County set a goal to reduce greenhouse gas emissions to 80% below the baseline FY2005 levels across the community. As of FY16, Montgomery County government achieved carbon neutrality for County government facilities and fleet vehicle operations.<sup>3</sup>



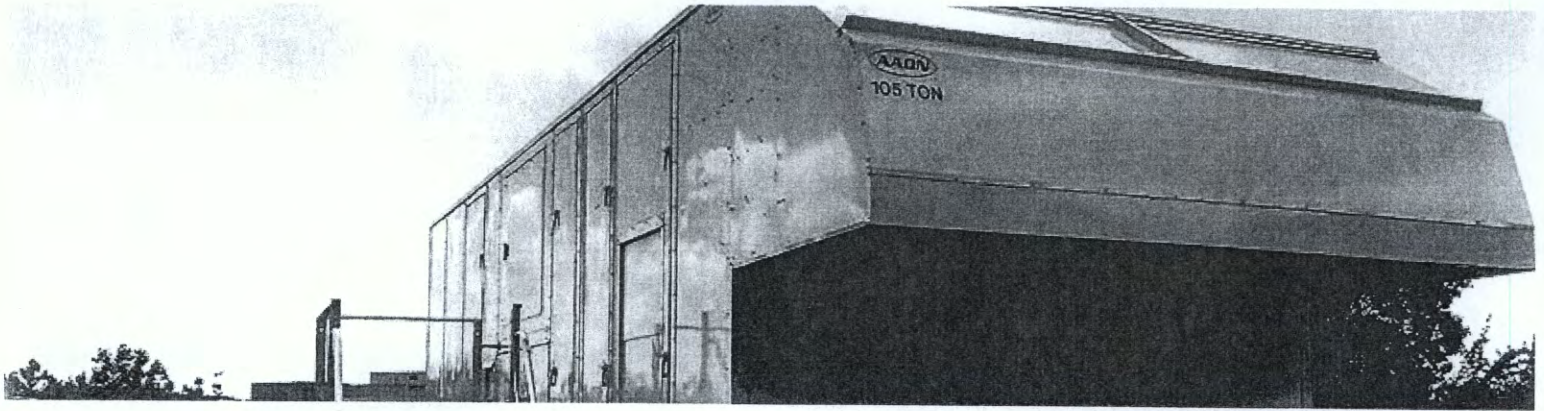
## SOCIAL COST OF CARBON

The social cost of carbon is a measurement, in dollars, of the global environmental, health and economic impact of emitting a ton of carbon dioxide into the atmosphere. Montgomery County is one of the first communities to incorporate the social cost of carbon into government decision-making and accountability. When evaluating a building to determine whether to improve the building's energy

efficiency, the Department of General Services includes the social cost of carbon as a factor in determining the return on investment of the proposed energy efficiency improvements. More details about the County's energy efficiency projects, including the project cost, grants and incentives, utility savings, and social cost of carbon avoided annually are available in Tables 5–7. In addition, the County tracks the social cost of carbon emitted through government operations. Between FY2011 and FY2017, the social cost of carbon emitted each year from Montgomery County government operations has decreased from \$2,940,000 to \$0.<sup>4</sup> This is due to a combination of energy efficiency, local clean energy generation initiatives, and renewable energy credits. The County's long term goal is to reduce the use of renewable energy credits and to rely more heavily on reducing energy use and generating clean energy locally to achieve greenhouse gas emission reductions, minimize the social cost of carbon, and expand local jobs.

<sup>3</sup> On 12/5/17, Montgomery County Council passed the Emergency Climate Mobilization resolution, which accelerates the greenhouse gas reduction goals. The new goal will be addressed in the FY18 Green Government Report.

<sup>4</sup> Social cost of carbon assessment is required by Bill 5-14



## ENERGY EFFICIENCY

**M**ontgomery County uses the latest technology, innovative financing, and data analysis to maximize the energy efficiency of its buildings. County staff closely monitor utility bill data of more than 425 buildings to identify opportunities to improve energy efficiency through cost efficient upgrades of lighting fixtures, heating and cooling systems, and plumbing fixtures. In addition, Department of General Services (DGS) staff use building controls to make rapid adjustments in response to changing weather conditions and customer needs, saving energy without compromising comfort.



**\$1.5 million**

**amount Montgomery County has saved on utilities from FY2013–FY2017 by improving the energy and water efficiency of its existing facilities.**

**>\$54 million**

**amount the County expects to save over the next two decades as a result of energy and water efficiency projects.**

## ENERGY PERFORMANCE ANALYSIS AND MONITORING

The County continually monitors and analyzes the energy and water use of its operations to identify and support green government projects. Using EnergyCAP software, staff pulls data directly from utilities, eliminating paper waste, increasing data accuracy, and providing stakeholders with timely and accurate energy data. Staff then investigates and resolves specific issues discovered through utility bill analysis.

## ENERGY PERFORMANCE BENCHMARKING

For the past three years, DGS benchmarked and disclosed data for the 14 applicable Montgomery County Government buildings 50,000 square feet or greater. At least two facilities met the requirements for

an ENERGY STAR label. OES has applied for and received an ENERGY STAR 2017 label on Health and Human Services (HHS) Administrative Offices at 401 Hungerford Road and plans to submit an application for the HHS Piccard Drive Office Building in 2018. The data on all benchmarked facilities is available to the public through the Department of Environmental Protection's [MyGreenMontgomery.org](http://MyGreenMontgomery.org) website.

## ENERGY PERFORMANCE CONTRACTING

Montgomery County is implementing a multi-year plan to invest more than \$100 million in facilities through energy performance contracting. The County is working with several Energy Services Companies (ESCO) that recommend upgrades and guarantee cost savings on utilities. Energy performance contracting enables the



### CONTINUOUS ENERGY IMPROVEMENT PROGRAM

In FY 2017, the County began the Continuous Energy Improvement program to identify and achieve energy savings opportunities in individual facilities. Through this program, the County continually evaluates the energy performance of its portfolio of facilities, identifies deficiencies, formulates action plans, implements low and no cost solutions and marshals resources to resolve more complex issues. The process begins with analysis of utility bills, 15-minute interval energy use data, and building automation data to identify buildings with high energy costs and potential for savings. Staff then conduct site visits, or Energy Sweeps, to collect more detailed information and look for opportunities for savings related to HVAC equipment, lighting, and operations. Each Energy Sweep identifies low and no cost solutions to yield energy savings as well as suggestions for future investments for additional energy savings. Staff have already identified buildings with the highest potential for energy savings and begun conducting sweeps and implementing solutions. The County plans to target approximately 20 buildings each year for analysis and solutions.

County to redirect electricity, heating, and cooling expenses to pay for energy saving projects without impacting the County's overall budget.

Based on the success of the energy performance contracting pilot at HHS Administrative Building, which shows a 39 percent reduction in energy consumption since FY2013, the County has increased the number of facilities scheduled for energy efficiency upgrades financed by energy performance contracting. Over the next four years, more than 25 facilities are scheduled for these upgrades, including many County libraries, recreation centers, and swim centers. The County is currently implementing several projects that are expected to be completed between FY2018 and FY2021. These energy use reduction projects are expected to save more than **\$1.8M** each year, most of which will be reinvested in facility improvements, to reduce greenhouse gas emissions by more than **10,000** metric tons per year.



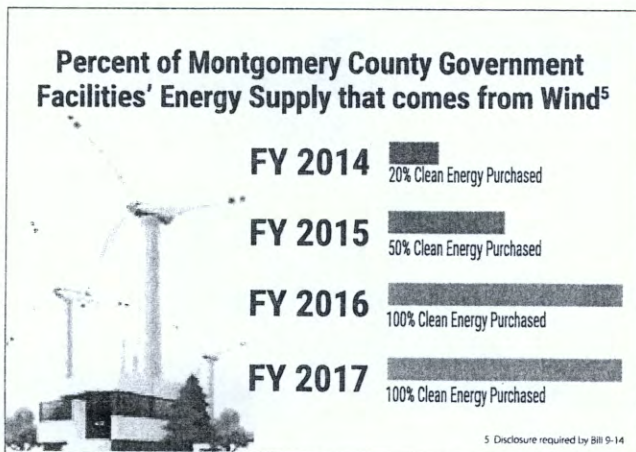
### OTHER ENERGY EFFICIENCY PROJECTS

The County continues to improve the efficiency of building equipment through planned replacements or other projects that provide a fast payback on investment. Many of these projects involve replacing compact florescent and halogen lights with highly efficient LED lights. LED lighting projects completed in FY17 are expected to save the County more than \$190,000 annually in electric bills and reduce greenhouse gas emissions as much as 1,177 metric tons each year. In addition, the County's Department of Transportation plans to retrofit its 25,600 streetlights to highly energy efficient lighting

over the next three years, with anticipated energy savings of more than \$813,000 each year. The project also is expected to reduce greenhouse gas emissions as much as 4,800 metric tons annually.

### CLEAN ENERGY PURCHASE

Since FY2016, Montgomery County government has purchased 100% of its annual electricity consumption from clean sources, specifically energy generated by wind turbines. The County also purchases credits to offset greenhouse gas emissions from its facilities.



In addition, since 2004, Montgomery County has led a coalition of county agencies and municipalities to purchase electricity supply generated from wind energy. Current participants include Montgomery County Government, Montgomery County Public Schools, Montgomery College, the Maryland National Capital Park and Planning Commission, Chevy Chase Village

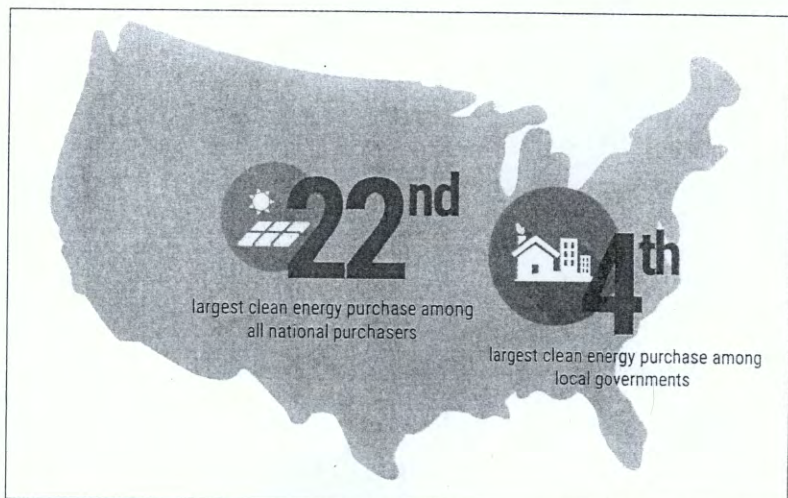
The County-led purchase currently ranks fourth among local governments and 22nd among all national purchasers (including Fortune 500 companies) tracked by the U.S. Environmental Protection Agency's Green Power Partnership.

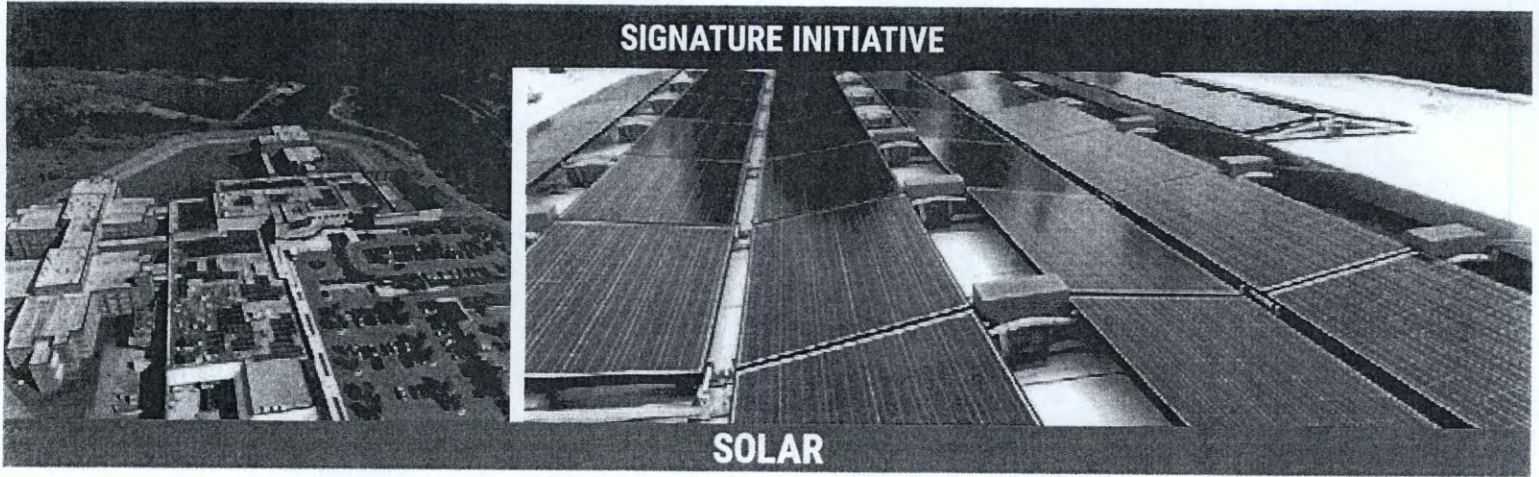


### ENERGY EFFICIENT LIGHTING IMPROVES WORKING CONDITIONS

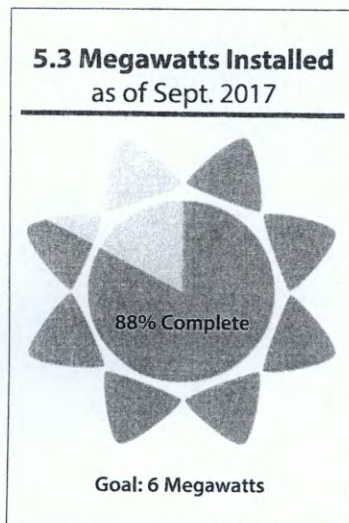
LED lights improved working conditions and provided annual energy savings at the Brookville Maintenance Facility in Silver Spring – a bus maintenance operation that runs 24 hours a day, 365 days a week. The lights save the County \$32,000 a year on electric bills and reduce greenhouse gas emissions as much as planting 4,700 trees. They also improve employee safety and productivity.

Section 5, City of Takoma Park, Town of Kensington, and Town of Somerset. The County also facilitates purchase for the Washington Suburban Sanitary Commission (WSSC) and for the Cities of Rockville and Gaithersburg who report separately.





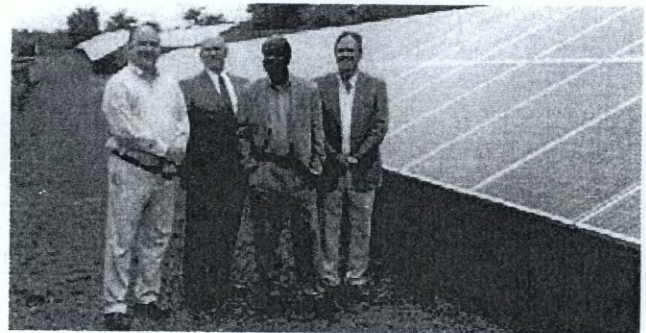
Over the past year, Montgomery County made excellent progress on its multi-year goal to install six megawatts of solar power on County facilities. Based on projects underway or under contract, the County will greatly exceed that goal, installing an anticipated 11 megawatts across our portfolio. Through grants and power purchase agreements, Montgomery County benefits from low-cost energy with no upfront costs or responsibilities to maintain the solar energy generation systems.



In FY17, solar panels installed on County facilities generated more than 1.9 million kilowatt hours of electricity and reduced greenhouse gas emissions as much as planting nearly 36,000 trees.

Montgomery County's solar initiative is innovative because it fosters educational opportunities. The initiative includes

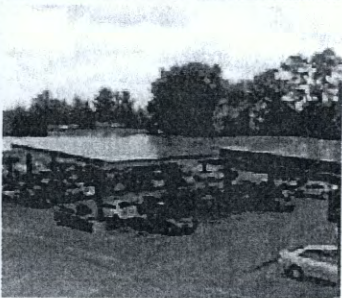
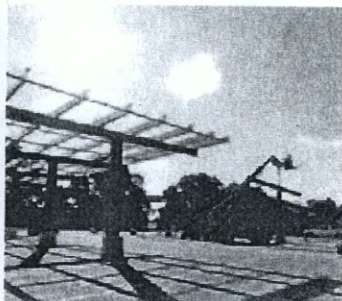
projects in neighborhoods across the County and across a wide range of facilities, including libraries, recreation centers, child care centers, correctional facilities, and offices. The contract also is an ideal model for other government agencies to easily initiate their own solar energy projects.



