

FISCAL YEAR 2016



RAPPAHANNOCK REGIONAL SOLID WASTE MANAGEMENT BOARD ANNUAL FINANCIAL & OPERATIONAL REPORT





Rappahannock Regional Solid Waste Management Board

489 Eskimo Hill Road • Stafford, Virginia 22554 • 540-658-5279 • FAX 540-658-4523

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Rappahannock Regional Solid Waste Management Board

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Mission and Vision

R-Board Mission

The mission of the Rappahannock Regional Solid Waste Management Board (R-Board) is to provide professional, courteous, and intelligent service and solutions to the waste disposal needs of citizens residing in Stafford County and the City of Fredericksburg.

R-Board Vision

The R-Board's vision is to operate the best landfill in Virginia. Being the best landfill includes environmentally sound solid waste management policies and having an active Reduce, Reuse, and Recycling program, all coupled with outstanding customer service. The R-Board intends to continually strive to be a leader in the waste management industry and to set the example for others to emulate.



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Virginia Environmental Excellence Program

The R-Board Regional Landfill remains an E3 certified facility within the Virginia Environmental Excellence Program administered by the VA Department of Environmental Quality. In order to be qualified as an exemplary environmental enterprise, a facility must have a good compliance history, a fully implemented environmental management system, and demonstrated performance.





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Operational Overview



Regional Landfill

Aerial photography was taken in June 2016 to provide a record of current landfill status and to provide accurate data on the filling status of Cell F2.

Pictured to the left is an east facing view of Cells D, E, F1, and F2.



Construction of Cell F2 began in July of 2015, and was completed in early November of 2015. The construction project was completed on schedule and on budget. The Certificate to Operate for Cell F2 was received in early December, allowing us to open the cell up for disposal activity.

This picture was taken October 14, 2015 looking west from the northeast corner of the cell. Construction crews are installing leachate collection piping in the stone drainage layer.



The first load of solid waste was placed in Cell F2 on January 12, 2016.

Landfill heavy equipment operator Mike Cross is shown in this picture pushing the first load of solid waste received in Cell F2.



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In January 2016, we began hauling sludge from both the Aquia Waste Water Treatment Facility and Lake Moony Water Treatment Facility. This new agreement provides additional revenue for the R-Board, while also providing significant savings to the Stafford Department of Utilities.

Pictured at left, a new sludge dumpster for the Lake Moony water facility. Our staff member Richard Powers is responsible for providing sludge hauling services.



During snow events, our operations crew clears our facilities, along with the Leland VRE gravel lot, animal shelter, and other facilities when requested. While many facilities are closed due to the weather, several of our operators work to prepare government facilities for re-opening.

Pictured at left, the blizzard on January 23 and 24 closed our facilities for a time, but staff members Reece Banks, Mike Cross, Jerry Fleming, and Dennis Kenworthy mobilized for snow removal efforts.



In April 2016 we assisted multiple County departments to clean up the Historic Port of Falmouth Park following flooding of the Rappahannock river. Our staff assisted in planning for this effort, along with debris removal and disposal. In all, R-Board employees cleared, hauled, and disposed of 101 tons of debris from the park.

Keith English shown on our D5 bulldozer.



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The compactor in the recycling building went into operation in June 2016. This equipment has improved our operations, while also restoring our single stream recycling operations to a revenue generating status.



Our heavy equipment operators, working with our landfill gas consultants, located several failures in our landfill gas piping infrastructure. This work improved landfill gas quality provided to the Ameresco power plant, while improving our system efficiency.

At left, Keith English operates our excavator in support of Derek Berry with Draper Aden Associates.



The closure cap project for Cells B, C, and D was bid for construction in the spring of 2016, and approved for construction in June 2016. Construction efforts begin in July 2016, and are to be complete by November 2016. This project is required by our permit, and will improve operations at the landfill by decreasing leachate and methane gas discharge.



Our residential gate at Eskimo Hill Road received several improvements to the roadway, including pavement widening, new color coordinating lane striping, signage, and a new fee collection building.

Picture taken from the gate entrance looking into the site.



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Our mechanic staff performs many preventive maintenance and repair duties to extend the useful life of our expensive landfill equipment. Several major scheduled maintenance items were accomplished this year by our staff.

Pictured are Floyd Bloxton and Chad Perry, removing the track assembly from our CAT 963B track loader for maintenance repairs.



We received three surplus pickup trucks from the Stafford Utilities Department. These vehicles are suitable for a variety of tasks around the landfill, and allowed us to defer capital expenditures for replacement vehicles.

At left is a surplus pickup truck outfitted with a snow plow attachment.



Composting

The R-Board creates its own compost blend, Rappa-Grow, on site. Rappa-Grow is made by using organic materials dropped off at the landfill and is available for purchase.



Regulatory Overview

The R-Board maintains several permits with the VADEQ and federal regulatory agencies and remains in good standing with each of these permits. Highlights from FY2016 are noted in this section:

Solid Waste

Staff worked with the VADEQ and our contracted landfill gas monitoring firm to solve a longstanding methane migration issue on our own property. After troubleshooting the system and implementing a solution, the landfill gas migration has been controlled since February 2016.

Groundwater

The R-Board completed the purchase of a parcel of VDOT property adjacent to the Area 74 landfill and is working with the VADEQ to adjust the facility boundary. As part of the presumptive remedy to the groundwater exceedance in that area, a public meeting was held in June 2016. Regular groundwater monitoring indicates that the concentrations of the chemical of concern are decreasing. The R-Board will continue to work with the VADEQ to address the groundwater exceedance and proceed with the presumptive remedy.

Stormwater

Upon completion of Cell F2, the stormwater permit was amended permit to include two new sediment basins receiving runoff from the new cell and associated areas. The runoff from the landfill is subject to relatively new regulations regarding nitrogen, phosphorus, and sediment and is sampled twice each year.

Air Emissions

Pursuant to direction from the VADEQ, the tub grinder was added to the permit to limit the emissions of carbon monoxide and dust into the atmosphere. The federal Title V air permit was amended to reflect the state level change also.



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Employee Achievements and Accolades

The R-Board encourages employees to seek out certifications and education to improve their skills and knowledge. We also encourage good customer service that goes above and beyond for the residents visiting our convenience centers.

Rick Markwardt renewed several certifications and licenses and attended webinars and sessions including:

- SWANA Certification—Composting Programs, Recycling Systems Waste Screening at MSW Management Facilities
- DPOR License—Waste Management Facility Operations
- Webinars and Technical Sessions—SCS Engineering Annual Virginia Landfill Technical Session, Disposers: An Alternative for Sustainable Organic Waste Management, Sustainable Packaging Standards and Goals, and Managing Recycling Contamination.

Jason Pauley attended the Dominion SWANA annual conference with multiple technical sessions related to current solid waste issues, up and coming technologies, and successes and failures of programs in the industry.

Floyd Bloxton received and renewed multiple ASE certifications relating to repair and maintenance of heavy equipment, heavy trucks, and automotive systems.

Doug Martinski and Mike Cross attended Joyce Engineering Class 1 Basic Training and Class 2 Landfill Training. These two classes are requirements prior to taking the DPOR Waste Management Facility Operator License test.

Mark Ward received his North American Retail Dealers Association CFC certification.

The following employees celebrated a significant milestone in FY16 for their years of service:

- Dennis Kenworthy —10 years
- Mark Ward – 10 years
- Steve Pekary – 5 years
- Susan Carpenter – 3 years
- Jason Pauley – 3 years



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We expect all R-Board employees to maintain a high level of customer service and professionalism. The following employees are recognized for their positive impact to residents and our community.

Dennis Kenworthy was recognized in the July 24, 2015 Around the Watercooler for assisting a couple to find a cellphone that was accidentally thrown in a recycling bin. Our staff emptied the dumpster and stayed to help scour through debris until the phone was found.

Richard Williams was recognized in the August 7, 2015 Around the Watercooler after a call from a grateful resident. The resident expressed how much he appreciates Richard always helping him unload his car and that Richard has been especially helpful after the man had suffered from a heart attack.

Ken Vallencillo was recognized in the March 18, 2016 Around the Watercooler for the manner in which he addressed the concerns of an agitated customer.



Customer Survey

This spring, R-Board staff performed the third annual comprehensive customer survey to capture site usage at the Eskimo Hill and Belman Road drop off sites. The survey was conducted in the same time frame as the previous years. The survey spans a seven day period which this year was from April 30 to May 6, 2016. The purpose of the survey is to collect data on center usage, including usage patterns of the resident fee program.

Overall, vehicle counts were down 19% from 2015 which is considerably less than the 34% drop seen from the 2015 and 2014 surveys. More specifically, we noted a 22% reduction at Eskimo Hill Road, and a 9% reduction at Belman Road. The reduction at Eskimo Hill was consistent with that in 2015, whereas the Belman Road decline in usage has leveled off. This can be seen in the graphs below.

