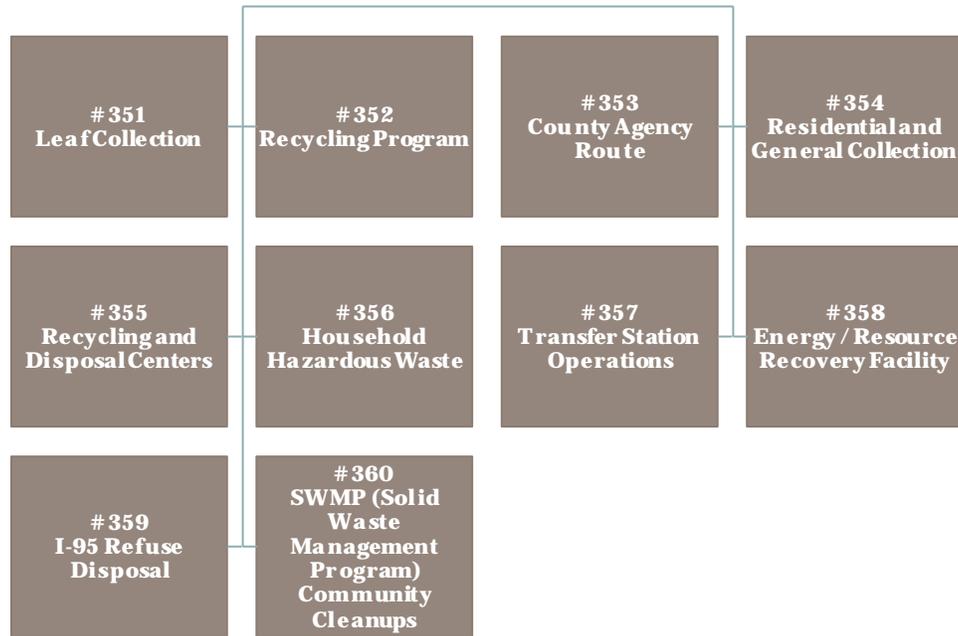


Solid Waste Management



Overview

The Solid Waste Management Program (SWMP) provides for the orderly and efficient collection, transportation, recycling, and disposal of solid waste generated by residents and businesses in the County. The SWMP strategically plans for the County's long-range waste management needs as required by the Code of Virginia using a system that integrates all aspects of waste management to ensure overall public health and environmental protection.

The integrated solid waste management system relies on a decades-long partnership with privately-owned waste collection and processing companies. Nearly 100 percent of the waste generated by businesses and 90 percent of the waste generated by residents is collected by the private sector. All of the waste collected in Fairfax County, including recyclables, are processed by the private sector except for a portion of the yard waste. Approximately one million tons of refuse and recyclables generated in the County are either recycled or disposed of by processing facilities owned and operated by the private sector each year.

In addition to all of the activities conducted to appropriately manage one million tons of municipal solid waste annually, the SWMP provides emergency response services during natural or man-made disasters as well as snow removal in winter months.

The implementation of the integrated solid waste management system by the SWMP is conducted by three divisions:

- Solid Waste Operations;
- Recycling, Engineering, and Environmental Compliance; and,
- Administrative Services Branch.

Solid Waste Management

SWMP's funding is budgeted and accounted for in five special revenue funds:

- Fund 40130, Leaf Collection, provides curbside vacuum leaf collection within Fairfax County's 38 approved leaf collection districts, comprised of approximately 25,000 homes. Services are funded through a supplemental levy of \$0.015 per \$100 of value on real estate property;
- Fund 40140, Refuse Collection and Recycling Operations, provides for collection of waste and recycling from approximately 44,000 individual households within Fairfax County's approved sanitary districts. These operations are funded by the annual assessment of a \$345 per household fee for weekly collection of refuse and recyclables at all homes within the County's designated sanitary districts;
- Fund 40150, Refuse Disposal, provides funding for Transfer Station operations to include: delivering all refuse collected throughout Fairfax County and its regional partners to the Energy/Resource Recovery Facility (E/RRF), the Prince William County Facility or other appropriate landfill, or compost facilities. The fund also supports the:
 - Household Hazardous Waste Program;
 - Electronics Recycling Program;
 - Used Motor Oil, Antifreeze and Cooking Oil Recycling Program;
 - Latex Paint Recycling Program;
 - Automotive Battery Recycling Program;
 - Scrap Metal/Appliance Recycling Program;
 - Emergency response activities for debris management/removal during emergencies/disasters;
 - Operation of the Recycling and Disposal Centers;
 - Brush grinding operations that make mulch available to County residents at no charge; and
 - Operation of landfill gas and groundwater monitoring systems to meet environmental requirements.
- Fund 40160, Energy/Resource Recovery Facility (E/RRF), provides for the operation of the waste-to-energy facility which annually processes over one million tons of waste. This facility is operated under contract on behalf of the County by Covanta Fairfax, Inc. (CFI). Waste generated by County residents and businesses is combusted to generate electrical power in excess of 80 megawatts, enough to power approximately 75,000 homes annually.

The SWMP charges a disposal (tipping) fee to all users of the E/RRF and subsequently pays the contractual disposal fee to CFI from these revenues. The formula-driven contract between the County and CFI ends on February 1, 2016, after the initial 25-year term. A new Waste Disposal Agreement (WDA) has been awarded which significantly changes the relationship between the County and CFI. The new contract will:

 - Reduce the quantity of waste guaranteed to be delivered to the E/RRF (known as GAT or Guaranteed Annual tonnage). Currently, GAT is 937,750 tons per year, which will be reduced to 650,000 tons per year when the new contract goes into effect;
 - The new contract no longer shares energy revenue with the County from the sale of electricity to Dominion Virginia Power; and,
 - Operational risks for the facility are retained by Covanta.
- Fund 40170, I-95 Refuse Disposal Fund, provides funding for the County's I-95 Landfill Complex. This facility is the location of the E/RRF, a municipal solid waste landfill that was closed in 1995 and an active portion of the landfill for ash generated from the combustion of waste. This ash landfill accepts ash from the Covanta Fairfax and Covanta Arlington/Alexandria waste-to-energy facilities as well as ash generated from the combustion of wastewater treatment solids resulting from wastewater treatment at the Noman M. Cole, Jr. Pollution Control Plant.

In addition, funding includes a portion of Agency 87, Unclassified Administrative Expenses – Public Works Programs, in the General Fund.

Solid Waste Management

Resources

Category	FY 2014 Actual	FY 2015 Actual	FY 2016 Adopted
FUNDING			
Expenditures:			
Compensation	\$26,448,115	\$26,670,992	\$28,497,714
Operating Expenses	65,893,434	65,079,250	75,800,994
Work Performed for Others	(2,094,726)	(2,502,969)	(3,510,746)
Capital Equipment	5,284,643	5,315,418	3,290,000
Total Expenditures	\$95,531,466	\$94,562,691	\$104,077,962
General Fund Expenditures	\$167,957	\$89,086	\$195,076
Transfers Out:			
Transfer Out to General Fund	\$1,287,000	\$1,287,000	\$1,360,000
Total Transfers Out	\$1,287,000	\$1,287,000	\$1,360,000
Revenues:			
Leaf Collection	\$2,141,693	\$2,258,491	\$2,312,567
Recycling Program	1,774,405	1,348,561	1,612,628
County Agency Route	1,695,930	1,790,685	483,160
Residential and General Collection	16,861,164	15,930,205	16,918,343
Recycling and Disposal Center	5,511,439	5,713,785	5,729,657
Household Hazardous Waste	8,384	6,885	600,000
Transfer Station Operations	40,243,533	41,024,481	40,886,864
Energy/Resource Recovery Facility	28,341,049	27,268,275	25,958,161
I-95 Landfill Disposal Operations	6,920,442	8,042,395	8,653,388
SWMP Community Cleanups (General Fund)	0	0	2,900
Total Revenue	\$103,498,039	\$103,383,763	\$103,157,668
General Fund Revenue	\$0	\$0	\$2,900
POSITIONS			
Authorized Positions/Full-Time Equivalents (FTEs)			
Positions:			
Regular	344 / 344	340 / 340	338 / 338
Total Positions	344 / 344	340 / 340	338 / 338

Solid Waste Management

Lines of Business Summary

LOB #	LOB Title	FY 2016 Adopted	
		Disbursements	Positions
351	Leaf Collection	\$2,364,737	0
352	Recycling Program	2,465,946	11
353	County Agency Route	1,569,071	6
354	Residential and General Collection	16,187,439	123
355	Recycling and Disposal Centers	5,672,729	21
356	Household Hazardous Waste	632,444	5
357	Transfer Station Operations	42,604,858	118
358	Energy / Resource Recovery Facility	25,850,271	12
359	I-95 Refuse Disposal	7,895,391	42
360	SWMP (Solid Waste Management Program) Community Cleanups	195,076	0
Total		\$105,437,962	338

Lines of Business

LOB #351:

LEAF COLLECTION

Purpose

Curbside vacuum leaf collection (CVLC) is a traditional public works service practiced in many communities in the United States. CVLC was included as another County service to accompany refuse collection service provided to residents residing in County Sanitary Districts.

The purpose of CVLC is to:

- Keep streets clear of leaves to decrease their ability to create road conditions that cause accidents and impede parking;
- Prevent the leaves from accumulating in storm drains to help reduce flooding potential and their discharge into surface waters of Fairfax County;
- Aid in keeping communities clean and to prevent vermin harborage; and,
- Prevent the need to use plastic bags for leaf collection which inhibits the ability of the leaves to be used to make compost used as a soil conditioner.

Description

The SWMP provides vacuum leaf collection service at the curb line for customers within designated sanitary leaf districts during the fall season of each year. Leaves are collected using vacuum leaf collection equipment that vacuums the unbagged leaves raked to the curb on three separate occasions during the leaf collection season (the period from October through mid-January).

In the fall months, crews with vacuum leaf collection equipment are deployed to the leaf districts and rake leaves from the curb that have been placed there by residents. Routes for leaf collection follow the established routes used for trash and recycling collection. Leaves collected are transported to either of two composting facilities that are not owned or operated by Fairfax County. The facilities include:

- The Prince William County yard waste composting facility owned by Prince William County and operated by a contractor under contract to the County.
- Loudoun Composting, a privately-owned composting facility in Loudoun County.

The leaf season begins in October of each year and limited term employees are hired to conduct the leaf collection process under the direction of SWMP staff. Crews move through the neighborhoods in an orderly fashion to remove leaves. Employees are thoroughly briefed on safety procedures to be used during leaf collection activities to prevent injuries and to ensure that the employees know how to use the vacuum leaf collection equipment. This service is conducted with 47/47.0 non-merit seasonal positions.

The leaf collection routes are scheduled prior to the implementation of the leaf collection practice. This is how the SWMP communicates with customers to let them know when leaf collection crews will be in the neighborhood. This communication provides sufficient lead time to allow the customers the opportunity to rake leaves to the curb so that when the leaf crews arrive, the leaves will be available for collection. Each customer is provided with three rounds of leaf collection in the fall to permit leaf fall to completely occur while providing time for the customer to rake leaves to the curb.

Solid Waste Management

Communication with leaf collection customers is paramount to the annual success of the program. All leaf collection customers receive an annual brochure each year with general information about how the program works. Customers are notified in advance using visible signs placed in numerous locations in the leaf collection district with dates as to when collection will occur in their neighborhood. The SWMP has also developed a listserv through the County's website where residents can sign up to receive automatic notification electronically as to when leaf collection will occur in their neighborhood.

Residents receiving CVLC are charged for this service from the County and this revenue is used to cover the cost of the provision of the service by the SWMP. Revenue is derived from a service fee that is charged to homeowners and businesses within the districts. The FY 2016 fee is \$0.015 per \$100 of assessed real estate value and this service fee has not been increased in five years.

Benefits

The benefits of the CVLC program are as follows:

- Leaf collection districts are typically in older neighborhoods where heavy forested areas with large quantities of leaves in the fall are in existence. This service is an aid to residents as they do not have to bag leaves in order to collect them;
- Prevents the introduction of leaves into surface waters reducing potential negative impacts to water quality in lakes and streams. This assists the County in achieving compliance with the recently issued Municipal Separate Storm Sewer System (MS4) permit;
- Prevents the accumulation of leaves in storm drains that can contribute to flooding in the County;
- Keeps communities clean and allows for orderly collection where collection of leaves in bags or other containers may not be practical or efficient. It also provides for general community cleanliness and prevents vermin harborage;
- Prevents the need for plastic bags for leaf collection and as such, greatly reduces plastic bags used to collect yard waste from ending up in compost made from leaves. Removing yard waste from plastic bags is difficult as the bags have a tendency to become entangled with the contents of the bag. It is very difficult, if not impossible, to remove bits of plastic bags from compost once the plastic has been introduced into the compost mix. Also, mechanical equipment to remove yard waste from plastic bags has not evolved to the point where the plastic is efficiently removed. Often, the removal of plastic bags is manual labor which adds to the cost of composting the material and can reduce the prices paid for compost with undesirable pieces of plastic; and,
- Aids the County in achieving its annual recycling rate as yard waste is required to be recycled according to Fairfax County Ordinance, Chapter 109.1.

Mandates

- **Fairfax County Ordinance, Chapter 109.1** - Fairfax County has had an established solid waste ordinance controlling the collection, recycling and disposal of solid waste for decades. The Fairfax County solid waste ordinance, Chapter 109.1, was amended in 1994 by the Board of Supervisors to require that residents separate yard waste from trash and other recyclables for placement at the curb separately. It must be placed separately at the curb because it is collected separately for delivery to either of two composting facilities identified earlier in this document. Delivery to the composting facility is conducted as the code requires yard waste to be recycled.
- **Code of Virginia § 15.2.-935** - The law provides local jurisdictions with the authority to prohibit the placement of leaves and grass in landfills.
- **9VAC-20-130-30** - Virginia Administrative Code states that jurisdictions must develop comprehensive and integrated Solid Waste Management plans that consider and address the Commonwealth's solid waste management hierarchy which prefers recycling to disposal (9VAC-20-130-40).

