

Education and Outreach Analysis

Purpose

This section evaluates the effectiveness of R3Source’s existing education, outreach, and technical assistance efforts while addressing the five target audiences outlined by Ohio EPA. This section also identifies a strategy for incorporating best practices into reduction, recycling, composting, and reuse education programs.

Target Audiences

R3Source has programs that address the targeted audiences. Table 1 summarizes how these programs relate to the five target audiences of residents, schools, industries, commercial businesses, and communities/elected officials. R3Source sets annual goals for reaching each of these target audiences and evaluates programs on a quarterly basis.

Two of the unique or special interest groups that R3Source would like to focus on and work more closely with are universities and hospitals. R3Source has already worked with these two groups through the Let’s Stop Waste and Pollution Prevention programs however, R3Source could partner with these institutions for events, workshops, and other collaborative educational programs.

The next section chooses outreach programs to evaluate in more detail: residential recycling campaigns and school field trips.

Table 1: R3Source Outreach Programs by Audience

Residents	<ul style="list-style-type: none"> • Recycling Hotline • Advertising Campaigns • Target Communities • Seminars • Container Loan Program 	<ul style="list-style-type: none"> • Special Events • Let’s Stop Waste at Multi-Families • Social Media • Newsletter • Website
Schools	<ul style="list-style-type: none"> • Recycling Hotline • Website • Newsletter • Classroom Programs and Assemblies • Field Trips 	<ul style="list-style-type: none"> • Let’s Stop Waste at Schools • Container Loan Program • Waste Audits • Grants
Industries	<ul style="list-style-type: none"> • Recycling Hotline • LinkedIn • Let’s Stop Waste • P2 Internship 	<ul style="list-style-type: none"> • Waste Audits • Newsletter • Grants
Commercial Businesses	<ul style="list-style-type: none"> • Recycling Hotline • Social Media • Let’s Stop Waste • Employee Seminars • P2 Internship 	<ul style="list-style-type: none"> • 513Green Certification • Waste Audits • Container Loan Program • Newsletter • Grants
Communities/Elected Officials	<ul style="list-style-type: none"> • Recycling Hotline • Website • Presentations • Community Toolkit • Let’s Stop Waste 	<ul style="list-style-type: none"> • Target Community Outreach • Newsletter • Container Loan Program • Grants

Existing Program for Residents: Residential Recycling Campaign Overview and Employing Social Marketing Principles

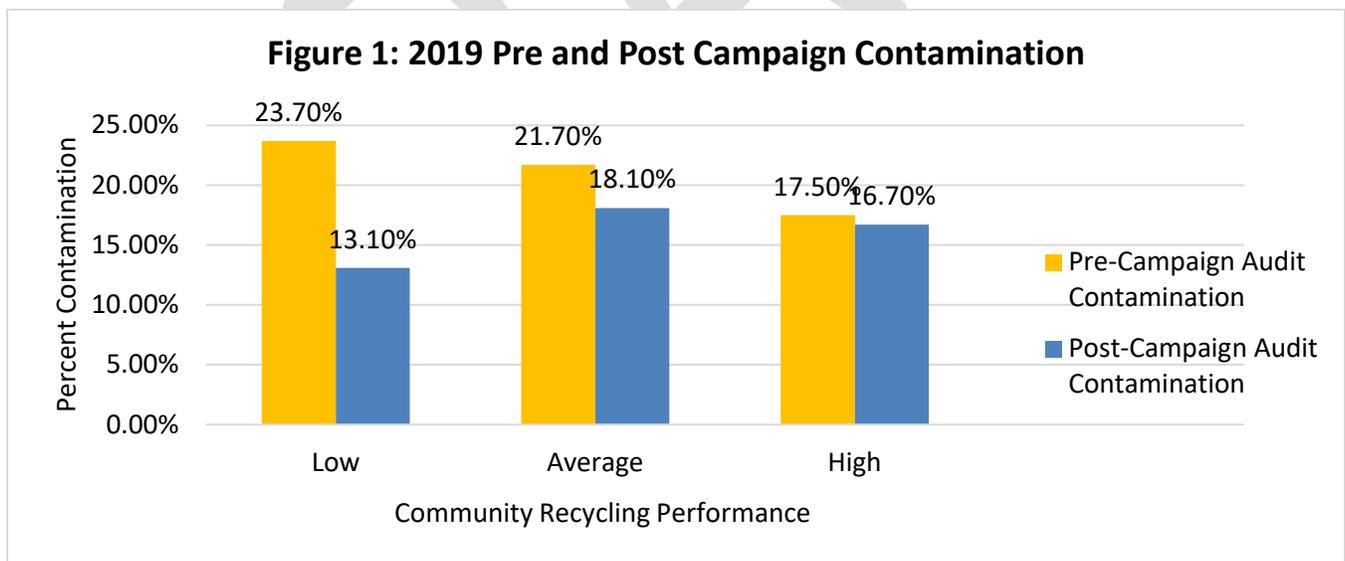
Most years, R3Source conducts a county-wide marketing campaign to promote residential recycling. The campaign often involves paid advertising, public relations, social media, and outreach to communities. In 2020, R3Source spent \$43,400 on a cardboard recycling campaign in the 4th quarter of the year. The target audience of the campaign was residents who were receiving more boxes than ever delivered but who were not taking the time to break them down before recycling.