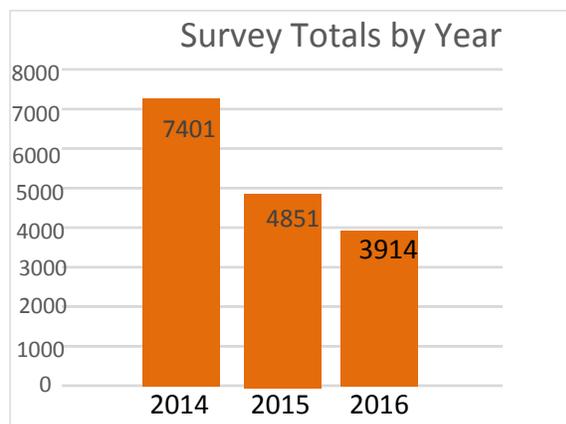


Figure 1.1 Survey Totals by Year

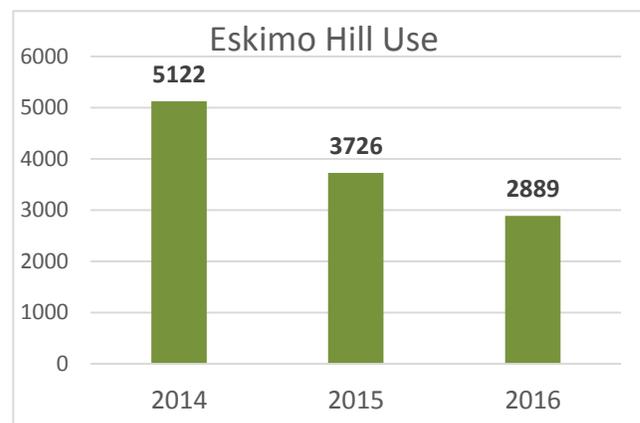


Figure 1.2 Eskimo Hill Use

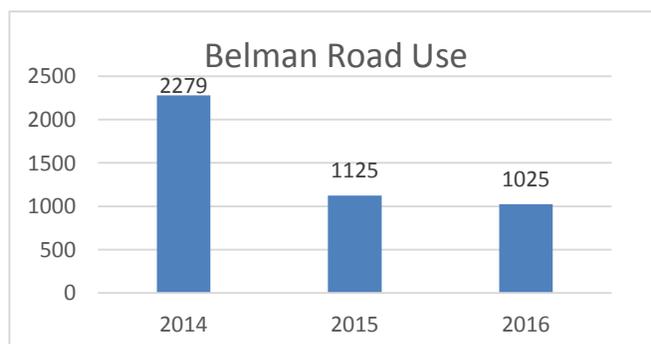


Figure 1.3 Belman Road Use

While vehicle count at Eskimo Hill has dropped significantly over the past two years, waste quantities have increased by 4% for the past year—a larger increase than the year before.

From this data, it appears that convenience center users are becoming more efficient about scheduling their trips.



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The use of convenience centers by City of Fredericksburg residents when compared to overall use increased by 2% in FY 2016. This is likely a reflection of the drop in resident use at Eskimo Hill, while use of Belman Road leveled off. The percentage of City residents use at Belman Road has increased by 4%, while the percentage of use at Eskimo Hill remained constant. Below are graphs indicating City resident usage vs Stafford resident usage.

Overall Convenience Center Use

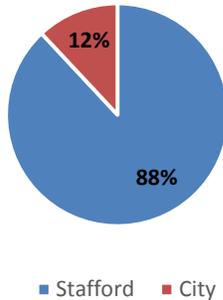


Figure 2.1 Overall Use

Belman Road Use

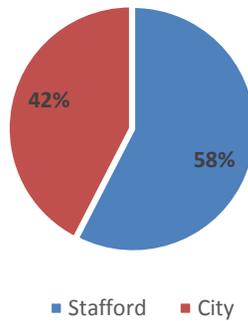


Figure 2.2 Belman Road Use

Eskimo Hill Use

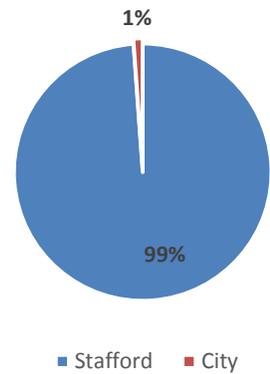


Figure 2.3 Eskimo Hill Use

The survey also sampled the distribution of types of passes used by residents during this period. The results indicate little change in use patterns from FY2015 to FY2016.

Resident Pass Use 2015

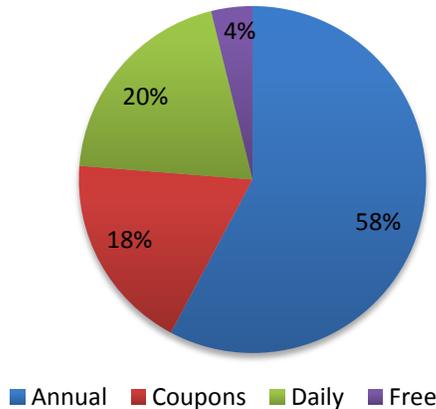


Figure 3.1 Resident Use Pass 2015

Resident Pass Use 2016

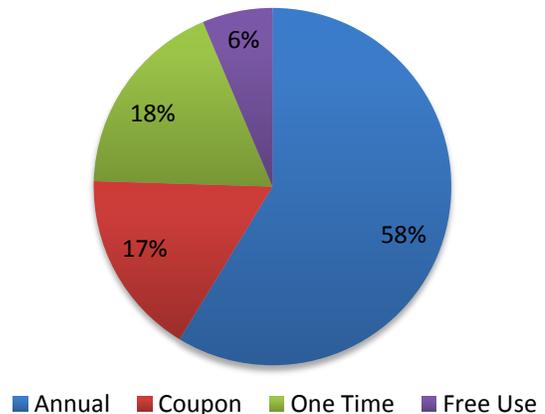


Figure 3.2 Resident Pass Use 2016



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Residential Usage Fee

The R-Board approved the implementation of resident usage fees in March of FY2015. FY2016 was the first full year for this program. Customers may purchase annual passes for \$100, in the form of decals affixed to their vehicles, coupon books with 10 trip passes for \$30, or a single trip pass for \$4. The first full year of resident fees generated revenues of about \$613,085, up from \$275,000 in FY2015.

This fiscal year the R-Board also made changes for easier, more efficient payment opportunities, and made changes to the Eskimo Hill convenience center to expedite use by residents.

The adjustments include the installation of a new sale shed at Eskimo Hill, allowing the purchase of all types of passes by cash or credit card without having to visit the commercial scale house. This has eliminated long waits by residents on the commercial side, delays to commercial waste haulers and faster movement through the convenience center. Along with the new resident sales building at Eskimo Hill, staff instituted a new traffic pattern to prevent delays to pass holders due to cash customer service, and eliminated backups onto Eskimo Hill Road during peak periods. The Belman Road facility received a new building as well, allowing for better staff conditions and the installation of new office equipment for better communication with other R-Board facilities.

Online purchase of annual passes and coupon books became available in January 2016, along with the option to pay by credit card. The below chart illustrates the percentage of payment by credit card and cash. Credit cards accounted for one-third of the total \$613,000 in fee revenue for FY2016. Approximately 10% of the credit card revenue was from our online sales initiative. Customers purchasing online have the option to receive their pass by mail or to pick them up at the R-Board office.

Payment Type Distribution

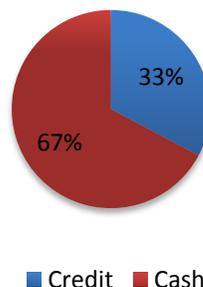


Figure 4.1 Payment Type Distribution



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Our customers have a variety of options in where they purchase their passes. The chart below shows the distribution by revenue of sales at the Stafford County Treasurer's Office, City of Fredericksburg Treasurer's Office, Eskimo Hill Convenience Center, and the R-Board Office. R-Board sales include both walk-in and online sales. The sales shed at Eskimo Hill is the favorite location for our customers to purchase passes.

Location Distribution

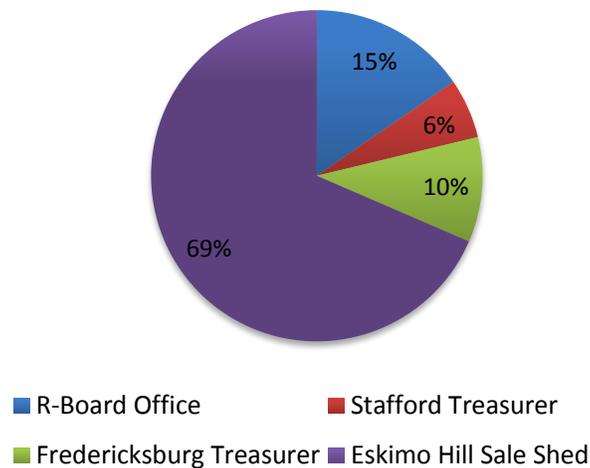


Figure 5.1 Location Distribution



Flow Control

Faced with continuing decline of commercial waste volumes and the resultant loss of revenue due to competition for municipal solid waste (MSW) from other landfills, in August 2015 the R-Board directed staff to pursue the adoption of flow control ordinances in both the City and County to ensure that all MSW generated in the City and County be delivered to the Regional Landfill. The County adopted its flow control ordinance in November 2015, followed shortly thereafter by the City. The R-Board then directed that all MSW from the City and County be delivered to the Regional Landfill effective May 1, 2016. Although commercial waste haulers had the option to wait until May 1 to begin deliveries as required by the flow control ordinances, the largest two commercial haulers increased deliveries immediately. As a result, the landfill noticed an increase in solid waste deliveries beginning in December, with volumes increasing until the May 1 effective date for the requirement. While there have been only two months of FY2016 data since the May 1 initiation of flow control, we have data showing a steady increase in waste deliveries beginning late in 2015, before leveling out after May.