### ENERGY INDEPENDENCE THROUGH SOLAR POWER

County Executive Isiah Leggett, County Councilmember Roger Berliner, County Councilmember Marc Elrich, and Department of General Services Director David Dise celebrated energy independence at the Montgomery County Correctional Facility, home to the County's largest solar project completed through the end of 2017. The project includes two ground-mount and one rooftop array and is expected to produce 3.5 million kilowatt hours of electricity each year, enough to provide more than 60 percent of the electricity used by the facility. This project is part of a larger initiative to install solar on other County properties, moving the County significantly closer to independence from both the power grid and the rising cost of electricity.

## SOLAR CANOPIES AT HOLIDAY PARK SENIOR CENTER



The project is expected to:

- generate enough energy each year to power 45 homes
- save the County \$36,000 each year on electricity
- reduce greenhouse gas emissions as much as planting 8,000 trees

The solar project at Holiday Park Senior Center benefited visitors by creating covered canopies over the parking lot, providing shade, shelter from rain and snow, and excellent night time lighting conditions. Department of General Services Director David Dise joined Department of Recreation Director Gabriel Albornoz to celebrate the completion of the project with County seniors. This project is one of the first captured by extensive film footage showing the progress of project construction. An intern specializing in videography produced a brief documentary video about the project.

Annual Solar Energy Generation on  
Montgomery County Facilities (kWh)

2012

350,000

2017

1,865,009

Visit the Office of Energy and Sustainability website at [www.montgomerycountymd.gov/dgs-oes/SolarProjects.html](http://www.montgomerycountymd.gov/dgs-oes/SolarProjects.html) to see how much energy the County's solar panels are generating in real time.

**FY 2017 Energy Saved = 1,865,009 Kilowatt hours**

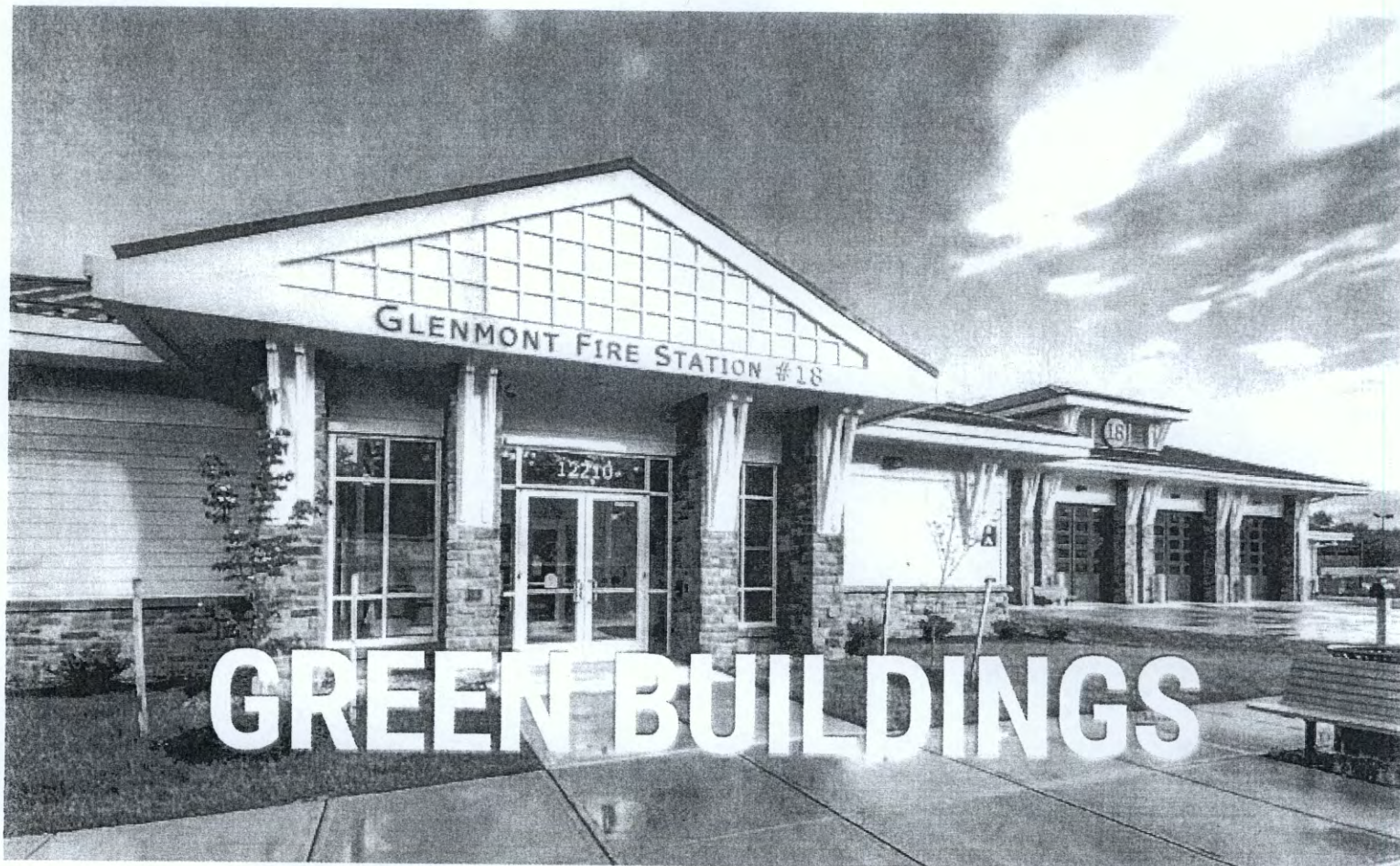
Equivalent of:



**FY 2017 Savings \$191,886**

Amount expected to save annually once all are on-line:

**\$750,000**



**T**he large amount of energy required to heat, cool, and light buildings is one of the reasons they account for 40 percent of greenhouse gas emissions nationwide. Rain and snowmelt runoff from the hard surfaces of roofs and parking lots increase the risk of flash flooding and pollutants to local streams. Renovating or building a new facility involves a large amount of construction materials, all of which need to be manufactured and transported to the site. Buildings provide such an enormous opportunity to conserve resources, reduce pollution, and make our communities more sustainable. Recognizing this opportunity, all new County government buildings over 10,000 square feet are designed and constructed to achieve a minimum Leadership in Energy and Environmental Design (LEED) certification of Silver<sup>6</sup>. Green building elements include energy efficiency, renewable energy, minimizing water pollution, recycled and locally sourced building materials, water conservation, and providing transportation alternatives. As of July 2017, Montgomery County has built five LEED Silver and 11 LEED Gold certified buildings. In December 2017, Montgomery County adopted the International Green Construction

## 11 Gold 5 Silver

**Montgomery County Buildings  
LEED CERTIFIED as of July 2017**

LEED™ stands for Leadership in Energy and Environmental Design, and is a voluntary, consensus-based, market-driven green building rating system. It is based on existing, proven technology and evaluates environmental performance from a "whole building" perspective.

LEED™ is a self-certifying system designed for rating new and existing commercial, institutional, and multi-family residential buildings. There are four rating levels: Certified, Silver, Gold, and Platinum.

Code (IgCC) to replace the LEED requirements, which lowers the threshold to new commercial buildings over 5,000 square feet and places even more focus on reducing energy consumption<sup>7</sup>.

<sup>6</sup> Montgomery County Green Building Law, 2006 L.M.C., ch. 44, § 2

<sup>7</sup> Executive Regulations 21-15AMII, Council Bill 19-17.



Want to see green building features up close? Watch the County's video tour of White Oak Community Recreation Center in Silver Spring to see the building's green roof, porous pavement, geothermal heating and cooling system, and daylighting in action and to hear from experts who helped design the building and manage the programs it offers.

<http://www.montgomerycountymd.gov/dgs-oes/MediaVideo.html>



**GAITHERSBURG LIBRARY** is a great place to see many of the County's green building features in action. Visitors can see the green roof and the rooftop solar panels through the windows on the top floor. Porous pavement is used in the parking lot to slow and filter stormwater runoff to reduce flooding and pollution to local streams. The new building reused some of the foundation of the

old library, saving materials and reducing pollution from ground disturbance. The building makes excellent use of daylight. Large, strategically placed windows reduce the need for artificial light. Nearly all of the wood used in the building and furnishings was harvested sustainably.

## SMART GROWTH

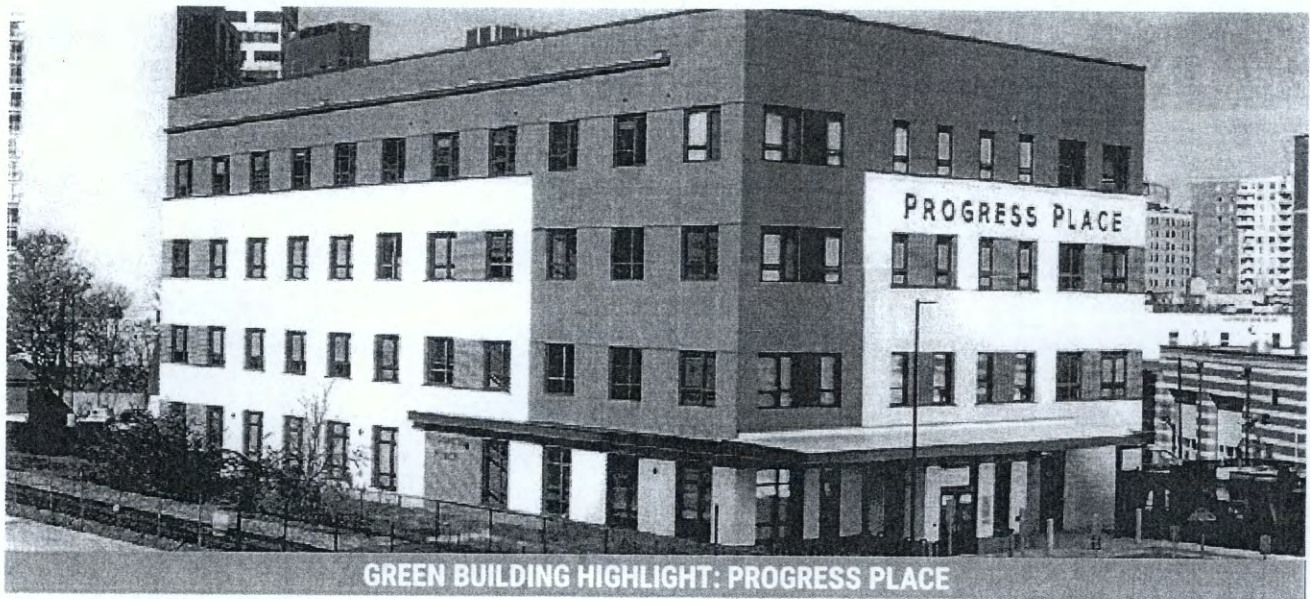
The Smart Growth Initiative (SGI) is an award-winning comprehensive program initiated by County Executive Isiah Leggett that will provide substantial economic opportunities for future growth in Montgomery County. The program is an investment strategy for County government facilities, economic development, and affordable housing. The SGI prioritizes replacing and modernizing antiquated public facilities, creating transit-oriented development, co-locating related building uses, and constructing thousands of new affordable housing units. In addition, the initiative seeks to redevelop brownfield sites; restore landmark buildings; protect the Agricultural Reserve; encourage higher paying jobs in a transit-oriented bioscience enclave; and maintain a competitive, resilient, and sustainable economy.



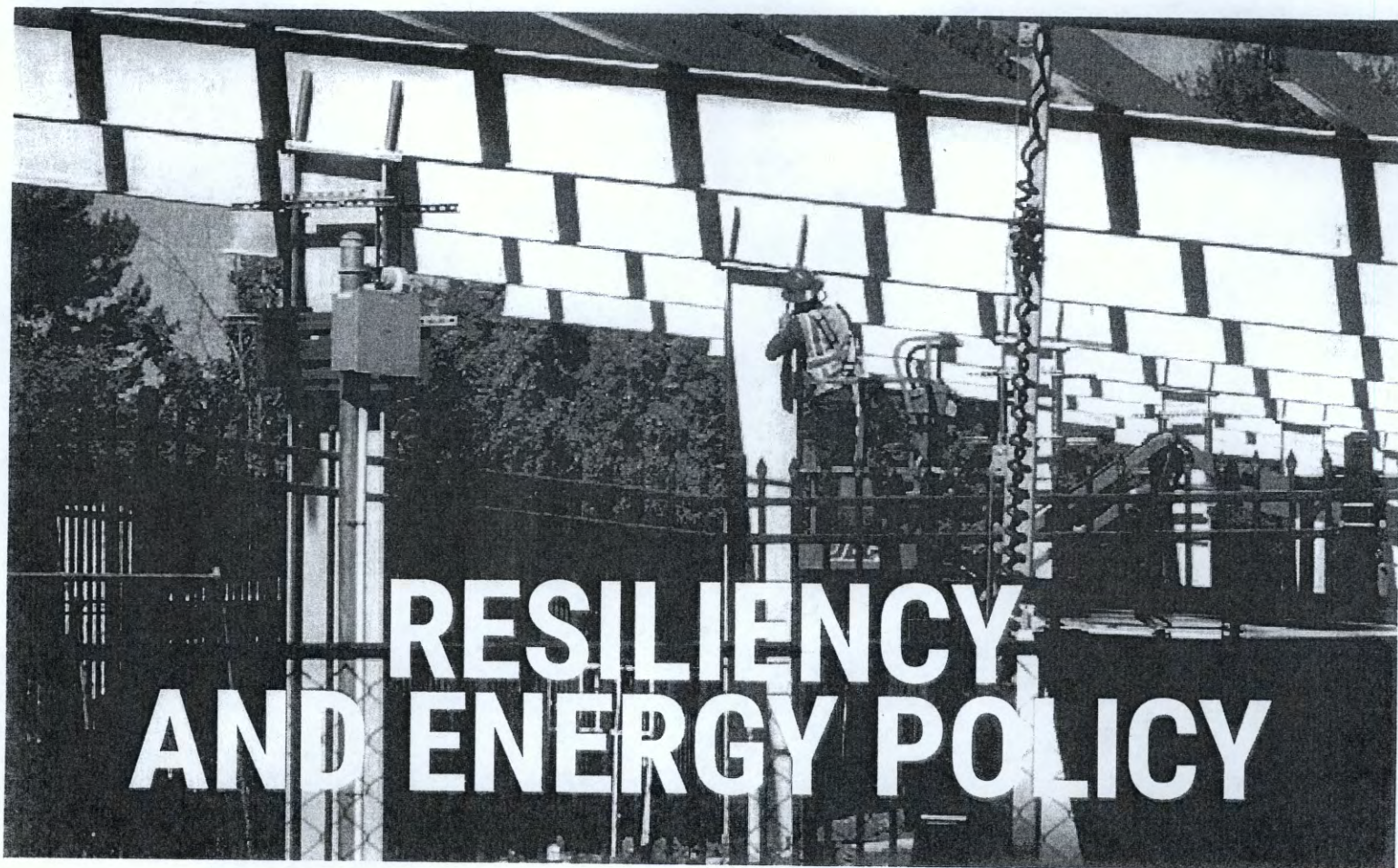
Shady Grove Westside, an integral Public Private Partnership that is part of the SGI, includes the redevelopment of formerly industrial public property into a residential community with retail on Metro-adjacent land. The project includes over 20 percent affordable units available at a variety of income levels. An ongoing project, accomplishments in FY17 related to the public infrastructure include completion of a shared use path and

other pedestrian improvements to Crabbs Branch Way and installation of a pedestrian crossing between the new development and the Metro station. These improvements

encourage and enable safe walking and biking and aim to improve access to public transit for current and future County residents.



