DISTRICT OF COLUMBIA SOLID WASTE DIVERSION PROGRESS REPORT FISCAL YEAR 2017







***** GOVERNMENT OF THE DISTRICT OF COLUMBIA "As Mayor, I have a special obligation to protect our environment for generations to come and to create policies and programs that reflect the values of the residents I serve."

-Mayor Muriel Bowser, June 1, 2017





WASTE LESS, RECYCLE MORE.



GREETINGS

Dear Washington D.C. Residents



I am pleased to share the District of Columbia's Fiscal Year (FY) 2017 Solid Waste Diversion Progress Report.

Over the last year the Department of Public Works (DPW) has

launched a number of new initiatives aimed at helping our city meet its waste diversion goals over the coming years. In particular, I am excited to share the following:

- The number of items that can be recycled in the District has expanded;
- Food waste drop-off sites have been opened at farmers markets in all eight city wards; and
- The zerowaste.dc.gov website has been launched, designed to be a one-stop resource for District residents, businesses, and schools to learn about how to recycle, compost, reduce waste, and properly dispose of hazardous waste.

To meet the goal of diverting 80% of the waste generated in the District from landfills and waste-to-energy facilities, the District will need to implement innovative programs to promote waste prevention, recycling, and composting. Achieving this goal requires the collaboration of businesses, government, community groups, and residents.

My hope is that the information in this report will be used by citizens, the Mayor, and Council to make well-informed decisions in the pursuit of greater resource conservation and higher standards of sustainability.

Sincerely,

Christopher Geldart Acting Director Department of Public Works

Interagency Waste Working Group Members

The Interagency Waste Reduction Working Group is a coalition of DC agency stakeholders charged with creating a path to zero waste for the District of Columbia. Working Group members shape the implementation of waste programs, provide feedback and support for waste diversion operations, design and develop cohesive waste diversion education and outreach materials, and support the continued evolution of the District's waste diversion policies.









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DCHA

The District of Columbia Housing Authority

DCPS

The District of Columbia Public Schools

DOEE

The District of Columbia Department of Energy and Environment, formerly known as the District Department of the Environment (DDOE)

DGS

The District of Columbia Department of General Services

DPW

The District of Columbia Department of Public Works

DPR

The District of Columbia Department of Parks and Recreation

EPA U.S. Environmental Protection Agency

E-Waste Electronic Waste

HHW

Household Hazardous Waste

MWCOG

Metropolitan Washington Council of Governments

OCP

The District of Columbia Office of Contracting and Procurement

OWD

The District of Columbia Department of Public Works Office of Waste Diversion

SWEEP

The Solid Waste Education and Enforcement Program of the Solid Waste Management Administration, a division of the Department of Public Works

SWEEP Jr.

The Department of Public Works Solid Waste Education and Enforcement Program for youth

SWMA

Solid Waste Management Administration, a division of the Department of Public Works

WTE

Waste to Energy

INTRODUCTION

The FY 2017 Annual Solid Waste Diversion Progress Report was prepared in fulfillment of the reporting requirements as specified in the Sustainable Solid Waste Management Amendment Act of 2014 (the Act). The specific reporting requirements in the Act are detailed in Appendix A.¹

What does this document include?

This report includes an overview of the programs and initiatives being spearheaded by an array of individuals and organizations and their efficacy in meeting the District's waste diversion goals and objectives. It includes an overview of key accomplishments and waste generation and diversion rates for FY 2017.

What does Waste Diversion and Zero Waste mean?

Waste Diversion includes all the activities that result in solid waste reduction, reuse, recycling, and composting, which are prioritized by highest environmental preference to least in the District's Solid Waste Hierarchy included below.

Zero Waste is defined as the diversion of 80 percent or more of the waste generated by the city and in alignment with the District's established solid waste hierarchy (see below); acknowledging there will be some materials that are not recoverable and will be sent to landfills or waste-to-energy facilities.

HIERARCHY OF PREFERRED SOLID WASTE MANAGEMENT



ZERO WASTE DC



Zero Waste DC brings together all the government agencies and programs responsible for developing and implementing cost effective strategies for converting waste to resources, improving human and environmental health, reducing greenhouse gas emissions, creating inclusive economic opportunity, and conserving natural resources.

One of FY 2017's most notable achievements was to launch the Zero Waste DC logo which formally kicked-off the campaign of the same name. Zero Waste DC enables the Government of the District of Columbia to speak with one voice in developing and providing resources that help our residents, business, and visitors move toward zero waste.

WHAT CAN YOU FIND ON THE ZERO WASTE DC WEBSITE?

- A comprehensive list of items that can be recycled or composted.
- Helpful tips, tools, and resources to assist residents, businesses, District staff and schools on ways to increase source reduction, reuse, recycling and composting.
- An overview of free programs available to District residents, noteworthy entities that provide guidance or support and ways to get more involved.



VISIT: ZEROWASTE.DC.GOV

Captions: (Top) Metro advertisement for recycling campaign. (Below left to right): Press conference announcing harmonized recycling requirements. Zero waste tabling event.







SURPLUS PROPERTY

The OCP Surplus Property Division's mission is to provide surplus property management, reutilization and disposal services to District agencies and eligible not-for-profit organizations for the disposal of their excess property². The division sold over 4,700 lots³ of materials and equipment including vehicles, computers/IT equipment, and communications equipment. The District recovered 659,000 pounds of scrap metal which was sold producing \$45,000 in scrap metal sales.