The 2020 campaign was limited due to the COVID pandemic so this analysis will look at two campaigns R3Source conducted in 2019; both focused on reducing contamination. One campaign was deployed county-wide and centered on “Recycling Coach” videos demonstrating that plastic bags and clamshell containers are not recyclable. The second campaign was targeted to approximately 27,000 households in the City of Cincinnati. Funded by Ohio EPA through the Recycling Partnership, the Cincinnati-specific campaign featured cart inspection, tagging, and follow-up messaging to the resident.

County-Wide Recycling Coach Campaign

The County-wide Recycling Coach campaign reached 65,396 households in 19 communities with a direct mail piece. All the targeted households had access to automatic curbside recycling with carts. The campaign included production of two primary videos, digital advertising, a direct mail piece that included a recycling magnet, and local television spots. In addition, R3Source contracted with a consultant to conduct before and after recycling audits to measure the effectiveness. Contamination decreased from 21% before the campaign to 16% after the campaign (a 24% decrease).

R3Source grouped the participating communities into three categories based on their diversion rate: low, average, and high. Figure 1 compares the before and after diversion rates for the three community categories.



Interestingly, communities with the highest level of contamination to start were most receptive to the campaign and in the post-audits had the lowest contamination rate. Communities with higher diversion rates saw the smallest change between the pre and post audits.

Table 2 gives an overview of the cost per element of the county-wide campaign. R3Source spent \$2.10 per household on the campaign including the audit and \$1.60 per household without the audit cost included.

R3Source gathered and analyzed media clips, social media posts, website traffic, and hotline calls to measure the success of the campaign. During the campaign period (11/3/14 to 12/14/14) R3Source received:

- 1,916 unique page views for R3Source homepage
- 156 unique views for the campaign page (versus 98 in the previous period)
- 69 sessions referred from the WLWT component
- 13 new followers on Facebook and 1,360 engagements
- 48 new Twitter followers and a total reach of 7,451 people
- 538 calls to the recycling hotline
- No increase in recycling tonnage attributable to the campaign

Medium	Cost
Digital Advertising	\$50,000
Video Production	\$17,200
Direct Mail	\$27,303
Broadcast TV	\$10,000
Audit Cost	\$33,000
Total	\$137,503

Cincinnati Cart-Tagging Campaign

The targeted campaign in Cincinnati funded through a partnership of Ohio EPA and the Recycling Partnership reached 27,628 households within Cincinnati. The campaign involved hiring auditors who would check the recycling carts for all participating households five times. The first time an auditor found contamination in a cart was a warning- the material was still collected but an “oops” tag was left behind letting the residents know the mistake. Should the same address include contamination again, the material was left behind with a similar tag letting them know the material was not recyclable.

