

**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 Recycling and Beautification Committee

The askHRgreen.org Recycling and Beautification Committee (The Committee) is one of four committees that make up askHRGreen.org. 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: 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.

Regional Partnership Initiative to Improve Recyclable Quality: 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 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 in 3 to 5 curbside recycling routes in each of up to 8 participating municipalities. Data from audits of the targeted routes (approximately 32) 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) **Messaging:** Develop and ensure message content (what and how to recycle properly) is correct, understandable to the targeted recycling households and businesses and consistent to meet MRF processing requirements and is accessible to all on route. The most common and problematic contaminants 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.

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.

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.

* 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.