SAVE THE FOOD

In FY 2017, DPW became an official partner of the Save the Food Campaign⁵ a joint venture by the U.S. Ad Council and Natural Resources Defense Council (NRDC) to spread awareness about food waste. DPW assisted in the placement of online, bus stop, and larger billboard advertisements, of which combined to reach more than 27,854 people in the District.⁶



DC CENTRAL KITCHEN

One of the many organizations in the District that accepts food donations is the DC Central Kitchen (DCCK). In FY 2017, DC Central Kitchen recovered 919,274 pounds of what would have otherwise been wasted food, 386,095 pounds (~42%) of which were derived from within DC proper. DCCK recovers edible food from local farms, grocers, wholesalers, among other sources. To learn more, visit dccentralkitchen.org.



GRASSCYCLING⁷

In April of 2017, DPW launched its grasscycling campaign to encourage residents to leave their grass clippings on the lawn. This included mailers to 69,482 households in Wards 3, 4, 5, 7 and 8, Twitter and Facebook post, updated language for DPW's grasscycling web page and ad space in The Hill Rag. Grasscycling contributes to a healthier yard, saves time, energy and money.

SOURCE REDUCTION & REUSE

The DC Food Recovery Working Group was created in 2015 to support food recovery efforts in the greater DC area. The working group is an independent volunteer cooperative comprised of individuals from food banks, non-profits, for-profits, government agencies, and non-professional food recovery advocates. They support food recovery on all levels of the EPA Food Recovery Hierarchy, including source reduction, food donations and composting. In FY 2017, the group launched DC Food Recovery Week, and partnered with the Harvard Food Law and Policy Clinic to release 'Food Recovery in the District of Columbia: A Legal Guide'. This working group focuses on two goals:

- Promoting food recovery programs, organizations and resources already happening.
- Developing new food recovery partnerships, programs, and resources for greater DC.

To learn more about opportunities to support their efforts visit <u>dcfoodrecovery.org</u>





Captions: (above) Members of the DC Food Recovery Working Group. (Below top left to right): DC Save The Food ad. Promoting reuse. Grasscycling information flyer. DC Central Kitchen worker.







New Recycling Requirements⁸

In FY 2017, the District issued an updated list of materials required to be recycled in commercial and residential recycling. The purpose of this list is to achieve greater alignment of what can be recycled or composted in the District regardless of whether in a commercial setting or a single-family home.



New Food Service Packaging Recyclability and compostability requirements⁹

Effective January 1, 2017, regulations mandate District businesses and organizations that sell or serve food or beverages in disposable food service ware are now required to use recyclable or compostable food service packaging. Expanded polystyrene, also known as foam, food service ware is not recyclable and has been banned from use by the same entities since 2016.



DCPS Recycles! Honor Roll Grows

DCPS Recycles! celebrated 55 schools on the Honor Roll, up from 40 in 2014. 25 schools in FY 2017 have programs that sort and collect paper throughout their buildings, and sort and collect cardboard, mixed recyclables, and organics in both the kitchen and the cafeteria.



Kingman Island

For the second year in a row, District agencies along with Living Classrooms¹⁰ hosted a zero waste event at the annual Kingman Island Bluegrass and Folk Festival. The event generated 5,180 pounds of materials, of which 78.8% was diverted to appropriate recycling or composting facilities.

RECYCLING



Captions: (Top Left to Right) 1.Burroughs Elementary School Green Team 2.Garbology Class @ Malcolm X Elementary School. 3. Sorting station at DC STEM Fair.

DCPS Recycles!

These Ambassador Honor Roll Schools have schoolwide recycling of paper in classrooms AND organics and mixed recyclables in cafeterias and kitchens.

- These Honor Roll schools established a consistent school-wide recycling of paper in classrooms AND organics and mixed recyclables in cafeterias and kitchens.
 - Honor Roll Schools that have established mostly consistent school-wide recycling of paper OR organics and mixed recyclables in cafeterias and kitchens.
 - These schools are participating but are not currently meeting all of the requirements of the DCPS Recycles! program.



COMPOSTING





FOOD WASTE DROP-OFF

The Department of Public Works launched the Food Waste Drop-off program in April 2017 with a drop-off location in each of DC's eight wards. Through this new service, District residents are able to bring food waste to their designated farmers markets to be composted for free. During April 2017 through September 30, 2017, the program collected 80,000 lbs of food waste from 10,000 visitors learning about composting.



Compost Feasibility Study

In mid-FY 2017, the Department of Public Works (DPW) released the District's Compost Feasibility Study. The study provides an overview of compost initiatives already underway in the District; estimates the volume of food and yard waste generated in the District by sector; and, assesses the feasibility of the District implementing a food and yard waste curbside collection program.¹¹ One of the primary recommendations from the report was for the District to build a 10 to 20 acre organics processing facility, which would help pave the way for curbside composting collection within five years. The FY 2021-2022 capital budget allocates \$8 million for the construction of such a site.



Leaf & Holiday Tree Collection

Leaves and holiday trees collected by DPW are turned into compost available for resident pick-up from the Fort Totten Transfer Station. DPW collected approximately 7,400 tons of leaves and holiday trees.

Composting

DPR COMMUNITY COMPOSTING



New Sites¹³

DPR installed 4 new compost bins in FY 2017 bringing the number of sites in the Community Compost Cooperative Network to 56. DPR has estimated there are close to 1500 active composters in this network using a self-sustaining cooperative model to compost food scraps with garden waste to create a high quality compost in smell-proof and critter-proof compost systems. In addition DPR also experimented in FY 2017 with different compost bin designs such as a smaller, lighter and more durable steel compost system.



Captions (left to right): Mayor Bowser, Director Shorter, Council Member Mary Cheh at the Food Waste Drop off Opening. Food Waste Drop Off Tent @ Eastern Market DC. DPR Three Bin Composting System.