Medium	Cost
Mailers and Social Media	\$27,140
Tagging Labor	\$19,179
Rubicon App and Auditor Phones	\$5,195
Miscellaneous	\$204
Audit Cost (estimated)	\$10,000
Total	\$61,718

The Cincinnati campaign included two direct mail pieces and utilized the Recycling Coach videos created for the county-wide campaign. Contamination decreased from 28% at the start of the campaign to 19% at the end of the campaign- a 32% decrease. Table 3 gives an overview of the costs associated with the campaign.

	County-wide	Cincinnati
Number of Households	65,396	27,628
Cost Per Household	\$2.10	\$2.23
Decrease in Contamination	24%	32%

The Cincinnati campaign was largely grant-funded and some of the cost, such as the cost of the audit was covered by Rumpke. However, the cost per household for this campaign was \$2.23 with the audit and \$1.87 without the audit. Table 4 compares the two campaigns side-by-side.

Table 5. Strengths and Weaknesses of Residential Recycling Outreach Campaigns	
Strengths	Weaknesses
<ul style="list-style-type: none"> • Increases recycling awareness. • Residents and communities provide positive feedback. • No cost to communities. • Comprehensive multi-media approach. • Partnership with communities to leverage campaign. • Campaign is based on research and background information. • Encourages residents to recycle more when away from home. • Durable magnet has led to a number of residents contacting R3Source for recycling and disposal information years later. • Consistent recycling message throughout the county. 	<ul style="list-style-type: none"> • Difficult to claim overall Hamilton County increase in recycling or decrease in contamination as a result of campaign. • Inconsistent, not offered every year. • Cannot send something to every resident- too costly. • The direct mail is wasteful if not used and/or recycled. • Printed pieces can be dated if acceptable recyclables list expands in future. • Only target 1-4 family buildings, not large multi-family properties. • Current funding levels are not suitable for a countywide campaign.

Recycling Campaign Gap Analysis and Solutions

- 1. Integrate more market research and community involvement.** Measuring the impact of a campaign can be difficult when tonnage numbers lag far behind the campaign, are not specific to the area or audience targeted, or do not accurately measure the focus of the campaign. R3Source also wishes to involve residents and community leaders from the target audience during campaign development to create more impactful campaigns.

 - Conduct market research before and after campaigns tailored to the campaign goals.
 - Reach out to communities and residents for input on campaign materials and message.
- 2. Cooperate with other organizations and communities with similar campaigns.** The City of Cincinnati, Rumpke Recycling, and other communities and counties surrounding Hamilton County regularly put out campaigns encouraging more recycling or reduced contamination.

 - Partner with organizations to pool resources and increase impact of campaigns.
- 3. Increase in person outreach to local communities and potential champions.** Local community leaders often do not completely understand what you can and cannot recycle. Communities can also leverage campaign assets to further promote and reach their residents.

 - Offer presentations at local community council and trustee meetings prior to a campaign.
 - Revive the Master Recycler course to empower local advocates.

Existing Programs for Students: Field Trips

Overview

R3Source covers the cost of transportation and any related program costs for students to go on solid waste related field trips. Participating schools must currently recycle and be a member of the Let's Stop Waste in Schools program to qualify for R3Source's field trips.

Field trips reach the audiences of students, teachers, and chaperones. Educating students encourages children to form habits early and to bring that behavior home. Educating the educators and chaperones ensures they have updated information and are able to reinforce what the children learn about reducing waste.

The field trips offered are specific to certain grade levels. Each field trip centers on at least one waste reduction topic. Field trip descriptions can be found on our [website](#).

In the *Hamilton County Solid Waste Management Plan Update 2018-2032*, R3Source states that we will continue helping schools set up recycling programs and providing field trips.