Progress Place is a multi-functional facility that has served downtown Silver Spring's low-income and homeless populations since 2000. Housed in what was originally a commercial bakery, eventually these programs expanded to the point that the building could no longer adequately meet the needs of the community members it served. DGS partnered with local developer Washington Property Company to design and construct a new, expanded Progress Place on an underutilized County-owned surface parking lot, allowing the County to maximize the use of publicly-owned land without increasing the impact of stormwater runoff on local streams. The new facility includes 21 personal living quarters for persons transitioning out of homelessness. The new Progress Place also includes expanded space for nonprofit organizations under contract to the Department of Health and Human Services to provide meals, shelter, laundry and shower facilities, counseling, job training, medical services, and clothing to Montgomery County's most vulnerable populations. Notably, the new facility is certified LEED Silver. The site of the former Progress Place will be redeveloped by Washington Property Company as a high-rise residential development that will include more than the required amount of affordable housing units in metro-accessible downtown Silver Spring. Additionally, both Progress Place and the private residential project obligate the developer to build a section of the Metropolitan Branch Trail adjacent to the respective projects, contributing to the completion of a major hiker-biker trail in the Washington region.



# RESILIENCY AND ENERGY POLICY

## RESILIENCY

Montgomery County is improving its ability to anticipate and quickly adapt to extreme weather, economic downturns, and natural and human-made disasters. Reducing energy use and increasing on-site power generation at critical facilities ensures that Montgomery County can keep residents safe and provide needed services in spite of power outages. Resilient County facilities also relieve pressure on the power grid, reducing blackouts and brownouts during times of peak electricity use.

### INCREASED RESILIENCY AND RELIABILITY OF THE UTILITY GRID

Montgomery County continually advocates to increase the resiliency and reliability of the utility grid. As part of the merger of Exelon Corporation and Pepco Holdings Inc., Pepco committed to accelerate improvement of annual reliability performance metrics, including possible financial penalties if targets are not achieved. The company has made significant progress towards achieving those targets and is on its way to providing nation leading reliability.

Also stemming from the merger, the Maryland Public Service Commission (MD-PSC) has initiated a Grid-of-the-Future proceeding. The effort aims to foster the adoption of new clean energy technologies and offer greater customer choice. Grid modernization efforts aim to ensure that electric distribution systems in Maryland are customer-centered, affordable, reliable,

and environmentally sustainable. The Grid-of-the-Future will examine opportunities to transform the electric distribution grid, including the incorporation of smart-grid technology, microgrids, renewable resources, and distributed generation. For more information, visit [www.psc.state.md.us/transforming-marylands-electric-grid-pc44/](http://www.psc.state.md.us/transforming-marylands-electric-grid-pc44/).

## ENERGY POLICY

Understanding that cost effective and reliable utility services are essential for the well-being and economic development of the community, Montgomery County has consistently advocated that electric utilities perform in the top 25 percent of their peers nationwide. The County Executive convened a workgroup of experts, resulting on a report on key improvements Pepco (which serves the bulk of Montgomery County) should implement. Through the County's continued advocacy, Pepco's reliability has improved dramatically and it is on its way

to providing nation-leading reliability. Montgomery County has advocated for other improvements to utility services and direct benefits for the community and continues to advocate before the MD-PSC to ensure that Pepco and other utilities remain progressive.

DGS, along with the Office of the County Attorney, supports high profile energy policy initiatives on behalf of the County Executive's Office, including initiatives resulting from the merger of Pepco Holdings Inc. and Exelon Corporation. DGS is coordinating the administration of over \$41 million of funds to the

County to create programs benefiting Pepco customers in Montgomery County. These funds will provide seed capital for energy-efficiency through the Montgomery County Green Bank, weatherization for low-income consumers, energy awareness programs, and workforce development programming. Additional benefits from the merger include a \$100 bill credit per Pepco residential customer, improvements in utility reliability and recreation infrastructure, investments in energy-efficiency, renewable energy, and job creation.

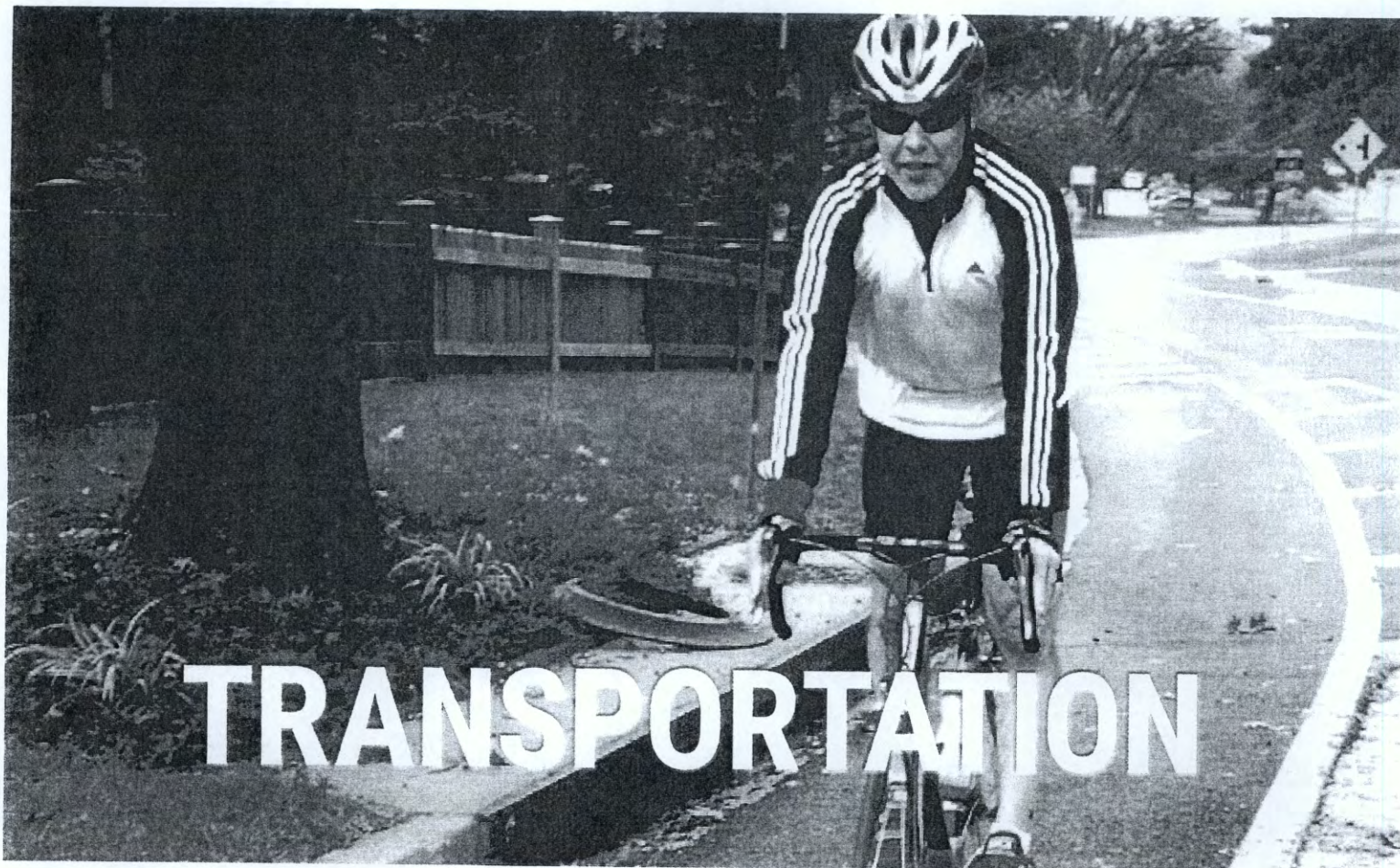


### MICROGRIDS

In FY17, Montgomery County initiated a process to improve the resiliency of critical facilities by beginning to install microgrids at two key public safety facilities: Public Safety Headquarters (pictured above) and Montgomery County Correctional Facility. Microgrids are on-site clean power generation systems that allow critical operations to run independently of the power grid. Microgrids combine technologies such as solar panels, combined heat and power generation systems, batteries, and advanced controllers that include built in cyber-security. Microgrids are resilient because they allow facilities to generate their own power and run uninterrupted during major grid outages.

Groundbreaking for the microgrid at Public Safety Headquarters began in July 2017. Both projects are expected to be completed by the end of 2018. When completed, the microgrid at Public Safety Headquarters is expected to generate 11.4 million kilowatt hours of clean and low emissions energy and will reduce greenhouse gas emissions as much as taking 680 cars off the road. The project design will include two megawatts (MW) of solar photovoltaic canopies mounted over the existing parking lot. In addition, the project will upgrade the existing facility generator bank, allowing generators to provide electrical and thermal power to the facility.

The County is currently reviewing options for installing similar microgrid systems at additional County facilities. Montgomery County also is working with utilities to develop microgrids for the community. For example, the County is working with Pepco to plan a public purpose microgrid in Rockville that will ensure key facilities, including City and County buildings, grocery stores, gas stations, pharmacies, and other important services remain open and available to the public during major power outages. The Rockville microgrid proposal has been submitted to the MD-PSC by Pepco for review and approval.



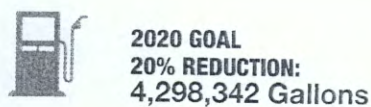
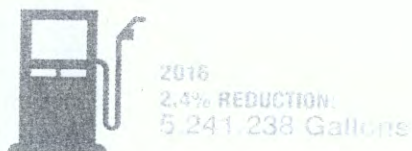
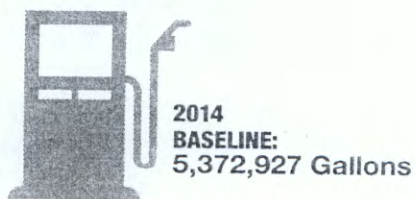
# TRANSPORTATION

## FLEET FUEL CONSUMPTION

Montgomery County's comprehensive Green Fleet Strategy combines sound management, fleet rightsizing, alternative fuels, and innovative technology to achieve a 20% reduction in petroleum consumption by 2020. In the last three years, Green Fleet efforts have saved 395,150 gallons of fuel representing a 7.4% reduction in petroleum use since FY14.



### County Fleet Vehicle Fuel Use



## ELECTRIC AND OTHER LOW EMISSION VEHICLES AND INFRASTRUCTURE

In FY17, Montgomery County purchased 16 Chevrolet Bolt sedans. These are 100% electric and have an approximately 200 mile range on a single charge. With the addition of the Chevy Bolts, Montgomery County now has 36 electric vehicles and six plug-in hybrid vehicles. There are 16 electric vehicle charging stations for fleet use and 13 EV stations for public use at County facilities.

In addition, Montgomery County was awarded a grant in September 2017 from the Federal Transportation Administration to purchase four electric buses and charging stations.

In FY17, Fleet replaced 25 sedans with hybrid sedans, converted six gasoline vans to hybrid, and installed idle reduction technology on 35 vehicles.



### ALTERNATIVE FUELS

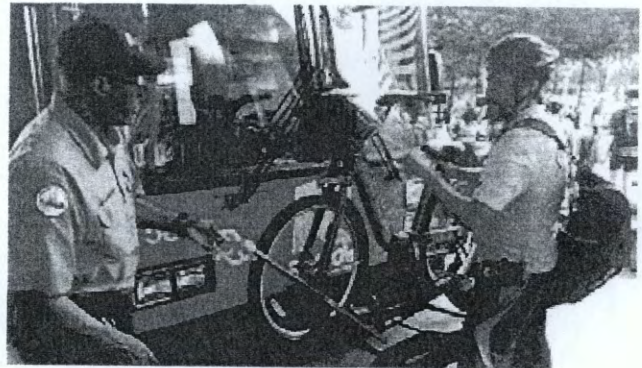
The County maintains a fuel neutral approach by selecting fuels to achieve desired emissions reductions. The County has made extensive use of alternative fuels, in addition to electric vehicles. The County uses Ultra Low Sulfur Diesel instead of biodiesel due to performance issues discovered in biodiesel pilots. The County's primary focus is a fleet that is fuel neutral, fuel efficient, and environmentally sensitive. The County has embraced compressed natural gas (CNG) as an effective, lower emissions alternative to diesel for transit and heavy duty vehicles. Currently 29 percent of the County's bus fleet is fueled by CNG and the County operates two CNG fueling stations. An additional 19.5 percent of the County's buses are diesel hybrid electric.



### FLEET COMPOSITION AND FUEL EFFICIENCY

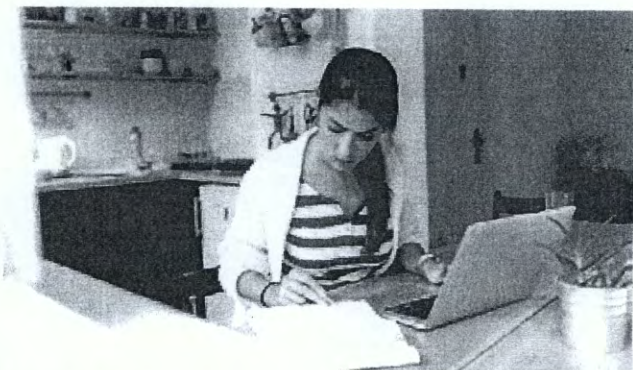
Montgomery County maximizes fleet efficiency by ensuring each vehicle is the appropriate size for its intended use. One of the ways the County does this is through an annual Sport Utility Vehicle inventory. This

includes information on the type of work currently performed with the vehicle and DGS Division of Fleet Management Service's recommendations for a more fuel efficient replacement vehicle if appropriate. As fleet vehicles are replaced, DGS works with each County department to select the most appropriate and fuel efficient vehicle for the required function. Currently, the County's fleet includes 433 SUVs (293 for public safety and 140 for administrative uses) out of a total fleet of 3,342 vehicles. From FY12-FY17, average fuel economy of the administrative fleet<sup>8</sup> increased from 14.31 MPG to 15.67 MPG.



### EMPLOYEE TRANSIT

DOT offers employees a number of benefits to reduce the environmental impact of employee commutes to work. In addition to telework options, employees have access to free Ride On bus service, discounted membership in Capital Bikeshare, access to the Commuter Connections regional ridesharing program, and reimbursement for regular public transit use through the County's Get-In program. New in 2018, the County is offering employees a new Commuter Transit Flexible Spending Account benefit that allows County employees to save money on taxes by deducting pre-tax income from their paychecks to use for approved transit expenses.



### TELEWORK

Under the leadership of the Office of Human Resources (OHR), Montgomery County piloted a formal employee telework program from March 2016 – February 2017. Following the successful pilot, telework was implemented more widely across the County with the official telework policy going into effect July 25, 2017. As of November 2017, there are 322 employees participating in the telework program, typically one day per week or on an as-needed basis. This reduces miles driven to work and lowers greenhouse gas emissions associated with County operations.



### TELECONFERENCES AND WEBINARS

The Department of Technology Services (DTS) has ensured County staff have the tools they need to collaborate and work remotely, including Skype for Business and Office 365 software. In the past year, County-wide use of Skype for Business teleconferencing increased 13 percent. DTS uses the software for its bi-monthly staff meetings, increasing meeting attendance by 36 percent while cutting the number of attendees driving to meetings in half. Other departments with staff in multiple locations across the County also are replacing

in-person meetings and training with online options. The OHR Live Well program uses teleconferencing for monthly Wellness Champion meetings. Libraries use online training modules that allow library staffers to complete trainings in their respective branches rather than traveling to a central administrative office. In FY18, Libraries are planning to modify delivery routes to decrease driving time between stops, saving gasoline and reducing greenhouse gas emissions.



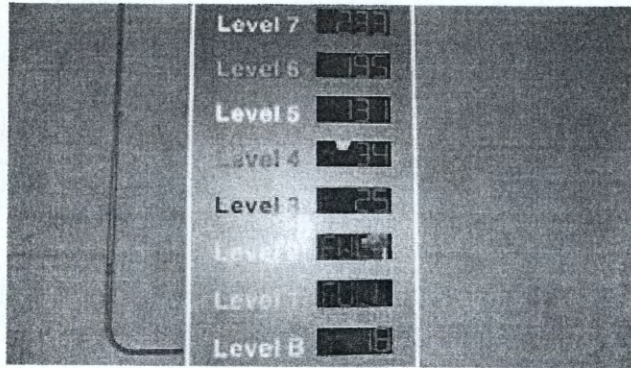
### BICYCLE COMMUTING

Montgomery County is committed to bikeable, walkable, transit-oriented communities. In FY2017, DOT constructed separated bike lanes on both sides of Nebel Street between Randolph Road and Marinelli Road. This is part of a larger project to improve bicycle access in the Pike District, including building a continuous protected bike lane connection from Montrose Parkway to the White Flint Metro Station. DOT also installed bike lanes in downtown Silver Spring from Spring Street and 2nd Avenue to Cedar Street and Wayne Avenue. The bike lanes have a green surface and flex posts to prevent cars from entering.