HHW & Shredded Paper

In FY 2017, DPW collected over 98 tons of Household Hazardous Waste (HHW) and over 215 tons of shredded paper through its drop-off service at Ft. Totten Transfer Station, to help District residents dispose of these specialty items easily and safely. HHW is accepted for drop-off every Saturday, 8 AM to 3 PM, except holidays. Personal document shredding is available on the first Saturday of each month. All residents may drop off their HHW, e-cycling and personal documents for shredding, but be prepared to show proof of residency. For more information about what's accepted and not accepted at Ft. Totten, go to dpw.dc.gov/service/household-hazardous-waste-e-cycle-document-shredding.

CYCLE DC

The District's electronics stewardship program, eCYCLE DC, diverts electronics from the waste stream by requiring manufacturers to provide convenient options for recycling computers, TVs and their peripherals. As the program enters its second year, the city expects to see a boost in program participation as a result of the electronics disposal ban that took effect on January 1, 2018.



In calendar year 2017, the paint stewardship program collected 35,415 gallons of paint. Latex paint made up 78% of the total paint, of which 97% was made into recycled content paint, 3% was unrecyclable and sent to landfill, and a small amount was reused locally. Oilbased paint made up 22% of the paint, all of which was used for fuel. Residents can drop off paint year-round at seven retail locations around DC or at the Fort Totten Transfer Station.¹⁴

Captions (left to right): Fort Totten Transfer Station E-Waste Drop-Off Event. Shredding at Fort Totten Transfer Station. PaintCare drop off event.



ZERO WASTE CHAMPIONS

Xavier Brown - Soilful

"The reason that I wanted to combine composting with working with formerly incarcerated brother and sisters is because I viewed the transformative process as one in the same. The same way society views an orange peels as trash society views someone coming home from incarceration in the same light. Composting teaches us that if we combine the orange peel with the right balance of water, air and carbon we can create a substance that can help heal the earth."





"Preventing and diverting excess food helps the environment, society and the economy. Working independently and in concert, ending food waste should be an attainable goal."



Stephanie Conant - DC Public Schools

"My own personal opinion about zero waste, is that it is important to empower students to be change makers. I think D.C.'s goal of making our city a zero waste city is honorable and exciting."





WASTE DIVERSION BY THE NUMBERS¹⁵

FY 2017 (Oct 1, 2016 - Sept 30, 2017)

This section provides a detailed breakdown of the Citywide Residential Diversion Rates and Government Building Diversion, as well as detailed tonnage, material type, and disposal location information for the District's trackable solid waste streams in FY 2017.¹⁶ A complete overview of the data sources used to compile this section can be found in Appendix C: Data Sources.

The Residential Diversion Rate includes waste from DPW curbside collections, DPW leaf and holiday tree collections, and residential drop-off at the Ft. Totten Transfer Station.¹⁷ The Citywide Residential Diversion Rate is a similar metric which also includes data for District-sponsored or District-mandated waste drop-off programs for residents across the District.¹⁸ For FY 2017, DPW provided curbside collection services for approximately 105,000 households.

In FY 2017, the **Residential Diversion Rate** and the **Citywide Residential Diversion Rate** equaled **22.96%** and **23.13%**, respectively.

As you can see in Figure 1 and Table 1 included below, for the second year in an increase in both Residential Diversion Rates was observed which continues a 3-year, positive trend (Figure 1). The increase between FY 2016 and FY 2017 is due to both a modest decrease in refuse collected (~1%) and a modest increase in single stream recyclables collected (~2%).



FIGURE 1: RESIDENTIAL DIVERSION RATES (FY 15-17)

DATA & METRICS

Table 1

FY 2017 Citywide Residential Waste Stream ¹⁹								
Material Stream	FY 2016 Tons	FY 2017 Tons						
Electronic Waste ²⁰	159.60	115.09						
Household Hazardous Waste ²¹	29.40	98.00						
Scrap Metal	212.65	269.31						
Shredded Paper	125.79	215.46						
Organics ²²	7,389.42	6,499.25						
Community Composting	135.00	259.69						
Food Waste Drop-off	N/A	43.10						
Single Stream Recyclables	24,916.24	25,393.65						
Bins Recycled	0.00	11.18						
Refuse/Waste	110,374.66	108,954.61						
Total	143,342.76	141,859.34						

Table 2 details the total waste stream (refuse, recyclables, and compostables) processed through District-owned transfer stations. Materials dropped off by residents are considered public sources. While some commercial collectors deliver waste collected in the District to District-owned transfer stations, the amount of waste collected in the District by commercial collectors and delivered to other facilities for processing or disposal is currently unknown.²³

Table 2

FY 2017 Tons of Material Received at District-owned Transfer Stations							
Source	Tons	Percent of Total					
Public (Citywide DPW) ²⁴	153,600.93	33.10%					
Private	310,396.96	66.90%					
Total Throughput ²⁵	463,997.89						



Table 3 below details the FY 2017 government building solid waste stream tonnage, along with a comparison to FY 2016. A new solid waste hauling contract was put in place by the Department of General Services during FY 2016. This contract included improved requirements with respect to how waste is hauled and its delivery location which has led to a more complete and accurate reporting of refuse generated from DC Government buildings in FY 2016. This contractual change helps to explain the observed differences in tonnage amounts and rates across FY 2016 and 2017.²⁶

Table 3

DC Government Building Total (Tons)								
Material Stream	FY 2016 Tons	FY 2017Tons						
Recycling	3,172.84	1,782.03						
Organics	348.98	481						
Trash	18,549.20	18,334.75						
Total	22,071.03	20,597.78						
DC Government Operations Diversion Rate	15.96%	10.99%						

Figure 2 below provides a visual breakdown of the FY 2017 total solid waste stream and the percentage of that stream that went to recycling, composting, landfill, or waste-to-energy facilities for processing. The numbers used for Figure 1 are the same used to create Table 5 on the next page.