Tracking Results

Table 6 shows that R3Source has provided a consistent number of field trips over the last five years with a slight dip in 2018. All field trips were cancelled after March of 2020 due to COVID-19.

As part of the R3Source field trip reimbursement program, students are required to submit reflections after the field trips. These reflections can take the form of posters, writing, videos, or other mediums. The teachers get to choose what type of reflection to assign the students so that it is tailored for the needs of each class.

Field Trip Offerings

R3Source offers seven field trip options to schools targeting different age ranges.

Year	Field Trips	People Reached
2016	42	2,421
2017	37	2,519
2018	31	1,704
2019	36	2,220
2020	4	123

Compost Kids

- Location: Civic Garden Center
- Grades: K-6
- Theme: Nature cycles through the seasons in many ways, and composting recycles nutrients back into the soil ecosystem.
- Students participate in hands-on activities outdoors to learn about the critters in gardens and the roles they play in the ecosystem.

America Recycles Day

- Location: Cincinnati Zoo and Botanical Garden
- Grades: 3-5
- Theme: Waste reduction and recycling have a positive impact on people, animals, and habitats around the world.
- One-day event
- Students participate in activity stations related to waste reduction around the Zoo

Don't Trash It

- Location: Rumpke Landfill
- Grades: 1-12

- Theme: When items are thrown in the trash bin, they do not just go “away” but are taken to the landfill.
- Students ride a bus through the Rumpke landfill and learn how it works.

Where Does All the Garbage Go?

- Location: Rumpke Landfill and Burnet Woods
- Grades: 1-6
- Theme: Garbage must go somewhere after it is thrown in the trash bin, and it has an impact on the planet.
- Students take a nature hike to observe natural cycles and play various games to learn about recycling and composting. Then they ride a bus through the Rumpke landfill and learn how it works.

Trash Talk

- Location: Rumpke Landfill and Rumpke Materials Recovery Facility (MRF)
- Grades: 9-12
- Theme: Garbage and recyclables must go somewhere after we put them into their respective bins, and this requires an intricate system to operate.
- Students take a bus tour of the landfill, and then they tour the MRF to see how recyclable items are sorted.