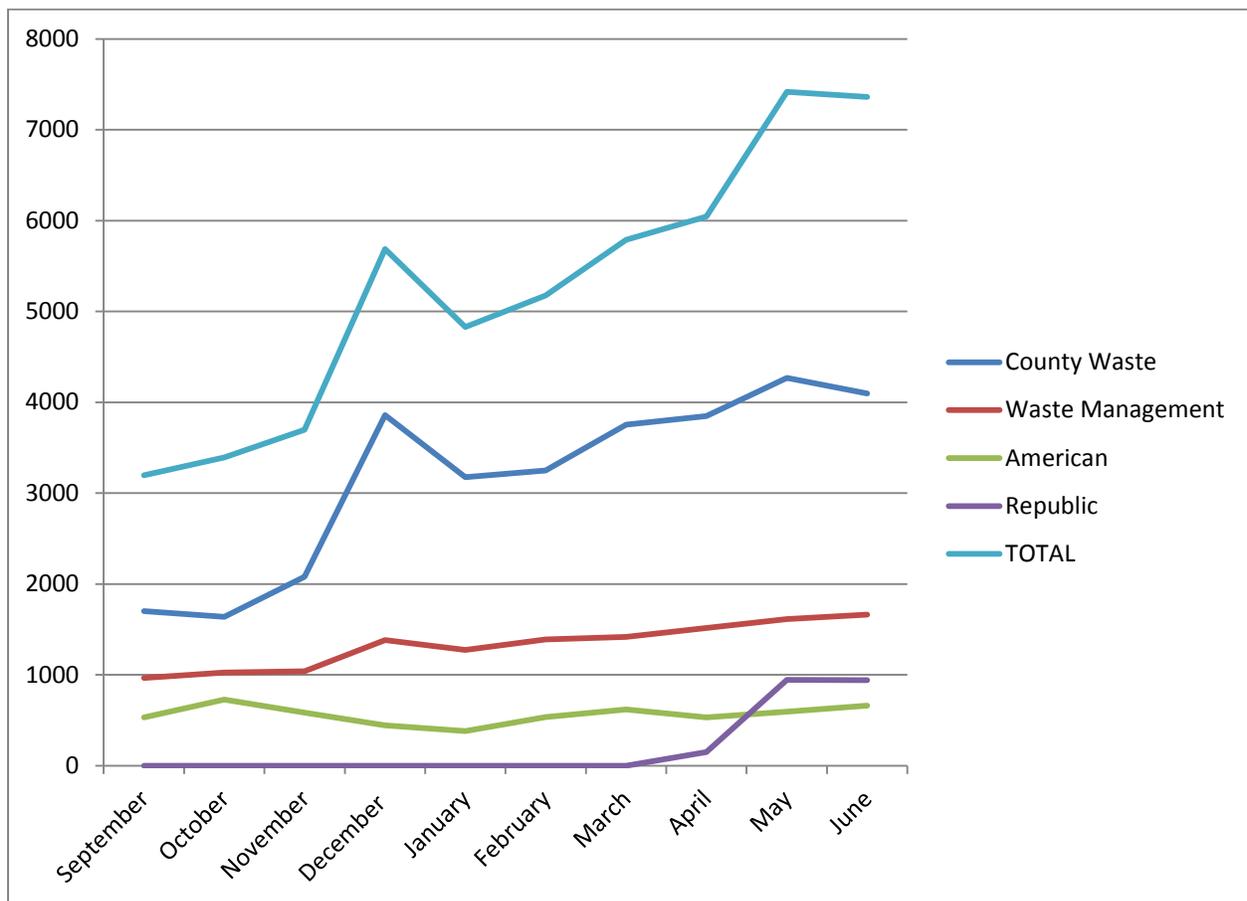


Figure 6.1 Flow Control Chart



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After comparing the current MSW deliveries with the expected quantities for the population served, staff believes that our commercial customers are in compliance with flow control ordinances. Furthermore, initial review of the waste deliveries compared to our projections for filling Cell F2 indicate we are very close to the filling rate used for our aging calculations for this cell. Staff expects that the useful life of Cell F2 will remain at seven to eight years as originally projected.

Revenue impacts from flow control have been significant, with the increase in revenue from commercial accounts about \$900,000 above budgeted amounts. A portion of this increase is due to stronger than expected deliveries of construction and demolition debris (C&D), which aren't regulated under the flow control ordinance. Data on C&D is provided in the next section.



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Construction & Demolition Fee Performance

Effective July 1, 2014, the R-Board eliminated the cap on C&D tons per load for assessed tipping fees. Staff had provided the R-Board with data that suggested nearly 50% of potentially billable weight was being landfilled for free as a result of the cap. Below is annual data from FY2013 through FY2016 showing a significant increase in revenue from C&D materials.

Fiscal Year	Tons	Revenue
FY2013	19,923	\$804,971
FY2014	23,487	\$946,665
FY2015	26,325	\$1,088,077
FY2016	48,918	\$1,995,055

Table 1.1 Construction and Demolition Fee

The FY2016 results were influenced by two one-time disposal events; consequently, this level of performance likely won't be repeated next year. It appears that the removal of the cap has not deterred customers from delivering C&D materials to the landfill, resulting in an increase in revenue of nearly 150% from this source over the past four years.



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Financial Summary (Unaudited)

Operating Expenses for FY2016

	Original Budget	Adjusted Budget*	Actuals	Over/Under
Compensation	\$2,103,697	\$2,103,697	\$1,968,652	-6.42%
Operations	\$2,131,129	\$2,131,129	\$1,833,217	-13.98%
Capital	\$1,779,849	\$6,897,476	\$5,153,603	-25.28%
Total	\$6,014,675	\$11,132,302	\$8,955,472	-19.55%

* Includes adjustment for Cell F-2 construction

Table 2.1 Operating Expense

Revenue for FY2016

	Adopted FY16	Actuals	Under/Over
Commercial	\$3,433,000	\$4,389,029	27.85%
Resident User Fees	\$750,000	\$613,085	-18.26%
Recycling	\$286,675	\$82,951	-71.06%
Sludge/Utilities	\$145,000	\$215,187	48.40%
Municipal	\$210,000	\$216,956	3.31%
Sale of Landfill Gas	\$68,000	\$49,590	-27.07%
Intradepartmental	\$10,000	\$0	-100.00%
Grants	\$20,000	\$27,241	36.21%
Interest	\$25,000	\$40,862	63.45%
TOTAL	\$4,947,675	\$5,634,901	13.89%

Table 3.1 Revenue



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Weight and Material Summary

CATEGORY	FY2016 Weight	FY2015 Weight	% Difference
Billable			
Commercial Waste	36,557	23,254	57%
Residential Waste	26,689	20,242	32%
Fredericksburg	8,849	9,030	-2%
Eskimo Hill	21,909	20,428	7%
Belman Road	1,995	2,567	-22%
Mixed Load-\$71/T	73	24	205%
Debris Waste	48,918	26,325	86%
Dirt	2,202	17,586	-87%
Tires Commercial	239	164	45%
Sludge	9,998	9,502	5%
BILLABLE TONNAGE	157,429	129,123	22%
Non-Billable			
Litter/Cleanups	289	209	38%
Recycling	5,915	6,864	-14%
TOTAL TONNAGE	163,633	136,196	20%

Table 4.1 Weight and Material Summary



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Portfolio Composition

The R-Board was successful in obtaining a slight increase in the reserve fund in FY2016. Table 5.1 below identifies the type, amount and distribution of the investments in our portfolio, which is illustrated in the pie chart Figure 7.1.

Security Type	30-Jun-16	% of Portfolio
U.S. Treasuries	\$2,560,129.11	42.49%
Federal Agencies	\$1,171,483.07	19.44%
Commercial Paper	\$448,719.30	7.45%
Corporate Notes / Bonds	\$803,073.81	13.33%
Certificates of Deposit	\$1,026,624.11	17.04%
Money Market Fund	\$15,124.53	0.25%
Total	\$6,025,153.93	100.00%

Table 5.1 Portfolio Composition

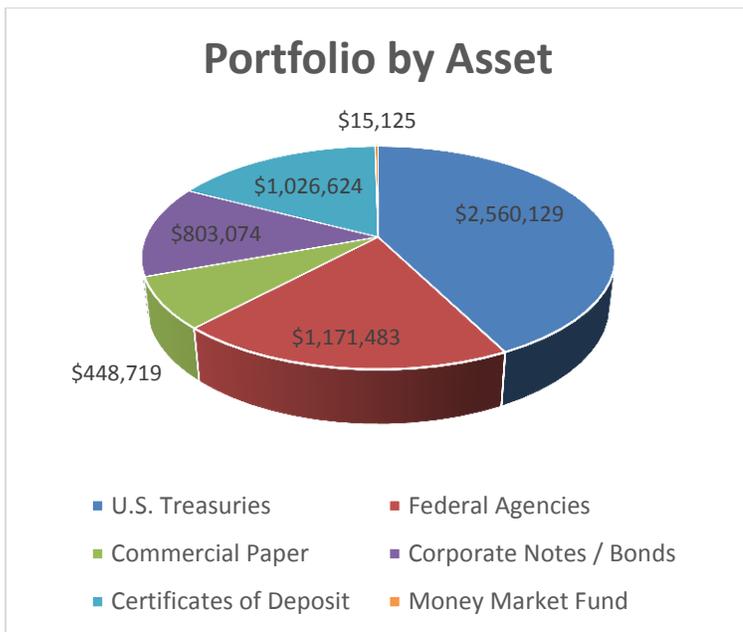


Figure 7.1 Portfolio by Asset

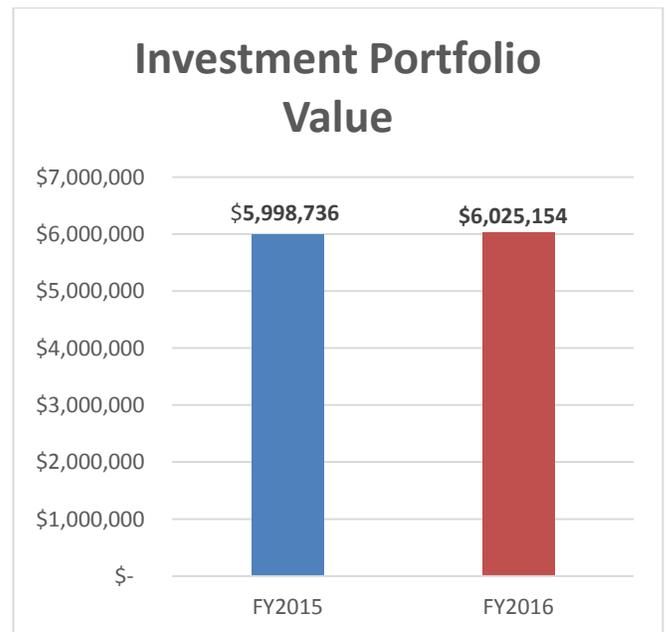


Figure 7.2 Investment Portfolio Value

While the R-Board budgeted in excess of \$1 million from the reserve for capital expenses in FY2016, we were able to finish the fiscal year with a slight increase in the reserve fund total value. This was due to a combination of improved revenue performance and tight expenditure controls by R-Board staff.