OR HANDLED BY DISTRICT GOVERNMENT



Composting = Landfill = Recycling = Waste to Energy



Table 4 provides the names, locations and tonnage of solid waste delivered to recycling, composting, landfill, waste-to-energy (WTE), and other solid waste processing or disposal facilities.²⁷

When compared to FY 2016, the District experienced a significant increase in the amount of material being sent to landfills versus waste-to-energy in FY 2017. This noticeable change can largely be attributed to a fire that occurred at the Lorton, VA waste-to-energy facility that forced it to close for much of FY 2017. As a result, 76% of the material that was exported from the District in FY 2017 went to landfills in the region, up from 56% in FY 2016.

Table 4

Fate of FY	2017 Material Ge	nerated or Hand	lled by District Government**
Facility Names	Facility Type	Tons	Address
Food Waste Drop-Off (DPW)	Composting	43.10	Various Locations ²⁹
Community Composting (DPR)	Composting	259.69	Various Locations ³⁰
Prince George's County Yard Waste Composting Facility (DCPS)	Composting	481.00	6601 S.E. Crain Highway, Upper Marlboro, Maryland 20772
Acme Biomass (POGO)	Composting	4,084.52	21601 New Hampshire Avenue, Brookeville MD 20833
	Subtotal	4,868.31	
United States Penitentiary, Lewis- burg(E-Waste Hauled by Unicor)	Recycling	115.09	2400 Robert F Miller Dr, Lewisburg, PA 17837
Shredded Paper (DPW)	Recycling	215.46	Unknown
Joseph Smith & Sons, Inc.	Recycling	269.31	2400 Robert F Miller Dr, Lewisburg, PA 17837
WM Northern Virginia Recycling Facility	Recycling	21,735.80	7911 Notes Drive, Manassas, VA 20109
WM Recycle America	Recycling	31,710.75	7175 Kit Kat Road, Elkridge, MD 21075
	Subtotal	54,046.41	
Waverly Landfill	Landfill	47.79	3474 Atlantic Ln, Waverly, VA 23890
Old Dominion	Landfill	2,970.80	2001 Charles City Rd, Henrico, VA 23231
Republic Services 623 Landfill	Landfill	7,085.72	1961 Ashland Rd, Rockville, VA 23146
Waste Management - Annapolis Junction	Landfill	17,571.52	8077 Brock Bridge Rd, Jessup, MD 20794
Middle Peninsula Landfill	Landfill	41,451.93	3714 Waste Management Way, Glenns, VA 23149
Charles County Landfill	Landfill	72,801.11	12305 Billingsley Rd, Waldorf, MD 20602
King and Queen LF BFI	Landfill	96,636.59	4443 Iris Road, Little Plymouth, VA 23091
King George Landfill	Landfill	116,654.45	10376 Bullock Drive, King George, VA 22485
	Subtotal	355,219.91	
HHW	Waste to Energy	98.00	Unknown
I-95 Landfill Complex & Energy/ Resource Recovery Facility	Waste to Energy	50,914.96	9850 Furnace Road, Lorton, Virginia 22079
	Subtotal	51,012.96	
Total		465,147.59	

ENDNOTES

- Starting in FY 2019, the Office of Waste Diversion will have a more complete data-set for waste generated in the District with the availability of private hauler waste reports generated from the Solid Waste Collector Registration & Reporting System. With this additional data OWD will be able to estimate total waste collected in the District using data provided by DPW and private waste haulers. The total waste value will then be divided by the District's population to calculate a waste generation per capita figure that is fully representative of the District-wide waste stream.
- OCP's Surplus Property Division, please visit <u>ocp.</u> <u>dc.gov/page/surplus-property-ocp</u>. The Surplus Property auction site can be accessed via <u>www.</u> <u>govdeals.com</u>
- 3. A lot is defined as a piece or several pieces of equipment to form an auction. Basically, one lot is equivalent to one sale at auction.
- 4. All revenue generated from auction or sale of goods via the Surplus Property Division's activity is allotted to the District's General Fund.
- 5. A full list of official Save the Food partners can be found at <u>www.savethefood.com/community</u>.
- 6. Data provided by NRDC and US AD Council.
- 7. Grasscycling simply means to leave grass clippings on the lawn after mowing. Rather than bagging grass clippings they can be left on a lawn to serve as a natural fertilizer, which decomposes quickly and returns nutrients back to the lawn.
- 8. To learn more about what can be recycled, please visit <u>zerowaste.dc.gov/node/1269551.</u>
- 9. To learn more about these requirements please visit <u>doee.dc.gov/foodserviceware</u>.
- 10. To learn more about Living Classrooms please visit www.livingclassrooms.org/
- 11. The FY 2021 2022 capital budget includes \$8 million in funding for construction of a compost facility.
- 12. To learn about the DPR Community Compost Cooperative Network and site locations, visit <u>dpr.dc.gov/</u><u>page/community-compost-cooperative-network</u>
- 13. These sites were inactive in FY 17, but featured a

3-bin system on site. For more information and the exact location of these sites, please visit <u>https://dpr.dc.gov/page/community-compost-cooperative-net-work</u>