In addition to improving safety and access for cyclists, the County also is making it easier for people to use bicycles for transportation by installing bikeshare stations. As of December 2017, the County has 72 bikeshare stations. The County also is piloting dockless bikeshare options in Silver Spring. Dockless bikeshare does not rely on fixed bike stations. Customers use a mobile phone app to locate a nearby bike. When they are finished, they park the bike on any publicly-owned land within a specified geographic area.

Montgomery County also promotes bicycling as a commuting option with outreach and events. This

year's D.C. area Bike to Work Day broke records as one of the nation's largest Bike to Work Day events with approximately 18,700 cyclists visiting 85 pit stops in the Washington metropolitan region. Montgomery County sponsored six pit stops.



### SMART PARKING

Montgomery County uses the latest technology at its most popular public parking garages that can guide drivers to available spaces, saving driving time and reducing greenhouse gas emissions. In addition, smart parking meters in Bethesda, Silver Spring, and Wheaton use solar power and rechargeable batteries, saving energy and reducing waste. DOT has installed 2,300 smart meters, an increase of more than 1,000 since last year.

In addition, DOT has expanded the number of public parking spaces reserved for car sharing services to 55. Car sharing allows those who only need a car occasionally to give up their cars and use public transit or other alternatives for daily commuting. More information about car sharing locations is available at <http://www.montgomerycountymd.gov/DOT-Parking/Carsharing.html>.



### BUS COMMUTING

DOT has made bus commuting more attractive to County employees and the public. Starting in October 2017, the County began offering Ride On extra service on Rte. 355, which provides a faster option for bus riders during rush hours. The service makes only 12 stops between the Medical Center Metro Station in Bethesda and the Lakeforest Transit Center in Gaithersburg. The service has amenities such as WIFI, USB charging, Infotainment and extra padded seats. The fare is the same as for normal service routes. The initial ridership is already starting to exceed the projected figure of 1600 riders per day.

Future plans include a Bus Rapid Transit (BRT) System that will operate along U.S. 29. Montgomery County was selected by the U.S. Department of Transportation for a \$10 million grant to help fund the 14-mile BRT. The new service will provide a high quality, environmentally-friendly transit alternative to commuters.



**Better Ways To Work!**  
Montgomery County Commuter Services

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8 Administrative fleet includes vehicles used by County staff for routine business. This does not include police cars, fire trucks and other public safety fleet vehicles, buses, vans, or heavy duty vehicles. Additional details on fuel economy trends for all categories of County fleet vehicles are available in Table 9.



**M**ontgomery County government employees, nearly 10,000 strong, can have an enormous impact on cleaning up pollution and reducing waste through everyday actions at work. In FY17, employees across the County engaged in recycling, purchasing environmentally preferable goods and services, and donating food, money, and surplus office supplies to community members in need.

## COMMUNITY SERVICE

Each year, Montgomery County employees give back to the community through charitable donations and volunteer service. The County runs an employee giving campaign each fall, providing an on-line giving platform through a private partner and covering the modest administrative fee so that every dollar employees give goes to the nonprofit organizations they support. In calendar year 2017, County employees gave more than \$280,000 to charities through the campaign – an increase of nearly \$20,000 over the previous year. In addition to contributions by individual employees, County Departments host charity drives and volunteer service opportunities in partnership with local nonprofit organizations. Partners include a wide variety of nonprofit organizations with missions to improve the environmental, social, and financial health of the community.

## LIVE WELL

Montgomery County's employee wellness program

engages employees in eco-friendly behaviors, too.

Virgin Pulse, the wellness program's information and rewards system

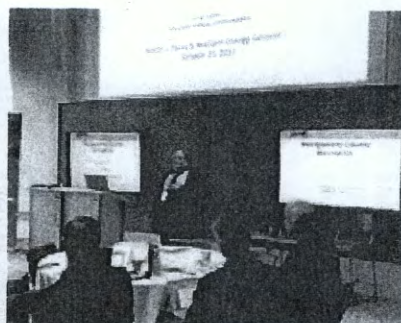
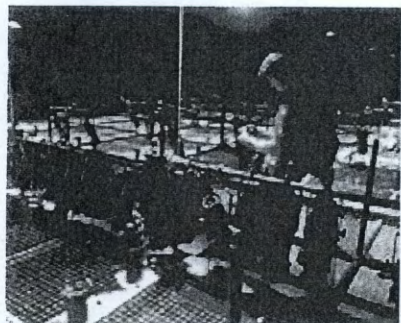
app, includes daily habit

challenges related to sustainability, such as a waste-free lunch challenge and a conserve energy challenge. In FY18, DGS worked with OHR's Wellness Program to promote a green and healthy transportation webinar for employees and to promote national car free day. DGS will continue to partner with Live Well in the coming year to engage employees in healthy, eco-friendly behaviors.

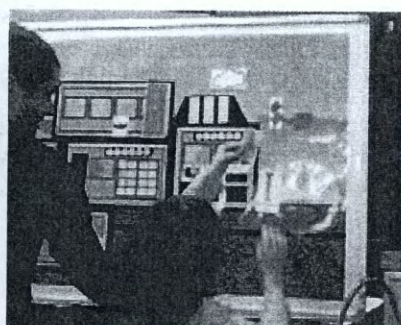


## PRESENTATIONS

County staff participated in several high-profile conferences and webinars over the course of the year to share information and lessons learned about green government operations with other local governments and businesses across the country. Presentations focused



on the County's leadership in renewable energy, improving resiliency of County government facilities and operations with microgrid technology, and financing major energy projects. Conferences and webinars included those for American County and City Magazine, the National Association of Counties, the North East Clean Energy Council, National Association of State Energy Officials, the Metropolitan Washington Council of Governments, and more.



## VIDEOS

The County produced several brief documentary videos to share the story of its green government initiatives. Videos, available at <http://www.montgomerycountymd.gov/dgs-oes/MediaVideo.html>, feature the LED lighting upgrade and safety improvements at Brookville Vehicle Maintenance Facility, solar canopies over parking at Holiday Park Senior Center, green building features of the White Oak Community Recreation Center, and the DGS Facilities Energy Management team.

## GREEN GOVERNMENT NEWS

Follow the Office of Energy and Sustainability for the latest Montgomery County green government news.

 <https://www.facebook.com/MocoGreenDGS/>

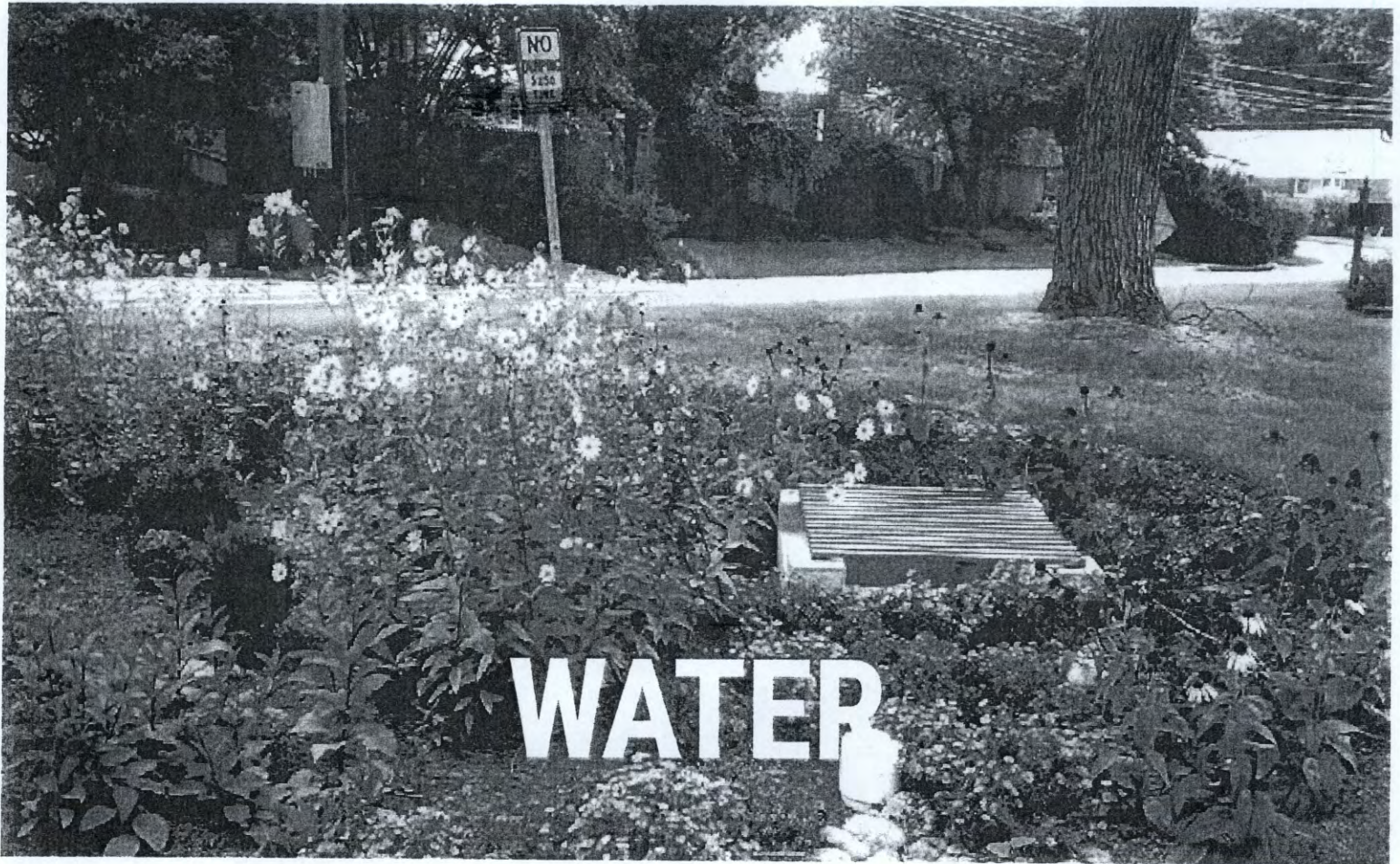
 <https://twitter.com/MoCoOES>

## SIGNATURE INITIATIVE



## WORK GREEN

Work Green is an employee engagement program piloted by DGS and the Department of Environmental Protection (DEP) to encourage staff to take eco-friendly actions at work and at home. The program engages employees in taking simple actions related to quarterly themes, such as Reduce Waste, Save Energy, and Buy Green. DGS and DEP staff develop educational posters, newsletters, and events related to each theme. Green teams customize the program for their own departments and divisions. DEP, with support from DGS, started the first employee green team under the Work Green program. Over the course of FY17, the green team prioritized action items, developed education materials and branding, surveyed staff, held a kick-off event, encouraged employees to sign an eco-action pledge, and conducted a waste stream audit. In FY18, the group began a quarterly newsletter, held a brown bag on green commuting options in partnership with DOT, and celebrated America Recycles Day by maximizing reuse and recycling of office supplies during a clean-out event. In FY18, the County will pilot the Work Green program across DGS. DGS plans to make the Work Green program available to all County Departments within a year.



## WATER CONSERVATION



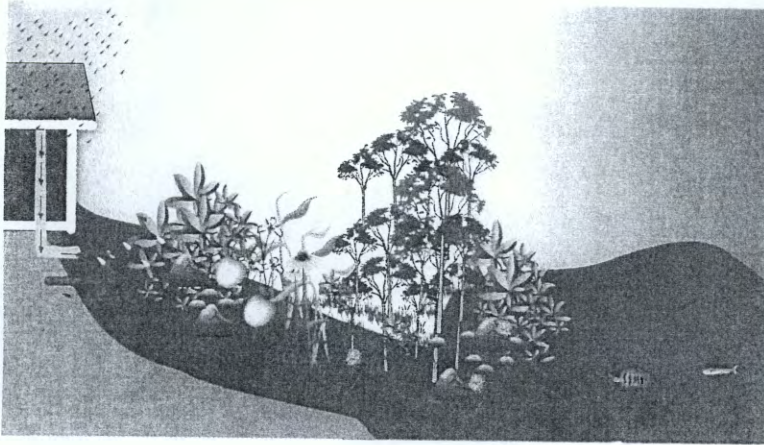
Montgomery County continues to audit high water use buildings to identify opportunities for water savings through installation of high efficiency fixtures and other improvements. In addition, water efficiency improvements are included as one of the measures used in energy performance contracting to achieve improvements in energy efficiency of older facilities. Through energy performance contracting, the County has already reduced annual water use in two buildings by more than 1.1 million gallons, saving the County more than \$11,000 a year in water bills and an additional \$12,000 per year in energy costs to heat the water. These savings are realized by replacing older toilets, urinals, and sink aerators with high efficiency fixtures.

## POLLUTION PREVENTION

When rain and snow melt moves across roofs, parking lots, streets and other hard surfaces, it picks up oil, heat, and other pollutants on its way to local streams and rivers. This stormwater moves quickly over hard surfaces and may contribute to flooding.

Montgomery County treats all stormwater in new construction according to state and County regulations, capturing 90 percent of the average annual rainfall and removing 80 percent of pollutants. In addition to

treating stormwater on new construction, the County installs new stormwater treatment structures on older facilities that were not previously being treated to today's standards, improving water quality in the process. This includes installing rain gardens, bioswales, and other techniques on the grounds of County facilities through the RainScapes Program and the Capital Improvements Program, as well as using street rights of way for treatment through the Green Streets program.



## Acres of Hard Surfaces Treated for Stormwater Runoff by Projects on County Property

2016: 5.31 Acres

2017: 8.36 Acres

**Expected 2018: 18.39 Acres**

As of FY 2017, Montgomery County has treated eight acres<sup>9</sup> of impervious surfaces in older neighborhoods (built before current stormwater regulations were in place) by installing stormwater management facilities on County property.

### GREEN STREETS

Green Streets are built in the grassy area along a street which is County-owned space, often includes a sidewalk, and is called the public right of way. They are attractive and help improve biodiversity by attracting birds and other pollinators. Green Streets are targeted toward older neighborhoods built before current stormwater management regulations were in place to bring them up to the level of treatment found in newer areas.

In a typical Green Street project, stormwater runoff from the roadway is diverted into an inlet opening in the curb, and is filtered through a mixture of highly permeable soils (sand, mulch, compost), then stored in an underlying gravel layer before percolating into the groundwater or entering into the storm drain system that

drains to a nearby stream. Runoff has an opportunity to cool down while the plants help break down and absorb pollutants. Although some Green Street systems may see water ponding for a few hours after a storm, they are designed to drain any standing water before mosquitos can breed.