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Recycling and Diversion

The R-Board was approved a 58.4% recycling rate for CY15 by the Virginia Department of Environmental Quality, the approval letter can be found in the Appendix. The state minimum is 25% and for the past few years the R-Board has maintained an increasing recycling rate well over that minimum.

Efficiency

In October 2015 the Belman Convenience center acquired two compactors; one for MSW and the other for recycling, to compact waste materials before being hauled to Eskimo Hill. The installation of the compactors has cut down average annual trips between Belman and Eskimo Hill and increased the average weight per trip for both recycling and trash. This initiative has resulted in greater efficiency.



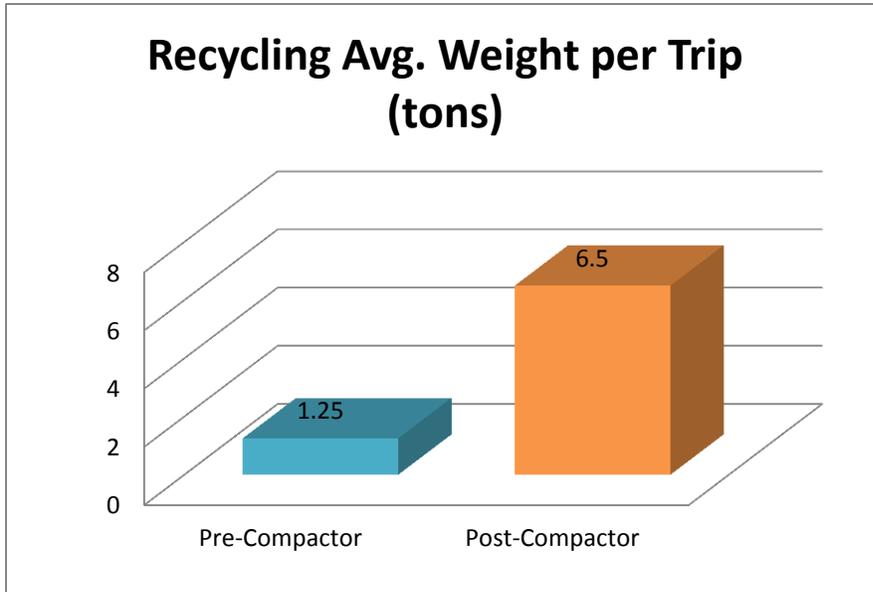
Compactor Location





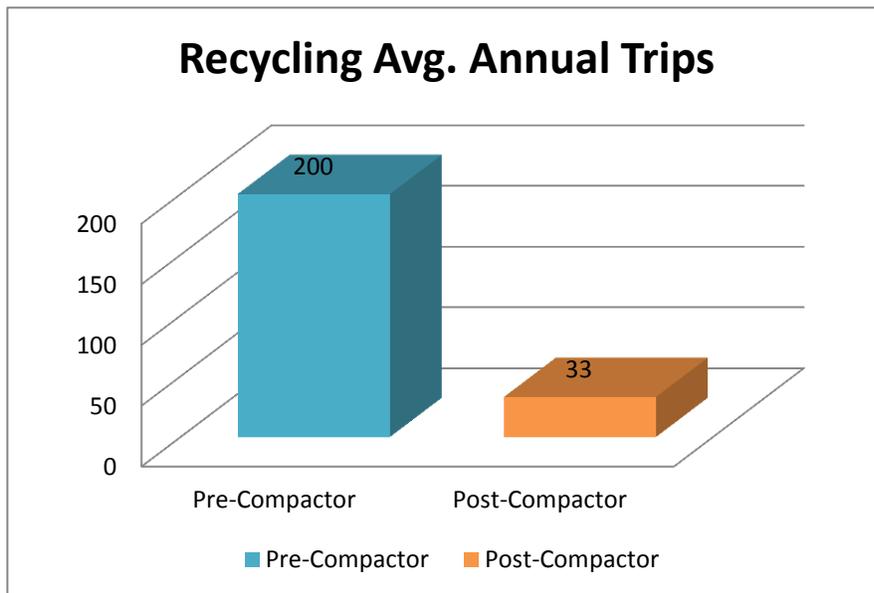
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The compactor has allowed the R-Board to increase the average weight per trip for recyclables that get sent from Belman to Eskimo Hill. The weight increased from 1.25 tons to 6.5 tons.

Figure 8.1 Belman Recycling Average Weight



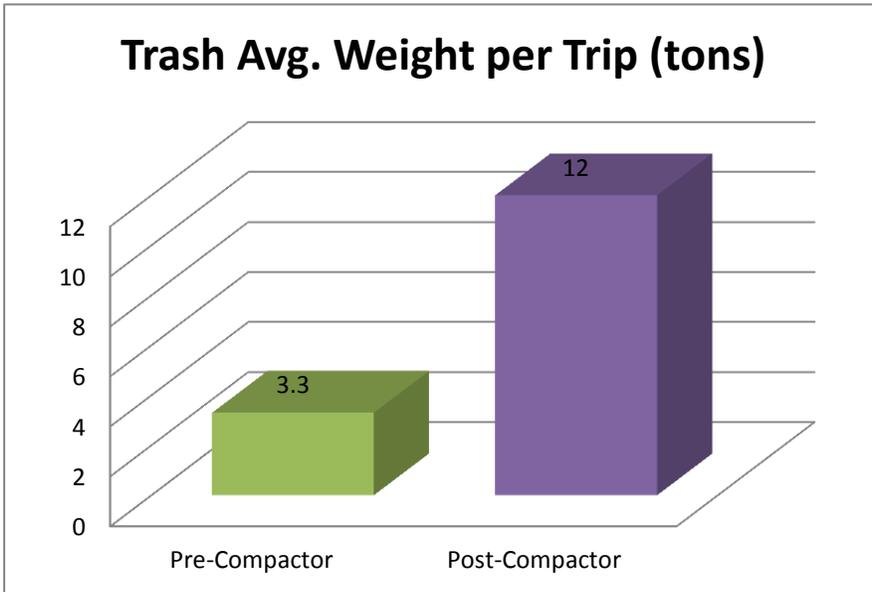
The increase the recycle weights per truck has decreased the number of annual trips needed to transport recyclables, resulting in an estimated 167 fewer trips per year. This represents a reduction of nearly 84% in the number of trips.

Figure 8.2 Belman Recycling Average Trip



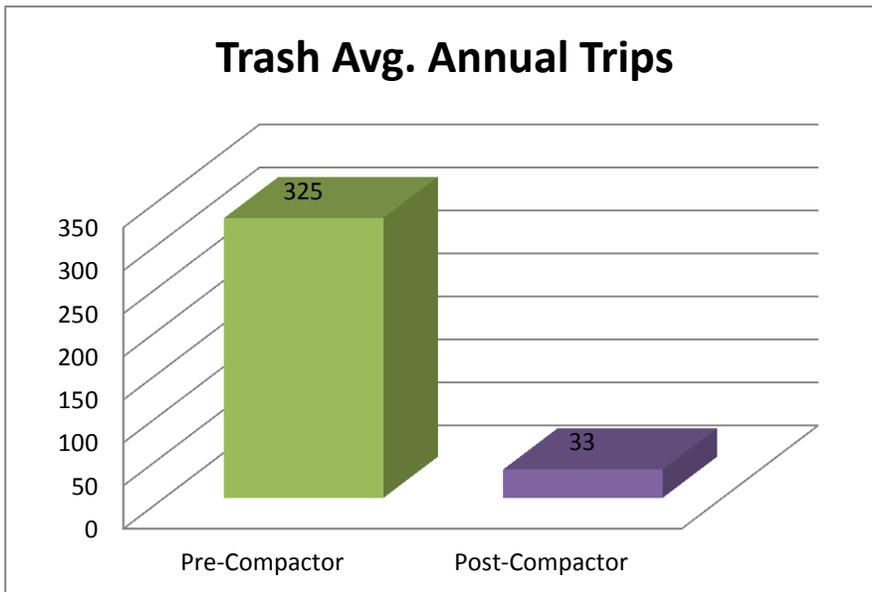
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The second compactor, dedicated to MSW, has increased average weight per trip from 3.3 tons to 12 tons.

Figure 9.1 Belman Trash Average Weight



Increased compaction has decreased the estimated number of trips per year from 325 to 33 trips. This reduction represents a 90% reduction. Overall, the combined trip reduction for both MSW and recyclables is about 87%.

Figure 9.2 Belman Trash Average Trips



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In June of 2016 the recycling handling building at Eskimo Hill acquired a custom-made compactor for recycling. The recyclables at Eskimo Hill are transported to the Tidewater Fibre Corporation Material Recovery Facility in Chester, Virginia representing a round trip of 166 miles. With the new recycling compactor, we are able to double the weight per truck, reducing the trips required by half. The below figures depict this information graphically.