Solid Waste Management

- **Code of Virginia § 10.1-1411(D.1)** - Jurisdictions that meet certain seasonally-averaged population statistics must recycle at least 25 percent of all solid waste generated within their borders.

Trends and Challenges

Trends

- CVLC is anticipated to remain popular as it significantly reduces the amount of work that a resident needs to expend to remove leaves from the curb;
- Increases in customers receiving CVLC have been moderate over the past decade and moderate increases over the next decade are anticipated. Leaf collection services are only available to Sanitary District customers so increases will not exceed the number of Sanitary District customers; and,
- Plastic bags negatively impact the quality of compost made from leaves as undesirable pieces of plastic bags end up in the finished compost. CVLC eliminates the need to use plastic bags. Prince William County has indicated to Fairfax County that it intends to disallow the delivery of yard waste in plastic bags. When this occurs, Fairfax County will either no longer have the ability to use the facility or the County will prohibit the placement of yard waste in plastic bags for collection at the curb.

Challenges

- Staff work continuously to limit costs for services. Fluctuations in fuel prices and labor impact the cost of this service;
- The annual process to hire over 47 non-merit seasonal employees requires the significant efforts of many staff members whose regular work is redirected to accomplish this annual activity; and
- The new MS4 permit may significantly alter how yard waste is managed in Fairfax County. The SWMP works closely with Stormwater Management Program as compliance activities associated with the MS4 permit are implemented.

Resources

Category	FY 2014 Actual	FY 2015 Actual	FY 2016 Adopted
LOB #351: Leaf Collection			
FUNDING			
<u>Expenditures:</u>			
Operating Expenses	\$1,911,023	\$2,100,142	\$1,854,458
Total Expenditures	\$1,911,023	\$2,100,142	\$2,364,737
Total Revenue	\$2,141,693	\$2,258,491	\$2,312,567
POSITIONS			
Authorized Positions/Full-Time Equivalents (FTEs)			
<u>Positions:</u>			
Regular	0 / 0	0 / 0	0 / 0
Total Positions	0 / 0	0 / 0	0 / 0

Solid Waste Management

Metrics

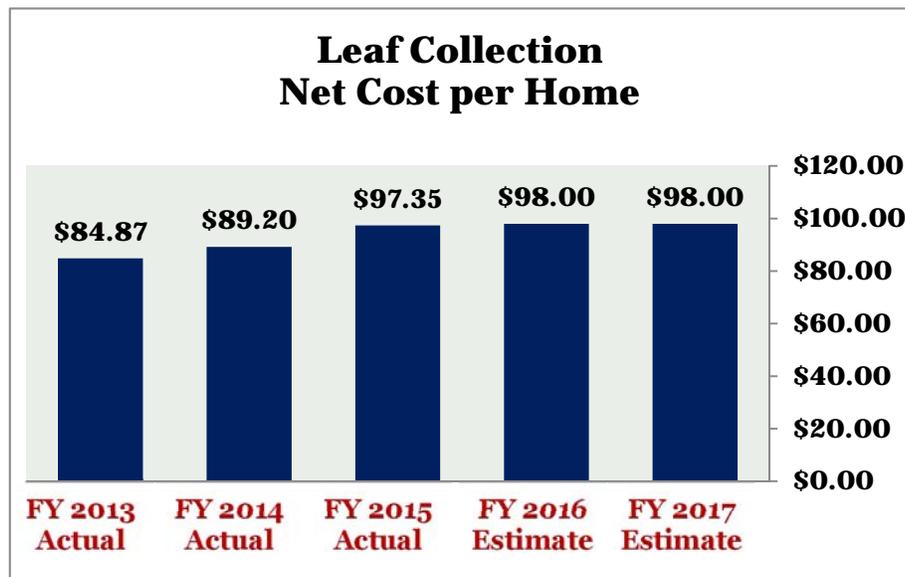
Metric Indicator	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
	Actual	Actual	Actual	Estimate	Estimate
Tons of Leaves Collected	7,203	7,737	8,358	8,100	7,900
Net Cost per home for leaf collection	\$84.87	\$89.20	\$97.35	\$98.00	\$98.00
Percent of leaf customers rating service good or better	NA	95.00%	94.00%	95.00%	95.00%

Leaf Collection - Tonnage

Leaf production is driven by weather, rainfall and other environmental factors, and metrics on the quantity of leaves collected show that there is moderate annual variation in leaf production. The Solid Waste Management Program utilizes averages and factors in trends of the most recent years to forecast leaf tonnage.

Leaf Collection - Net Cost per Home

The cost of the leaf collection program has trended upward slightly in recent years due primarily to allocation of program costs. Many of the functions of the leaf collection program such as drivers, management and supervision, and administrative support are performed by staff based in other programs. Since FY 2014, the SWMP more accurately tracked and allocated costs associated with the leaf collection process.



Leaf Collection - Customer Satisfaction Survey Results

The customer satisfaction survey demonstrates a relatively high degree of satisfaction with the program's goal of a 95 percent satisfaction rate and County staff work to ensure that leaves from trees in the sanitary district are collected and removed from the sanitary districts.

Solid Waste Management

LOB #352:

RECYCLING PROGRAM

Purpose

The Recycling Program, managed by the SWMP, is one part of the County's overall strategy for the management of solid waste generated by residences and businesses in Fairfax County. This overall waste management strategy must create (at a minimum) a solid waste disposal and recycling plan that protects public health, public safety, the environment, and natural resources. Plans must also be environmentally-sound using resources in the most efficient and effective way, which includes recycling as a major component.

The SWMP developed and currently manages the system for the proper disposal and recycling of wastes generated in Fairfax County including:

- Overall management of solid waste reduction and recycling programs;
- Plans for future recycling programs and waste reduction systems; and,
- Ensuring that disposal capacity remains available for wastes by reducing the amount of waste sent for disposal through recycling programs that divert reusable or recyclable items from the waste stream to avoid disposal.

As part of the Fairfax County recycling program, the SWMP operates six unmanned Recycling Drop-Off Centers (RDOCs) throughout the County and two manned locations at the I-66 Transfer Station and the I-95 Landfill Complex.

These facilities are served by County staff using County equipment at the locations below.

ABC Store in Annandale	Mt. Vernon RECenter
Blake Lane	Reston Park and Ride
McLean Bible Church	Wakefield Park

Since curbside collection of recyclables was established by County ordinance in the mid-1990s, the RDOCs have been maintained to provide additional opportunities for recycling quantities generated by small businesses and residences.

Description

The SWMP provides effective management of solid waste recycling, collection, transfer and disposal of wastes generated within the County through the operation of existing programs and implementation of the Fairfax County 20-Year Solid Waste Management Plan (required by code and required by state regulation). Solid waste management planning, as directed by the Virginia Department of Environmental Quality (VDEQ), includes the requirement to establish recycling programs within jurisdictions. The SWMP has been directed to provide solid waste management activities in the County and recycling is one of those activities. Recycling, in combination with waste disposal, provides the entire framework upon which the orderly management of wastes in Fairfax County relies.

Recycling Programs in the County are conducted in several ways:

- Through the implementation of the Fairfax County Solid Waste Management Ordinance, Chapter 109.1; this requires that residents and businesses source-separate recycling from refuse so that it can be collected separately and transported to a recyclables processing facility for processing and eventual sale;

Solid Waste Management

- Single-family, multi-family and town houses that receive weekly curbside collection of refuse must also receive weekly collection of both recyclables and yard waste;
- Businesses are also required by code to recycle paper and cardboard at a minimum;
- Implement comprehensive education and outreach programs to ensure that residences and businesses know what is required to be recycled and how that is accomplished; and,
- Operation of the County's eight recycling drop-off centers where residents and businesses can deposit their recyclables.

Recycling Outreach and Education – The SWMP is involved in comprehensive education and outreach programs conducted by the DPWES. This includes the development of all print materials as well as web-based communications, events, community meetings and presentations, tours of facilities and other educational tools and activities.

Benefits

The benefits of the Recycling Program in Fairfax County include the following:

- Works cooperatively and interactively with the solid waste disposal program to ensure that waste generated in the County is managed according to federal and state environmental regulations and ensures that sufficient waste disposal capacity is always available for waste by preventing the disposal of materials that can be legitimately recycled.
- Provides a significant pollution reduction program by preventing the disposal of items into the County's disposal system that can be recycled. This includes the recycling of motor oil, antifreeze, used cooking oil and certain household hazardous wastes in addition to traditional recyclables.
- Ensures that the County complies with state regulations specific to the management of waste generated in the Commonwealth.
- Two manned RDOC locations are integral parts of the waste management services provided at the County's two solid waste management facilities.
- Presently, the unmanned RDOCs are used only to augment recycling collection services that are required to be provided to residents by collection companies operating in the County.

Mandates

Recycling is mandated in the Commonwealth of Virginia. Jurisdictions in Virginia are required to have an approved 20-Year Solid Waste Management Plan. These plans must be developed identifying what the jurisdiction will do to recycle waste generated within the individual jurisdiction for a 20-year period. These plans must be updated every five years to ensure that the jurisdiction knows what will happen to wastes generated within their borders for a 20-year period.

- **9VAC-20-130-30** - Virginia Administrative Code states that jurisdictions must develop comprehensive and integrated solid waste management plans that consider and address the Commonwealth's solid waste management hierarchy which prefers recycling to disposal;
- **Code of Virginia § 10.1-1411(D.1) and (E)**- Jurisdictions that meet certain seasonally-averaged population statistics must recycle at least 25 percent of all solid waste generated within their borders; and, jurisdictions with more than 100,000 residents must prepare a recycling report annually which quantifies the entire amount of recycling conducted in the County.

The service provided by the RDOCs is one of a variety of techniques used to collect recyclables. The facilities are not mandated by local, federal or state law or regulations.

Solid Waste Management

Trends and Challenges

Trends

- Recyclables are sold on the commodities market, and revenue is generated from the sale of recyclables. Commodity prices have had wide variations in the past several years due to worldwide economic conditions; revenue generated by the sale of recyclables has also shown a similar variation due to dramatic price swings. As this trend is anticipated to continue, improved methods to enhance revenue generated by the sale of recyclables are being explored.
- Residents continue to desire additional recycling for waste generated. However, there is a distinct lack of recyclables processing capacity. The most notable example is the desire for food waste composting. The SWMPs ongoing waste disposal partner Prince William County is currently developing a food waste composting capacity that Fairfax County may be able to utilize in the future.
- During the past decade, the quantities collected at the RDOCs have decreased approximately 50 percent from 6,000 tons per year to nearly 3,000 tons per year. This is attributed to the fact that all residents receive weekly collection at their residences as required by Fairfax County Code.

Challenges

- Since Fairfax County does not own or operate a recyclables processing facility, the County must contract with private vendors for these services. These facilities continue to raise processing costs and complexity, make it more complicated and costly;
- Single-stream collection of recyclables in one container has increased recycling volume and brought down the cost of collecting recyclables. However, it contributes to lower quality of recyclables collected, thereby reducing their ability to be sold as a commodity. One example includes the impact of collecting glass with other recyclables. Glass is virtually valueless as a commodity (i.e., it is difficult to sell due to its low value). However, its presence degrades the quality of other recyclables, especially paper which can be sold if it maintains its quality during the collection process. New techniques to collect glass separately from other commodities are being explored; and,
- Funding to serve the six unmanned RDOCs is provided by the fees charged by the SWMP to dispose of waste at either of its disposal facilities. This funding could be better used to fund other programs operated by the SWMP that do not create revenue, namely, household hazardous waste, electronics recycling and document shredding.

Solid Waste Management

Resources

Category	FY 2014 Actual	FY 2015 Actual	FY 2016 Adopted
LOB #352: Recycling Program			
FUNDING			
<u>Expenditures:</u>			
Compensation	\$1,175,869	\$1,069,155	\$1,428,064
Operating Expenses	1,186,443	383,981	1,037,882
Capital Equipment	158,950	0	0
Total Expenditures	\$2,521,262	\$1,453,136	\$2,465,946
Total Revenue	\$1,774,405	\$1,348,561	\$1,612,628
POSITIONS			
<i>Authorized Positions/Full-Time Equivalents (FTEs)</i>			
<u>Positions:</u>			
Regular	12 / 12	12 / 12	11 / 11
Total Positions	12 / 12	12 / 12	11 / 11

Metrics

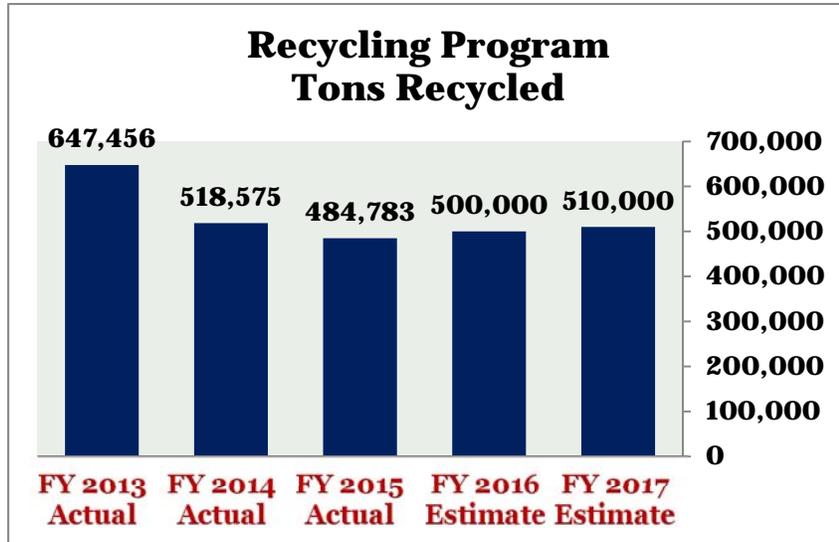
Metric Indicator	FY 2013 Actual	FY 2014 Actual	FY 2015 Actual or	FY 2016 Estimate	FY 2017 Estimate
Total Tons recycled	647,456	518,575	484,783	500,000	510,000
Disposal cost avoidance by recycling (\$ in millions)	\$34.30	\$28.00	\$26.20	\$27.00	\$28.00
Percent of residential recycling customers rating services good/better	94.0%	96.3%	97.9%	97.0%	97.0%
Total County recycling rate *	51%	48%	48%	50%	50%

* Actuals for each fiscal year reflect data as of the end of the previous calendar year as required by state regulations.