- 14. For more information for calendar year 2017 Paint-Care program statistics and information, please read the 2017 Annual Report: <u>www.paintcare.org/paint-</u> <u>care-states/district-of-columbia/#/official-docs</u>
- 15. The District's FY 2017 Solid Waste Diversion Progress Report features solid waste data for fiscal year 2017, and an overview of the District's recent waste diversion successes. This document has been produced to provide the solid waste data for FY 2017 in fulfillment of the Sustainable Solid Waste Management Amendment Act of 2014's annual reporting requirements. Please refer to the appendix for clarification regarding data sources, calculation methodologies, and definitions.
- 16. These are the two metrics used to track progress of the District's sustainable solid waste management goals, which are limited to only municipally managed material streams.
- 17. The District provides waste diversion services and programs that extend outside the confinements of a defined "Residential" program, since all residents within the District are able to participate, not just those that receive curbside collections of solid waste from DPW (e.g., the Department of Parks and Recreation's community composting program & DPW's Food Waste Drop-off Program).
- DPW citywide residential data comes from the CompuWeigh database. For specifics related to data sources used calculate figures in this table, please refer to the data sources section in appendices C & D.
- 19. Please note that the numbers included in Table 2 represent the tonnage that is collected from the ~105,000 households serviced by DPW. DPW services single family homes and buildings with three or fewer units. These numbers are not representative of a waste characterization or composition as they do not account for contamination in recyclables, or recyclables and organics in the refuse stream.
- 20. Note that this figure does not incorporate volume or tonnage collected via eCYCLE DC.

ENDNOTES

- 21. Note that this figure does not incorporate volume or tonnage collected via PaintCare.
- 22. Organics here only includes leaves, yard waste, and holiday trees generated from the District's residents and collected by DPW. For more information about organics, please refer to Appendix C: Data Sources.
- 23. As required by the Sustainable Solid Waste Management Amendment Act of 2014, DC Official Code § 8-1031.05 and DC Official Code § 8-1031.06, starting in calendar year 2018 all solid waste collectors who operate in the District of Columbia will be required to register and report annually with the Office of Waste Diversion in the Department of Public Works (DPW). Data obtained from this annual reporting will provide citywide solid waste data which will be used in future reporting cycles to better account for the District's performance on both residential and commercial level.
- 24. Please note that the total tonnage noted here will differ from the total tonnage included above in Table 1, as this figure represents all of the solid waste that DPW manages in a given year across its entire city-operations. Whereas, Table 2 represents the residentially derived portion of that waste stream.
- 25. Please note that the total throughput for FY 2017 noted here will differ from the total tonnage tabulated in Table 4 as that table includes solid waste streams that are generated and disposed of outside of the District's managed transfer stations.
- 26. For more information regarding DC Public Schools' solid waste tonnage, please refer to the Department of General Services at the following link: <u>dgs.dc.gov/page/dgs-dc-public-schools-building-sustainable-future</u>
- 27. This information includes waste processed through District-owned transfer stations and community gardens, or that which was generated by government operation.
- 28. Please note that currently, the District does not have an accurate estimation of the total size of the District's solid waste stream. The data that is represented in Table 5 represents a portion of the District's total solid waste stream as not all of what is commercially derived/collected is transferred through the District's two

solid waste transfer stations. As of January 1st, 2018, all solid waste collectors who operate in the District of Columbia are required to register and report annually with the Office of Waste Diversion in the Department of Public Works in accordance with DC Official Code § 8-1031.05 and DC Official Code § 8-1031.06. This new requirement will pave the way for future reporting to be a more accurate and complete representation of the District's citywide waste diversion rate. For more information please visit <u>dpw.dc.gov/service/</u> <u>solid-waste-collector-registration-and-reporting.</u>

- 29. Material collected via the citywide Food Waste Dropoff Program was sent to various local processing locations, including multiple community composting (DPR) sites and Prince George's County Yard Waste Composting Facility (Western Branch). The amount of material collected from the Food Waste Drop-off Program was subtracted from the total estimated tonnage processed via community composting sites.
- 30. For a full list of these locations, please visit: <u>dpr.dc.gov/</u> <u>page/community-compost-cooperative-network</u>

Anaerobic Digestion

A process by which microorganisms break down organic waste, such as food waste, in the absence of oxygen. One of the end products is biogas, which can be combusted to generate electricity and heat, or can be processed into natural gas and transportation fuels. Separated digested solids, sometimes referred to as digestate, can be composted.

Bulk Waste

Refers to materials dropped off by residents at the Ft. Totten drop-off station or collected from residential homes through DPW's bulk collection service. Both services are designed for the collection and disposal of waste that cannot fit in the bins used to contain waste for routine weekly collection. Examples of bulk waste include appliances, furniture, and mattresses.

Citywide Residential Diversion Rate

Is a calculation of the diversion rate of material collected by DPW through curbside and bulk collections, dropped by residents for recycling or disposal at Ft. Totten, and composted by residents at DPR community gardens, as well as leaves and holiday trees collected for composting. The rate reflects the materials collected for recycling or composting divided by all materials collected from the sources listed. The full methodology is detailed in the appendix.

Construction and Demolition Debris (C&D)

Waste building materials and rubble resulting from construction, remodeling, repair, and demolition operation on houses, commercial buildings, pavements, and other structures.

Collector

A person engaged in the collection or transportation of solid waste in the District.

Compost

A stable, organic substance produced by a controlled decomposition process that can be used as a soil additive, fertilizer, growth media, or other beneficial use.

Compostable

Made solely of materials that break down into, or otherwise become part of, usable compost in a safe and timely manner in an appropriate program.

Composting, Composted

The series of activities, including separation, collection, and processing, through which materials are recovered or otherwise diverted from the solid waste stream for conversion into compost.

Community Composting Program

Composting operations in the District of Columbia that are sustained by trained volunteer community members.