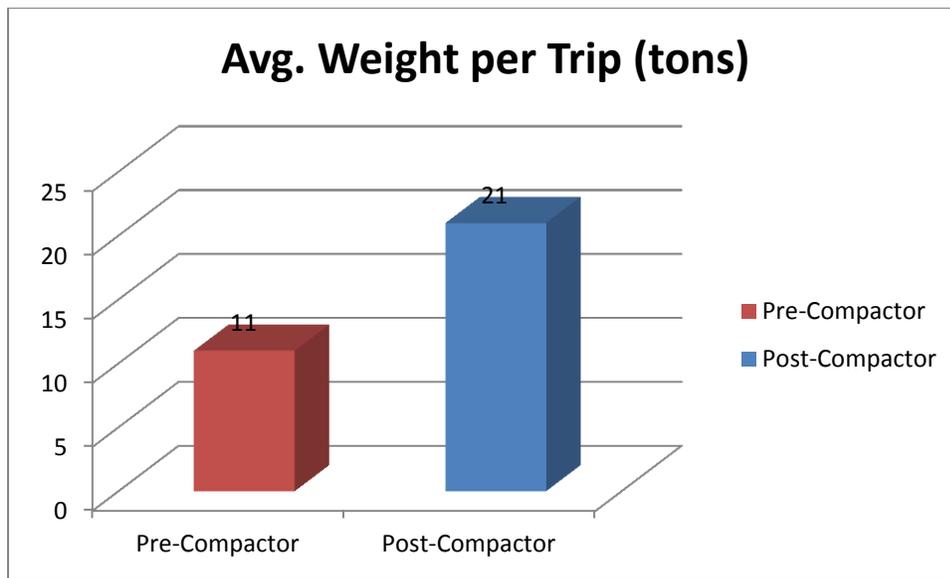


Figure 10.1 Eskimo Recycling Average Weight

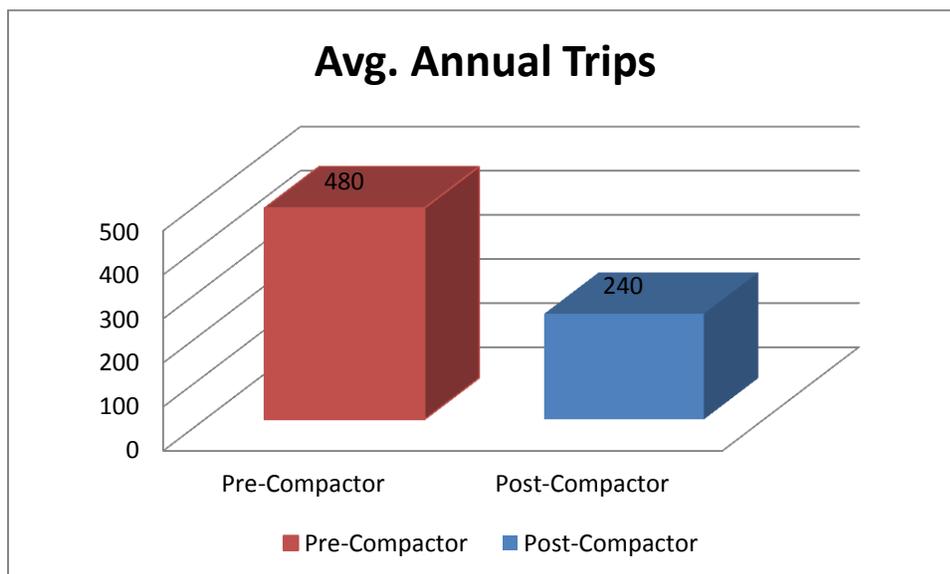


Figure 10.2 Eskimo Recycling Average Weight



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Cost Savings

The efficiency of the Belman and Eskimo Hill compactors has resulted in financial savings, shown in the tables below.

Prior to compactor use, the R-Board averaged 525 trips per year for both recycling and trash from Belman to Eskimo Hill, with the annual cost being \$23,625. After compactor use, these numbers drastically decreased to 66 trips per year for both recycling and trash, and \$2,970 for annual cost. This resulted in yearly saving of \$20,655.

	Pre-Compactor	Post-Compactor	Savings
Recycling	200 trips @ \$45	33 trips @ \$45	
Cost	\$ 9,000	\$ 1,485	\$ 7,515
Trash	325 trips @ \$45	33 trips @ \$45	
Cost	\$ 14,625	\$ 1,485	\$ 13,140
Total	\$ 23,625	\$ 2,970	\$ 20,655

Table 6.1 Belman Road Compactor Savings

The Eskimo Hill compactor has cut the average number of annual trips in half reducing the annual cost by half. Staff estimates an annual savings of \$30,000 from this efficiency change, which is reflected in the price we are paid for our recycled materials.

	Pre-Compactor	Post-Compactor	Savings
Recycling	480 trips @ \$125	240 trips @ \$125	
Cost	\$ 60,000	\$ 30,000	\$ 30,000

Table 6.2 Eskimo Hill Compactor Savings

The combined financial savings due to the compactor installations is estimated at \$50,655.



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Eco Savings

Not only do the compactors create financial savings, they also create a benefit to the environment. With fewer trips needed CO₂ emissions from R-Board activities decrease as well.

Using a carbon footprint calculator from the American Forest Organization's website, R-Board staff calculated the pounds of CO₂ emitted from the annual trips between Belman Road and Eskimo Hill for both recycling and MSW hauls.

The graphs below calculate the annual miles driven using the 18 mile roundtrip between Belman Road and Eskimo Hill.

Before compactor use, transporting recycling between Belman Road and Eskimo Hill emitted an annual average of 16,113.5 lbs. of CO₂. After compactor use this number dropped down to 2,658.7 lbs. of CO₂. The difference is 13,454.8 lbs. of CO₂; the elimination of this much CO₂ is equivalent to planting 15 trees.

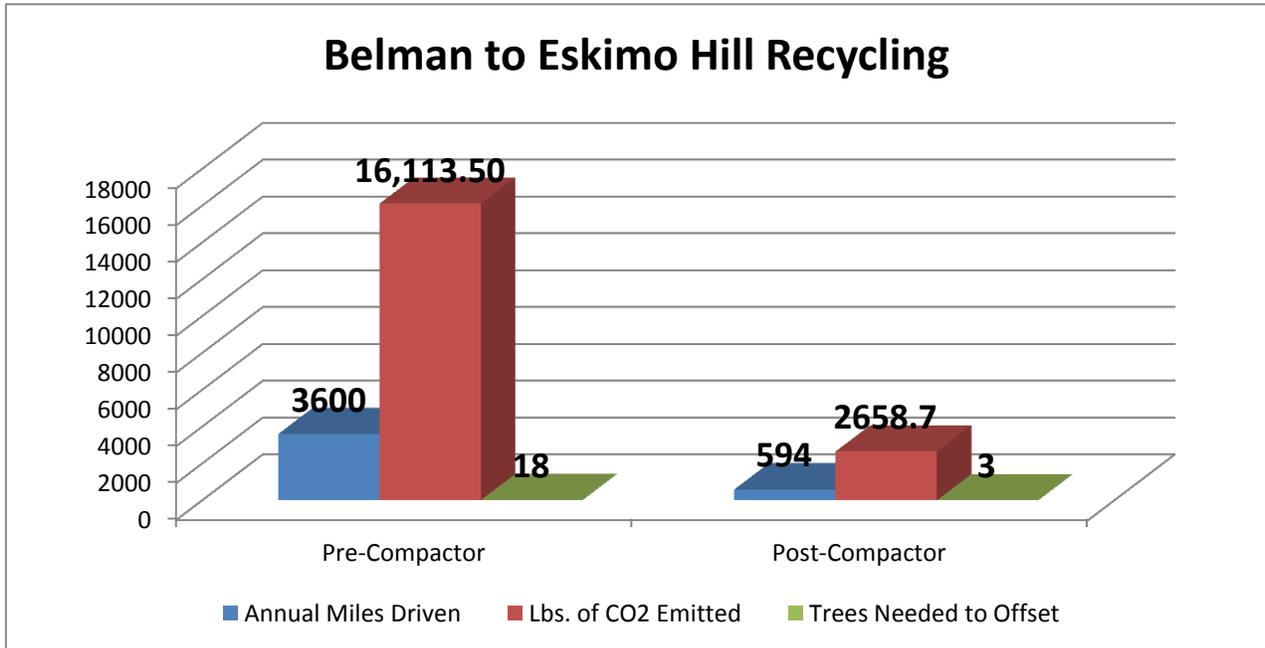


Figure 11.1 Belman to Eskimo Recycling Eco-Savings



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The annual pre-compactor pounds of CO₂ emitted from transporting MSW between Belman and Eskimo Hill averaged 26,184.6 lbs. Post-compactor average dropped to 2658.7 lbs. The difference is 23,525.9 lbs. of CO₂. The elimination of 23,525.9 lbs. of CO₂ is equivalent to planting 26 trees