Solid Waste Management

Recycling Program - Tons Recycled

Recycling in Fairfax County remains strong with respect to public participation and this is anticipated to continue. On the average, about 500,000 tons of recyclables are generated each year from businesses and residents in the County. This amount includes about 200,000 tons of yard waste collected in the County.

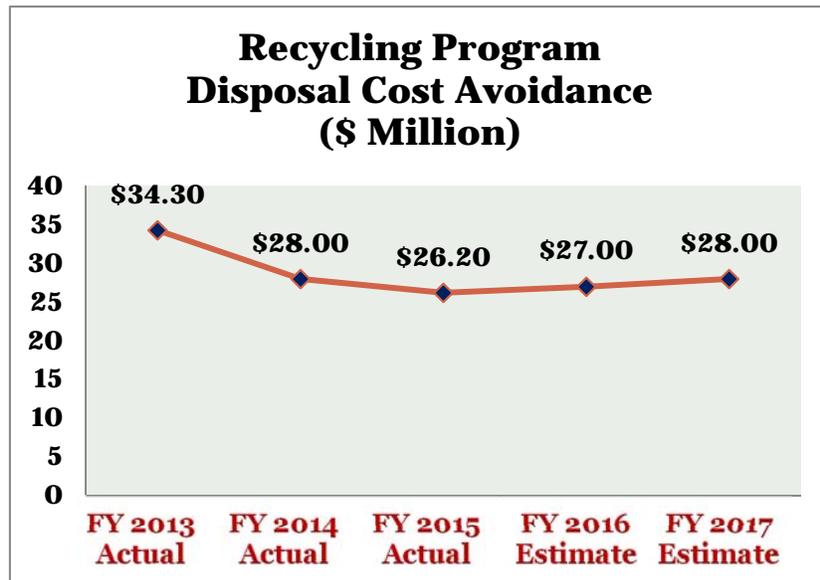


Recycling Program - Recycling Rate

The Fairfax County SWMP works to promote recycling throughout the County. Virginia law requires large Virginia jurisdictions to recycle at least 25 percent of their solid waste. Since 1999, Fairfax County has exceeded this requirement and for the past three years, the County has recycled almost double the required amount. Recycling is anticipated to remain strong for the next decade as demand for additional recycling services is also expected to increase.

Recycling Program - Disposal Cost Avoidance

Prices for the sale of recyclables collected by the County have improved over the past fiscal year due to the diligent efforts of staff to find other recyclables processors. The factors that restrict performance are primarily a lack of recyclables processing competition in the region and the impact of single-stream collection. Recyclables collected using the single-stream collection technique requires additional and more expensive processing to make products that can be sold. The additional processing costs result in lower revenue being generated when the processed recyclables are eventually sold. Processing costs are expected to continue to increase over the next several years.



Processing costs are expected to continue to increase over the next several years.

The SWMP has worked throughout the past year to find alternative markets for the processing of recyclables collected by the County. While prices for processing of recyclables have been reduced by using a variety of processors, commodities market variability continues to impact the revenue generated from the sale of recyclables after processing. Recycling materials continues to be less expensive than disposal. Based on economic fluctuations, the SWMP is anticipating a significant variability in market prices for recyclables. The variability in market prices for processed recyclables most likely will continue for several years. None of the northern Virginia jurisdictions own or operate their own recyclables processing facility. They all use the same processing facilities and are reporting significantly depressed prices for the sale of recyclables, especially glass.

Solid Waste Management

LOB #353:

COUNTY AGENCY ROUTE

Purpose

- The County Agency Route (CAR) program provides refuse and recycling collection services to properties owned and operated by the County.
- CAR provides weekly refuse and recycling collection services for approximately 220 County agency locations as well as community partners George Mason University (GMU) and Northern Virginia Community College (NVCC) – Annandale Campus.
- CAR also provides County departments and community partners with specially scheduled collections for bulk and oversized items as well as collection service for special events held on County properties.
- GMU and NVCC selected the Fairfax County SWMP-CAR to provide its refuse and recycling collections service in the highly competitive Northern Virginia refuse collection market.

Description

The CAR program consists of 6/6.0 FTE positions that operate refuse and recycling collection routes weekly to the County properties served. The CAR program does not collect refuse or recycling at properties that are leased by the County and the Fairfax County Public Schools (FCPS) are not included in the program. Refuse and recycling are mainly collected in two different types of containers collected by a truck specifically designed to move and transport the container, either dumpsters using a front-end truck or a compactor using a roll-off truck.

- **Dumpsters and Front-End Trucks** - Most properties receive collection service using dumpsters and a front-end truck to collect the waste. Staff travels to each location weekly to collect the material using the front-end truck. After emptying the container into the truck, the material is either transported to either of the County's two solid waste disposal facilities or to a recyclables processing facility.
- **Compactors and Roll-Off Trucks** - At larger properties, either refuse or recyclables are collected in a compactor. A compactor is a waste collection device that is typically sized at 20 cubic yards or larger with a motorized compactor blade that can compact the load to allow more waste to be placed into the compactor. Collection is accomplished using a roll-off truck that has a bed that can be raised to deliver or remove a compactor. Full containers are pulled onto the truck and transported to either of the solid waste disposal facilities or to a recyclables processing facility.
- **Interior Containers** – In addition to providing exterior containers for waste and recyclables collection, CAR customers are also provided with containers to be used in the interiors of buildings for the collection of recyclables. Examples of those containers include the white cardboard boxes for the collection of paper, the small blue containers with white swinging handles for the collection of recyclables in individual work spaces, and the bottle and can containers located throughout County properties. The SWMP is unaware of any privately-owned waste collection that provides containers for the collection of recyclables inside of the building.
- **Additional Services** – Container maintenance, including new signs, container painting, top replacement and welding of broken joints, is included in the cubic yard fee. Additional on-call service is also available to address refuse/recycling needs at properties under control of the County.

The CAR equipment is also used to empty containers at the eight County recycling drop-off centers and for emergency response and community cleanups.

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The CAR program is performed with 6/6.0 FTE positions.

The CAR program is financed by revenue derived from billings to County agencies based on the cubic yard capacity of the containers assigned to individual agencies. The cost per cubic yard is based on fiscal year operating requirements.

Benefits

The benefits of the CAR program includes:

- The SWMP has provided quality, on-time service to County agencies for about three decades.
- For FY 2016, the rate is \$4.62 per cubic yard. Arlington County recently (2011) completed a survey on the costs of commercial collection which ranged from \$1.13 per cubic yard to \$12.98 per cubic yard with an average rate of \$5.47. The rate charged by the County is less than the average rate for the same service provided by the private sector.
- Improved service at lower costs. The current rate is 12 percent below the average market rate for similar service as documented in a study performed by Arlington County in 2011 (average rate for commercial service from private sector - \$5.47/cubic yard as compared to \$4.84/cubic yard FY 2015 costs for CAR service).
- Provided service to County community partners GMU and NVCC as the service level and price were acceptable to both organizations which also met additional refuse and recycling requirements.
- Flexibility to address special requests for immediate response to emergency situations such as storm cleanup as well as community cleanups.
- Consistent, predictable service and costs, since staff are familiar with facilities and waste characteristics of the County.
- Provided background checks to staff to access sensitive and secure County facilities.
- Respond to requests for additional service as needed to accommodate the customer.
- Monitor services and make recommendations on collection needs and opportunities to recycle more materials, resulting in reduced costs.
- Coordinate with the Fairfax County Fire and Rescue and Police Department during emergency events to provide assistance such as roadway clearing and winter weather events.

Mandates

The weekly collection of refuse and recycling is mandated under Chapter 109.1, the Fairfax County solid waste management ordinance. Authority for solid waste collection is provided under the authority of the Code of Virginia as provided below:

§ 15.2-843. Department of public utilities.

The department of public utilities, if and when established, shall be under the supervision of a director of public utilities. Such department shall be in charge of construction, operation, maintenance and administration of all public works coming under the general category of public utilities, owned, operated and controlled by any such county or district or any sanitary district of such county. Such department shall be responsible for the administration of the affairs of the sanitary districts, including but not limited to water systems, sewer systems, sewage disposal systems, garbage and any other sanitary district functions not assigned or administered by other departments or agencies.

Solid Waste Management

Trends and Challenges

Trends

- Increased demand for recycling services and education; and,
- Pricing downturns in commodities recycling markets have necessitated a heightened effort to protect the quality of paper and cardboard so that it can be sold at a profit to provide a funding source for SWMP operations.

Challenges

- Increased security concerns relating to disposal/recycling of sensitive documents and materials.
- Staffing challenges are addressed by utilization of workers from the residential collection program when needed.

Resources

Category	FY 2014 Actual	FY 2015 Actual	FY 2016 Adopted
LOB #353: County Agency Route			
FUNDING			
<u>Expenditures:</u>			
Compensation	\$670,250	\$692,586	\$690,112
Operating Expenses	1,102,332	1,050,532	878,959
Total Expenditures	\$1,772,582	\$1,743,118	\$1,569,071
Total Revenue	\$1,695,930	\$1,790,685	\$483,160
POSITIONS			
<i>Authorized Positions/Full-Time Equivalents (FTEs)</i>			
<u>Positions:</u>			
Regular	6 / 6	6 / 6	6 / 6
Total Positions	6 / 6	6 / 6	6 / 6

Solid Waste Management

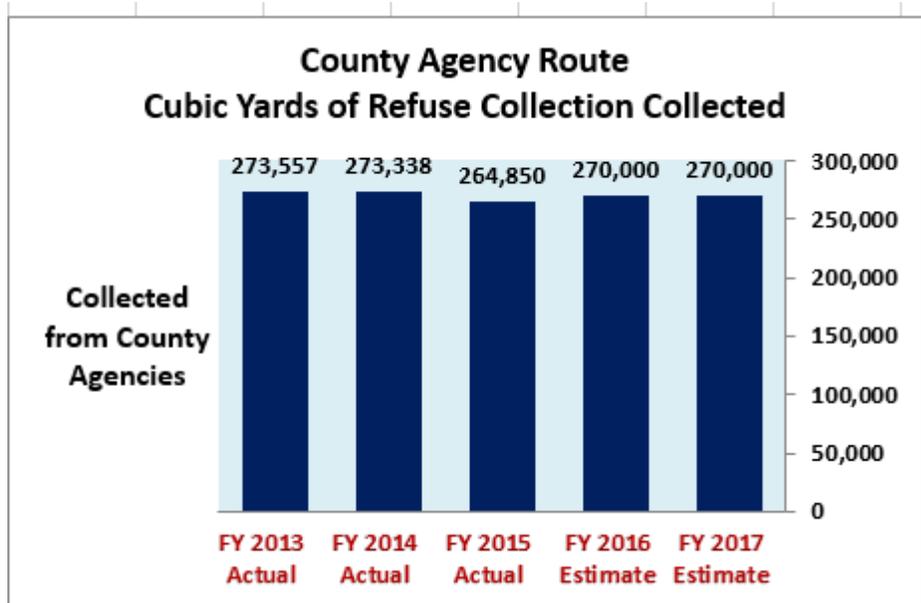
Metrics

Metric Indicator	FY 2013 Actual	FY 2014 Actual	FY 2015 Actual	FY 2016 Estimate	FY 2017 Estimate
Cubic yards of refuse collected from County agencies	273,557	273,338	264,850	270,000	270,000
Cost of program per Cubic Yard *	\$4.58	\$4.68	\$4.84	\$4.99	\$5.09

* Improved tracking and accounting of program expenses during FY 2015 contributed to the slight increase. FY 2016 will be the first full year using more accurate costing.