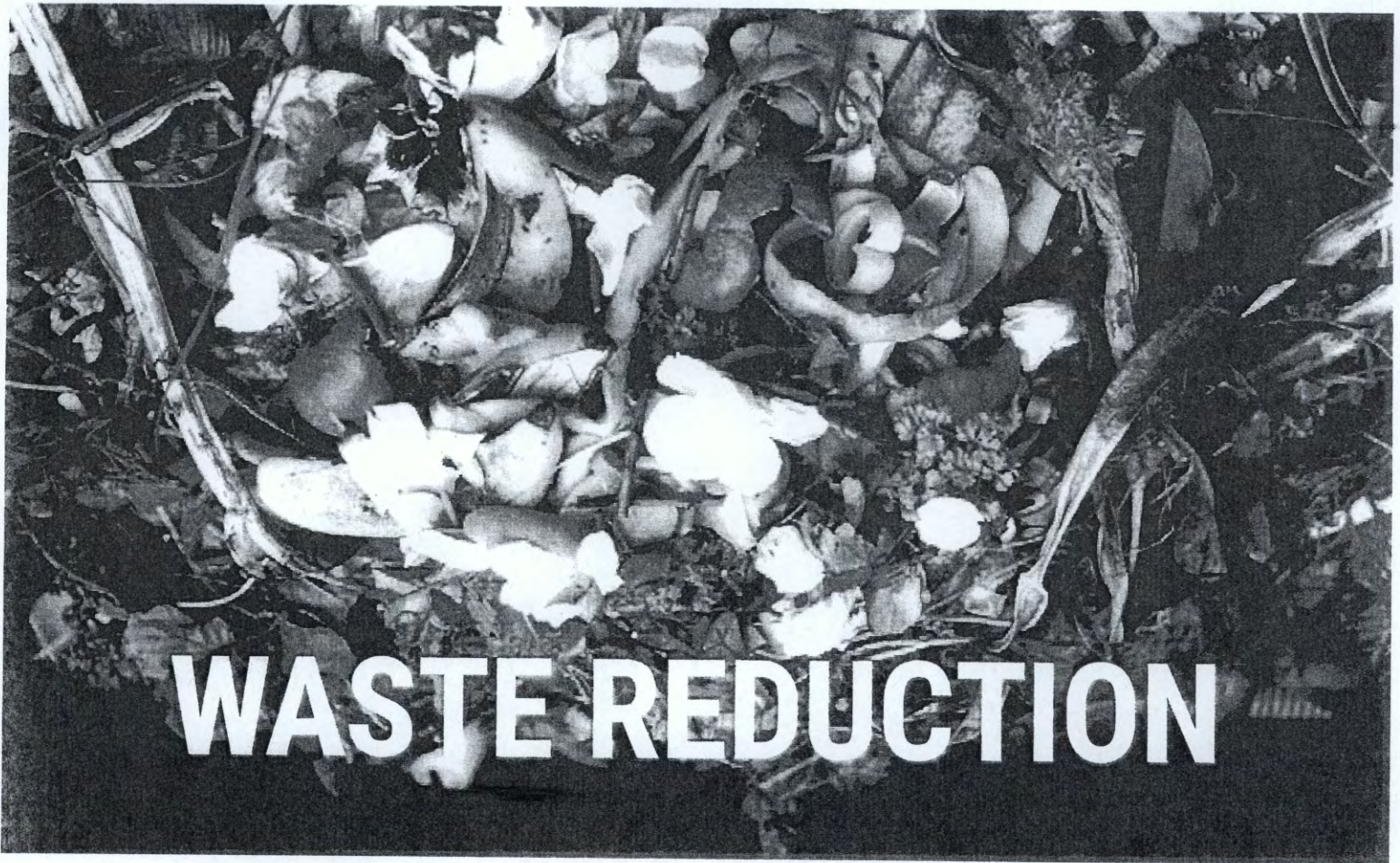
### STORMWATER MANAGEMENT FACILITY MAINTENANCE

Stormwater management facilities require regular maintenance to make sure they are functioning properly. DEP inspects and maintains more than 1,100 stormwater management structures on County property. Stormwater ponds are inspected and maintained every three years. Environmental site design facilities such as rain gardens, conservation landscapes, pervious pavement, and green roofs are maintained monthly with weeding, trash removal, plant and mulch replacement, and sediment removal as needed.

<sup>9</sup> Does not include acres treated through the Green Streets program.



The Amherst Avenue curb extension, completed in December 2014, is a Green Streets project that combined two County interests — keeping local streams healthy and ensuring bus rider safety. The curb was extended into the parking lane and pavement is replaced with plants and soil mix to slow water and filter out pollutants.



# WASTE REDUCTION

**M**ontgomery County continues to reduce paper waste from government operations, eliminating more than 6.7 million sheets of paper waste in FY2017. The majority of the paper reductions quantified in this report are from the County's state-of-the-art print management system and from the Department of Permitting Services' conversion to an electronic permit application and review system called ePlans. In addition, Montgomery County Public Libraries has reduced paper use by using text notifications to customers when hold materials become available and by using digital processes for administrative functions. The Department of Finance and DGS continue to use digital processes for routine County business.

## FY 2016

4.4 million sheets of paper saved in FY 2016

Equivalent of:



608 Trees saved



Reduced greenhouse gas emissions  
by 267 metric tons



5 million gallons of water saved during the  
paper production process

## FY 2017

6.7 million sheets of paper saved in FY 2017

Equivalent of:



978 Trees saved

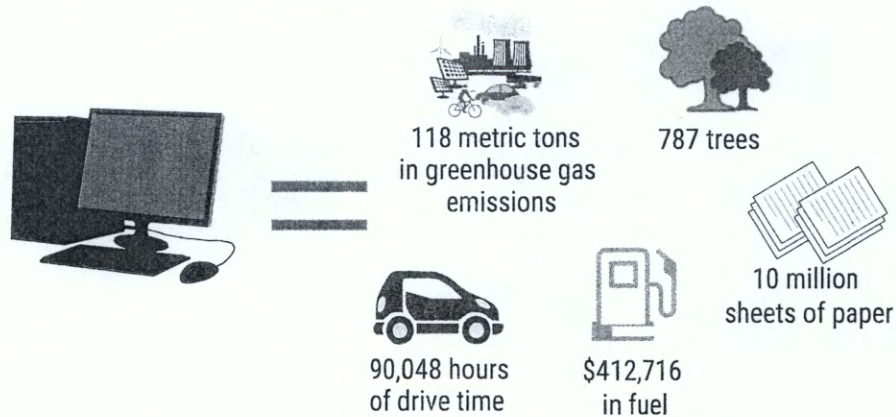


Reduced greenhouse gas emissions  
by 46 metric tons



14.8 million gallons of water saved during the  
paper production process

## Switching to ePlans has saved



### ELECTRONICS RECYCLING

Working communications devices, including cell phones, tablets, and mobile computers are critical to police operations. Verizon replaces these devices for free. Broken devices are recycled. The Police Department recycled 686 devices in FY17, bringing in approximately \$7,000 to the County.

The Department of Technology Services recycles 100 percent of computer equipment at end of life, including 1,200 PCs, laptops, and tablets in FY17.

**2017**



Recycled **686** communication devices &  
**100%** of end of life computer equipment



### DIGITAL SIGNAGE

In FY2017, Montgomery County Public Libraries installed digital signage in six branches. All 21 library branches now have digital sign boards to eliminate the need for paper posters or flyers. Seven other buildings also use digital signage and the Office of Public Information (OPI) plans to expand the use of digital signage into additional facilities. DGS is working with DEP, DOT and OPI to expand green government and environmental program content available on digital sign boards throughout the County in 2018.



### CONSTRUCTION WASTE DIVERSION

During building demolition, Montgomery County recovers as much of the waste material as possible for reuse and recycling. For example, great care was taken to separate usable materials during the demolition of the former Public Safety Training Academy. As a result, 26,901 tons of concrete, steel, and clean masonry material were reused on site or recycled, an impressive 96 percent of the material (by weight) that was generated by the demolition.



### VEHICLE REUSE AND RECYCLING

The County's Vehicle Recovery Section (VRS) with the Police Department removes abandoned, unregistered, and junk vehicles throughout the County. In FY17, 1,950 cars and trucks were towed to VRS and not reclaimed. 65 percent were sold to scrap processors. Parts including batteries, catalytic converters, starters, alternators and aluminum rims were sold for reuse or recycled. The rest of the vehicles were sold for reuse. In all, VRS recycled approximately 3,700 tons of metal in FY2017, an increase of 1,000 pounds over last year. An additional 500 items were sold, recycled, or scrapped through removal of property from auction vehicles and recovery of abandoned bicycles.



2016 2,640 tons recycled metal from cars

2017 3,700 tons recycled metal from cars



### FOOD COMPOST

DEP has operated a pre-consumer food scrap recycling collection demonstration project at the Executive Office Building cafeteria since November 2011. The demonstration project diverted approximately 14.5 tons of food scraps from the waste stream each year. Last year, DEP added similar programs at the Council Office Building and the Public Safety Headquarters Building. As a result, in FY17, the amount of waste diverted increased to 25 tons, for a total of 112 tons since the project's inception.



### RECYCLING

On average, County facilities are achieving a recycling rate of 41.5 percent. In FY17, DEP staff improved recycling stations near the elevators and in break rooms throughout the County's 15 story Executive Office Building in Rockville. Clearly labeled recycling bins and educational posters showing what materials belong in each bin are expected to improve recycling rates. In addition, DEP continues to provide training and educational materials for County employees and contractors to increase the amount of recyclable materials collected at all County facilities. DGS plans to work with DEP in the coming year to determine options for increasing the accuracy of recycling data in our buildings and to target recycling education and outreach campaigns.



# BIODIVERSITY AND GREEN PURCHASING



## BIODIVERSITY

Montgomery County improves biodiversity by conserving forests, planting native vegetation, implementing pollution prevention measures, and using eco-friendly landscaping on County-owned property.

The County maximizes benefits from its lands by planting rain gardens, Green Streets, and other stormwater management facilities with native plants that are adapted to local conditions. Native plants are lower maintenance and are able to slow and filter pollutants from stormwater while also providing natural habitat for pollinators such as butterflies, hummingbirds, and bees.

Montgomery County currently has 12 acres (the equivalent of nine football fields) of vegetated roofs on its government buildings that improve water quality of streams, prevent flooding, and provide habitat for pollinators and birds. Over the next year, Montgomery County is evaluating options to expand native canopy tree planting at County facilities to enhance habitat for birds and other wildlife, reduce stormwater pollution, and provide shade. In addition, DOT is fighting the spread of the emerald ash borer, the invasive beetle that has already killed hundreds of ash trees in local parks. DOT is fighting the beetle by releasing both parasites that prevent eggs from hatching and those that kill beetles in their larval stage.



## GREEN PURCHASING

Purchasing reused, recycled, and energy efficient products can reduce waste, conserve energy and water, protect natural resources, and alleviate climate change. The Office of Procurement encourages green purchasing by providing educational information to employees through the County's internal Intranet site, coordinating major contracts to purchase green, and ensuring green options are easily searchable for employees purchasing office supplies. In FY2017, the County executed a contract for environmentally and pet friendly ice melt materials. In addition, the Office of Procurement collaborates with other regional jurisdictions on trends and best practices related to recycling and environmentally friendly products. Individual

departments also provide employees information on green purchasing options. For example, Montgomery County Public Libraries are making it easier for library employees to choose green items by including information about how to purchase reused and recycled options on their redesigned Intranet site.



## PRINT SHOP DIGITAL PRINTERS

DGS replaced the Xerox 1000 in the Print Shop in May 2017 with the Xerox iGen 5 digital press at no additional cost to the County. More than 80 percent of the waste the printer produces can be reused and the digital press itself can be recycled or remanufactured at end of life. The technology uses no inks. The toners are non-toxic and generate no hazardous waste. Digital press technology is an environmentally responsible choice with great print quality and speed, improving print shop efficiency.



## ELECTRONICS

Electronics throughout County government facilities, including all printers and copiers, PCs, laptops, and tablets are independently verified as energy efficient with ENERGY STAR qualification and Electronic Product Environmental Assessment Tool (EPEAT) certification. ENERGY STAR qualification means the equipment is among the most energy efficient options available and EPEAT certification addresses environmental sustainability throughout a product's life cycle. Toner cartridges and end-of-life equipment are recycled. In addition, the approximately 200 vending machines in County government buildings are energy efficient, including motion sensors to trigger lighting and highly efficient cooling for machines with refrigerated items. Vending machines at the Executive Office Building and the Council Office Building also exceed the 90 percent healthy vending target set in the Healthy Vending Standards regulation.



### **ECO-FRIENDLY COLLABORATIVE WORK SPACES**

The DGS Office of Energy and Sustainability repurposed a large individual office into a collaborative work space for six employees. The space includes a movable conference table, white boards, and a wall-mounted monitor for collaborative work and serves as a model that, in combination with telework and hoteling, could reduce building occupancy and related heating, cooling, and lighting costs, as well as reducing greenhouse gas emissions and other impacts of commuting. The redesigned office includes furniture with post-consumer recycled content and Cradle-to-Cradle Certified products. Cradle-to-Cradle certification looks at the entire life cycle of a product from raw materials and manufacturing process as well as what happens to the product after its use and includes several levels — Basic, Bronze, Silver, Gold, or Platinum. OES office whiteboards are Cradle to Cradle Certified Silver.



### **RECYCLED MATERIALS**

According to the Office of Procurement, Montgomery County purchased six million dollars worth of products containing recycling materials in FY2017, an increase of 40 percent over FY2016.

- Copier and printer paper purchased through the County is 100 percent recycled, with 30 percent post-consumer content.
- 62 percent of all paper products the County purchased in FY2017 contained some recycled content with 99 percent containing 25–50 percent recycled content.
- \$440,299 worth of recycled office supplies purchased through a contract with a small business based in Montgomery County.
- Used an average of 21 percent recycled materials, 45 percent certified sustainably harvested wood, and 31 percent locally sourced or manufactured materials in new construction between FY2012 and FY2017.

# DATA TABLES

## 1. Greenhouse Gas Emissions (GHG) in Metric Tons (MTCO2e) from Montgomery County government operations (facilities and fleet).

| Fiscal Year | GHG from Facilities | GHG from Fleet | Total GHG from Facilities and Fleet without Offsets | GHG Reductions from Renewable Energy Certificates | Total GHG from Facilities and Fleet with Offsets |
|-------------|---------------------|----------------|---|---|--|
| 2011        | 93,847              | 55,335         | 149,182   | (33,174)  | 116,008  |
| 2012        | 100,218             | 59,607         | 159,825   | (32,903)  | 126,922  |
| 2013        | 100,194             | 60,916         | 161,110   | (104,042)   | 57,068   |
| 2014        | 101,638             | 56,021         | 157,658   | (88,067)  | 69,591   |
| 2015        | 98,726              | 59,225         | 157,951   | (73,762)  | 84,189   |
| 2016        | 96,643              | 63,463         | 160,105   | 194,804   | (34,699)   |
| 2017        | 104,930             | 61,416         | 166,346   | (194,804)   | (28,458)   |

\* Facilities data are based on electricity, natural gas, and building fuel consumption based on utility bill data for all County-owned facilities as well as leased spaces that house County staff and operations, as well as County owned and operated street lights and traffic signals. Fleet data are based on petroleum, natural gas, and electricity consumption for all County vehicles, including cars, trucks, buses, and off-road and industrial equipment. Renewable energy certificates are purchased to ensure renewable energy from wind, solar, and other renewable sources are added to the grid and used by another party to offset the greenhouse gas emissions from fossil fuels.

## 2. Energy Use Intensity Across County Buildings by Funding Source and Department.

| NDA Departments   | FY14 Annual Energy Use Intensity (kBtu/SqFt) | FY15 Annual Energy Use Intensity (kBtu/SqFt) | FY16 Annual Energy Use Intensity (kBtu/SqFt) | FY17 Annual Energy Use Intensity (kBtu/SqFt) |
|---|--|--|--|--|
| Circuit Court   | 38.69  | 48.71  | 47.99  | 53.68  |
| Correction and Rehabilitation                             | 87.27  | 85.52  | 72.61  | 72.80  |
| Elections   | 38.58  | 44.47  | 39.81  | 53.28  |
| Fire and Rescue Services                                  | 100.42                                       | 106.35                                       | 90.68  | 94.28  |
| General Services Maintenance Depots                       | 14.89  | 15.77  | 14.93  | 18.53  |
| Health and Human Services                                 | 75.73  | 69.11  | 65.61  | 58.91  |
| Leased Buildings  | 46.93  | 50.74  | 49.06  | 84.13  |
| Libraries   | 98.42  | 86.64  | 91.74  | 92.79  |
| Miscellaneous Buildings                                   | 52.87  | 21.40  | 13.98  | 17.69  |
| General Government <sup>2</sup>                           | 141.05                                       | 143.32                                       | 137.54                                       | 123.89                                       |
| Police  | 92.15  | 103.31                                       | 118.17                                       | 158.39                                       |
| Sheriff's Office  | 86.41  | 98.98  | 83.87  | 83.62  |
| Technology Services                                       | 269.08                                       | 253.50                                       | 243.22                                       | 230.08                                       |
| Theater and Arts  | 158.13                                       | 162.99                                       | 157.36                                       | 168.91                                       |
| <b>NDA Average</b>  | <b>83.15</b>                                 | <b>83.94</b>                                 | <b>79.11</b>                                 | <b>81.78</b>                                 |
| <b>Tax Supported Departments</b>                          |  |  |  |  |
| Recreation  | 136.36                                       | 148.26                                       | 144.38                                       | 149.68                                       |
| Transportation  | 4.45   | 4.20   | 3.90   | 5.23   |
| <b>Tax Supported Average</b>                              | <b>68.62</b>                                 | <b>73.63</b>                                 | <b>70.68</b>                                 | <b>73.01</b>                                 |
| <b>Non-Tax Supported Departments</b>                      |  |  |  |  |
| DEP (Solid Waste Disposal)                                | 46.09  | 46.75  | 36.14  | 77.53  |
| DGS (Motor Pool)  | 210.30                                       | 235.53                                       | 217.51                                       | 270.82                                       |
| Liquor  | 11.39  | 17.39  | 32.27  | 73.27  |
| Transportation (Parking Lot District)                     | 10.62  | 10.17  | 9.43   | 10.11  |
| <b>Non-Tax Supported Average</b>                          | <b>16.13</b>                                 | <b>16.07</b>                                 | <b>15.61</b>                                 | <b>19.03</b>                                 |
| <b>County-wide Average Energy Use Intensity kBtu/SqFt</b> | <b>68.73</b>                                 | <b>67.58</b>                                 | <b>63.70</b>                                 | <b>68.56</b>                                 |

1 NDA or Non Departmental Accounts include all departments that are fully funded through the County's general budget through taxpayer dollars. Tax-Supported are departments that are funded partially through tax dollars and partially through program fees. Non-Tax Supported include departments that are fully funded by program fees.

