

**Hampton Roads, Virginia Recycling Collection Quality Improvement Grant Proposal  
Submitted for consideration to RCRA Solid Waste Grant Program, EPA Region 3  
Grant Cycle: Spring, 2016  
Grant Title: Know what's In Your Cart: A Regional Approach to Improving Recycling  
Materials Collection In Hampton Roads, Virginia**

**OVERVIEW OF PARTNERS/GRANT PARTICIPANTS**

**[askHRgreen.org/Hampton Roads Planning District Commission \(HRPDC\)](http://askHRgreen.org/Hampton%20Roads%20Planning%20District%20Commission)**

The HRPDC is one of 21 Planning District Commissions in the Commonwealth of Virginia, and is a regional organization representing this area's seventeen local governments. The HRPDC serves as a resource of technical expertise to its member local governments. It provides assistance on local and regional issues pertaining to Economics, Emergency Management, Housing, Planning, and Water Resources, and provides a robust education and outreach program through its Communications department. The HRPDC staff also serves as the support staff for the Hampton Roads Transportation Planning Organization (HRTPO), which is responsible for transportation planning and decision-making in the region.

**The [askHRgreen.org](http://askHRgreen.org) Recycling and Beautification Committee**

The [askHRgreen.org](http://askHRgreen.org) Recycling and Beautification Committee (The Committee) is one of four committees that make up [askHRGreen.org](http://askHRGreen.org). [askHRgreen.org](http://askHRgreen.org) is a comprehensive environmental education program with four main focal areas including recycling and beautification, fats, oils and grease disposal, storm water education and water conservation and awareness. Staffed by the HRPDC, it is overseen by an Executive Committee representing the HRPDC's 17 member localities. The Recycling and Beautification Subcommittee is charged with developing a cooperative regional education program addressing litter control, recycling and beautification and is made up of recycling and litter prevention coordinators from each of the 17 localities served by HRPDC.

DRAFT Project Brief  
RCRA Solid Waste Grant Program, EPA Region 3  
Grant Cycle: Spring, 2016

Grant Title: Quality Recycling: A Regional Approach to Improving Recycling Materials Collection In  
Hampton Roads, Virginia

**Status of Recycling in Hampton Roads, Virginia:** Municipal Solid Waste (MSW) curbside recycling began on a regional basis in 1991. Recyclables, including aluminum, metals, newspapers, glass bottles and jars, and plastic bottles and jugs were collected manually at the curb from 18-gallon open top bins. Collection gradually expanded over the next few years and in 1994 to the entire region. In 1999, Virginia Beach pioneered the first automated single stream collection, to be later sorted out at a more advanced Materials Recovery Facility. Currently single-stream automated is the predominant form of residential collection, with three private Material Recovery Facilities in operation. Collection is managed and implemented by private haulers for almost all municipalities in the region. In calendar year 2013, a total of 585,553 tons of MSW material was collected through various commercial and residential recycling programs in Hampton Roads. This represented 33.5 % of all MSW disposed, a decrease from a 44.6% diversion rate in 2011.\*

**The Current Challenge to Recycling in Hampton Roads:** There are two challenges commonly facing local municipalities and the region: Quantity of materials and quality of materials. For many years, national and international markets and the local materials processors have tolerated levels of contamination of non-acceptable materials of between 10-20%. Over the past year, local contamination levels have increased significantly, exceeding 24%. One local MFR Operator reported a 3% increase in contamination over the past 12 months. Contamination is costing Virginia municipalities and their contracted processors over \$1million per year\*\*. With the market value of recyclable commodities also suffering significantly, it is more important that the quality of materials being collected for markets be high. Declining collections quality reduces the value of the materials and the increases costs of processing. Consistently contaminated loads are negatively impacting the efficiency and effectiveness of recycling programs in Hampton Roads and threatens overall program viability in the long term. Additionally, some cities that have conducted waste material audits, as well as anecdotal observations reveal that many items that could be recycled are not, due to lack of consumer/household participation in existing recycling programs and services.

**Regional Partnership Initiative to Improve Recyclable Quality and Quantity:** A project to change consumer recycling behaviors would be established by a collaborative partnership of the member cities of the Hampton Roads Planning District Commission and their contracted recycling collection and MRF operators. The goal will be to reduce average contamination and increase the quantity of materials based on material audits. The askHRGreen.org Recycling and Beautification Committee would coordinate a two-pronged approach: 1. Targeted and custom designed route-by-route, household-to-household education and behavior change tactics (See next page for more details); and, 2. Regional social and mass media educational messaging. Results would be measured through pre, mid and post campaign material audits. Funding to support the project would be shared by the EPA RCRA Solid Waste Grant Program/Region 3, HRGreen, participating municipalities, and private MRF/Processor contractors.

\*Based on calendar year; Source: [Virginia Department of Environmental Quality Annual Recycling Rate Report](#).