County Agency Route - Cubic Yards of Refuse Collection Collected:

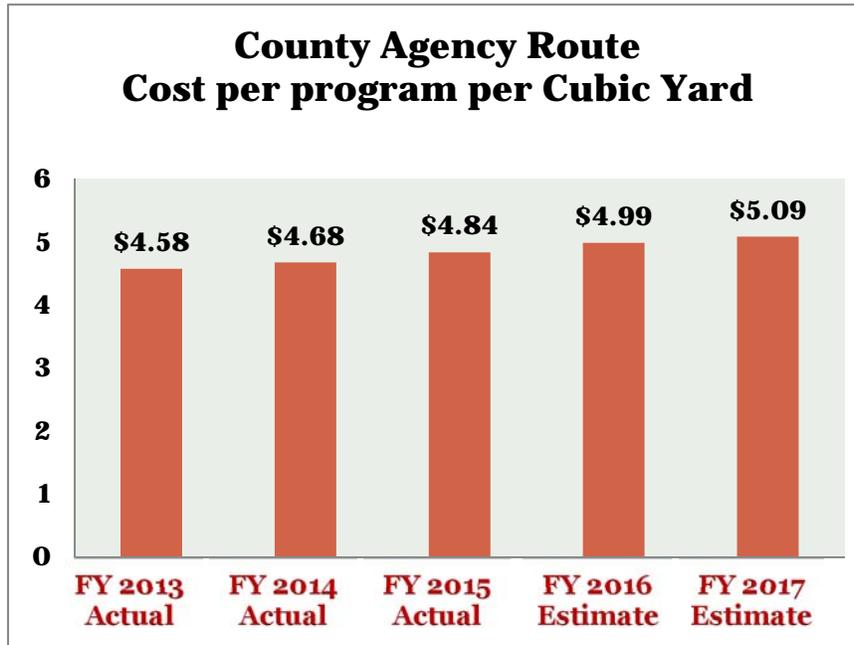
Refuse and recyclables collection service at County properties is expected to experience very moderate growth as the program primarily serves a relatively finite customer base composed of County Government agencies, George Mason University and Northern Virginia Community College – Annandale. Fairfax County initiatives to reduce paper usage have contributed to a stabilization of square yards of solid waste and recyclables collected by the program. FY 2015 reflects a slight decline in volume. The SWMP makes provisions and plans for collection to coincide with building occupancy.



Solid Waste Management

County Agency Route - Cost per program per Cubic Yard

The cost for County agency collection routes has remained relatively steady for the past several years. The program also is highly competitive in its costs. FY 2016 will see the continuation of a pilot program to maximize the collection of high quality paper and cardboard from County agencies and selling it to recycling facilities. The revenue generated from these sales will be utilized to maintain the CAR program as the low-cost provider of trash and recycling collection services for the County.



Solid Waste Management

LOB #354:

RESIDENTIAL AND GENERAL COLLECTION

Purpose

The Residential and General Collection (R&G) Program provides curbside refuse and recyclable collection services to County residents who reside in designated Sanitary Districts.

- Collection of refuse and recyclables from approximately 44,000 residences in designated Sanitary Districts;
- Removal of oversized piles of trash through the *Clean Streets Initiatives* and *MegaBulk* programs;
- Assistance in the removal of materials damaged by storms, floods or other emergency situations; and
- Public outreach and education on recycling, household hazardous waste and solid waste management to County customers.

Description

The R&G Program is funded by a fee of \$345 per year that is billed semi-annually on the resident's real estate property tax bill.

For the base fee, SWMP collection customers are provided with:

- Weekly collection of refuse and recyclables, which are collected on the same day of the week;
- Weekly collection of yard waste from March 1 to December 24 on the same weekday as other collection services;
- Five special collections per year at no extra charge;
- Separate containers for refuse and recyclables;
- Reusable yard waste containers are distributed to customers upon request based on availability; and,
- Annual statement of service which describes the details of the County collection system and how to take advantage of program benefits.

The SWMP operates a fleet of about 18 rear-end packer trucks and 13 automated collection trucks to service the refuse and recyclable collection routes. The trucks are operated by County staff that drive the trucks and collect the waste from the container placed at the curb on collection day. The automatic collection trucks utilize a mechanical arm that grabs the container and dumps it into the collection vehicle without the need for the container to be manually emptied by staff. This equipment significantly reduces the potential for injury of staff on the collection routes. This LOB is performed with 123/123.0 FTE positions.

Special Collections - Customers can take advantage of requesting up to five special collections each year. Special collections are available for large items or large piles of yard waste and are provided in the base service fee of \$345/year. The SWMP uses a fleet of six crane trucks that employ grapple cranes to collect and move the oversized materials. When oversized items or large piles of yard waste exceed certain sizes, the *MegaBulk* program is available to the customer for an additional fee.

MegaBulk - The *MegaBulk* Program was originally established for County refuse and recycling customers in Sanitary Districts to collect oversized piles of refuse and yard debris. Customers schedule this service and pay an additional fee for the collection of oversized quantities of materials that are not part of the basic level of service for routine weekly collections based upon equipment and available personnel.

Solid Waste Management

Clean Streets Initiative (CSI) - Working in conjunction with the Fairfax County Health Department, the SWMP's *Clean Streets Initiative* is designed to address complaints from residents about piles of refuse that are placed in neighborhoods where the property owner does not take responsibility for its timely removal or where no responsible party can be found. Under this initiative, the property owner is notified that the refuse must be removed and if he or she fails to do so or otherwise cooperate, the SWMP removes the refuse and bills the owner for removal of the material. If the property owner refuses to pay that bill, a lien is placed on the property.

Benefits

The benefits of the R&G Program include:

- Collection routes are consolidated into specific geographic areas for collection. This reduces truck traffic resulting in improved road safety from reductions in accidents and personal injury and eliminates air emissions associated with the operation of diesel equipment.
- Provides a public option with competitively priced disposal services; The *MegaBulk* and the *CSI* programs are available to all County residents and aid in keeping Fairfax County clean.
- Provides the County with equipment for emergency response and recovery efforts such as floods, hurricanes, snow events, and other emergencies.

Mandates

The weekly collection of refuse and recycling is mandated under Chapter 109.1, the Fairfax County solid waste management ordinance.

Authority for solid waste collection is provided under the authority of the Code of Virginia as provided below:

§ 15.2-843. Department of public utilities.

The department of public utilities, if and when established, shall be under the supervision of a director of public utilities. Such department shall be in charge of construction, operation, maintenance and administration of all public works coming under the general category of public utilities, owned, operated and controlled by any such County or district or any sanitary district of such County. Such department shall be responsible for the administration of the affairs of the sanitary districts, including but not limited to water systems, sewer systems, sewage disposal systems, garbage and any other sanitary district functions not assigned or administered by other departments or agencies.

§ 15.2-858. Creation, enlargement, contraction, etc., of sanitary districts

C. Notwithstanding any other provision of law, the board shall have the power and authority with regard to the creation, enlargement, contraction, merger, consolidation or dissolution of small districts and local districts within such County that is granted to the circuit court for the County in connection therewith by Title 21 and by Chapter 161 of the Acts of the Assembly of 1926 as amended.

Solid Waste Management

Trends and Challenges

Trends

- The continued purchase of automated collection trucks with mechanical side arms;
- Customers continued support of the County's collection service as a reliable and cost-effective service;
- Equipment and staff used at this location is the same equipment and staff used to respond to emergencies such as flooding, storm events and other natural or man-made disasters in the County. The SWMP coordinates with the Fairfax County Fire and Rescue and the Police Department during emergency events to provide assistance such as roadway clearing. They are also used for snow and ice control during winter months.

Challenges

- The Fairfax County Environmental Quality Advisory Council has identified increased truck traffic due to the lack of designated collection areas as an environmental issue affecting the quality of life in the County. The Council has requested that SWMP examine possible remedies for this issue.

Resources

Category	FY 2014 Actual	FY 2015 Actual	FY 2016 Adopted
LOB #354: Residential and General Collection			
FUNDING			
<u>Expenditures:</u>			
Compensation	\$9,201,739	\$8,835,813	\$9,148,085
Operating Expenses	6,674,638	7,282,897	7,083,159
Work Performed for Others	(1,420,048)	(1,448,847)	(1,631,805)
Capital Equipment	2,542,390	1,557,284	1,040,000
Total Expenditures	\$16,998,719	\$16,227,147	\$15,639,439
<u>Transfers Out:</u>			
Transfer Out to General Fund	\$535,000	\$535,000	\$548,000
Total Transfers Out	\$535,000	\$535,000	\$548,000
Total Revenue	\$16,861,164	\$15,930,205	\$16,918,343
POSITIONS			
Authorized Positions/Full-Time Equivalents (FTEs)			
<u>Positions:</u>			
Regular	129 / 129	124 / 124	123 / 123
Total Positions	129 / 129	124 / 124	123 / 123

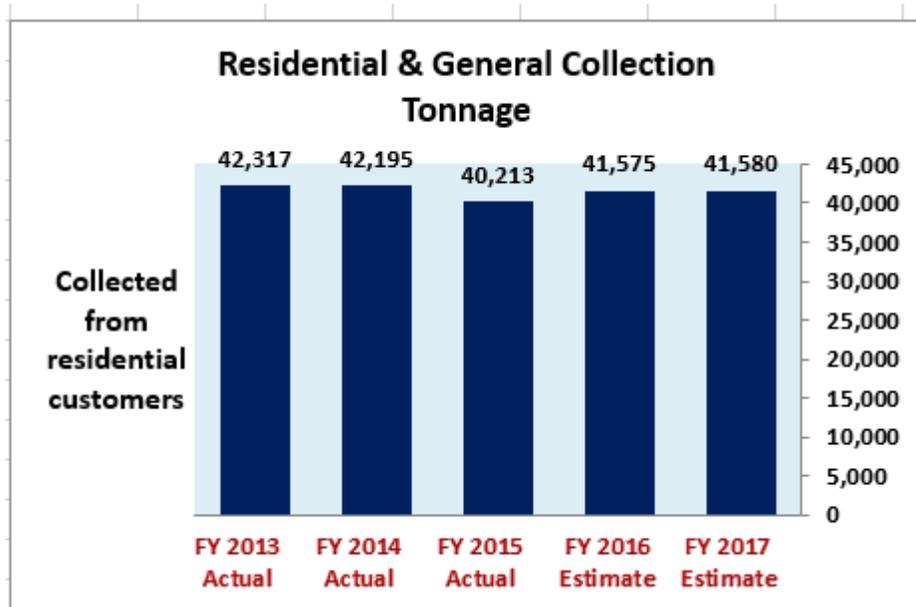
Solid Waste Management

Metrics

Metric Indicator	FY 2013 Actual	FY 2014 Actual	FY 2015 Actual	FY 2016 Estimate	FY 2017 Estimate
Tons of refuse collected from residential customers	42,317	42,195	40,213	41,575	41,580
Net cost per ton for residential refuse collection	\$325	\$374	\$389	\$342	\$342
Percent of residential refuse customers rating services good/better	98.40%	96.30%	97.90%	95.00%	95.00%

Residential and General Collection - Tonnage

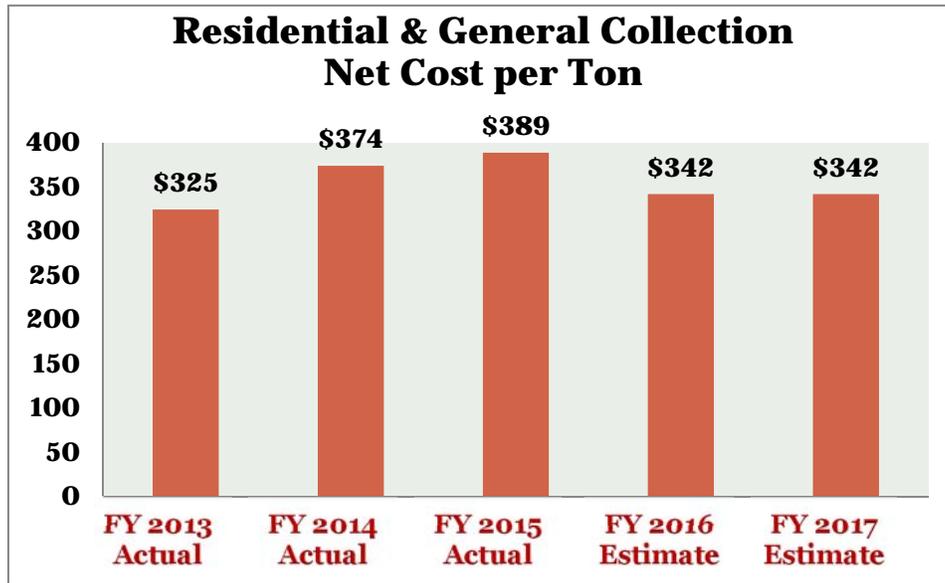
This measure reflects the tons of refuse collected from residential customers who reside in a designated sanitary district where refuse collection services are provided by Fairfax County Solid Waste Management Program (SWMP). Tonnage has been relatively consistent over the past few years and the program has experienced minimal expansion. In FY 2015, tonnage decreased 5 percent from FY 2014 from sanitary district customers. While gauging the actual tonnage can be difficult, declines in requests for special collection services indicate that the trend could be possibly linked to changing economic conditions. The SWMP will continue to monitor tonnages and adjust forecasts if the trend continues in FY 2016 and beyond. Minimal expansion of the County sanitary district collection routes has occurred over the past several years and is expected to continue. The SWMP does not actively market its collection service to County residents.



Solid Waste Management

Residential & General Collection - Net Cost per Ton

This metric measures the net cost per ton for the Solid Waste Management Program's (SWMP) residential refuse collection LOB. This measures the cost of the refuse collection program which has increased upward in recent years. Fees for residential collection have remained constant for the past five years and no rate increases are forecasted in FY 2017. The SWMP anticipates lower cost per ton in the future due to internal cost controls put in place on its operational expenses, more accurate allocation of program costs to other SWMP programs that utilize equipment and services from the residential collection program, and a managed reduction in the purchase of vehicles and other capital equipment that is based on a change in management philosophy. The SWMP has also introduced automated collection vehicles and is reconfiguring its trash collection routes to gain more efficiency. Both of these measures are anticipated to contribute to additional cost savings and maintain current service levels at the existing fee level.