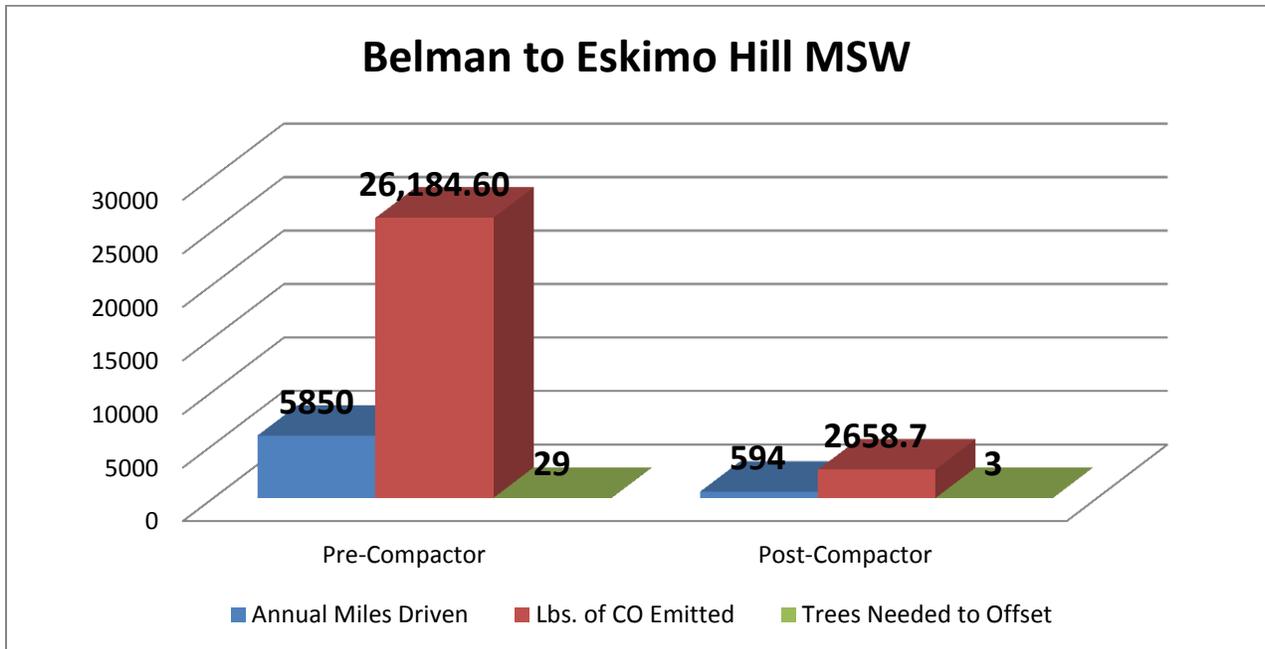


Figure 11.2 Belman to Eskimo MSW Eco-Savings

In total, the results of installing compactors at Belman Road have resulted in impressive financial savings, and eco savings. With an annual average savings of \$20,655 and a decrease of 36,980.7 lbs. of CO₂ emitted on behalf of the R-Board. On annual average, this elimination of CO₂ is equivalent to planting 41 trees.



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The transportation of recycling between Eskimo Hill and TFC in Chester, VA prior to compactor use resulted in an annual average of 356,647.6 lbs. of CO2 emitted, which was cut in half by the use of the compactors and being able to load twice as much onto the TFC trucks. As a result, 178,323.8 lbs. of CO2 have been eliminated which is equivalent to planting 196 trees yearly.

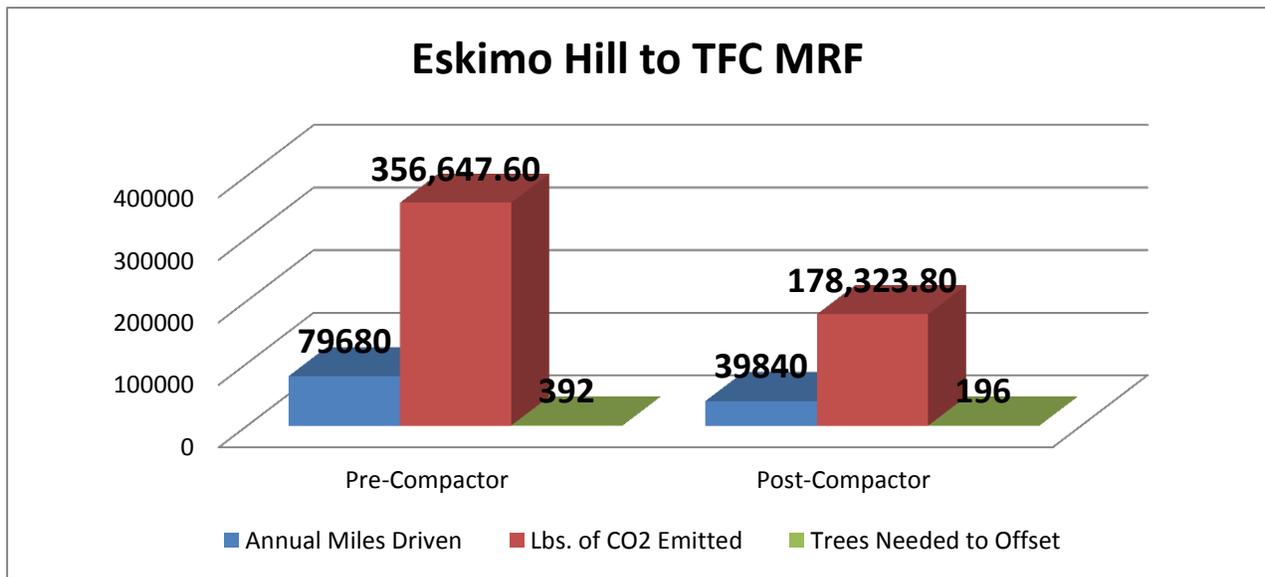


Figure 11.3 Eskimo to TFC MRF

R-Board staff intends to provide this data to support consideration of an improvement on our E3 rating with VaDEQ.



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Goodwill

The R-Board partners with Goodwill Industries to accept donations at the residential drop off area. The collection site continues to thrive after the change in location and having a manned donation trailer. Last year a total of 294,120 lbs. was donated by residents.

This year Goodwill and the R-Board have increased collaboration and began events in the spring and fall. Household Hazardous Waste days are now accompanied by an E-Waste Collections day. Both events are executed at the same location on the same day for efficiency and convenience to residents.

The inaugural collections resulted in 7,705 lbs. of e-waste diverted from the landfill. The collaboration effort of the R-Board and Goodwill earned the delight of residents and continues to be a part of the R-Board's plan for environmental stewardship.



Victor Vargas manning the Goodwill trailer at Eskimo Hill.

R-Board staff is communicating with Habitat for Humanity about including a collections initiative for their ReStore operations at Eskimo Hill. We are ready to assist them as soon as they are ready.



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Household Hazardous Waste Collection

2016 Spring HHW Day

NEW LOCATION!!

Household Hazardous Waste Collection

Saturday June 4
Stafford Government Center Parking Lot
9 A.M. - 3 P.M.

1300 Courthouse Road
Stafford



ACCEPTED DAILY: Fluorescent bulbs, dry latex paint, motor oil, antifreeze, and auto batteries. For more information and directions, please visit our website at www.r-board.org. Call 540-658-8680 with questions. Medical or radioactive waste will not be accepted! *The HHW Collection is provided free of charge for Stafford County and Fredericksburg City residents.*

BUG SPRAY · FLOOR CARE SOLVENTS · FURNITURE POLISH · METAL POLISH · TRANSMISSION FLUID · BATTERY ACID · BRAKE FLUID · CAR WAX · DIESEL FUEL · FUEL OIL · GASOLINE · KEROSENE · CUTTING OIL · SOLVENT-BASED GLUE · LATEX PAINT · OIL-BASED PAINT · PAINT THINNER · PAINT STRIPPER · PRIMER · TURPENTINE · VARNISH · WOOD PRESERVATIVE · FUNGICIDE · HERBICIDE · INSECTICIDE · RAT POISON · WEED KILLER · ARTIST'S PAINTS · DRY CLEANING SOLVENTS · FIBERGLASS EPOXY · GUN CLEANING SOLVENTS · LIGHTER FLUID · MERCURY BATTERIES & THERMOMETERS · MOTH BALLS · PHOTO CHEMICALS · SWIMMING POOL CHEMICALS · DRY CELL BATTERIES

The R-Board continues to voluntarily collect residential hazardous waste materials (fluorescent bulbs, dry latex paint, antifreeze, etc.) for recycling or diversion from the landfill. This collection is not required by regulation, but collected because the R-Board aims to handle the potentially hazardous materials as responsibly as possible. Although these materials are collected daily for recycling and diversion, particular materials are limited to the

Household Hazardous Waste Collection days held twice a year. These days are free for residents of Stafford County and the City of Fredericksburg. Household Hazardous Waste days are accompanied by Goodwill's E-Waste collection. The R-Board has witnessed an increase in participation which has led to a change in locations for Stafford and City of Fredericksburg; this has been received well by our residents.

Stafford County Participants	
FY2014	365
FY2015	502
FY2016	556

Table 7.1 HHW Stafford County Participants

City of Fredericksburg Participants	
FY2014	181
FY2015	312
FY2016	363

Table 7.2 HHW City of Fredericksburg Participants

R-Board Household Hazardous Waste Collection Totals To-Date (FY2001 to FY2016)					
Participants	Oil/Antifreeze (gal.)	Other Liquids (gal.)	Fluorescent Bulbs (linear ft.)	Car Batteries	Total Cost
8,900	441,298	185,254	180,979	24,701	\$694,190

Table 7.3 HHW Collection Totals To-Date



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Litter Control

Goals

- Coordinate cleanup efforts from a variety of organizations
- Maximize resources available
- Maintain appearance of high traffic areas
- Provide timely response to citizen concern throughout Stafford County and City of Fredericksburg

Programs

- Rappahannock Regional Jail Adult Probationer Program
- Rappahannock Area Office on Youth
- One Time Special Cleanup
- Volunteer Cleanups
- Illegal Sign Removal

Adult Probationers Program

The Rappahannock Regional Jail and R-Board continue to support the collaboration to utilize adult probationer's community service for roadside litter clean up. The court assigns adult probationers a certain amount of service hours which need to be completed by a specific date. Since the inception of this partnership, there have been:

- 55 total adult probationers assigned to date
- 1,389 non-paid hours
- 90,420 pounds of litter removed from roadsides.