Core Facilities

Refers to the John A. Wilson Building, Frank D. Reeves Municipal Center, One Judiciary Square, and the Henry Daly Municipal Building.

Curbside Collection

Collection of materials contained within bins from single-family homes or multifamily dwellings with three or fewer units. Curbside includes materials collected from alleys that meet the criteria of this definition.

Discarded Waste or Waste Discards

Waste sent to combustion facilities or landfill. Synonymous with refuse.

Disposal

Refers to the end of life treatment of refuse at waste to energy facility or landfill.

Electronic Waste, E-Waste

A term that can be broadly applied to consumer and business electronic equipment that is near or at the end of its useful life. There is no standard definition for e-waste. It includes items such as computers, computer peripherals, televisions, television peripherals, telephones, radios, stereo equipment, compact disc players/recorders, and calculators. Certain components of some electronic products contain materials that render them hazardous, depending on their condition and density.

Food Scraps, Food Waste

Unused and unconsumed organic matter remaining after meals or initial food preparation, intended for discard.

Generated Waste

Refers to the range of solid waste, including recyclables, compostables and trash, intended to be collected for processing or disposal.

Hauler

See "Collector."

Hazardous Waste

Any waste or combination of wastes of a solid, liquid, contained gaseous, or semisolid form, which because of its quantity, concentration, or physical, chemical, or infectious characteristics, as established by the Mayor, may:

- (A) Cause, or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating, reversible, illness; or
- (B) Pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed. Such wastes include, but are not limited to, those which are toxic, carcinogenic, flammable, irritants, strong sensitizers, or which generate pressure through decomposition, heat, or other means, as well as containers and receptacles previously used in the transportation, storage, use or application of the substances described as a hazardous waste.

Household Hazardous Waste

Leftover household products that contain corrosive, toxic, ignitable, or reactive ingredients are considered to be household hazardous waste (HHW). Products such as lead-based paints, cleaners, oils, batteries, and pesticides, which contain potentially hazardous ingredients require special care when you dispose of them.



Inbound

Materials, measured in tons, entering a DPW managed transfer station by truck. See also, Outbound.

Incineration

A form of solid waste disposal through combustion or thermal conversion of solid waste materials into ash, flue gas, fuel, or heat; provided, that recycling, composting, anaerobic digestion of compostable solid waste, and conversion of compostable solid waste into biofuel are not considered incineration.

Industrial Waste

Refers to wastes generated from 17 different industry groups representing the manufacturing Standard Industrial Classification (SIC codes), such as organic chemicals, inorganic chemicals, primary iron and steel, plastics and resin manufacturing, stone, clay, glass and concrete, pulp and paper, food and kindred products.

Landfill

A site where waste is disposed or managed. Sites contain an impermeable liner and waste is deposited in different cells and covered daily with soil or another form of cover

Medical Waste

Solid waste from medical research, medical procedures, or pathological, industrial, or medical laboratories. For full list of inclusions, see: D.C. Law 10-117; D.C. Official Code § 8-901(3A).

Material Recovery Facility (MRF)

A facility where recyclables are sorted into marketable commodities.

Organics

In the context of composting; naturally occurring (i.e., non-synthetic) matter capable of biological decay, typically once-living organisms or the products thereof (e.g., grass, leaves and food scraps).

Outbound

Materials, measured in tons, leaving a DPWmanaged transfer station by truck for purposes of processing, marketing, or disposal. See also, Inbound.

Public Collection Property

A property that receives solid waste collection from the District either directly or through contract.

Recyclable

Made solely of materials that can be recycled using the District's recycling collection program.

Recycle or Recycling

The series of activities, including separation, collection, and processing, through which materials are recovered or otherwise diverted from the solid waste stream for use as raw materials or in the manufacture of products other than fuel.

Residential Diversion Rate

Refers to the new key performance indicator (KPI) DPW will introduce as part of its performance plan, which is based on the DPW, managed portion of the Citywide Diversion rate presented in this report.

Residential Recycling Diversion Rate

Refers to the KPI included in DPW's performance plans to report on the percent of DPW-collected waste diverted by recycling or composting.

Recycling Rate

Is defined as the amount of waste recycled or composted as a percentage of the amount of waste that is generated.

Refuse

Is waste that is intended to be disposed at a waste to energy or landfill and does not include material that is destined for recycling or composting. Synonymous with discarded waste, waste discards, and trash.

Shredded Paper

Refers to paper shredded as a means of document destruction.

Solid Waste

Refers to garbage, refuse, trash, or any other waste or waste product, including recyclable, compostable, or otherwise reusable material, whether in solid, liquid, semisolid, or contained gaseous state, resulting from an industrial, commercial, residential, or government operation or community activity; provided, that the following are not considered solid waste for the purpose of this subtitle:

- (A) Hazardous waste, as defined in section 2(2A) of the Illegal Dumping Enforcement Amendment Act of 1994, effective May 20, 1994 (D.C. Law 10-117; D.C. Official Code § 8-901(2A));
- (B) Medical waste, as defined in section 2(3A) of the Illegal Dumping Enforcement Amendment Act of 1994, effective May 20, 1994 (D.C. Law 10-117; D.C. Official Code § 8-901(3A)); and
- (C) Construction and demolition waste subject to sections 406 and 503 of Title 12K of the District of Columbia Municipal Regulations (12 DCMR §§ 406K, 503K).

Solid Waste Stream

All solid waste generated within the District.

Source Reduction (also known as waste prevention) The elimination of waste before it is created by changing product or packaging design, procurement practices, or use and consumption behaviors.