Residential & General Collection- Customer Satisfaction Survey Results

This measures customer satisfaction with refuse services. These results are used to assess the current service/initiatives and identify priorities for future action. The survey respondents from the Fairfax County's sanitary districts demonstrated a relatively high degree of satisfaction with the collection of refuse. The SWMP strives to provide quality and on-time refuse collection services, as well as increase education efforts to meet the customer's collection service demands. The absence of price increases is appreciated by customers who continue to rate service as good or better in the annual surveys. The factors that contribute to performance are the newly-reconfigured collection routes that reduce collection time and the automated collection vehicles with mechanical side arms that reduce collection times and the potential for worker injury.

Solid Waste Management

LOB #355:

RECYCLING AND DISPOSAL CENTERS

Purpose

SWMP operates two locations for residents and small businesses to manage wastes and recyclables that they generate. Presently, each provide convenient waste disposal and recycling opportunities for County residents and small businesses.

Description

The SWMP operates two Recycling and Disposal Centers (RDC), one at the I-66 Transfer Station as well as the I-95 Landfill Complex. These facilities are served by County staff using County equipment to manage refuse or recyclables delivered by residents. This LOB is performed with 21/21.0 FTE positions.

Refuse - Residents with refuse are directed to a scale where the amount of waste delivered is weighed to determine the appropriate disposal fee. The resident pays the fee and then is directed to the area where waste is deposited. This area is elevated above the height of the open-top container. The resident pushes the waste from the elevated platform into the container without the need to lift the waste into a container.

- At the I-66 Transfer Station, refuse collected in the open-top containers is moved into the facility using a roll-off truck. The container is emptied and consolidated with other waste for transportation to the Energy/Resource Recovery Facility (E/RRF); and
- Once hauled to the E/RRF, the container is transported directly to the facility and emptied onto the floor where it is moved into the pit for eventual introduction into one of the facility's four boiler units.

Recyclables - Recyclables delivered to the Recycling and Disposal Centers are sent directly to the area dedicated for the collection of recyclables. The recyclables are not weighed on a scale as they are accepted without paying a fee. The materials are placed by the resident, with help from staff, into a compactor. The compactor has a mechanical blade that compresses the material to allow for more material to be placed into the container. The compactor is moved using a roll-off truck that has a bed that can be raised to deliver and empty or remove a full roll-off container using a mechanical pulley system. Full containers of recyclables are pulled onto the roll-off truck and transported to a recyclables processing facility.

Yard Waste - Residents with yard waste (brush, leaves, grass) are directed to a scale where the amount of waste delivered is weighed to determine the appropriate disposal fee. The resident pays the fee and is directed to the appropriate area where the yard waste is unloaded onto the ground as directed by staff. Brush is ground into mulch material by County staff using County equipment; the mulch is made available to residents that haul it away themselves. Residents with leaves and grass are directed to the appropriate area to unload the material which is stored for eventual shipment and processing at composting facilities in either Prince William or Loudoun counties.

Emergency Response Services - Equipment and staff used at this location is the same equipment and staff used to respond to natural or man-made disasters in the County. They are also used for snow removal during winter months.

Solid Waste Management

Benefits

The Recycling and Disposal Centers benefits include:

- Provide a convenient way for residents to manage generated wastes and recyclables;
- Recyclables are accepted at no cost to the user because the recycling service costs are covered by fees collected for the disposal of waste; and
- Household hazardous waste and electronics recycling services are also provided to residents at each facility. These materials are accepted at no cost to the user because the service costs are covered by fees collected for the disposal of waste.

Equipment and staff used at this location is the same equipment and staff used to respond to emergencies such as flooding, storm events and other natural or man-made disasters in the County. They coordinate with Fairfax County Fire and Rescue and the Police Department during emergency events to provide assistance such as roadway clearing. They are also used for snow and ice control during winter months.

Mandates

There is no mandate requiring jurisdictions in Virginia to provide a disposal facility for the management of municipal solid waste generated within their borders. However, jurisdictions in Virginia are required to have a 20-Year Solid Waste Management Plan that identifies where the jurisdiction will dispose of wastes generated within its borders for the 20-year term.

Fairfax County is committed to managing its own wastes as a way to finance the system many decades ago. The Code of Virginia (§ 15.2-815 below) allows jurisdictions to require wastes generated within its borders to be disposed of at the disposal facility that it designates. Article 7 of the Fairfax County solid waste ordinance, Chapter 109.1, identifies disposal facilities designated for the disposal of wastes. As wastes are delivered to either of the County's two disposal facilities, fees are collected from the generator of the waste for the disposal service. These fees support the SWMP, including the salaries and benefits of over 300.0 FTE positions.

§ 15.2-815. Regulation of garbage, trash and refuse pickup and disposal services; contracting for such services in certain counties.

The board may adopt an ordinance requiring the delivery of all or any portion of the garbage, trash and refuse generated or disposed of within such County to waste disposal facilities located therein or to waste disposal facilities located outside of such County if the County has contracted for capacity at or service from such facilities.

Trends and Challenges

Trends

- Users of the I-95 Landfill Complex have increased in recent years due to population increases in areas located near to the facility and is expected to continue.

Challenges

- As demand for household hazardous waste and electronics recycling increase, new sources of revenue may be needed to continue these activities since both locations are operating seven days per week.

Solid Waste Management

Resources

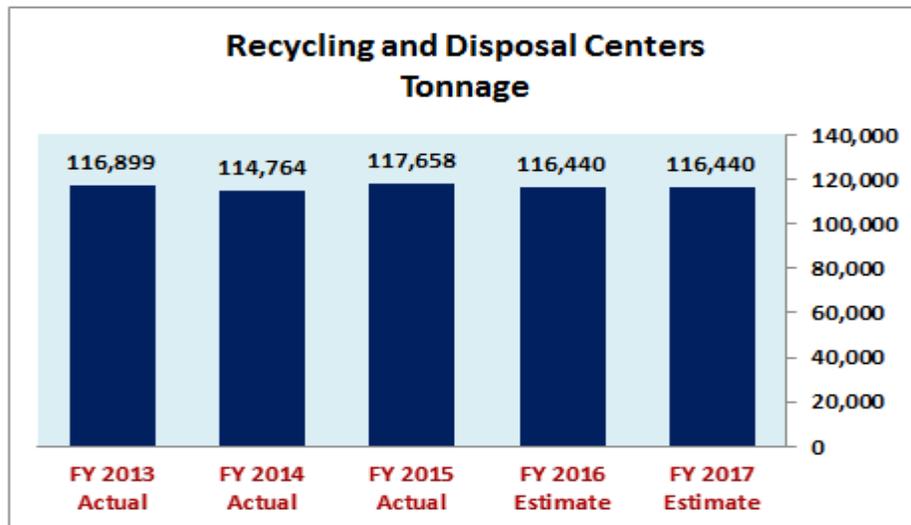
Category	FY 2014 Actual	FY 2015 Actual	FY 2016 Adopted
LOB #355: Recycling and Disposal Centers			
FUNDING			
<u>Expenditures:</u>			
Compensation	\$1,483,120	\$1,533,546	\$1,582,159
Operating Expenses	4,695,023	3,960,960	4,053,669
Capital Equipment	33,470	35,144	36,901
Total Expenditures	\$6,211,613	\$5,529,650	\$5,672,729
Total Revenue	\$5,511,439	\$5,713,785	\$5,729,657
POSITIONS			
Authorized Positions/Full-Time Equivalents (FTEs)			
<u>Positions:</u>			
Regular	19 / 19	21 / 21	21 / 21
Total Positions	19 / 19	21 / 21	21 / 21

Metrics

Metric Indicator	FY 2013 Actual	FY 2014 Actual	FY 2015 Actual	FY 2016 Estimate	FY 2017 Estimate
Tonnage through RDC: I-66 and I-95	116,899	114,764	117,658	116,440	116,440
Number of transactions	265,233	259,592	252,791	259,205	259,205

Recycling and Disposal Centers –Tonnage

This metric reflects the tonnage delivered to the Recycling and Disposal Centers (RDCs) at I-66 Transfer Station and I-95 Landfill complex. It has remained fairly consistent since FY 2013 and the trend is expected to continue into FY 2017 and beyond.

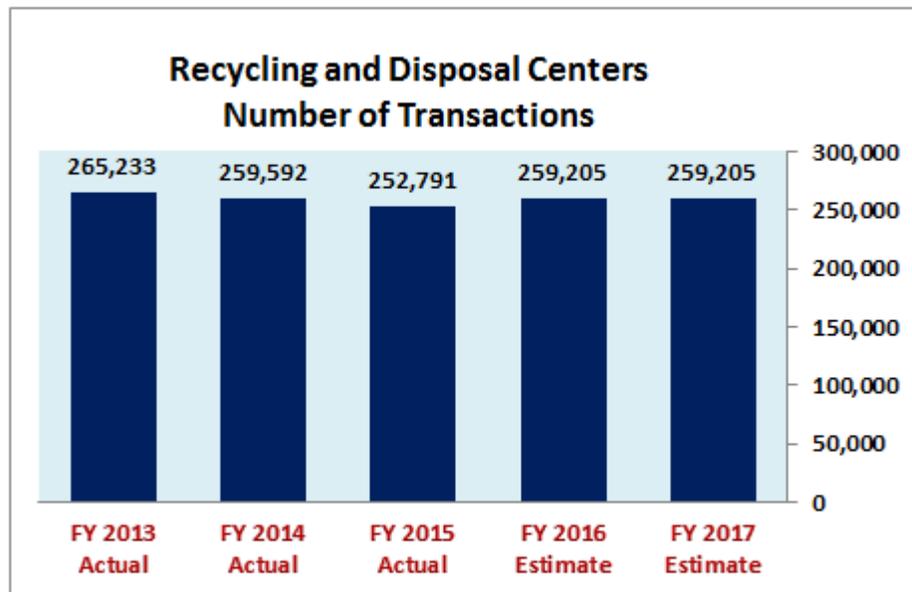


Solid Waste Management

Recycling and Disposal Centers – Number of Transactions

This metric shows the approximate number of users of RDCs based upon the number of transactions. A transaction is initiated when customers deposit their refuse at the centers. Customers must first drive through a scale house where their disposal is tallied and tracked in a computer system designed for this purpose. Similar to the tonnage, the number of transactions is fairly steady, and there is no expectation for any substantial deviation in either direction.

The RDCs are relied upon by residents for recycling and waste disposal. Since FY 2014, use of the RDCs has averaged around 260,000 visits annually. Although the number of transactions declined slightly in FY 2015, the projected increase in RDC tonnages for FY 2016 shows that the program is maintaining its overall volume. Services at I-66 Transfer Station and I-95 Landfill Complex (used cooking oil recycling, electronics recycling and more household hazardous waste service) were recently expanded for residents. Response to these additional services has been overwhelmingly positive. The number of users, both residential and commercial, aids in the financial support of the Fairfax County solid waste program.



Solid Waste Management

LOB #356:

HOUSEHOLD HAZARDOUS WASTE

Purpose

SWMP provides services to residents to properly manage hazardous wastes generated within households. Services are available to residents at both of its solid waste management facilities, specifically the I-66 Transfer Station and the I-95 Landfill Complex.

The Household Hazardous Waste (HHW) Management program helps to prevent pollution by:

- Providing a convenient way for residents to deliver HHW to either of the County's solid waste disposal facilities for proper management; and
- Providing daily service at no charge to residents, to prevent curbside disposal, so that it is not sent for disposal in the County's waste-to-energy facility.

This service is available only to residents that generate HHW in the County. It is not available to businesses that generate hazardous waste, since businesses are regulated under different federal regulations that control the disposal of hazardous waste. The County's HHW program screens deliveries of hazardous waste to ensure that hazardous waste delivered comes from residents and not businesses in the County.

Description

SWMP provides HHW management services daily at each of its two solid waste management facilities: the I-66 Transfer Station in Fairfax and the I-95 Landfill Complex in Lorton. The Fairfax County SWMP HHW program is the longest-running HHW program in the northern Virginia region as it has been in operation for over two decades.

Residents may deliver a variety of materials that meet the definition of hazardous waste for proper disposal at either of the County's HHW program locations. The list of materials accepted for disposal is well advertised on the Fairfax County website and in printed brochures. Residents deliver materials to either facility and County staff accepts the materials, which are then managed according to numerous federal and state regulations. HHW received is segregated into like materials and then packaged for transport to permitted HHW management facilities according to both the U.S. Environmental Protection Agency (EPA) and U.S. Department of Transportation regulations.

The County has contracts with qualified HHW management facilities that transport HHW packaged by Fairfax County staff to the permitted facilities for proper management and ultimate disposal. This service is paid for through the user fees collected from the disposal of municipal solid waste (MSW) at the County's two solid waste disposal facilities. This is how the service is provided at no charge to the residential users. This LOB is performed with 5/5.0 FTE positions.

Solid Waste Management

The HHW program has expanded service over the years to collect new materials that become regulated as hazardous wastes and other materials that are not defined as hazardous wastes but must be properly managed.

New Types of HHW include:

- Cathode ray tubes;
- Rechargeable batteries;
- Button batteries; and,
- Compact fluorescent lamps.

Other Hard-to-Manage Wastes include:

- Used motor oil;
- Used antifreeze;
- Used cooking oil; and,
- Latex paint.

Benefits

The County has taken responsibility for the management of solid wastes generated within its borders which includes providing a program for the proper management of hazardous waste generated by residents of Fairfax County. The benefits are as follows:

- Numerous tons of waste have been prevented from being introduced into the County's waste-to-energy (WTE) facility. This is a significant pollution prevention program for County residents as any emissions from the WTE that could be attributed to the disposal of HHW are prevented from being emitted into the environment.
- Residents rely on the HHW program to provide for the proper disposal of hazardous waste, which is open daily at two disposal locations and one of the most-requested programs by County residents. Only Montgomery County, Maryland operates one HHW service location daily in the surrounding jurisdictions.