2 Includes administrative offices and other buildings that house multiple departments or County government-wide functions.

### 3. Percent Reduction in Greenhouse Gas Emissions and Social Cost of Carbon from Montgomery County government operations (facilities and fleet).

| Fiscal Year | Total GHG from Facilities and Fleet After Offsets (metric tons) | Percent Change (from 2005 baseline) <sup>3</sup> | Social Cost of Carbon After Offsets |
|-------------|---|--|-------------------------------------|
| 2011        | 116,008   | 2%   | \$2,540,577                         |
| 2012        | 126,922   | 11%  | \$2,843,061                         |
| 2013        | 57,068  | -50%   | \$1,301,156                         |
| 2014        | 69,591  | -39%   | \$1,621,461                         |
| 2015        | 84,189  | -26%   | \$2,003,689                         |
| 2016        | (34,699)  | -130%  | \$(843,181)                         |
| 2017        | (28,458)  | -125%  | \$(705,763)                         |

<sup>3</sup> The 2005 baseline of 114,000 metric tons of greenhouse gas emissions was calculated using a subset of Montgomery County government facilities and fleet operations for which data are available.

### 4. Energy Performance Benchmarking<sup>4</sup>

| County Building  | FY16 ENERGYSTAR Score | FY17 ENERGYSTAR Score | ENERGYSTAR Score % Change | FY16 Site EUI (kBtu/ft <sup>2</sup> ) | FY17 Site EUI (kBtu/ft <sup>2</sup> ) | Site EUI (kBtu/ft <sup>2</sup> ) % Change |
|--|-----------------------|-----------------------|---------------------------|---------------------------------------|---------------------------------------|---|
| MID-COUNTY DEPARTMENT OF HEALTH AND HUMAN SERVICES BUILDING<br>[Energy Retrofit Completed] | 86                    | 91                    | 5.8%                      | 84.4                                  | 67.7                                  | -19.8%                                    |
| HEALTH AND HUMAN SERVICES ADMINISTRATIVE OFFICES<br>[Energy Retrofit Completed]            | 87                    | 85                    | -2.3%                     | 71.8                                  | 75.8                                  | 5.6%                                      |
| CIRCUIT COURT NORTH TOWER  | 68                    | 67                    | -1.5%                     | 65.2                                  | 67.6                                  | 3.7%                                      |
| GREY COURTHOUSE <sup>5</sup>   | 62                    | 57                    | -8.1%                     | 62.0                                  | 71.6                                  | 15.5%                                     |
| HOLIDAY PARK SENIOR CENTER<br>[Energy Retrofit Planned]                                    | 58                    | 61                    | 5.2%                      | 73.8                                  | 73                                    | -1.1%                                     |
| CIRCUIT COURT SOUTH TOWER<br>[LEED Gold Facility]  | 44                    | 41                    | -6.8%                     | 121.7                                 | 134                                   | 10.1%                                     |
| UPCOUNTY REGIONAL SERVICES CENTER<br>[Energy Retrofit Planned]                             | 37                    | 42                    | 13.5%                     | 111.9                                 | 112.2                                 | 0.3%                                      |
| PUBLIC SAFETY HEADQUARTERS   | 26                    | 29                    | 11.5%                     | 208.7                                 | 197.1                                 | -5.6%                                     |
| EXECUTIVE OFFICE BUILDING  | 24                    | 17                    | -29.2%                    | 107.4                                 | 120.1                                 | 11.8%                                     |
| COUNCIL OFFICE BUILDING<br>[Energy Retrofit in Progress]                                   | 14                    | 22                    | 57.1%                     | 181.2                                 | 147.3                                 | -18.7%                                    |
| ROCKVILLE LIBRARY <sup>6</sup>   | N/A                   | N/A                   | N/A                       | 106.0                                 | 96.1                                  | -9.3%                                     |
| GAITHERSBURG LIBRARY <sup>6</sup> [LEED Gold Facility]                                     | N/A                   | N/A                   | N/A                       | 36.8                                  | 33.2                                  | -9.8%                                     |
| GERMANTOWN LIBRARY <sup>6</sup>  | N/A                   | N/A                   | N/A                       | 117.2                                 | 137.9                                 | 17.7%                                     |
| STRATHMORE CONCERT HALL <sup>6</sup>   | N/A                   | N/A                   | N/A                       | 166.2                                 | 186.8                                 | 12.4%                                     |
| WHITE OAK COMMUNITY RECREATION CENTER <sup>6</sup><br>[LEED Gold Facility]                 | N/A                   | N/A                   | N/A                       | 51.0                                  | 53.3                                  | 4.5%                                      |

<sup>4</sup> The Energy Performance Benchmarking table reports data on a fiscal year basis, consistent with County planning and budgeting. In addition, the County submits benchmarking data to the Department of Environmental Protection on a calendar year basis in compliance with the County's Building Energy Benchmarking and Transparency Law. The most recent Benchmarking Law data are available at <http://bit.ly/mc2016data>. Additional information on benchmarking and the County's Benchmarking Law are available at <https://www.montgomerycountymd.gov/green/energy/benchmarking.html>.

<sup>5</sup> This building was reported voluntarily. It is not part of the benchmarking mandate due to low occupancy.

<sup>6</sup> Building type is not eligible to receive an ENERGY STAR score.

**5. Planned Energy Efficiency Projects (subject to revision)**

| <b>Facility Name</b>                                 | <b>Fiscal Year Expected Completion</b> | <b>Project Type</b>  | <b>Funding Source</b>             | <b>Projected Annual Cost Savings (\$)</b> | <b>Annual GHG Emissions Reductions (MTCO2e)</b> | <b>Reduction in Social Cost of Carbon</b> |
|--|--|--|-----------------------------------|---|---|---|
| Aspen Hill Library                                   | FY18                                   | Building Envelope, Demand Controlled Ventilation, Lighting Upgrade   | ESCO                              | \$7,691                                   | 42  | \$882                                     |
| Bethesda Library                                     | FY18                                   | Building Envelope, High-Efficiency Transformers, Lighting Upgrade, Water Conservation                        | ESCO                              | \$16,904                                  | 95  | \$1,995                                   |
| Davis Library  | FY18                                   | Building Controls, HVAC & Lighting Upgrades, Water Conservation  | ESCO                              | \$11,640                                  | 72  | \$1,512                                   |
| Kensington Park Library                              | FY18                                   | Building Controls, HVAC & Lighting Upgrades, Water Conservation  | ESCO                              | \$7,683                                   | 38  | \$798                                     |
| Little Falls Library                                 | FY18                                   | Demand Controlled Ventilation, Lighting Upgrade, Water Conservation  | ESCO                              | \$8,300                                   | 49  | \$1,029                                   |
| Longwood Community Recreation Center                 | FY18                                   | Building Controls, HVAC & Lighting Upgrades, Vending Controls, Water Conservation                            | ESCO                              | \$12,945                                  | 54  | \$1,134                                   |
| Pre-Release Center                                   | FY18                                   | Building Controls, HVAC & Lighting Upgrades, Variable Frequency Drives, Vending Controls, Water Conservation | ESCO                              | \$183,317                                 | 616   | \$12,936                                  |
| Quince Orchard Library                               | FY18                                   | Lighting Upgrade, Water Conservation   | ESCO                              | \$15,311                                  | 95  | \$1,995                                   |
| Silver Spring Health Center                          | FY18                                   | Building Controls, HVAC & Lighting Upgrades, Variable Frequency Drives, Vending Controls, Water Conservation | ESCO                              | \$24,923                                  | 119   | \$2,499                                   |
| Twinbrook Library                                    | FY18                                   | Building Envelope, HVAC & Lighting Upgrades, Water Conservation  | ESCO                              | \$4,901                                   | 24  | \$504                                     |
| White Oak Library                                    | FY18                                   | Building Controls, Building Envelope, Demand Controlled Ventilation, Lighting Upgrade, Water Conservation    | ESCO                              | \$17,098                                  | 109   | \$2,289                                   |
| Montgomery County Correctional Facility              | FY18                                   | Domestic Water Heater Upgrade  | CIP, Operating, and Other Sources | TBD                                       | TBD   | TBD                                       |
| West Penthouse                                       | FY18                                   | TBD  | CIP, Operating, and Other Sources | TBD                                       | TBD   | TBD                                       |
| Black Rock Center for Arts                           | FY18                                   | HVAC Upgrade   | CIP, Operating, and Other Sources | TBD                                       | TBD   | TBD                                       |
| Colesville Health Center Facility                    | FY18                                   | Building Controls, Building Envelope, HVAC and Lighting Upgrade, Vending Controls, Water Conservation        | CIP, Operating, and Other Sources | TBD                                       | TBD   | TBD                                       |
| Council Office Building                              | FY19                                   | Building Envelope, HVAC & Lighting Upgrades, Water Conservation  | ESCO and Renovation               | \$210,974                                 | 1,191   | \$25,011                                  |
| Upcounty Regional Services Center                    | FY19                                   | Building Controls, Building Envelope, HVAC and Lighting Upgrade, Vending Controls, Water Conservation        | ESCO                              | \$79,588                                  | 500   | \$10,500                                  |
| Public Safety Headquarters (PSHQ)                    | FY19                                   | Cooling Tower Upgrade, HVAC System Recommissioning & Improvements  | CIP, Operating, and Other Sources | TBD                                       | TBD   | TBD                                       |
| Facility Maintenance Depot                           | FY19                                   | Lighting Upgrade   | CIP, Operating, and Other Sources | TBD                                       | TBD   | TBD                                       |
| Brookville Maintenance Facility                      | FY19                                   | Lighting Upgrade (Exterior)  | CIP, Operating, and Other Sources | TBD                                       | TBD   | TBD                                       |
| Miscellaneous Small Facilities [e.g., Fire Stations] | FY19                                   | Lighting Upgrade   | CIP, Operating, and Other Sources | TBD                                       | TBD   | TBD                                       |

continued on page 35

continued from page 34

| Building Envelope (Window Replacement), HVAC Upgrade | CIP, Operating, and Other Sources | TBD                                  | TBD                               | TBD                | Annual GHG Emissions Reductions (MTCO2e) | Reduction in Social Cost of Carbon |
|--|-----------------------------------|--------------------------------------|-----------------------------------|--------------------|--|------------------------------------|
| Multiple Facilities                                  | FY19                              | Chiller Sub-metering                 | CIP, Operating, and Other Sources | TBD                | TBD                                      | TBD                                |
| Hillandale Fire Station #24                          | FY19                              | HVAC/Electrical Upgrades             | CIP, Operating, and Other Sources | TBD                | TBD                                      | TBD                                |
| Longbranch Outdoor Pool                              | FY20                              | Lighting, HVAC and Controls Upgrade  | ESCo                              | \$3,000            | 18                                       | \$375                              |
| Rockville Core (Grey Courthouse)                     | FY20                              | TBD                                  | CIP, Operating, and Other Sources | TBD                | TBD                                      | TBD                                |
| Germantown Library                                   | FY20                              | Lighting, HVAC and Controls Upgrades | ESCo                              | \$57,000           | 328                                      | \$6,884                            |
| Long Branch Community Recreation Center              | FY20                              | Lighting, HVAC and Controls Upgrades | ESCo                              | \$30,000           | 172                                      | \$3,606                            |
| Long Branch Library                                  | FY20                              | Lighting, HVAC and Controls Upgrades | ESCo                              | \$23,000           | 132                                      | \$2,763                            |
| Marilyn Praisner Library                             | FY20                              | Lighting, HVAC and Controls Upgrades | ESCo                              | \$19,000           | 109                                      | \$2,295                            |
| Martin Luther King Jr. Swim Center                   | FY20                              | Lighting, HVAC and Controls Upgrades | ESCo                              | \$119,000          | 682                                      | \$14,330                           |
| Montgomery County Liquor Warehouse                   | FY20                              | Lighting, HVAC and Controls Upgrades | ESCo                              | \$65,000           | 372                                      | \$7,821                            |
| Rockville Library                                    | FY20                              | Lighting, HVAC and Controls Upgrades | ESCo                              | \$73,000           | 419                                      | \$8,804                            |
| Olney Swim Center                                    | FY21                              | Lighting, HVAC and Controls Upgrades | ESCo                              | \$52,499           | 331                                      | \$6,951                            |
| Street Lights (DOT)                                  | FY21                              | Lighting Upgrade                     | ESCo                              | \$813,051          | 4,844                                    | \$101,718                          |
| <b>Total</b>   |                                   |                                      |                                   | <b>\$1,855,825</b> | <b>10,411</b>                            | <b>\$218,631</b>                   |

**6. Energy Efficiency Projects Completed in FY17 (Current)**

| Facility Name                          | Fiscal Year Completed | Project Type  | Funding Source                    | Estimated Annual Cost Savings (\$) | Annual GHG Emissions Reductions (MTCO2e) | Reduction in Social Cost of Carbon |
|--|-----------------------|---|-----------------------------------|------------------------------------|--|------------------------------------|
| Mid-County HHS Building                | FY17                  | Building Controls, Building Envelope, High-Efficiency Transformers, HVAC and Lighting Upgrade, Vending Controls, Water Conservation | ESCo                              | \$181,853                          | 704                                      | \$14,784                           |
| AFI/ Blackbox Theater                  | FY17                  | Lighting Upgrade  | CIP, Operating, and Other Sources | \$63,183                           | 389                                      | \$8,169                            |
| Brookville Maintenance Facility        | FY17                  | Lighting Upgrade (Interior)   | CIP, Operating, and Other Sources | \$32,308                           | 199                                      | \$4,179                            |
| Strathmore Concert Hall                | FY17                  | Lighting Upgrade  | CIP, Operating, and Other Sources | \$93,203                           | 573                                      | \$12,033                           |
| Executive Office Building (11th Floor) | FY17                  | Lighting Upgrade  | CIP, Operating, and Other Sources | \$1,511                            | 9  | \$189                              |
| <b>Total FY17</b>                      |                       |   |                                   | <b>\$372,058</b>                   | <b>1,874</b>                             | <b>\$39,354</b>                    |