Source Separation

The separation of solid waste at the point of discard into the following categories: Recyclable materials; Compostable materials; and Trash. Required under Section 103 of the Sustainable Solid Waste Management Amendment Act of 2014.

Textiles

Clothing and other items made from woven and nonwoven cloth.

Trash

Solid waste that is collected for disposal by WTE or landfill.

Transfer Station

Facilities where construction and demolition or solid waste is unloaded from collection vehicles and briefly held while it is reloaded onto larger long-distance transport vehicles for shipment to landfills or other treatment or disposal facilities. By combining the loads of several individual waste collection trucks into a single shipment, communities can save money on the labor and operating costs of transporting the waste to a distant disposal site. They can also reduce the total number of vehicular trips traveling to and from the disposal site.

Waste Diversion

Activities that result in solid waste source reduction, reuse, recycling, composting, or conversion of compostable solid waste into biofuel.

Waste Diversion Rate

The percentage of the solid waste stream, by weight, successfully diverted from landfilling and WTE through source reduction, reuse, recycling, composting, and conversion of compostable solid waste into biofuel.

Waste Generated or Waste Generation

The total amount of waste produce. It includes all materials generated, including those, which are recycled, composted, or sent to landfills or combustion facilities.

Waste to Energy (WTE)

The process of generating heat and/or electricity through the combustion of solid waste. A type of incineration.

White Goods

Refer to appliances such as dishwashers and refrigerators that can be recycled for their scrap metal.

Yard Debris/Waste/Trimmings

Grass, leaves, tree branches, brush, tree stumps, and other compostable organic materials that are generated by homes, schools, or businesses.

APPENDIX

APPENDIX A: SUSTAINABLE SOLID WASTE MANAGE-MENT AMENDMENT ACT OF 2014 REPORTING RE-QUIREMENTS

The FY 2017 Annual Waste Diversion Update was prepared in fulfillment of the reporting requirements in the Sustainable Solid Waste Management Amendment Act of 2014 (the Act). The specific reporting requirements in the Act are detailed in this appendix.

Section 113 (a) of the Act requires that the Mayor provide a solid waste diversion update to the Council annually on February 28th beginning in 2016. The annual diversion update must include:

(1) The total tonnage of solid waste collected in the District, from both private collection and public collection properties;

(2) A breakdown of the total tonnage reported in paragraph (1) of this subsection by the individual tonnage of solid waste that was collected for delivery to recycling, composting, landfill, incineration, and any other waste processing or disposal facilities;

(3) The names, locations and tonnage of solid waste delivered to the recycling, composting, landfill, incineration, and other waste processing or disposal facilities;

(4) A calculation of the District's solid waste diversion rate for the previous year; and

(5) A calculation of the District's per-capita solid waste generation for the previous year.

Section 101 (15) of the Act defines solid waste as garbage, refuse, trash, or any other waste or waste product, including recyclable, compostable, or otherwise reusable material, whether in solid, liquid, semisolid, or contained gaseous state, resulting from an industrial, commercial, residential, or government operation or community activity; provided, that the following are not considered solid waste for the purpose of the Act:

(A) Hazardous waste, as defined in section 2(2A) of the Illegal Dumping Enforcement Amendment Act of 1994, effective May 20, 1994 (D.C. Law 10- 117; D.C. Official Code § 8-901(2A));

(B) Medical waste, as defined in section 2(3A) of the Illegal Dumping Enforcement Amendment Act of 1994, effective May 20, 1994 (D.C. Law 10-117; D.C. Official Code § 8-901(3A)); and

(C) Construction and demolition waste subject to sections 406 and 503 of Title 12K of the District of Columbia Municipal Regulations (12K DCMR §§ 406, 503).

Section 101 (22) of the Act defines waste diversion rate as the percentage of the solid waste stream, by weight, successfully diverted from landfilling and incineration through source reduction, reuse, recycling, composting, and conversion of compostable solid waste into biofuel.

2017

APPENDIX B: RESIDENTIAL DIVERSION RATE & CITY-WIDE DIVERSION RATE METHODOLOGIES

DPW's annual diversion update features two main waste diversion metrics: the Residential Diversion Rate and the Citywide Residential Diversion Rate. The purpose of the appendix is to describe the methodologies used to produce these two metrics.

The Citywide Residential Diversion Rate includes waste from DPW curbside collections, leaf and holiday tree collections, residential drop-off at Ft. Totten, DPW's Food Waste Drop-off program, and residential drop-off at DPR community garden composting sites. The Residential Diversion Rate includes all the waste types and sources listed above except for what is processed at DPR community composting sites and collected at Food Waste Drop-off sites. The addition of the Food Waste Drop-off Program waste stream is the only change from previous annual reporting methodologies.

Table 5 below details the established methodology, with cells colored in yellow representing diverted tonnage and cells colored in red representing non-diverted tonnage. Row 1 - "Diversion Tonnage" can be thought of as the numerator in an equation, or the portion of the solid waste stream that was diverted from landfill and waste-to-energy, with Row 2 – "Diversion + Disposal Tonnage" representing the denominator in the same equation, or the total waste stream including both what was diverted and what was not.

	Curbside Collections				Residential Drop-off at Transfer Stations					Other Residential Drop-Off			
Diversion Tonnage	N/A	Single Stream Recycling	Leaf & Holiday Trees	Scrap Metal	N/A	E-Waste	Scrap Metal	N/A	Shredded Paper	Bins Recycled	N/A	Community Composting	Food Waste Drop- off Program
Diversion + Disposal Tonnage	Refuse	Single Stream Recycling	Leaf & Holiday Trees	Bulk	Waste	E-Waste	Bulk W	/aste	Shredded Paper	Bins Recycled	HHW	Community Composting	Food Waste Drop- off Program

Table 5: Citywide Residential Diversion Rate Methodology

Appendix C details the data sources for each of the waste types listed in the Table 5.