Officer Robert Rickens

Staff monitors over 1,400 miles of roadways for the City of Fredericksburg and Stafford County, using both paid and non-paid labor to clean up litter. In FY16, the R-Board and local communities combined for a total 780,660 pounds of litter from roadsides.



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Litter Grant

Annually, the R-Board prepares the Department of Environmental Quality Non-Competitive Litter Grant report. It also manages the grant funds received. Grant funds are used primarily to cover the cost of operational supplies and also for environmental education and outreach programs. Because the R-Board represents the City of Fredericksburg and Stafford County, some of the grant funds are designated for projects undertaken by the Fredericksburg City Clean and Green Commission.

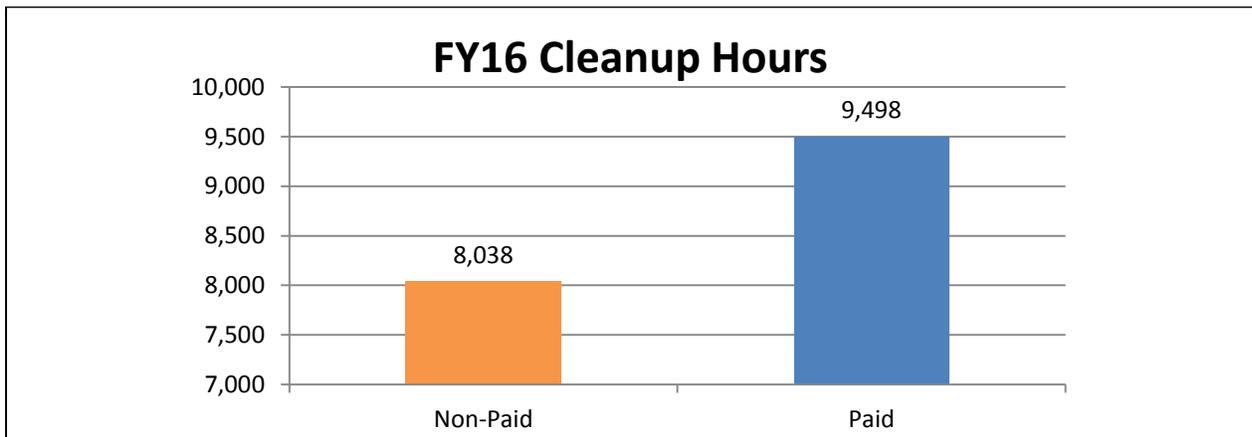


Figure 12.1 FY16 Cleanup Hours

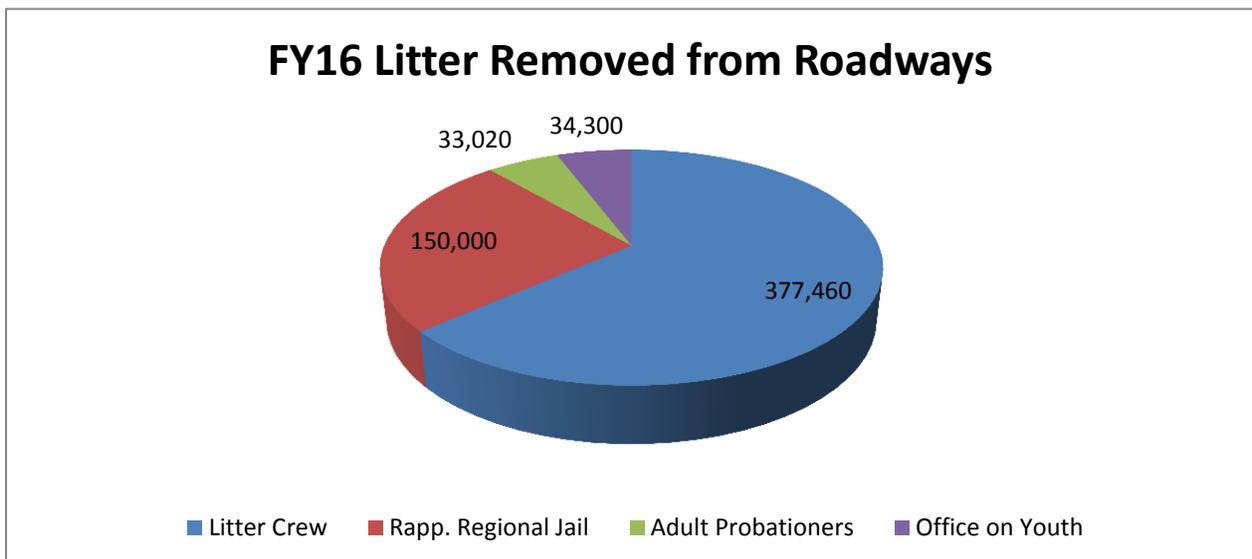


Figure 12.2 FY16 Litter Removed from Roadways



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Illegal Signs

R-Board staff has a long standing program to remove illegal advertising signs within the VDOT right of way. We have observed a steady increase in the number of these signs placed, as well as a placement pattern intended to circumvent our cleanup efforts. As a result, R-Board staff has adjusted our efforts for maximum effectiveness, and coordinated with other County departments to improve our efficiency. This resulted in a nearly 9% increase in the number of signs removed from our roadways.

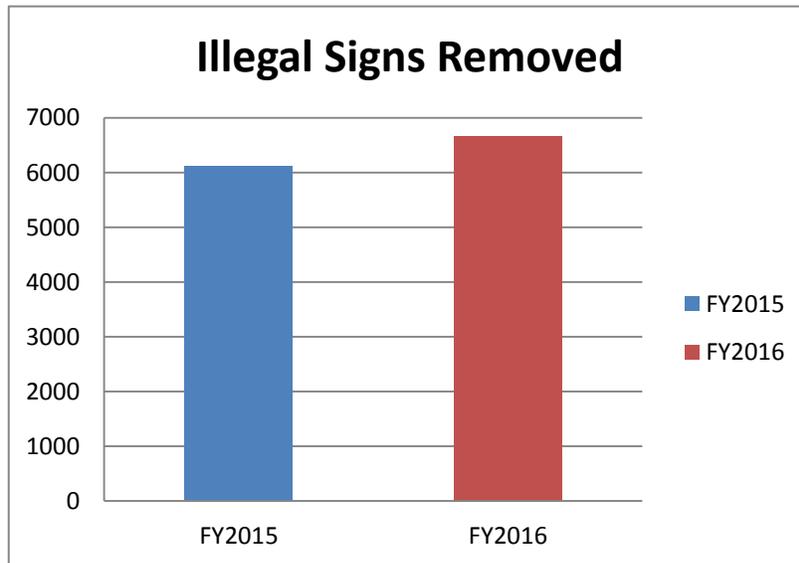


Figure 13.1 Illegal Signs Removed



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Outreach and Education

Programs

Backyard Composting 101 is the R-Board's primary adult outreach program. With assistance from Master Gardeners, Kristy Stone and James Alderman, residents of Stafford County and City of Fredericksburg learn how to compost food scraps and yard waste and maximize their composting efforts. In the nine years that the R-Board has been offering this class 848 participants have attended 74 classes. In FY16 there were 74 participants who attended 9 classes. An estimated 138 tons has been composted by residents through this class.



Julie Williams-Daves at Worms Eat My Waste

Another outreach program directed towards children is the Critters Don't Need Litter presentations where the R-Board partnered with the Wildlife Center of Virginia. Presentations are conducted at Stafford Head Start and on Earth Day on the Rappahannock. This year over 500 were reached through the presentations with the help of Chapin Hardy, who educates children with the Virginia opossum, Phebe.

Worms Eat My Waste is one of the R-Board's outreach programs directed towards children to educate about composting and recycling organic material. This year five presentations reached 500 youth. Four presentations were at local elementary schools and one at a local library. Decomposition, a part of composting, falls under the third grade SOL curriculum. WEMY not only teaches children to care for the environment, it is also a visual and kinesthetic teaching tool.



Chapin Hardy and Phebe the opossum



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The R-Board also offers landfill tours at Eskimo Hill to any and all age groups. This year 231 participated in sixteen tours and ice cream landfill recreations. Tours range in groups from 3-30+. Participants learn about recycling and the environmental requirements of keeping a landfill in its regulations.

The many Outreach programs offered by the R-Board span across all age groups, all around the Stafford and City of Fredericksburg areas.

Below is a graphical representation of most of the Outreach programs that the R-Board offers.