<i>Jurisdiction</i>	<i>HHW Service Level</i>
City of Alexandria	Twice per week at one location
Arlington County	Once per week at one location
City of Fairfax	Directs residents to Fairfax County program
Fairfax County	Seven days per week at two locations
City of Falls Church	Directs residents to Fairfax County program
Town of Herndon	Directs residents to Fairfax County program
Loudoun County	Eight events per year
Montgomery County, MD	Seven days per week at one location
Prince George's County, MD	Three days per week
Prince William County	Twice per week at one location and once per month at another location
Town of Vienna	Directs residents to Fairfax County program

Solid Waste Management

- The SWMP sponsors three Conditionally Exempt Small Quantity Generator (CESQG) as defined by USEPA regulations, events each year at the I-66 Transfer Station. These events are directed at small quantity generators of hazardous wastes, which because of the limited quantities of hazardous waste that they generate, are exempt from certain hazardous waste management regulations. These companies can use this program which helps them to properly dispose of hazardous waste at prices negotiated by the county. The only other jurisdiction in the area that provides this service is Loudoun County which does it twice per year.
- County staff continue to develop new programs to properly manage HHW and other hard-to-manage wastes. As an example of this effort, county staff identified a way to reuse usable latex paint delivered to the HHW facility. This has resulted in reducing costs for disposing of perfectly usable paint while providing the paint to Virginia residents that can benefit from purchasing paint at significantly-reduced prices or at no charge at all.
- The Fairfax County SWMP has been able to provide this service at no charge to residents through prudent management of revenues received by the program for providing solid waste disposal services for MSW generated by residents and businesses in the County.

Mandates

Initially, the Fairfax County HHW program was not required by any federal or state regulation. The HHW program was instituted as a pollution prevention commitment to the Lorton community when the WTE was established in the late 1980s-1990s. However, Fairfax County is now required to have a HHW program as established in the countywide stormwater permit recently finalized between the Virginia Department of Environmental Quality and Fairfax County. This permit, known as the MS4 permit, was finalized in July of 2015 and requires the County to have an HHW program resulting in state permit requirements.

Trends and Challenges

Trends

- Prices for the proper management of HHW continues to increase. New revenue structures may be necessary to cover the cost of proper HHW management;
- New hazardous wastes continue to emerge requiring solid waste organizations to develop new programs to properly manage these materials resulting in additional costs; and
- Residents continue to demand HHW management services.

Challenges

- The physical structures that house the county's HHW facilities are aging and out of date. Accordingly, repair, renovation and modernization of these facilities will need to be addressed in FY 2018 and beyond.
- Identify additional funding mechanisms to offset increasing costs due to growing service demands and higher contract costs.

Solid Waste Management

Resources

Category	FY 2014 Actual	FY 2015 Actual	FY 2016 Adopted
LOB #356: Household Hazardous Waste			
FUNDING			
<u>Expenditures:</u>			
Compensation	\$541,367	\$559,773	\$577,518
Operating Expenses	48,295	49,744	51,236
Capital Equipment	3,347	3,514	3,690
Total Expenditures	\$593,009	\$613,031	\$632,444
Total Revenue	\$8,384	\$6,885	\$600,000
POSITIONS			
Authorized Positions/Full-Time Equivalents (FTEs)			
<u>Positions:</u>			
Regular	5 / 5	5 / 5	5 / 5
Total Positions	5 / 5	5 / 5	5 / 5

Solid Waste Management

Metrics

Metric Indicator	FY 2013 Actual	FY 2014 Actual	FY 2015 Actual	FY 2016 Estimate	FY 2017 Estimate
Pounds of HHW disposed	470,775	550,463	636,422	640,000	650,000
Cost per pound to dispose	\$1.37	\$1.59	\$1.61	\$1.61	\$1.62

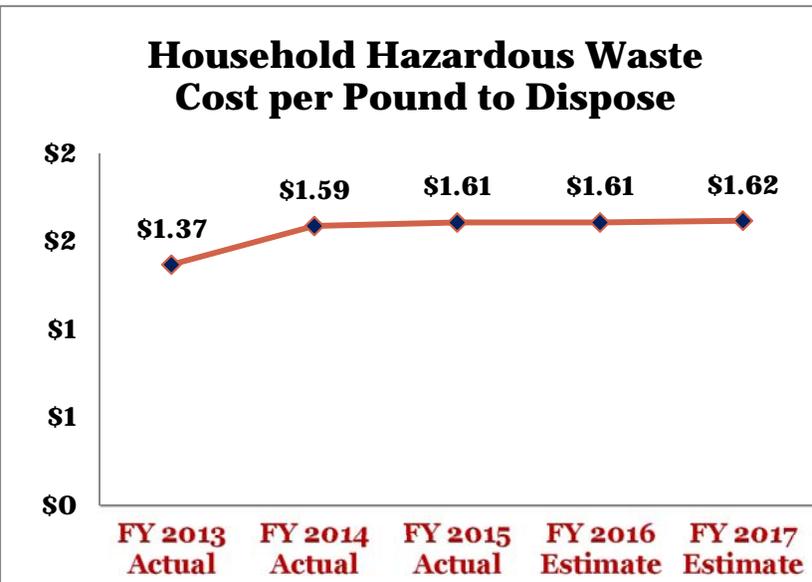
Household Hazardous Waste – Pounds Disposed

This metric reflects an increase in the pounds of household hazardous wastes disposed through the SWMP HHW program. It correlates with the increased number of households that participate in the program reflecting a 35 percent increase from FY 2013 to FY 2015. This trend should continue as the SWMP has expanded the HHW program to seven days per week making the program more convenient to County residents. It should be noted that FY 2015 was the first full year in which the SWMP had the expanded program hours available to the public which resulted in the increase of pounds disposed and further supports County pollution reduction and prevention goals. In addition to the expanded service times, the SWMP has increased the types of household hazardous wastes that it accepts to include electronics and cooking oil recycling. Fairfax County is the only jurisdiction in Northern Virginia that offers daily household waste disposal services to its residents.



Household Hazardous Waste – Cost per Pound to Dispose

Since FY 2014, the cost per pound to dispose of household hazardous wastes has increased 1.3 percent with the acceptance of additional types of wastes to the program. Although the pounds disposed through the program had increased steadily, the overall cost per ton has leveled off. This is because the largest component cost of the program is employee compensation which comprised 92 percent of total program costs in FY 2015. The SWMP has managed this program's growth with existing staffing levels. As pounds disposed increases, the number of pounds processed per employee increases. The program is experiencing improved efficiency through monitoring costs to dispose of electronic waste as that program grows. Overall, this program is very efficient in its use of resources to minimize exposure to household hazardous wastes in Fairfax County.



Solid Waste Management

LOB #357:

TRANSFER STATION OPERATIONS

Purpose

Approximately 70 percent of the municipal solid waste collected in the County for disposal is delivered to the I-66 Transfer Station. The Transfer Station consolidates waste delivered by individual residents, businesses, and privately-owned and County collection vehicles into large transfer trailers. These trailers are hauled over the road to a final disposal site, primarily to the Energy/Resource Recovery Facility (E/RRF). Primary benefits from this type of transfer system are a reduction in the number of vehicles traversing the County to reach the final disposal point and reduced operating costs for the solid waste management system as a whole.

Description

The main role of the I-66 Transfer Station is to move waste collected in the northern and western parts of the county to the E/RRF in the south for final disposal. The SWMP also uses private trucking companies to augment its transportation fleet to move waste from the Transfer Station to its final disposal destination which is the E/RRF.

The Transfer Station is a large structure with 21 different bays and high ceilings into which a vehicle is guided in order to empty. The actual floor onto which wastes are deposited is situated on a level above the bottom floor of the Transfer Station. Vehicles dump their loads onto the floor of the Transfer Station. Loads are pushed towards the back wall of the structure where there is an opening to the level below the main operating floor. Trucks are stationed below the opening and wastes are pushed with a front-end loader into the opening where it falls into the truck. Trucks are equipped with lids or covers which are closed before transporting the material to the E/RRF or other disposal location.

The following activities are also conducted at the transfer station:

- Household Hazardous Waste Program;
- Electronics Recycling Program;
- Used Motor Oil, Antifreeze and Cooking Oil Recycling Program;
- Latex Paint Recycling Program;
- Automotive Battery Recycling Program;
- Scrap metal/appliance recycling Program;
- Emergency response activities for debris management/removal during emergencies/disasters;
- Operation of the Recycling and Disposal Centers;
- Brush grinding operations that make mulch available to County residents at no charge; and
- Operation of landfill gas and groundwater monitoring systems to meet environmental requirements.

Solid Waste Management

The County vehicle fleet, including the transfer trucks at the Transfer Station, now uses ultra-low-sulfur diesel fuel and exhaust after-treatment systems. These changes reduce air emissions attributable to the transportation of waste. An automated truck wash system was installed in the truck wash building. The state-of-the-art system better recovers and recycles water, discharging minimal amounts to the sewer while reducing manpower requirements to wash large vehicles. Other county vehicles, including waste collection vehicles, are washed at this location.

In addition to the activities dedicated to helping both residents and businesses either recycle or dispose of their wastes, the I-66 Transfer Station is the location of the I-66 landfill where County wastes were disposed of from 1962 to 1982. As such, the SWMP is responsible for managing landfill gas generated by decomposition of wastes and impacts to groundwater attributed to waste disposal. These activities are conducted according to regulations administered by the VDEQ.

The SWMP completed a project to convert space heaters at the West Ox Bus Garage Department of Vehicle Services facility to use landfill gas rather than natural gas from the local supplier. In FY 2012, landfill gas lines were extended to a nearby bus garage owned by the Washington Metropolitan Area Transit Authority (WMATA) and a repair shop related to the Transfer Station. The landfill gas is also used to heat the I-66 Operations Center at the Transfer Station, which was completed in November 2011. This results in a savings to the County of approximately \$107,000 annually.

Benefits

Benefits of the operation of the I-66 Transfer Station include:

- Significant reductions in truck traffic due to the consolidation of loads and associated air pollution;
- Reductions to wear and tear of County roads;
- The ability for refuse and recyclables collection companies to dispose of wastes collected in the northern and western parts of the County without the need to drive to Lorton to the E/RRF. The location of the Transfer Station allows privately-owned collection companies to efficiently and economically collect and finish their collection routes without the need to travel to Lorton;
- Provides residents with a “one stop shop” for all of their disposal needs, including household hazardous waste;
- The opportunity to obtain ground wood mulch at no charge; and,
- Conducts prudent use of landfill gas to fulfill energy needs while reducing energy costs.

Equipment and staff used at this location is used to respond to emergencies such as flooding, storm events and other natural or man-made disasters in the county. Staff coordinate with FRD and FCPD during emergency events to provide assistance such as roadway clearing and winter weather events.

Solid Waste Management

Mandates

There is no mandate requiring jurisdictions in Virginia to provide a disposal facility for the management of municipal solid waste generated within their borders. However, jurisdictions in Virginia are required to have 20-Year Solid Waste Management plans that identify where the jurisdiction will dispose of wastes generated within its borders for the 20-year term.

Fairfax County committed to managing its own wastes as a way to finance the system many decades ago. The Code of Virginia (§ 15.2-815 below) allows jurisdictions to require wastes generated within its borders to be disposed of at the disposal facility that it designates. Article 7 of the Fairfax County solid waste ordinance, Chapter 109.1, identifies disposal facilities designated for the disposal of wastes. As wastes are delivered to either of the disposal facilities, fees are collected from the generator of the waste for the disposal service. These fees support the SWMP, including the salaries and benefits of over 300 full-time employees.

Code of Virginia § 15.2-815. Regulation of garbage, trash and refuse pickup and disposal services; contracting for such services in certain counties.

The board may adopt an ordinance requiring the delivery of all or any portion of the garbage, trash and refuse generated or disposed of within such county to waste disposal facilities located therein or to waste disposal facilities located outside of such county if the county has contracted for capacity at or service from such facilities.

Trends and Challenges

Trends

- Residents continue to demand a variety of disposal services, several of which have no direct funding source; and,
- Equipment and staff used at this location is used to respond to emergencies such as flooding, storm events and other natural or man-made disasters in the County.

Challenges

- Fairfax County's initial contract with the operator of the E/RRF ends in the beginning of 2016. The County will not deliver as many tons to the facility resulting in a reduction of revenue. The SWMP has embarked on a program designed to reduce operating costs in order for revenues collected to continue to cover the costs of programs that are provided at no charge to the public. Those programs include household hazardous waste, electronics recycling and document shredding;
- The costs of household hazardous waste, electronics recycling and document shredding continue to increase, fees for these services may need to be implemented.