Farms and Food Waste

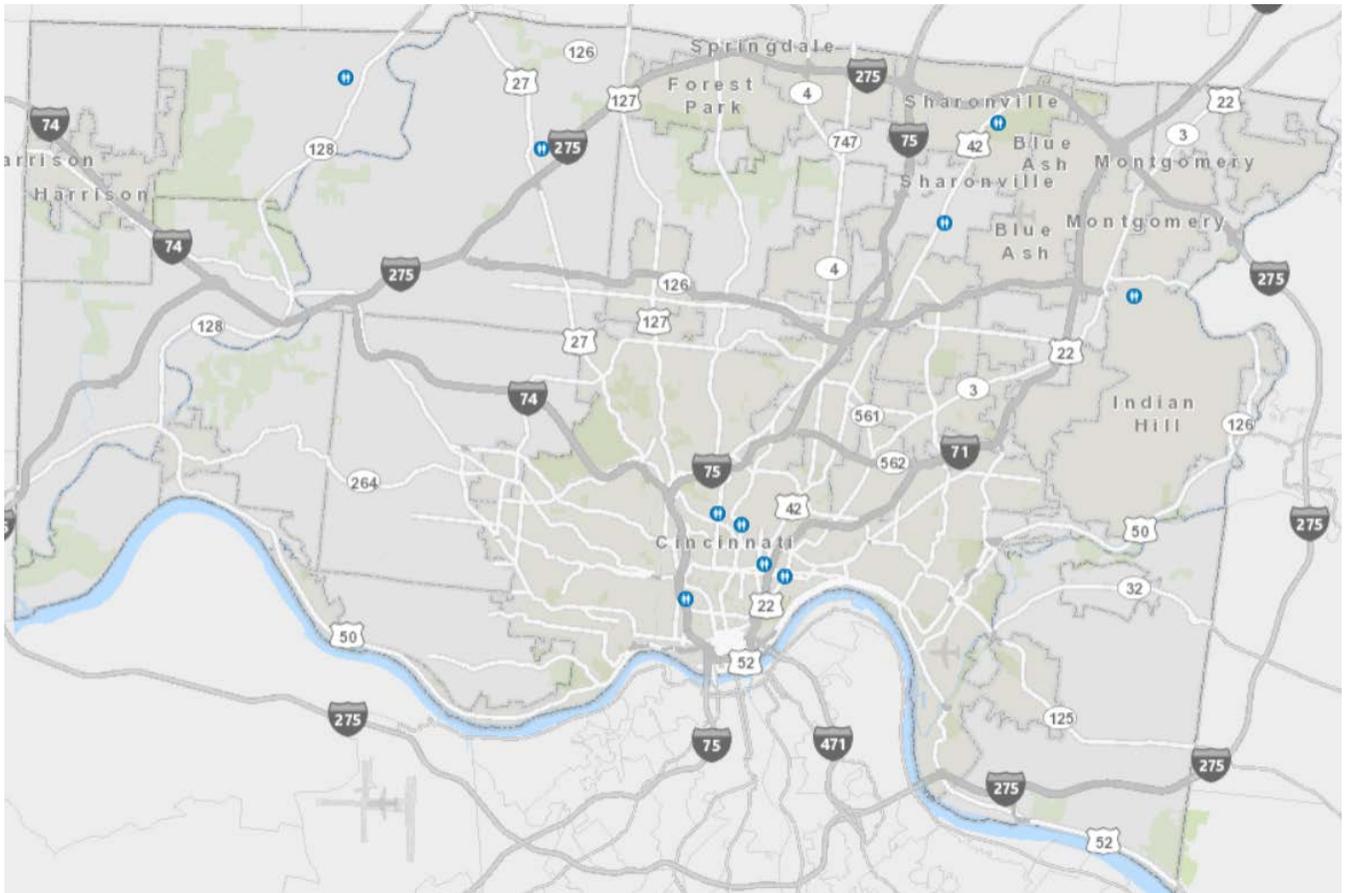
- Location: Gorman Heritage Farm
- Grades: 3-8
- Theme: Food is a valuable resource that takes time and energy to produce, so steps must be taken to reduce food waste to help the planet.
- Students learn why and how to reduce food waste through hands-on activities at various stations around the farm.

La Soupe Pilot

- Location: La Soupe
- Grades: 10-12
- Theme: Food waste in the US is a major problem that can be prevented by shopping responsibly, understanding food, and learning how to creatively use what is available to cook meals.
- Students will tour the La Soupe facility, learn about food waste in the US, prepare rescued food for donation to those in need, and create a meal with ingredients in the pantry.

Figure 2 shows the geographic locations (blue dots) of the current field trips.

Figure 2: R3Source Field Trip Locations



Marketing Field Trips

R3Source markets field trips through the following avenues:

- Newsletter
- R3Source website
- Facebook
- Partnering organizations
- During one-on-one meetings with administrators and teachers.

These efforts have generated plenty of interested schools that align with the R3Source budget for the program.

Measuring Effectiveness and Cost

To measure the effectiveness of the field trips, R3Source requires teachers to submit student reflections shortly after the completion of the trip. This ensures students synthesize information learned. Many of the same teachers return year after year with their next class of students.

In 2020, R3Source spent \$1,914.94 on student registrations and bus transportation for field trips. To provide a normal year for comparison, in 2019 R3Source spent \$10,206.08 on student registrations and bus transportation for field trips.

Table 7. Strengths and Weaknesses of Field Trips	
Strengths	Weaknesses
<ul style="list-style-type: none"> • All grades of students have access to field trips. • Provides experiential learning, which is an important component of acquiring knowledge. • Students get opportunities to see first-hand how compost is made, how landfills work, or how recyclables are processed. • Student reflections are a valuable processing tool when learning new information. 	<ul style="list-style-type: none"> • School must complete forms and prove payment to bus company before reimbursement (cumbersome). • Field trip opportunities are limited by partner availability. • We do not have demographic data. • Schools must recycle and register with the LSW Program to qualify for a field trip .