APPENDIX C: DATA SOURCES

The following section details the data sources and methodology used to develop waste tonnages and diversion rates included in the report.

RESIDENTIAL WASTE STREAM TONNAGE DATA SOURCES

The majority of residential waste stream data was derived from data reports generated by DPW's Solid Waste Management Administration via the CompuWeigh Data System which compiles data for waste tonnage by weighing collection vehicles on inbound and outbound scales at the Ft. Totten and Benning Road Transfer Stations. Individual reports for commodity streams handled by third party vendors also were utilized.

HOUSEHOLD HAZARDOUS WASTE

Household Hazardous Waste (HHW) material was under contract with Care Environmental for the first half of FY 2017 and MXI for the second half. As such, DPW received two different reports in FY 2017 with different units and methods. In FY 2017 an additional 215 drums of HHW was generated, which was not included with the 98 tons reported. HHW does not incorporate volume or tonnage collected via PaintCare takeback. For the purposes of this report, all household hazardous waste was considered to be disposed of via waste-to-energy versus reused or recycled. In future years, DPW will work with DOEE to better account and differentiate Paintcare and other HHW take-back programs from HHW collected via residential drop-off.

ELECTRONIC WASTE

Data is provided by Unicor. All e-waste sent to Unicor is either refurbished or recycled.

ORGANICS

For the Residential Diversion Rate, organics includes leaves, yard debris, and holiday trees collected by DPW. Data sources include inbound transfer station scale tickets for leave and Christmas trees collected by DPW.

For the Citywide Residential Diversion Rate calculation, organics also includes DPR's Community Composting Program and DPW's Food Waste Drop-off Program. Estimates for community composting figures were derived from the Department of Parks and Recreation's (DPR) Community Garden Program. This document offers both a qualitative and conservative estimation of the DPR community garden program's diversion of organic waste. There were 56 composting bins active in FY 2017, altogether diverting roughly 256.69 tons of food and yard waste in FY 2017. 43.10 tons were diverted via the Food Waste Drop-off Program, roughly 10% of of the organics collected from the Food Waste Drop-off Program was sent to DPR's Community Gardens which has been discounted from DPR's Community Garden Program's totals.

REFUSE

Includes waste from DPW routine curbside and scheduled bulk collections, DPW leaf and holiday tree collections, and residential drop-off at the Ft. Totten Transfer Station. Data sources for all values are inbound transfer station scale tickets except for bulk waste dropped off by residents at Fort Totten Transfer Station. Residential bulk drop off was calculated by subtracting the difference between total inbound tonnage and outbound tonnage from both transfer stations.

SCRAP METAL

Scrap metal dropped off by residents was calculated by subtracting inbound tonnages of scrap metal and white goods from the outbound total for scrap metal.

SHREDDED PAPER

In FY 2017, shredded paper dropped off at DPW's transfer station by residents was handled by two contracts with NexCut for the first half of FY 2017 and then Shred-It for the second half. Tonnage data was provided by each contractor.

SINGLE STREAM RECYCLABLES

Data sources include inbound transfer station scale tickets for recycling recorded as collected by DPW's collections and bulk divisions.

BINS RECYCLED

Data sources include outbound transfer station scale tickets with material type recorded as bins recycled.

APPENDIX

APPENDIX D: DATA SOURCES BY TABLE / FIGURE

FIGURE 1: RESIDENTIAL DIVERSION RATES (FY 15 -17)

Figure 1 utilizes data points from previous annual waste diversion progress reports for FY 2015 & 2016, and FY 2017 calculated diversion rates which utilizes data derived from various sources. For a more complete explanation of the methodologies to calculate the Residential Diversion Rate and Citywide Residential Diversion Rate, please refer to Appendix B.

TABLE 1: FY 2017 CITYWIDE RESIDENTIAL WASTESTREAM

Data for the citywide residential waste stream was derived from data within DPW's CompuWeigh Data System, reported tonnages from government contractors which includes the new addition of the Food Waste Drop-off Program waste stream.

TABLE 2: FY 2017 TONS OF MATERIAL RECEIVED ATDISTRICT-OWNED TRANSFER STATIONS

Data for the District-owned transfer stations is solely derived from outbound scale weights from the CompuWeigh data system for FY 2017. The 'Public' value includes all materials, including those from street and alley collections collected throughout the District of Columbia, as well as the residential curbside and drop-off solid waste streams and therefore is higher than the citywide residential waste stream tonnage featured in Table 2. The 'Private' value is derived from subtracting the Public (DPW) total from the Transfer Station Outbound total.

TABLE 3: GOVERMENT OPERATIONS TONNAGE BY SOURCES

Data for government buildings and managed properties was provided by the Energy and Sustainability Division within the Department of General Services (DGS).

FIGURE 2: BREAKDOWN OF FY 2017 MATERIAL GENERATED OR HANDLED BY DISTRICT GOVERNMENT

Data for the total materials exported from Districtowned transfer stations is derived from outbound scale weights from the Compuweigh data system, and separately tracked and reported tonnages for individual specialty streams where government contracts or programs are established (e.g. Food Waste Drop-off Program, HHW, Shredded Paper).

TABLE 4: FATE OF FY 2017 MATERIAL GENERATED ORHANDLED BY DISTRICT GOVERNMENT

Data for Table 4 was derived from the same sources as Figure 2 (see above). Table 4 is a more granular representation of that data-set with specific destinations of the material generated or handled by District Government in FY 2017.

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