Solid Waste Management

Resources

Category	FY 2014 Actual	FY 2015 Actual	FY 2016 Adopted
LOB #357: Transfer Station Operations			
FUNDING			
<u>Expenditures:</u>			
Compensation	\$9,120,857	\$9,430,971	\$9,729,937
Operating Expenses	29,722,136	29,971,703	32,067,453
Work Performed for Others	(674,678)	(1,054,122)	(1,878,941)
Capital Equipment	1,426,991	1,634,544	2,109,409
Total Expenditures	\$39,595,306	\$39,983,096	\$42,027,858
<u>Transfers Out:</u>			
Transfer Out to General Fund	\$535,000	\$535,000	\$577,000
Total Transfers Out	\$535,000	\$535,000	\$577,000
Total Revenue	\$40,243,533	\$41,024,481	\$40,886,864
POSITIONS			
Authorized Positions/Full-Time Equivalents (FTEs)			
<u>Positions:</u>			
Regular	120 / 120	118 / 118	118 / 118
Total Positions	120 / 120	118 / 118	118 / 118

Solid Waste Management

Metrics

Metric Indicator	FY 2013 Actual	FY 2014 Actual	FY 2015 Actual	FY 2016 Estimate	FY 2017 Estimate
Tons of material processes at I-66 Transfer Station	537,483	540,487	556,592	557,000	560,000
Fee per ton of material processed at the I-66 Transfer Station	\$53	\$54	\$54	\$56	\$58
Number of satisfactory State DEQ ratings at the I-66 Transfer Station	2	2	2	3	2
State DEQ inspection rating - percent satisfactory	100%	100%	100%	100%	100%

Tons of Material Processed at I-66 Transfer Station

FY 2015 saw tonnage processed at the I-66 Transfer Station increase by 3 percent due primarily to the diversion of trash from the Covanta Fairfax, Inc. (CFI) facility at the I-95 Landfill Complex. The diversion occurred because CFI was operating at reduced capacity while repairs were being made at their facility. It is anticipated that tonnages at the I-66 Transfer Station will remain relatively stable. Commercial haulers who service central and western parts of the County prefer to deliver their waste and recycling to the I-66 Transfer Station because its centralized location makes it more convenient and cost effective than driving their collection trucks to the I-95 Landfill Complex in Lorton, Virginia. Potentially, there could be some possible decrease if private haulers elect to contract with CFI and deliver out-of-county refuse directly to the facility.

Fee per Ton of Material Processed at I-66 Transfer Station

Fairfax County increased its fee per ton by \$2 in both FY 2016 and in FY 2017. This rate will be closely monitored and could be increased in the future if market conditions and program costs warrant such action.

State DEQ Inspection Rating

This metric shows the I-66 Transfer Station facility has passed all of its VDEQ inspections and is in compliance with applicable environmental rules and regulations. This trend is anticipated to continue.

Solid Waste Management

LOB #358:

ENERGY / RESOURCE RECOVERY FACILITY

Purpose

- The Energy/Resource Recovery Facility (E/RRF) is a public/private partnership between Fairfax County and Covanta Energy, Inc. to incinerate solid municipal waste for electrical power production in a safe, environmentally responsible manner;
- Reduce the need to dispose of municipal refuse in a landfill and results in significantly less environmental risk; and
- The Covanta facility produces approximately 80 megawatts of electricity.

Description

- The E/RRF annually processes approximately 650,000 tons of waste generated by residents and businesses in Fairfax County and 40,000 tons of waste from Prince William County through an inter-jurisdictional agreement. In addition, the E/RRF facility annually burns approximately 200,000 tons of municipal solid waste from Washington, D.C.;
- The current contract between Fairfax County and Covanta Fairfax, Inc. (CFI) expires in February of 2016. The SWMP has renegotiated a five-year contract with Covanta with two five-year extension options, which will provide disposal capacity until 2031, when the lease for the property upon which CFI is situated will expire. Prices are anticipated to increase based on the terms of the new contract;
- The SWMP charges customers a disposal fee for all tonnages that flow through the CFI facility. These fees and program expenses are accounted for in a special revenue fund that is used solely to finance the operation and maintenance of the E/RRF facility
- CFI owns and operates the E/RRF waste processing facility that is specifically designed for the combustion of waste. This facility incinerates municipal solid waste to produce steam that turns turbines, generating over 80 megawatts of electricity;
- Air emissions from the facility are regulated under the terms of an air permit issued by the VDEQ;
- Ash generated by the combustion of waste is landfilled on site by County employees;
- Fairfax County is obligated to deliver a minimum amount of municipal solid waste to CFI known as Guaranteed Annual Tonnage (GAT). Under the original long-term contract it had to deliver 930,750 tons of waste per year including waste from Washington, D.C. and Prince William County. When the new contract goes into effect in February 2016, GAT will decrease to 650,000 tons per year. The new GAT amount does not include waste generated in Washington, D.C., which is approximately 200,000 tons per year.

Solid Waste Management

Benefits

The County has taken responsibility for the management of solid wastes generated within its borders through the operation of the E/RRF. The benefits are as follows:

- Waste volumes are reduced by about 90 percent thereby reducing the amount of landfill space needed to dispose of this amount of waste;
- Power is generated using waste material thus replacing the need to generate power with fossil fuels;
- The facility is operated in compliance with federal and state environmental regulations ensuring that the impacts of waste disposal are minimized;
- Truck traffic in the region is minimized by preventing the long hauling of waste into another jurisdiction;
- Waste-to-Energy is considered an environmentally preferred method of disposing of municipal waste by the EPA;
- The E/RRF provides Fairfax County with greater control over its destiny through an in-county disposal operation that is not dependent upon long haul options or out-of-county disposal sites and reduces the county's exposure to market rate fluctuations; and,
- Equipment and staff used at this location respond to emergencies such as flooding, storm events and other natural or man-made disasters in the County. Staff coordinate with FRD and the FCPD during emergency events to provide assistance such as roadway clearing and winter weather events.

Mandates

While the use of the waste-to-energy facility is not mandated in the Commonwealth, it provides the County with an environmentally responsible method of disposing of municipal waste that is preferred over landfilling.

Trends and Challenges

Trends

- The existing contract between the County and CFI changes in FY 2016. A new WDA has been awarded to CFI which significantly changes the relationship between the two organizations, as well as the price that the County will pay CFI after the new agreement goes into effect.
- The new agreement will have a partial- year affect in FY 2016 and full- year impact on the FY 2017 Advertised Budget Plan under the WDA. Careful staff management of the Service Agreement with CFI and the new WDA will allow the County to hold down disposal fees charged to customers. The WDA guarantees the County capacity to dispose of its waste through January 31, 2021, with two additional five-year terms available. This WDA covers the period of CFI's lease of the property to FY 2031. If the County and CFI agree to two more five-year terms, the county will have identified disposal capacity until 2031.
- If the County and CFI decline to agree on the additional five-year terms, the County would need to find disposal capacity elsewhere for wastes generated in the County.
- A 2012 study of waste disposal prices revealed that Fairfax County will pay CFI 14 percent-24 percent lower than the current market prices (\$40-\$45/ton) based on the new contract.

Solid Waste Management

Challenges

- The SWMP is planning for the period starting in 2031 after the lease with the CFI facility ends. At this point, the E/RRF will be over 40 years old and most likely will be in need of significant rehabilitation and perhaps equipment replacement. The County has the opportunity now to develop additional solid waste management and recycling capacity at the I-95 facility to allow for the continued self-funding of the County's solid waste program. Staff is currently developing plans to continue solid waste management activities at the I-95 location beyond 2031. This involves the evaluation of new and emerging technologies for the management of solid waste.

Resources

Category	FY 2014 Actual	FY 2015 Actual	FY 2016 Adopted
LOB #358: Energy / Resource Recovery Facility			
FUNDING			
<u>Expenditures:</u>			
Compensation	\$930,747	\$937,746	\$1,009,485
Operating Expenses	16,950,293	16,581,591	24,791,786
Total Expenditures	\$17,881,040	\$17,519,337	\$25,801,271
<u>Transfers Out:</u>			
Transfer Out to General Fund	\$42,000	\$42,000	\$49,000
Total Transfers Out	\$42,000	\$42,000	\$49,000
Total Revenue	\$28,341,049	\$27,268,275	\$25,958,161
POSITIONS			
Authorized Positions/Full-Time Equivalents (FTEs)			
<u>Positions:</u>			
Regular	12 / 12	12 / 12	12 / 12
Total Positions	12 / 12	12 / 12	12 / 12

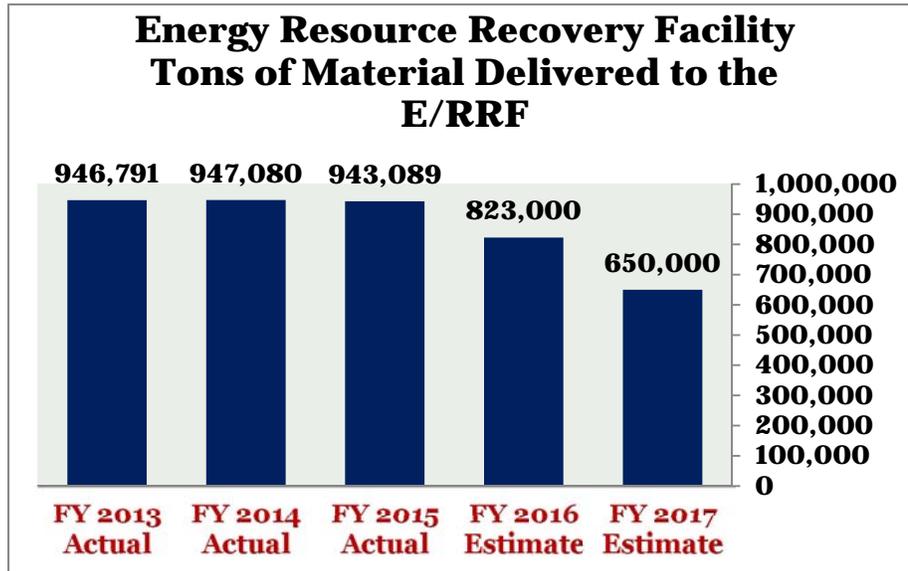
Solid Waste Management

Metrics

Metric Indicator	FY 2013 Actual	FY 2014 Actual	FY 2015 Actual	FY 2016 Estimate	FY 2017 Estimate
Tons of material delivered to the E/RRF	946,791	947,080	943,089	823,000	650,000
Cost per ton of material processed at the E/RRF	\$18.35	\$18.40	\$18.62	\$28.00	\$28.70
Percent of Guaranteed Annual Tons met	101.72%	101.75%	101.33%	101.13%	100.00%

Tons of Material Delivered to the Energy/Resource Recovery Facility (E/RRF)

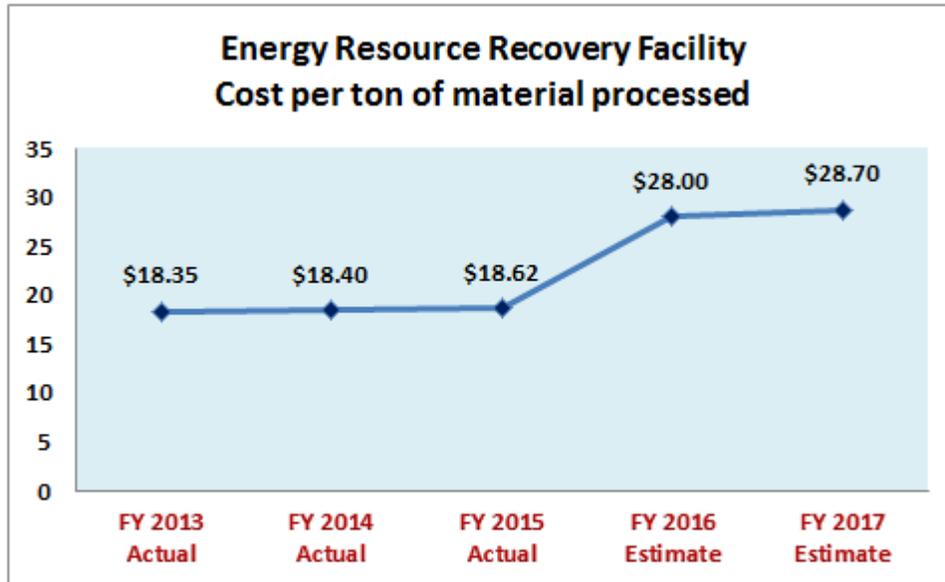
Under the new Waste Disposal Agreement between Fairfax County and CFI, effective February 2, 2016, it is anticipated that waste tonnage delivered to E/RRF will decrease. The current contract with Covanta, which expires February 1, 2016, required Fairfax County to deliver 930,750 tons of solid waste annually to the E/RRF. When the new contract goes into effect in February 2016, GAT will decrease to 650,000 tons per year. The new GAT amount does not include waste generated in Washington, D.C., which is approximately 200,000 tons per year.



Solid Waste Management

Energy/Resource Recovery Facility (E/RRF) Cost Per Ton of Material Processed

The tipping fee charged to Fairfax County by Covanta will increase as a result of the revised agreement over the next five years. As a result of Board of Supervisor's foresight in 2011, the E/RRF Special Revenue Fund has increased its Rate Stabilization Reserve to \$51.3 million as of June 30, 2015. This reserve will be drawn down to allow for the gradual increase in fees Fairfax charges its customers during the term of the new contract. Note that in FY 2011 and prior years, the rate was at \$31 per ton, and it significantly decreased from 2012 - 2016 as a result of the payoff of the E/RRF revenue bonds. Although the cost per ton will increase in February 2016 due to the new contract, the new rate remains below the market rate in the metropolitan area.



Solid Waste Management

LOB #359:

I-95 REFUSE DISPOSAL

Purpose

- The Fairfax County SWMP operates the I-95 Landfill Complex which provides for the disposal of ash from the E/RRF located at 9850 Furnace Road in Lorton, Virginia. The site also serves as a location for SWMP public disposal programs for residents and small businesses.
- Refuse collection vehicles from Fairfax County, private haulers, and other jurisdictions deliver waste to Covanta after being weighed at the scalehouse to determine the fee for the disposal of the refuse. The SWMP currently operates the scalehouse until the new agreement between Fairfax County and Covanta goes into effect in February 2017. Covanta will operate the scalehouse under the terms of the new agreement.
- This site also provides several other waste management programs for the public including Household Hazardous Waste (HHW), electronic waste recycling and brush and yard waste management.
- This facility is responsible for management of the closed portion of the municipal solid waste landfill including landfill gas control, groundwater monitoring and remediation, stormwater management and leachate control. These activities ensure compliance with the facility's state-issued permit (SWP103) and applicable environmental regulations administered by the VDEQ.