**7. Energy Efficiency Projects Completed in FY13-FY16 (Previous)**

| <b>Facility Name</b>          | <b>Fiscal Year Expected Completion</b> | <b>Project Type</b>  | <b>Funding Source</b>             | <b>Projected Annual Cost Savings (\$)</b> | <b>Annual GHG Emissions Reductions (MTCO2e)</b> | <b>Reduction in Social Cost of Carbon</b> |
|-------------------------------|--|--|-----------------------------------|---|---|---|
| Davis Library                 | FY16                                   | Building Envelope, Demand Controlled Ventilation, Lighting Upgrade, Water Conservation       | ESCO                              | \$17,744                                  | 62  | \$1,302                                   |
| Aspen Hill Library            | FY16                                   | Lighting Upgrade   | CIP, Operating, and Other Sources | \$2,641                                   | 16  | \$336                                     |
| Damascus Library              | FY16                                   | Lighting Upgrade   | CIP, Operating, and Other Sources | \$6,955                                   | 43  | \$903                                     |
| Detention Center              | FY16                                   | Lighting Upgrade   | CIP, Operating, and Other Sources | \$15,461                                  | 95  | \$1,995                                   |
| Imagination Stage             | FY16                                   | Lighting Upgrade   | CIP, Operating, and Other Sources | \$16,293                                  | 97  | \$2,037                                   |
| Potomac CRC                   | FY16                                   | Lighting Upgrade   | CIP, Operating, and Other Sources | \$14,026                                  | 86  | \$1,806                                   |
| Potomac Library               | FY16                                   | Lighting Upgrade   | CIP, Operating, and Other Sources | \$3,747                                   | 23  | \$483                                     |
| Public Safety Headquarters    | FY16                                   | Lighting Upgrades  | CIP, Operating, and Other Sources | \$5,812                                   | 36  | \$756                                     |
| Germantown Indoor Swim Center | FY16                                   | Lighting Upgrade   | CIP, Operating, and Other Sources | \$9,125                                   | 56  | \$1,176                                   |
| Woodmont Corner Garage #11    | FY16                                   | Lighting Upgrade   | CIP, Operating, and Other Sources | \$60,222                                  | 358   | \$7,518                                   |
| Strathmore Concert Hall       | FY16                                   | ENERGY STAR Appliances   | CIP, Operating, and Other Sources | \$60                                      | —   | —   |
| North Potomac CRC             | FY16                                   | Chiller Upgrade  | CIP, Operating, and Other Sources | \$6,283                                   | 37  | \$777                                     |
| Scotland NRC                  | FY16                                   | Chiller Upgrade  | CIP, Operating, and Other Sources | \$1,185                                   | 7   | \$147                                     |
| <b>Total FY16</b>             |  |  |                                   | <b>\$159,554</b>                          | <b>916</b>                                      | <b>\$19,236</b>                           |
| HHS Administrative Offices    | FY15                                   | Building Controls, High-Efficiency Transformers, HVAC and Lighting Upgrade, Vending Controls | ESCO                              | \$222,159                                 | 1132  | \$23,772                                  |
| Halfway House for Women       | FY15                                   | ENERGYSTAR Appliances  | CIP, Operating, and Other Sources | \$19                                      | —   | —   |
| Rothgeb Worker Center         | FY15                                   | Lighting Upgrade   | CIP, Operating, and Other Sources | \$5,116                                   | 32  | \$672                                     |
| <b>Total FY15</b>             |  |  |                                   | <b>\$227,294</b>                          | <b>1164</b>                                     | <b>\$24,444</b>                           |
| Spring Cameron Garage #02     | FY14                                   | Lighting Upgrade   | CIP, Operating, and Other Sources | \$68,818                                  | 410   | \$8,610                                   |
| Cameron Second Garage #07     | FY14                                   | Lighting Upgrade   | CIP, Operating, and Other Sources | \$81,148                                  | 483   | \$10,143                                  |
| Strathmore Concert Hall       | FY14                                   | Chiller Upgrade, Variable Frequency Drives   | CIP, Operating, and Other Sources | \$29,803                                  | 178   | \$3,738                                   |
| White Oak Library             | FY14                                   | Chiller Upgrade  | CIP, Operating, and Other Sources | \$2,939                                   | 17  | \$357                                     |
| Cabin John Liquor             | FY14                                   | Lighting Upgrade   | CIP, Operating, and Other Sources | \$6,344                                   | 38  | \$798                                     |
| Hampden Lane Liquor           | FY14                                   | Lighting Upgrade   | CIP, Operating, and Other Sources | \$1,670                                   | 10  | \$210                                     |
| Kensington Liquor             | FY14                                   | Lighting Upgrade   | CIP, Operating, and Other Sources | \$4,065                                   | 24  | \$504                                     |

continued on page 37

continued from page 36

| Facility Name                          | Fiscal Year Expected Completion | Project Type     | Funding Source                    | Projected Annual Cost Savings (\$) | Annual GHG Emissions Reductions (MTCO2e) | Reduction in Social Cost of Carbon |
|--|---------------------------------|------------------|-----------------------------------|------------------------------------|--|------------------------------------|
| Kingsview Liquor                       | FY14                            | Lighting Upgrade | CIP, Operating, and Other Sources | \$5,318                            | 32                                       | \$672                              |
| Leisure World Liquor                   | FY14                            | Lighting Upgrade | CIP, Operating, and Other Sources | \$2,810                            | 17                                       | \$357                              |
| Montrose Liquor                        | FY14                            | Lighting Upgrade | CIP, Operating, and Other Sources | \$2,089                            | 12                                       | \$ 252                             |
| Muddy Branch Liquor                    | FY14                            | Lighting Upgrade | CIP, Operating, and Other Sources | \$3,610                            | 21                                       | \$ 441                             |
| Olney Liquor                           | FY14                            | Lighting Upgrade | CIP, Operating, and Other Sources | \$9,647                            | 57                                       | \$1,197                            |
| Potomac Liquor                         | FY14                            | Lighting Upgrade | CIP, Operating, and Other Sources | \$2,908                            | 17                                       | \$357                              |
| Rockville Liquor                       | FY14                            | Lighting Upgrade | CIP, Operating, and Other Sources | \$6,169                            | 37                                       | \$777                              |
| Silver Spring Liquor                   | FY14                            | Lighting Upgrade | CIP, Operating, and Other Sources | \$2,355                            | 14                                       | \$294                              |
| Walnut Hill Liquor                     | FY14                            | Lighting Upgrade | CIP, Operating, and Other Sources | \$2,354                            | 14                                       | \$294                              |
| Westwood Liquor                        | FY14                            | Lighting Upgrade | CIP, Operating, and Other Sources | \$4,043                            | 24                                       | \$504                              |
| Wheaton Liquor                         | FY14                            | Lighting Upgrade | CIP, Operating, and Other Sources | \$2,080                            | 12                                       | \$252                              |
| <b>Total FY14</b>                      |                                 |                  |                                   | <b>\$238,170</b>                   | <b>1,417</b>                             | <b>\$29,757</b>                    |
| Council Office Building-Parking Garage | FY13                            | Lighting Upgrade | CIP, Operating, and Other Sources | \$28,764                           | 171                                      | \$3,591                            |
| Kennett Street Garage #9               | FY13                            | Lighting Upgrade | CIP, Operating, and Other Sources | \$34,632                           | 206                                      | \$4,326                            |
| Amherst Garage #45                     | FY13                            | Lighting Upgrade | CIP, Operating, and Other Sources | \$40,476                           | 241                                      | \$5,061                            |
| Metropolitan Garage #49                | FY13                            | Lighting Upgrade | CIP, Operating, and Other Sources | \$65,963                           | 393                                      | \$8,253                            |
| 1101 Bonifant Dr. Garage #55           | FY13                            | Lighting Upgrade | CIP, Operating, and Other Sources | \$73,000                           | 434                                      | \$9,114                            |
| Wayne Avenue Garage #60                | FY13                            | Lighting Upgrade | CIP, Operating, and Other Sources | \$126,128                          | 751                                      | \$15,771                           |
| Town Square Garage #61                 | FY13                            | Lighting Upgrade | CIP, Operating, and Other Sources | \$99,857                           | 594                                      | \$12,474                           |
| Kensington Park Library                | FY13                            | Chiller Upgrade  | CIP, Operating, and Other Sources | \$2,296                            | 14                                       | \$294                              |
| <b>Total FY13</b>                      |                                 |                  |                                   | <b>\$471,116</b>                   | <b>2,804</b>                             | <b>\$58,884</b>                    |

**8. Solar and Advanced Energy Project Summary**

| Facility   | Completion Date | Type                           | Power (kW)           | Energy Generation FY16 (kWh) | Savings FY16 <sup>7</sup> | Energy Generation FY17 (kWh) | Savings FY17 <sup>8</sup> |
|--|-----------------|--------------------------------|----------------------|------------------------------|---------------------------|------------------------------|---------------------------|
| <b>Projects Self-Funded by Montgomery County<sup>9</sup></b>                                 |                 |                                |                      |                              |                           |                              |                           |
| Shady Grove Transfer station   | 2012            | Rooftop                        | 280                  | 350,000                      | \$42,000                  | 350,000                      | \$42,000                  |
| Equipment Maintenance and Transit Operations Center  | 2012            | Rooftop                        | 74                   | 93,758                       | \$11,251                  | 93,758                       | \$11,251                  |
| Circuit Court South Tower  | 2013            | Rooftop                        | 12 (estimated)       | 15,144                       | \$1,817                   | 15,144                       | \$1,817                   |
| <b>Projects Made Possible by Power Purchase Agreement Through Public-Private Partnership</b> |                 |                                |                      |                              |                           |                              |                           |
| Montgomery County Department of Liquor Control   | February 2016   | Rooftop                        | 1,120                | 388,928                      | \$33,448                  | 1,124,757                    | \$79,858                  |
| Rockville Library  | February 2016   | Rooftop                        | 88                   | 40,330                       | \$3,267                   | 96,376                       | \$7,710                   |
| Potomac Community Center   | March 2016      | Rooftop                        | 55                   | 14,583                       | \$1,123                   | 54,663                       | \$4,592                   |
| Jane Lawton Recreation Center  | March 2016      | Rooftop                        | 41                   | 8,212                        | \$764                     | 45,381                       | \$3,630                   |
| Silver Spring Civic Building at Veterans Plaza   | March 2016      | Rooftop                        | 39                   | 15,480                       | \$1,285                   | 43,502                       | \$3,567                   |
| Gaithersburg Library   | April 2016      | Rooftop                        | 220                  | 63,174                       | \$5,243                   | 254,434                      | \$21,627                  |
| Up-County Regional Services Center   | May 2016        | Rooftop                        | 54                   | 13,962                       | \$796                     | 70,886                       | \$3,828                   |
| Fire Station 31  | January 2017    | Rooftop                        | 37                   | n/a                          | n/a                       | 19,985                       | \$1739                    |
| Council Office Building  | March 2017      | Rooftop                        | 32                   | n/a                          | n/a                       | 14,158                       | \$255                     |
| Montgomery County Correctional Facility <sup>10</sup>  | May 2017        | Ground mount and rooftop       | 2,803                | n/a                          | n/a                       | 130,861                      | \$9,160                   |
| Holiday Park Senior Center   | June 2017       | Canopy                         | 350                  | n/a                          | n/a                       | 5,547                        | \$460                     |
| Kidstop Childcare Center   | June 2017       | Rooftop                        | 31                   | n/a                          | n/a                       | 4,459                        | \$392                     |
| Oaks Landfill <sup>11</sup>  | Expected 2018   | Ground mount                   | 5,162                | n/a                          | n/a                       | n/a                          | n/a                       |
| Public Safety Headquarters (PSHQ) microgrid <sup>12</sup>                                    | Expected 2018   | Solar Canopy and CHP microgrid | 2,510 solar; 800 CHP | n/a                          | n/a <sup>13</sup>         | n/a                          | n/a                       |
| Montgomery County Correctional Facility (MCCF) microgrid <sup>14</sup>                       | Expected 2018   | CHP                            | 220                  | n/a                          | n/a                       | n/a                          | n/a                       |
| <b>Total<sup>15</sup></b>  |                 |                                |                      | <b>544,669</b>               | <b>\$100,993</b>          | <b>1,865,009</b>             | <b>\$191,886</b>          |

<sup>7</sup> Please note that because solar projects came online at different times the calendar year, no projects had a full year of actual savings in FY2016 and some projects were not yet online when the fiscal year started.

<sup>8</sup> Please note that solar projects that came online during calendar year 2017 did not have a full year of actual savings during FY2017.

<sup>9</sup> Energy generation and cost savings for projects built prior to 2016 are estimated based on expected annual generation.

<sup>10</sup> An additional ground mount array on the north side of the facility is expected to come on-line in 2018 that is expected to nearly double the generation and cost savings for this project.

<sup>11</sup> Annual energy generation anticipated for the planned Oaks Landfill solar project is 7,435,500 kWh, with an annual projected cost savings of \$256,372.

<sup>12</sup> Anticipated annual energy generation for the microgrid project at Public Safety Headquarters is 3,305,808 kWh for the solar canopies over parking and 6,324,720 kWh for the combined heat and power (CHP) generator.

<sup>13</sup> For the PSHQ and MCCF microgrid projects, \$4 million in infrastructure upgrades were installed to enhance resilience and increase efficiency through a Public Private Partnership. In addition, the two microgrids are expected to reduce greenhouse gas emission by 3,629 metric tons each year, the equivalent of taking more than 750 cars off the road or planting 94,000 trees. Electricity rates will be comparable to projected utility rates.

<sup>14</sup> Anticipated annual energy generation for the microgrid project at Montgomery County Correctional Facility is 1,830,840 kWh.

<sup>15</sup> Includes only projects completed through the end of FY2017.

**9. Fuel Economy Standards and SUV Inventory<sup>16</sup>**

| Average Fuel Economy (mpg) | FY2012 | FY2013 | FY2014 | FY2015 | FY2016 | FY2017 |
|----------------------------|--------|--------|--------|--------|--------|--------|
| Administrative Fleet       | 14.31  | 15.0   | 14.35  | 16.07  | 16.01  | 15.67  |
| Public Safety Fleet        | 12.2   | 12.34  | 12.79  | 13.65  | 13.24  | 12.44  |

**SUV INVENTORY**

| Count by Department           | # of SUVs  | Percentage of SUVs |
|-------------------------------|------------|--------------------|
| Correction and Rehabilitation | 6          | 1.39%              |
| Fire and Rescue               | 39         | 9.01%              |
| Police                        | 223        | 51.50%             |
| Sheriffs Office               | 23         | 5.31%              |
| Circuit Court                 | 1          | 0.23%              |
| Community Engagement Cluster  | 2          | 0.46%              |
| County Executives Office      | 2          | 0.46%              |
| Economic Development          | 1          | 0.23%              |
| Environmental Protection      | 17         | 3.93%              |
| General Services              | 27         | 6.24%              |
| Health and Human Services     | 1          | 0.23%              |
| Housing and Community Affairs | 1          | 0.23%              |
| Liquor Control                | 2          | 0.46%              |
| Office Of Homeland Security   | 1          | 0.23%              |
| Permitting Services           | 30         | 6.93%              |
| Recreation                    | 2          | 0.46%              |
| State Attorneys Office        | 1          | 0.23%              |
| Technology Services           | 3          | 0.69%              |
| Transportation                | 51         | 11.78%             |
| <b>Total</b>                  | <b>433</b> |                    |

| Subfleet          | Total Count | Percentage of SUVs | Mileage   | Fuel Usage | Ave MPG |
|-------------------|-------------|--------------------|-----------|------------|---------|
| Public Safety SUV | 293         | 68%                | 3,799,170 | 299,454    | 13      |
| Other SUV         | 140         | 32%                | 1,118,579 | 72,130     | 16      |
| Total             | 433         |                    | 4,917,750 | 371,585    | 13      |

<sup>16</sup> Disclosure required by Bill 6-14.**10. County Employee Participation in Commuter Services Programs**

| Program           | Description   | Participation in FY2016                            | Participation in FY2017  |
|-------------------|---|--|--|
| Ride On C-Pass    | County employees can take Ride On buses for free using their employee id badge.                             | 81,455 rides (approximately 9 rides per employee). | 77,725 rides (approximately 8.5 rides per employee).   |
| Capital Bikeshare | Employees receive discounted annual membership for the bikesharing program.                                 | 75 employees (since 2014).                         | 118 registered since 2014. 56 are active or pending (have key fob but haven't started riding yet). |
| Get In Program    | Partial reimbursement of public transit costs for employees who use public transportation five days a week. | 93 employees participate.                          | 85 employees participate.  |

**11. Recycled Materials Purchased by Montgomery County Government**

| Recycled Product   | FY16 Cost          | FY17 Cost          |
|--|--------------------|--------------------|
| Asphalt and bituminous concrete (bituminous concrete may consist of 25% recycled material)           | \$3,268,000        | \$4,500,000        |
| Recycled paper   | \$367,669          | \$208,473          |
| Recycled office supplies purchased through the County's LSBRP contract with Benjamin Office Supplies | \$411,063          | \$440,299          |
| Plastic recycling bins (recycled content from 25% to 50%)  | \$220,872          | \$827,071          |
| Record storage boxes (with recycled content from 10-26%)   | \$7,837            | \$46,531           |
| <b>Total</b>   | <b>\$4,275,441</b> | <b>\$6,022,374</b> |