Field Trip Gap Analysis and Solutions

- 1. Improve geographic availability of field trips.** Currently most field trip opportunities focus in the south-central area of Hamilton County. Offering field trip opportunities in more regions of Hamilton County will increase accessibility for rural and suburban schools.

 - Identify possible field trip partners in the south-western and south-eastern areas of Hamilton County.
 - Identify opportunities for customized local field trips near schools.
- 2. Target underserved schools and improve accessibility.** A key learning from the DEI consultant was to collect and evaluate demographic information of program participants. This may be difficult for specific program participants since they are children, but R3Source may be able to extrapolate based on participating school demographic data. Once demographic data is collected and evaluated, R3Source staff can identify schools and demographic groups currently underserved with the field trip program.

 - Collect demographic data for all field trip participants.
 - Reach out to schools with underserved populations.
 - Consider and implement ways to improve accessibility such as sign language, sensory experiences, Spanish translation, and wheelchair accessibility.
- 3. Create new field trips focusing on new topics.** Field trips focused on reducing wasted food, food rescue, and reuse would align with other efforts R3Source is undertaking.

 - Look for partners who could offer field trips focused on reducing wasted food and/or reuse.

Conclusions

Hamilton County R3Source has programs covering the five main audience categories: residents, schools, industries, commercial businesses, and communities. After looking more deeply into the residential recycling campaigns, R3Source could integrate more involvement of both community officials and the target audience in the development of the campaign and in helping promote the message. Many other organizations promote similar messages and R3Source can reach out to these organizations to coordinate campaigns and pool and share resources for more impact.

R3Source’s field trip program is well-used but R3Source could make the program more accessible by increasing the geographic availability of field trips, collecting demographic data, and reaching out to underserved schools. Additionally, R3Source can continue to develop new field trip offerings based on broader waste reduction topics such as food rescue, food waste reduction, and reuse.

Table 8: Summary of Potential Actions to Address Identified Gaps				
		Infrastructure Improvement Suggestions	Gap Addressed	R3Source Program
Residential Recycling Campaign	1	Integrate market research and community involvement	Campaign may not directly focus on reasons target audience do not recycle. Measurement of impact difficult.	Conduct market research. Reach out to communities and residents for input on campaign.
	2	Cooperate with other organizations	Other organizations also conduct campaigns around residential recycling.	Offer partnerships with other organizations to increase impact.
	3	Increase in-person outreach	Local community leaders often don’t know what you can recycle, and residents currently do not have a direct way to get involved in outreach.	Offer presentations at community meetings. Revive the Master Recycler training.
Field Trips	1	Improve geographic availability of field trips	Field trip offerings focus in the south-central area of Hamilton County.	Identify new partners in other areas of the county. Consider custom local field trip options.
	2	Improve accessibility	R3Source does not have demographic data for schools and wants to ensure field trips are accessible to all students.	Collect demographic data. Reach out to schools with underserved populations. Consider and implement other accessibility improvements.
	3	Create new field trips on new topics	R3Source offers few field trips on reducing wasted food, food rescue, or reuse.	Consider new partners for field trips on new topics.

Questions for Policy Committee

- Should R3Source devote more of the residential outreach budget to market research and pre-development of a campaign?
- Should R3Source revive the Master Recycler class to develop community advocates for recycling?
- Should R3Source focus campaign topics on other areas such as reuse or waste reduction some years instead of residential recycling?
- Should R3Source allow schools that do not recycle to attend certain field trips (like LaSoupe, Compost Kids, Gorman Farm)
- Should R3Source provide up-front funding for transportation to alleviate cumbersome reimbursement requirements and financial burden on schools.