Description

The Fairfax County SWMP operates the I-95 Landfill Complex in Lorton, Virginia. The following activities are conducted at this location;

- Wastes generated by residents and businesses in Fairfax County are disposed of in the Energy/Resource Recovery Facility (E/RRF) at this location where wastes are combusted for energy production;
- Waste deliveries are weighed to determine the amount of waste sent for disposal. Users of the facility pay the waste disposal fee, based on the amount disposed of, which in turn is used to fund the SWMP; and
- The E/RRF combustion process generates ash which is landfilled on site by County employees. Ash from the E/RRF, a similar Covanta facility serving the City of Alexandria, Arlington County and the Noman M. Cole Jr. Pollution Control Plant, are disposed of at the I-95 Ash Landfill.

The following activities are also conducted at the I-95 Landfill Complex:

- Household Hazardous Waste Program;
- Electronics Recycling Program;
- Used Motor Oil, Antifreeze and Cooking Oil Recycling Program;
- Latex Paint Recycling Program;
- Automotive Battery Recycling Program;
- Scrap Metal/Appliance Recycling Program;
- Emergency response activities for debris management/removal during emergencies/disasters;
- Operation of the Recycling and Disposal Centers;
- Brush grinding operations that make mulch available to County residents at no charge; and

Solid Waste Management

- Operation of landfill gas and groundwater monitoring systems to meet environmental requirements.

The SWMP manages environmental control programs for the closed portion of the landfill as required by federal and state regulations. Systems to control landfill gas and groundwater and stormwater impacts attributed to waste disposal are operated and maintained by County staff.

Benefits

The benefits of the County's refuse disposal system are:

- Dedicated solid waste disposal capacity for wastes generated by County residents and businesses;
- A solid waste disposal system where all users pay the same amount;
- Reduces the risk of annual price increases to dispose of waste;
- User fees generate revenue that is used to support the program which receives no financial support from the County's General Fund. The program is valued at about \$100 million/year and also pays the salaries and benefits of over 300 county employees;
- Eliminates the need to long haul trash out of the County, reducing traffic and air pollution impacts
- Utilizes advanced technology to dispose of waste rather than reliance on landfills;
- Obtain ground wood mulch at no charge; and,
- Equipment and staff used at this location respond to emergencies such as flooding, storm events and other natural or man-made disasters in the County. Staff coordinate with FRD and FCPD during emergency events to provide assistance such as roadway clearing and snow and ice control during winter weather events.

Mandates

There is no mandate requiring jurisdictions in Virginia to provide a disposal facility for the management of municipal solid waste generated within their borders. However, jurisdictions in Virginia are required to have 20-Year Solid Waste Management plans that identify where the jurisdiction will dispose of wastes generated within its borders for the 20-year term.

Fairfax County committed to managing its own wastes as a way to finance the system many decades prior to now. The Code of Virginia (§ 15.2-815 below) allows jurisdictions to require wastes generated within its borders to be disposed of at the disposal facility that it designates. Article 7 of the Fairfax County solid waste ordinance, Chapter 109.1, identifies disposal facilities designated for the disposal of wastes. As wastes are delivered to either of the county's two disposal facilities, fees are collected from the generator of the waste for the disposal service. These fees support the SWMP, including the salaries and benefits of over 300 full-time employees.

Code of Virginia § 15.2-815. Regulation of garbage, trash and refuse pickup and disposal services; contracting for such services in certain counties.

The board may adopt an ordinance requiring the delivery of all or any portion of the garbage, trash and refuse generated or disposed of within such county to waste disposal facilities located therein or to waste disposal facilities located outside of such county if the county has contracted for capacity at or service from such facilities.

Solid Waste Management

Trends and Challenges

Trends

- Over the past decade, waste generation rates have decreased due to the impacts of increased recycling and economic conditions that result in less waste being produced.
- New waste disposal technologies exist but have not yet been developed to the point where they can be used in highly-populated communities where reliability and longevity of solid waste systems are provided to ensure daily waste disposal capacity.
- Residents continue to desire increased opportunities to recycle as well as the community benefit services provided by the SWMP including household hazardous waste, electronics recycling and document shredding.
- Equipment and staff used at this location respond to emergencies such as flooding, storm events and other natural or man-made disasters in the County. Staff coordinate with Fairfax County Fire and Rescue and the Police Department during emergency events to provide assistance such as roadway clearing and snow and ice control during winter weather events; and
- Strong competition from the privately-owned waste disposal industry continues.

Challenges

- Increasing costs associated with maintenance and groundwater remediation and the ongoing maintenance and operations of landfill gas wells that capture methane gas related to the closed portion of the landfill will continue to be a challenge that is being addressed by several ongoing capital projects;
- Changing land use in the Lorton area creates challenges in matching operations within a developing residential community;
- Limited recyclables processing or organic waste recycling in the DC metro region. The northern Virginia community would benefit from additional recycling processing capacity; and
- Construct additional recycling/waste transfer/organics processing at the I-95 location. Community support, as well as public financing mechanisms, will need to be addressed.

Solid Waste Management

Resources

Category	FY 2014 Actual	FY 2015 Actual	FY 2016 Adopted
LOB #359: I-95 Refuse Disposal			
FUNDING			
<u>Expenditures:</u>			
Compensation	\$3,324,166	\$3,611,402	\$3,822,075
Operating Expenses	3,435,295	3,608,614	3,787,316
Capital Equipment	1,119,495	2,084,932	100,000
Total Expenditures	\$7,878,956	\$9,304,948	\$7,709,391
<u>Transfers Out:</u>			
Transfer Out to General Fund	\$175,000	\$175,000	\$186,000
Total Transfers Out	\$175,000	\$175,000	\$186,000
Total Revenue	\$6,920,442	\$8,042,395	\$8,653,388
POSITIONS			
Authorized Positions/Full-Time Equivalents (FTEs)			
<u>Positions:</u>			
Regular	41 / 41	42 / 42	42 / 42
Total Positions	41 / 41	42 / 42	42 / 42

Solid Waste Management

Metrics

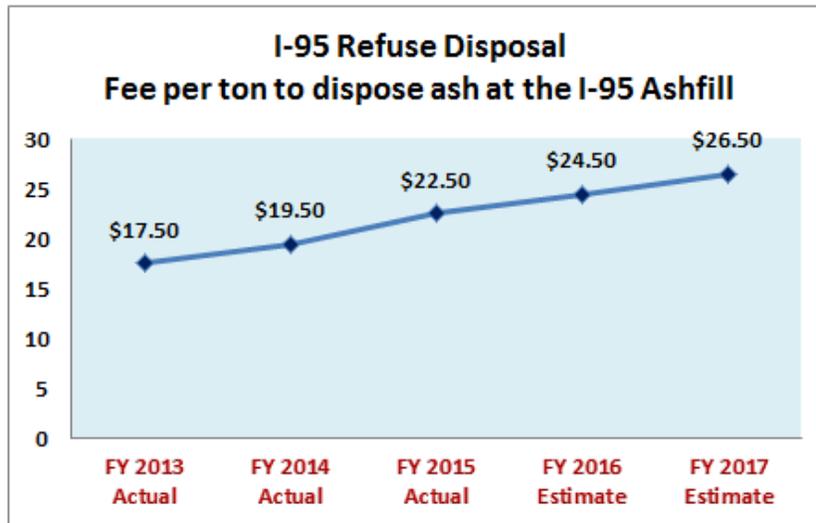
Metric Indicator	FY 2013 Actual	FY 2014 Actual	FY 2015 Actual	FY 2016 Estimate	FY 2017 Estimate
Tons of ash disposed at the I-95 Landfill	299,110	320,449	302,814	319,850	305,000
Fee per ton to dispose ash at the I-95 Landfill	\$17.50	\$19.50	\$22.50	\$24.50	\$26.50
Number of satisfactory State DEQ ratings at the I-95 Landfill	4	5	4	4	4
State DEQ inspection rating - percent satisfactory	100%	100%	100%	100%	100%

I-95 Refuse Disposal – Ton of ash disposed at the I-95 Ashfill

The ash tonnage has remained relatively stable for the past several years at about 25 percent of the tons processed at both Fairfax and Alexandria Covanta facilities, as well as a small amount of ash from Noman Cole Wastewater Treatment Plant. However, based upon the new contract with Covanta Fairfax, there is the potential for an increase in ash from that facility. The estimates below project Covanta Fairfax increasing its merchant waste to bring the facility closer to its rated limit of approximately 1.1 million tons of waste per year.

I-95 Refuse Disposal – Fee to dispose ash at the I-95 Ashfill

SWMP expects that the ash disposal rate to increase to provide adequate funding for operations, capital projects, and develop acceptable post-closure reserves. This rate is competitive in the Washington, D.C. metropolitan area market.



I-95 Refuse Disposal – Virginia Department of Environmental Quality (VDEQ) Inspection-Percent Satisfactory

While we have experienced weather related operational challenges, the I-95 Landfill Complex has shown the full satisfaction from every VDEQ inspection ratings.

Solid Waste Management

LOB #360:

SWMP (SOLID WASTE MANAGEMENT PROGRAM) COMMUNITY CLEANUPS

Purpose

SWMP provides certain services related to keeping the community clean to prevent health and safety hazards and to protect the welfare of County residents. These programs include the Community Cleanup Program, the Health Department Referral Program, the Evictions Program and the Court/Board-directed Cleanup Program. The SWMP provides staff and equipment for program operations.

Description

The cleanups conducted under the heading of Community Cleanup are initiated in several ways:

- Evictions – requests for assistance come from the Fairfax County Sheriff's Department;
- Health Department Referral – requests for assistance come from the Fairfax County Health Department;
- Court-Ordered Cleanups - requests for assistance come from the Fairfax County Sheriff's Department;
- Community Cleanup - requests for assistance come from residents; and
- Emergency Response - conducted as directed by the Fairfax County Emergency Operations Center (EOC).

Once the request for assistance is received, SWMP staff identify resources needed and develop a plan to complete the work. Resources are allocated as available, keeping in mind that equipment directed to cleanup activities impacts the conduct of work performed on a daily basis. Workers are provided with instructions for the particular assignment, any additional safety information as may be required, including personal protective equipment (PPE), and directed to the equipment allocated for the assignment. The cleanup is then conducted in conjunction with the agency requesting the assistance.

Community cleanups consist of the SWMP placing a dumpster in a location where residents involved in the cleanup can put trash and litter collected during the cleanup event. After the event, SWMP staff retrieve the dumpsters and take the waste to either of the County's two disposal facilities.

Emergency response is managed by the activation of the EOC. Should SWMP services be necessary, this is guided through the County's application of the National Incident Management System program as directed by Fairfax County Department of Emergency Operations.

Solid Waste Management

Benefits

The benefits of the community cleanup program are as follows:

- Provides needed support to communities conducting cleanups and eliminates costs associated with dumpster rental or disposal fees;
- Cases of evictions, hoarding or other court-ordered cleanups are staffed with necessary personnel using appropriate equipment that conduct the actual cleanup;
- The aftermath of emergencies that require the removal and disposal of materials damaged by flood, hurricane, etc., is conducted by the SWMP staff and equipment capable of conducting the work effort; and
- Work is completed by existing program staff and equipment for immediate deployment; therefore, no outside contractors are required.

Mandates

This program is not mandatory but has been authorized the Fairfax County BOS. Without the Community Cleanup Program, agencies will need to find alternatives to provide necessary cleanup services and may require contracts with professional companies providing cleanup services including the means to pay for services.

While the County is not mandated to clean up after emergencies, Fairfax County has elected to do so and has directed resources to assist businesses and residents recover after disasters. The SWMP staff is immediately available to respond with resources positioned in the County without the need to mobilize staff and equipment from other locations.

Trends and Challenges

Trends

- Inconsistent weather patterns make it difficult to forecast financial needs to fund this program. Therefore, future needs can only be anticipated and SWMP staff prepare for these situations keeping in mind the limitations of staff and equipment.

Challenge

- Available funding for the program may be a challenge since this funding comes from the Fairfax County General Fund and is not paid for through the disposal fees collected by the SWMP.

This LOB is performed with 0/0.0 FTE positions.

Solid Waste Management

Resources

Category	FY 2014 Actual	FY 2015 Actual	FY 2016 Adopted
LOB #360: SWMP (Solid Waste Management Program) Community Cleanups			
FUNDING			
<u>Expenditures:</u>			
Operating Expenses	\$167,956	\$89,086	\$195,076
Total Expenditures	\$167,956	\$89,086	\$195,076
General Fund Expenditures	\$167,957	\$89,086	\$195,076
Total Revenue	\$0	\$0	\$2,900
General Fund Revenue	\$0	\$0	\$2,900
POSITIONS			
Authorized Positions/Full-Time Equivalents (FTEs)			
<u>Positions:</u>			
Regular	0/0	0/0	0/0
Total Positions	0/0	0/0	0/0

Metrics

Metric Indicator	FY 2013 Actual	FY 2014 Actual	FY 2015 Actual	FY 2016 Estimate	FY 2017 Estimate
Number of Cleanups	21	22	19	21	21

Solid Waste Management Program (SWMP) General Fund Program Cleanups

This metric shows the Solid Waste Management Program General Fund Cleanups' LOB. The SWMP administers/operates this program with funding from the General Fund. The SWMP provides refuse collection and disposal services for Community Cleanups, Court/Board-Directed Cleanups, Health Department Referrals, Eviction Programs and debris removal after severe storms. These programs maintain and enhance the appearance of neighborhoods and the environment for citizens, communities and County agencies. The number of cleanups varies due to the unpredictable nature of the events.