Outreach Programs

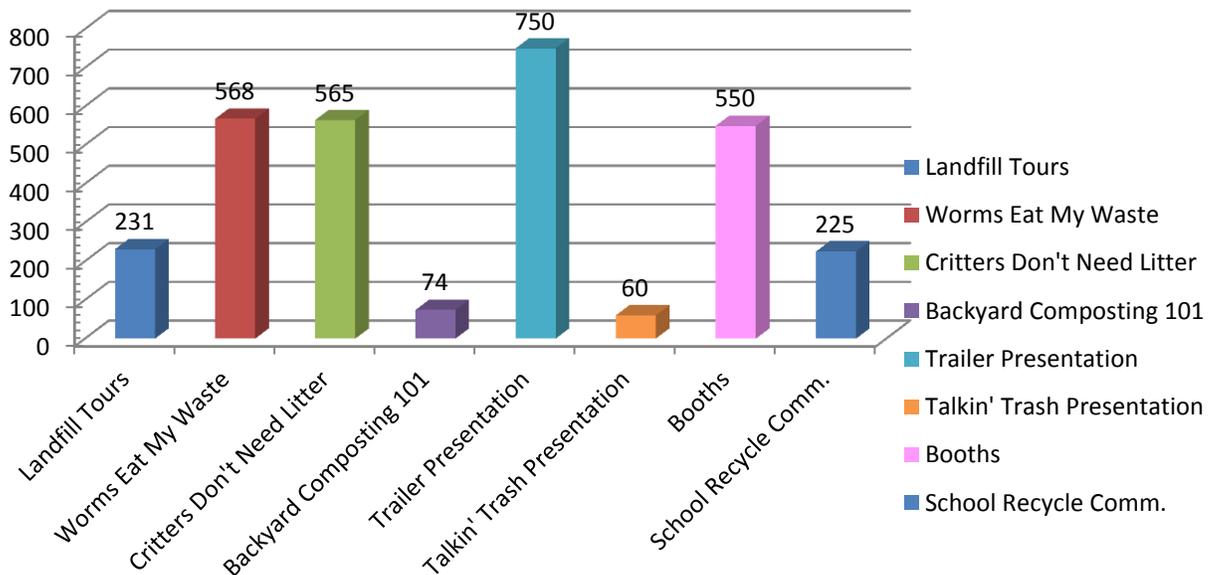


Figure 14.1 Outreach Programs



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R-Board Website Activity

Overall online traffic to the R-Board website has increased in FY16. Last year the increase was mostly due to the implementation of user fees. This year the R-Board added the option for residents to purchase coupon books and annual passes online, from a link on the home page. This update to the website is the most likely reason for the increase in FY2016. The below graphs illustrate the total page views per month, the top five visited pages in FY16, and the total number of website hits per year.

Total Page Views vs Total Users

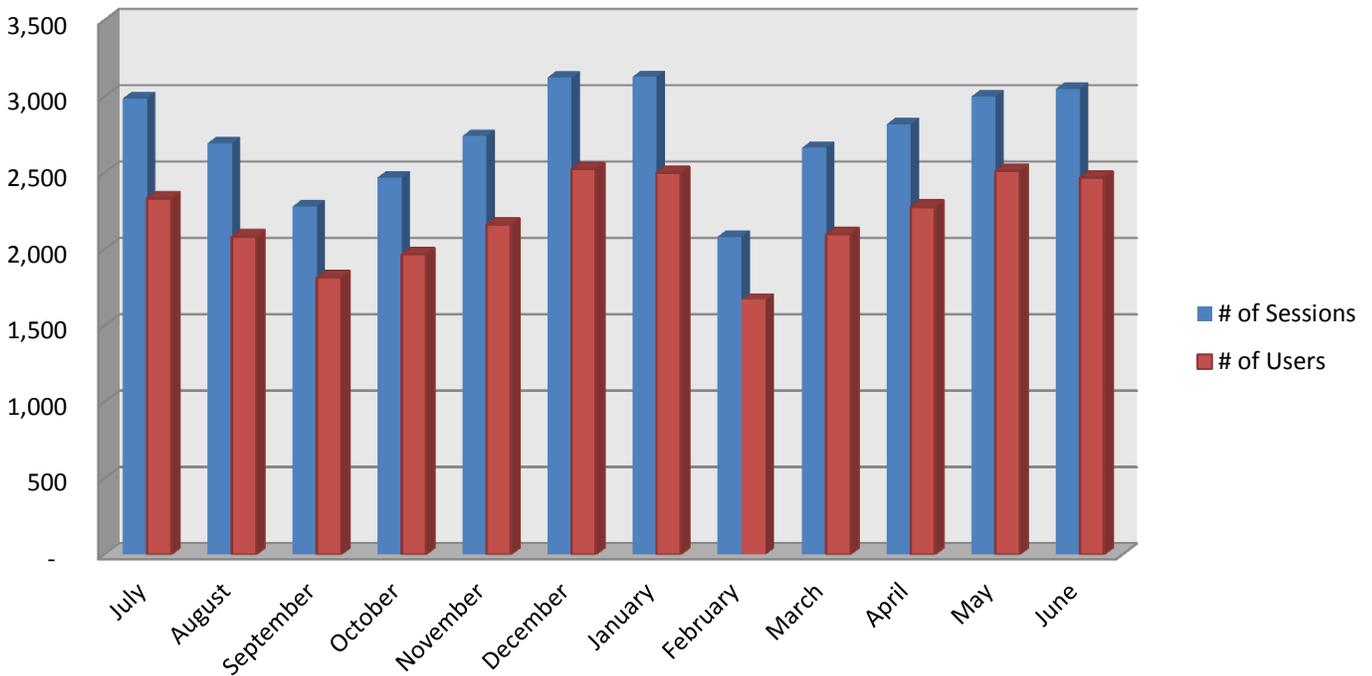


Figure 15.1 Total Page Views vs Total Users

The average Total Page View is 2,752 sessions a month, the maximum is 3,126 sessions in January, and the minimum is 2,079 sessions in February.

The average Total Users per month is 2,199, the maximum is 2,523 in December, and the minimum is 1,668 in February.



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These were the top five websites for the year; however, there was one page that had a spike in hits that should be noted. The User Fee Update page got enough hits in November, December, and January to be placed at number four for those months. Also in March it spiked again to be placed at number five for that month. Because the Top Five graph is for the entire FY16, these spikes will be counted as an anomaly.

Top Five Websites

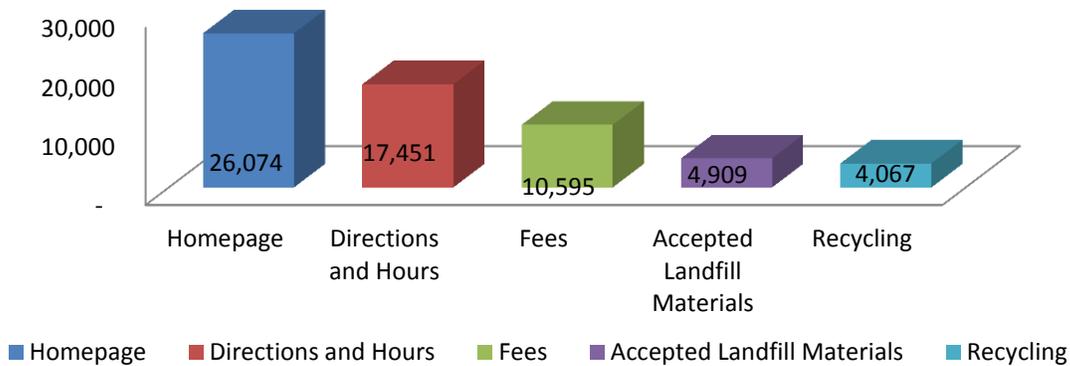


Figure 15.2 Top Five Websites

The Website Hits for the past four years helps show how the R-Board’s online interactions have increased within its community, especially for FY16 where online purchasing of coupon books and annual passes became available. The total website hits went from 23,121 in FY2015 to 33,019 in FY2016.

Total Website Hits

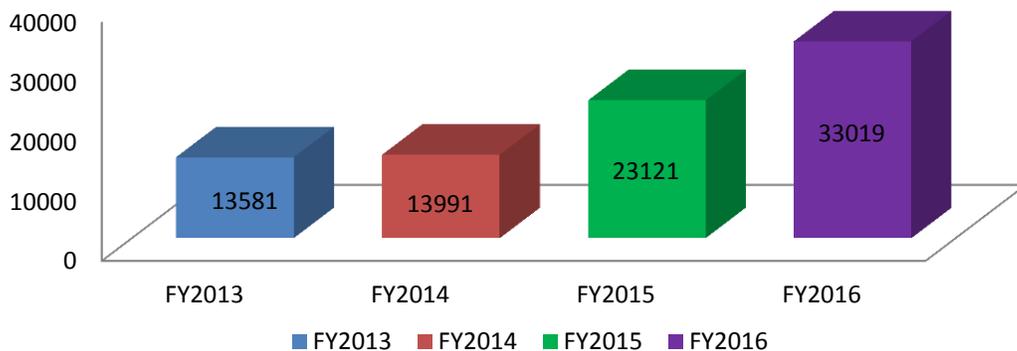


Figure 15.3 Total Website Hits



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Appendix



COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

Street address: 629 East Main Street, Richmond, Virginia

Mailing address: P.O. Box 1105, Richmond, Virginia

www.deq.virginia.gov

David K. Paylor
Director

(804) 698-4000
1-800-392-3482

Melby Joseph Ward
Secretary of Natural Resources

23219

23218

June 28, 2016

Ms. Diane Jones
Rappahannock Regional SWMB
489 Eskimo Hill
Stafford, Virginia 22554

Dear Ms. Jones:

The Virginia Department of Environmental Quality (DEQ) has completed its review of the Rappahannock Regional Solid Waste Management Board's 2015 Recycling Rate Report submitted pursuant to The Virginia Regulations for Solid Waste Management Planning - 9VAC-20-130-165 (the regulations). Virginia Code §10.1-1411 and section 120.B of the regulations require each city, county, town or region to maintain a minimum recycling rate and to report the data for the previous calendar year to DEQ by April 30 of each year. The members of the Solid Waste Planning Unit were to meet or exceed a 0.25 mandated recycling rate based upon the criteria established in 2006.

We accept your data as submitted, and your regional calculated recycling rate for CY2015 will be reported as 58.4%. This information will be forwarded to DEQ's Office of Waste Permitting and Compliance for consideration during their reviews of the Solid Waste Management Plans.

If you have any questions you may contact me at virginia.butler@deq.virginia.gov or (804) 698-4053. A summary of your report is attached.

Sincerely,

Virginia Butler
Office of Land Protection and Revitalization

Enclosure
Cc: RRR file