\*\*Based on 2013 Virginia Recycling Rate Report and an estimated \$45/ton cost for disposal of 29,710 tons of residue.

## Project Details

Budget: A draft proposed budget is outlined separately. Costs are based on projections of the following key expense categories to fulfill the goals of the project:

Project Scope: The goal of this project is to effectively and sustainably reduce unacceptable recycling set outs and increase the quantity of materials separated for recycling in 3 to 5 curbside recycling routes in each of up to 8 participating municipalities. Data from audits of the targeted routes (approximately 32), use of available set out data and qualitative input from MRF Operators, as well as socio demographic information will be gathered to develop a customized behavior change strategy for each route. To reduce incorrect set out behavior the Project will utilize key environmental behavior research\* and best practices, including the following:

- 1) Positive, Consistent Messaging: Develop and ensure message content (what and how to recycle properly) is correct, understandable and methods of delivery are consistent to the targeted recycling households and businesses and to meet MRF processing requirements and is accessible to all on route. Barriers such as misperceptions or understanding on what can be recycled will be addressed through a variety of proactive and positive communications. The most common and problematic contaminants and acceptable recyclable materials most often discarded will be identified and targeted for more aggressive messaging. To address varying acceptable materials in different municipalities, an online application or similar tool will be researched for address-based information about each address's recycling day, and acceptable materials list.
- 2) Convenience of recycling to households/businesses on routes: Ensure collection services are being delivered reliably and consistently to all parts of the routes.
- 3) Behavior change approach: Utilize a combination of positive normative messaging (such as commitments/pledges), incentives and regular cart monitoring with follow up using rewards and reminders. A combination of City staff and temporary labor would be coordinated to direct the most effective education outreach and follow up.
- 4) Best practices in researching, developing and disseminating messages will be identified and shared among participating Cities through their designated Project Leaders and representatives. While some Route based methods may differ slightly, the most effective ones will be emphasized to maintain consistency in message content and delivery. Due to the transient and shared nature of how residents of Hampton Roads cities and counties move about and receive information, this practice is expected to reduce the amount of conflicting information and misperceptions that take place. The use of issuing warnings and/or violations with or without penalties will also be studied.

Recyclable Materials Audits: To assess the most frequently incorrectly recycled materials (materials that are considered unacceptable for current recycling processing), audits will be held at the beginning, during and at the conclusion of a defined program timeframe for behavior change strategies and tactics to take affect. Audits would be held in cooperation with participating recycling processors. Beginning and final audits would require more detailed sampling of recyclables collected on each of the targeted routes. Audits will be conducted under the supervision of a qualified audit supervisor or other qualified recycling

professional and temporary staffing. It is estimated that pre and post audits will each require a team of 5 sort workers working 2 hours per route sample or a total of 64 hours, spread over two weeks. At least 2 Mid-Campaign audits would be a methodical visual examination of the recycling load of targeted routes by two qualified professionals, taking about 4 hours per day over a two-week period. Information gained from the audits is an important part of the process in achieving the goals of this project.

#### Route Research

In addition to the data gained through materials audits, surveys, focus groups and other forms of consumer research will be conducted as needed to identify and understand barriers to recycling, misperceptions about what is recyclable, methods of separation within the household, and related household practices. This information, combined with the materials audits will provide a more comprehensive understanding of how best to educate and change recycling behaviors on each route.

#### Regional Project Team

A Regional Project Team would be comprised of representatives of each participating municipality. The role of this Team is to cooperatively and collaboratively guide the Project, share updates and observations from Project activities within their community, and maintain positive communications with the Regional Project Administrator, the Hampton Roads Planning District Commission representatives and their Leadership within their City or County.

#### Route Selection:

During the development of the project work plan, and after the Regional Project Team has been formed, methods for each City or County to recommend recycling collection routes or recycling drop off centers will be discussed. It will be left to each participating municipality to select those routes they wish to target for this Project.

#### Alternate Drop Off Program Design

Several municipalities utilize recycling drop off or "convenience centers" for residents to participate in recycling of their household materials. For this project, a design to study participation and contamination at this type of collection will be developed. On-site spot surveys during certain operational hours and educational messaging at the time of drop off will be conducted to achieve the goals of this project.

Final Report: A final report will provide a full analysis of the project findings with recommendations for replicating best practices in Hampton Roads and other U.S. communities. The final report will also include recommendations for future steps that may be taken by both individual municipalities and regional leaders to improve upon the results of this Project. It is anticipated that what is learned through this project, at minimum, will provide local recycling managers a better understanding of current recycling behaviors in their community, and some options for addressing low participation and poor quality of materials.

\* Osbaldiston, R., & Schott, J. (2012). Environmental sustainability and behavioral science: Meta-analysis of pro-environmental behavior. *Environment and Behavior*, 44, 257-299 .

\* Schultz, P. W. (1999). Changing behavior with normative feedback interventions: A field experiment of curbside recycling. *Basic and Applied Social Psychology*, 21, 25-36.