**12. Stormwater Management Facility Retrofits on County Property**

| Facility                                 | Stormwater Management Practice(s)  | Status                              | Impervious Area Treated (acres) |
|--|--|-------------------------------------|---------------------------------|
| Ken Gar Recreation Center                | Rain Garden  | Completed                           | 0.05                            |
| Wheaton Veterans Park                    | Conservation Landscaping   | Completed                           | 0.11                            |
| Glen Echo Heights Right-of-Way           | Conservation Landscaping   | Completed                           | 0.05                            |
| Aspen Hill Library                       | Bioretention; Curb Extension   | Completed                           | 0.71                            |
| Kensington Library                       | Rain Gardens; Bioretention; Bioswale   | Completed                           | 0.76                            |
| Upper County Community Recreation Center | Dry Pond Retrofit  | Completed                           | 3.63                            |
| Colesville Park & Ride                   | Bioretention; Water Quality Inlets   | Completed                           | 1.28                            |
| Greencastle Park & Ride                  | Bioretention; Water Quality Inlets   | Completed                           | 1.77                            |
| Little Falls Library                     | Bioretention   | Completion Expected December 2017   | 0.68                            |
| Germantown MARC Park & Ride              | Water Quality Inlets; Underground Water Quality Filters                      | Construction Expected November 2018 | 6.35                            |
| Longwood Recreation Center               | Bioretention; Sand Filter  | Construction Expected February 2018 | 0.6                             |
| Potomac Recreation Center                | Bioretention; Permeable Paver; Underground Sand Filter; Water Quality Inlets | Construction Expected February 2018 | 2.4                             |
| <b>Total</b>                             |  |                                     | <b>18.39</b>                    |

**13. County LEED Certified Building Statistics**

| Facility  | LEED Certification | Construction Waste Diverted from Landfill | Building Materials with Recycled Content | FSC Certified Wood used in Construction | Building Materials Harvested or Manufactured Locally | Water Use Reduction <sup>18</sup> | Energy Use Reduction <sup>18</sup> |
|---|--------------------|---|--|---|--|-----------------------------------|------------------------------------|
| MCPS Food Distribution Center                       | Silver             | 77%                                       | 20%                                      | 97%                                     | 33%  | 36%                               | 19%                                |
| Mid County Community Recreation Center              | Silver             | 87%                                       | n/a                                      | n/a                                     | 100%   | 43%                               | 35%                                |
| Plum Gar Recreation Center                          | Silver             | 50%                                       | n/a                                      | n/a                                     | n/a  | n/a                               | n/a                                |
| Travilah Fire Station                               | Silver             | 82%                                       | 25%                                      | n/a                                     | 22%  | 33%                               | 21%                                |
| Animal Services and Adoption Center                 | Gold               | 96%                                       | 15%                                      | n/a                                     | 24%  | 40%                               | 14%                                |
| Circuit Court South Tower                           | Gold               | 93%                                       | 26%                                      | 80%                                     | 40%  | 35%                               | 24%                                |
| Colesville Depot                                    | Gold               | 98%                                       | 14%                                      | n/a                                     | 43%  | 41%                               | 18%                                |
| Equipment Maintenance and Transit Operations Center | Gold               | 75% <sup>17</sup>                         | 20%                                      | 50%                                     | 20%  | 40%                               | n/a                                |
| Gaithersburg Library                                | Gold               | 79%                                       | 33%                                      | 97%                                     | 35%  | 30%                               | n/a                                |
| Glenmont Fire Station 18                            | Gold               | 92%                                       | 18%                                      | n/a                                     | 27%  | 46%                               | 19%                                |
| 3rd District Police Station                         | Gold               | 94%                                       | 24%                                      | 51%                                     | 24%  | 37%                               | 17%                                |
| Olney Library                                       | Gold               | 83%                                       | 20%                                      | 76%                                     | 22%  | 38%                               | 20%                                |
| Progress Place                                      | Silver             | 92%                                       | 19%                                      | 100%                                    | 16%  | 36%                               | 18%                                |
| Scotland Neighborhood Recreation Center             | Gold               | 75% <sup>17</sup>                         | 22%                                      | 50% <sup>17</sup>                       | 28%  | 44%                               | n/a                                |
| Silver Spring Library                               | Gold               | 85%                                       | 20%                                      | 76%                                     | 27%  | 43%                               | 28%                                |
| White Oak Recreation Center                         | Gold               | 85%                                       | 20%                                      | 50% <sup>17</sup>                       | 40%  | 50%                               | 32%                                |

<sup>17</sup> Montgomery County achieved LEED points for this category that require at least the minimum threshold listed to be met. In cases where a more precise number was not available, we substituted the minimum needed to achieve the points. Actual percentages for some of these categories may be even higher.

<sup>18</sup> Water use reduction and energy use reduction are compared to a baseline building performance rating calculated following guidelines provided by the U.S. Green Building Council.

**MISCELLANEOUS DATA<sup>19</sup>****14. Estimated Utility Costs by Type**

| Utility Type  | Unit of Measure | Unit Costs FY15 | Unit Costs FY16 | Unit Costs FY17 |
|---------------|-----------------|-----------------|-----------------|-----------------|
| Electric      | kWh             | \$0.121         | \$0.125         | \$0.118         |
| Water & Sewer | Kgal            | \$15.121        | \$16.239        | \$18.458        |
| Natural Gas   | Therm           | \$0.945         | \$0.852         | \$0.939         |
| Fuel Oil #2   | Gal             | \$2.631         | \$1.782         | \$3.143         |
| Propane       | Gal             | \$3.819         | \$3.640         | \$3.526         |

**15. Utility Costs Estimates for FY18 for New Buildings**

| New Building FY18                     | Floor Area (SqFt) | OBI FY19         | Average Annual Utility Costs/Floor Area (SqFt) |
|---------------------------------------|-------------------|------------------|--|
| 2nd District Police Station- Bethesda | 38,000            | \$101,612        | \$2.67   |
| GOOD HOPE NRC (NEW)                   | 14,000            | \$28,150         | \$2.01   |
| <b>Total</b>                          |                   | <b>\$129,762</b> |  |

**16. Total Building Square Footage Fueled by Electricity and Natural Gas**

| Group                | Fund              | Utility            | Bldg. Sq.Ft. FY15 | Bldg. Sq.Ft. FY16 | Bldg. Sq.Ft. FY17 |
|----------------------|-------------------|--------------------|-------------------|-------------------|-------------------|
| County Facilities    | NDA               | Electricity        | 6,358,260         | 6,507,442         | 6,602,407         |
|                      |                   | Natural Gas        | 4,607,254         | 4,723,160         | 5,004,430         |
| Recreation           | Tax Supported     | Electricity        | 738,122           | 738,122           | 799,922           |
|                      |                   | Natural Gas        | 584,373           | 584,373           | 619,029           |
| Mass Transit         | Tax Supported     | Electricity        | 842,578           | 842,578           | 902,793           |
|                      |                   | Natural Gas        | 25,000            | 25,000            | 40,179            |
| Liquor               | Non Tax Supported | Electricity        | 58,354            | 329,051           | 348,723           |
|                      |                   | Natural Gas        | -                 | 311,886           | 327,334           |
| Solid Waste Disposal | Non Tax Supported | Electricity        | 19,506            | 21,910            | 21,910            |
|                      |                   | Natural Gas        | -                 | -                 | -                 |
| Motor Pool           | Non Tax Supported | Electricity        | 149,163           | 149,163           | 122,842           |
|                      |                   | Natural Gas        | 152,179           | 152,179           | 152,179           |
| Parking Lot District | Non Tax Supported | Electricity        | 6,753,807         | 6,782,998         | 6,556,558         |
|                      |                   | <b>Natural Gas</b> | <b>2,269,112</b>  | <b>2,042,672</b>  | <b>2,042,672</b>  |
| <b>County TOTAL</b>  |                   | <b>Electricity</b> | <b>14,919,790</b> | <b>15,371,264</b> | <b>15,355,155</b> |

**17. County Utility Expenditures FY15-FY17<sup>20</sup>**

| Fund                | Utility            | Total Consumption FY15 | Total Cost FY15     | Total Consumption FY16 | Total Cost FY16     | Total Consumption FY17 | Total Cost FY17     |
|---------------------|--------------------|------------------------|---------------------|------------------------|---------------------|------------------------|---------------------|
| NDA                 | Electricity        | 172,657,714            | \$20,546,268        | 165,844,792            | \$20,730,599        | 180,070,870            | \$20,708,150        |
|                     | Natural Gas        | 2,046,621              | \$1,921,777         | 1,781,987              | \$1,514,689         | 1,861,237              | \$1,747,702         |
| Tax Supported       | Electricity        | 17,294,492             | \$2,213,695         | 19,026,224             | \$2,378,278         | 21,233,927             | \$2,611,773         |
|                     | Natural Gas        | 574,108                | \$559,755           | 499,324                | \$423,926           | 486,090                | \$449,633           |
| Non Tax Supported   | Electricity        | 26,706,512             | \$3,391,727         | 32,217,984             | \$3,995,030         | 30,868,878             | \$3,796,872         |
|                     | Natural Gas        | 358,413                | \$335,116           | 297,507                | \$258,236           | 312,025                | \$299,544           |
| <b>County TOTAL</b> | <b>Electricity</b> | <b>216,658,718</b>     | <b>\$26,151,690</b> | <b>217,089,000</b>     | <b>\$27,103,907</b> | <b>232,173,674</b>     | <b>\$27,116,795</b> |
|                     | <b>Natural Gas</b> | <b>2,979,141</b>       | <b>\$2,816,648</b>  | <b>2,578,818</b>       | <b>\$2,196,851</b>  | <b>2,659,352</b>       | <b>\$2,496,879</b>  |

19. In an effort to merge and consolidate reporting to save paper and increase efficiency, this document includes data that was historically reported under the annual Resource Conservation Plan.

20. Source: County Executive's Budget Book.

**18. County Utility Expenditures FY15-FY17**

| Utility                          | Actual Consumption FY15 (kWh) | Actual Cost FY15 | Actual Consumption FY16 (kWh) | Actual Cost FY16 | Actual Consumption FY17 (kWh) | Actual Cost FY17 |
|----------------------------------|-------------------------------|------------------|-------------------------------|------------------|-------------------------------|------------------|
| Traffic Signals and Streetlights | 69,913,229                    | \$8,739,154      | 67,936,307                    | \$8,492,038      | 71,943,856                    | \$8,992,982      |

**19. Clean Energy Purchase**

| Clean Energy Volume 2017 (kWh Equivalent) | Percent Purchased 2017 <sup>21</sup> | FY17 Cost |
|---|--------------------------------------|-----------|
| 270,700,000                               | 100%                                 | \$181,369 |

<sup>21</sup> Includes 100 percent of the electricity use of County facilities and additional renewable energy credits to mitigate for natural gas and oil used in County facilities and fleet.

**20. Maryland Energy Administration MD-Smart Energy Community Grants and Utility Incentives FY13-FY18**

| Fiscal Year   | MEA Grants         | Utility Incentives | Projects  |
|---------------|--------------------|--------------------|---|
| FY18          | \$216,475          | \$884,237          | CHP, LED Lighting, HVAC Upgrades, and Solar PV                                  |
| FY17          | \$235,000          | \$29,024           | CHP, LED Lighting, HVAC Upgrades, and Solar PV                                  |
| FY16          | \$467,250          | \$378,306          | LED Lighting, HVAC, Building Envelope and Energy Efficient Transformer Upgrades |
| FY15          | \$338,646          | \$176,549          | LED Lighting and HVAC Upgrades  |
| FY14          | \$405,000          | \$327,880          | LED Lighting, HVAC Upgrades and Fleet conversion to Compressed Natural Gas      |
| FY13          | \$625,000          | \$252,791          | LED Lighting and HVAC Upgrades  |
| <b>Totals</b> | <b>\$2,287,371</b> | <b>\$2,048,787</b> |   |




# PLANNING AHEAD

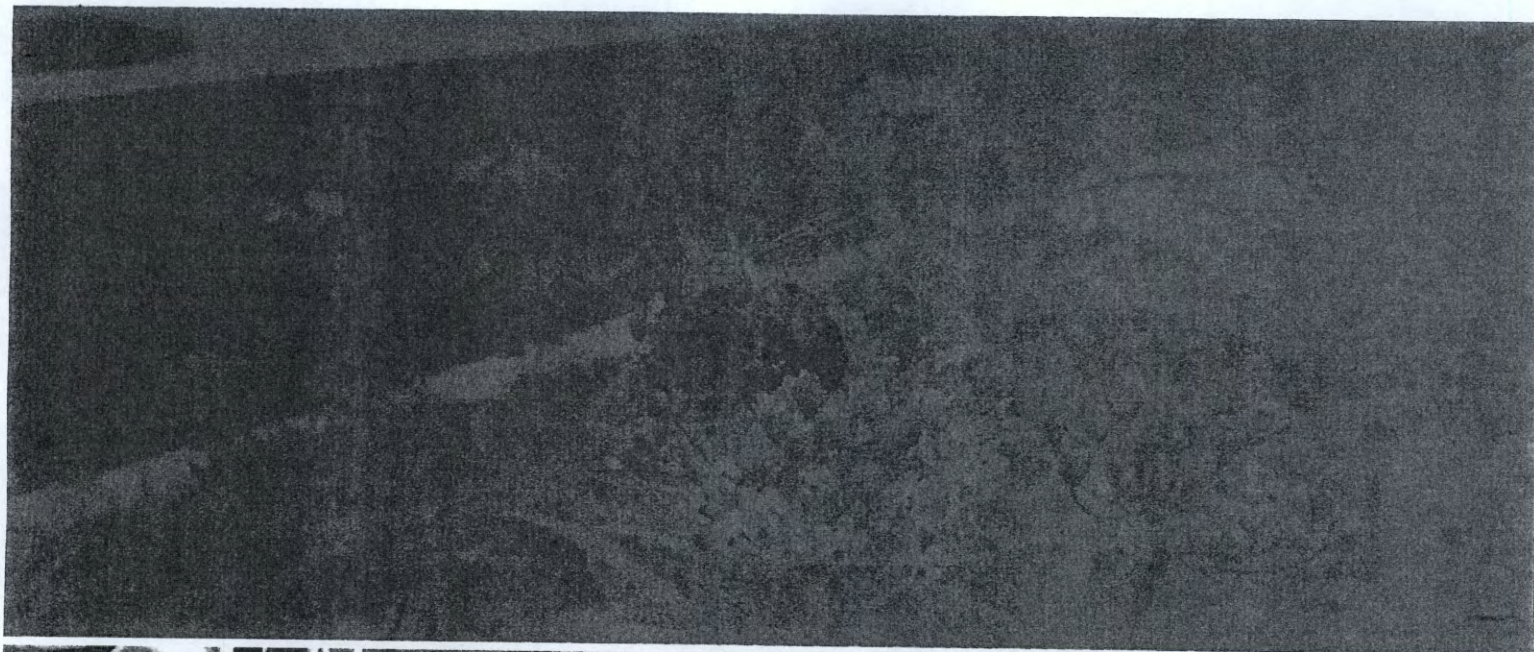
**M**ontgomery County is continually planning, evaluating, and pursuing new opportunities to green its government operations. To further enhance green government efforts and to foster even greater collaboration across County government, we are leading several strategic planning processes over the next year, including:

- ▶ A County government operations Sustainability Plan that will identify goals, targets, and actions for each topic area identified in this report.
- ▶ A strategic Energy Management Plan that will outline goals, targets, actions, timelines, and staff roles and responsibilities toward maximizing energy efficiency of the County's portfolio of buildings.
- ▶ A comprehensive plan for installation and management of solar energy systems at County facilities. The plan will include a target for the total clean energy to be installed on County facilities and a process to vet new facilities for renewable energy projects. Montgomery County is currently evaluating options to install additional microgrids, including solar, to improve the resiliency of the County's portfolio of facilities. The County also is exploring options for net zero facilities where possible.

## AWARDS AND RECOGNITIONS

- 
- ▶ Nine National Association of Counties (NACo) Achievement Awards for sustainability initiatives since FY14, including an award for Sustainable Government Communications in FY17.
  - ▶ Five consecutive Alliance for Workplace Excellence Eco-Leadership awards.
  - ▶ Smart Energy Community Designation from the Maryland Energy Administration.
  - ▶ ENERGY STAR 2017 designation earned for Health and Human Services Administrative Offices.





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Montgomery County DEPARTMENT OF GENERAL SERVICES

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