

Conclusions, Actions, Priorities

To determine the programs offered during the planning period, staff developed and presented several analyses as outlined in Appendix H. Section B outlines the programs, strategies, and policies R3Source will implement based on Policy Committee and stakeholder feedback.

A. Conclusions from Appendix H

Each of the ten analyses outlined existing programs and services, strengths and weaknesses, outstanding needs, available resources, etc. The analyses concluded with a compiled list of actions R3Source could take or programs R3Source could implement. A summary of potential changes is outlined in Table I-1. Appendix H provides the narrative on each of these potential actions.

Table I-1. Summary of Suggestions for Improvement	
Residential Infrastructure	1. Add drop-off recycling
	2. Improve drop-off signage
	3. Improve drop-off placement
	4. Upgrade from drop-off to curbside
	5. Upgrade from subscription to contract
	6. Implement pay-as-you-throw
	7. Target lower-performing communities
	8. Implement a single fee for waste and recycling
Businesses (Commercial, Institutional, Industrial)	1. Target outreach/technical support
	2. Follow up with businesses that receive technical assistance
	3. Purchase paid advertising or sponsorships to promote Let's Stop Waste
	4. Evaluate the feasibility of awarding a franchise agreement for business recycling services
	5. Track commercial waste quantities separately
	6. Coordinate requirements for recycling in zoning ordinances
	7. Facilitate cooperative recycling programs
	8. Create a program to educate property managers
	9. Target communities with low recycling rates but a high number of multi-family dwellings
	10. Distribute in-unit collection containers
	11. Provide outreach materials in a variety of languages
	12. Franchise or contract for collection services at multi-family properties

Table I-1. Summary of Suggestions for Improvement

Waste Composition	1. Conduct a campaign to educate consumers that imperfect food is still edible
	2. Evaluate supporting label standardization legislation
	3. Work with businesses to minimize the impact of food recovery on core services
	4. Evaluate supporting liability protection legislation
	5. Consider expanding the "in-kind" match to new small composting businesses
	6. Help facilities secure organic feedstock
	7. Research how role of the public sector in progressing the development of other Ohio organics processing facilities
	8. Continue working with the Hamilton County townships that do not contract for recycling collection
	9. Create specific outreach campaigns for the top four materials
	10. Help establish cardboard co-ops for businesses
	11. Assess the Recycle Hub's capacity to accept plastic film; possible promote Recycle Hub
	12. Promote businesses, such as Go Zero, directly and on the R3Source website
	13. Establish material-specific landfill diversion goals
Economic Incentives	1. Increase Impact of RRI Funds
	2. Offer more direct assistance incorporating volume-based systems into the bid specifications
Difficult to Manage Materials	1. Improve the existing scrap tire fee system
	2. Create community partnerships for tire collection events
	3. Encourage communities to maintain or adopt a curbside collection of yard trimmings
	4. Decrease cost of yard trimmings drop-off program
	5. Promote HHW reduction
	6. Promote alternative HHW outlets
	7. Increase awareness at the state level
Special Needs	1. Execute a memorandum of understanding with the City of Cincinnati
	2. Improve program efficiency
	3. Prioritize communities for Environmental Enforcement support
	4. Work with townships to contract for trash collection
	1. To the extent possible, collect all recycling data electronically

Table I-1. Summary of Suggestions for Improvement	
Data Collection	2. Purchase an electronic mailing list
	3. Utilize market research best practices to improve the response rate
Education and Outreach	1. Conduct market research before and after campaigns tailored to the campaign goals
	2. Reach out to communities and residents for input on campaign materials and message
	3. Partner with organizations to pool resources and increase the impact of campaigns
	4. Improve geographic availability of field trips
	5. Target underserved schools and improve accessibility
	6. Create new field trips focusing on new topics

As part of the planning process, R3Source evaluated each one of the actions for implementation requirements, such as staff time, materials, and outside support. R3Source also estimated the potential impact on landfill diversion to guide decisions on prioritizing the strategies to implement.

B. Program Descriptions

This section outlines the programs available to residents, communities, businesses, and institutions during the reference year (2020) and the changes R3Source will make during the planning period.

1. Residential Recycling Infrastructure

Table I-2. Residential Recycling Infrastructure Current Initiatives			
Program Name	Start Date	End Date	Goal
RRI Program	1989	Ongoing	To provide the financial and technical resources to increase residential recycling in Hamilton County
Target Lower Performing Communities	1996	Ongoing	

Residential Recycling Incentive (RRI)

R3Source's primary program to improve and maintain residential recycling infrastructure is the Residential Recycling Incentive (RRI) program. R3Source budgets \$700,000 to \$900,000 annually depending on the projected revenue to divide among participating communities. As a community increases its recycling rate, it receives more dollars per ton recycled. Forty-seven of the 48 communities participate regularly.

Communities must spend RRI funds on recycling or waste reduction or litter clean-up-related expenses such as a curbside recycling contract, recycling drop-off costs, community leaf collection, or recycling promotion. The Economic Incentive section analyzes this program in more detail

Target Community Program

R3Source has historically worked with several communities each year to improve recycling infrastructure and participation. This process involves meeting with the community, developing a plan for outreach, and then implementing that plan. These efforts involve significant technical assistance that includes helping to draft bid specifications, improving recycling access, and increasing participation in recycling programs.

Primary Audience	Program Name	Start Date	End Date	Goal
Communities and Residents	Upgrade from drop-off to curbside	2024	Ongoing	To increase the number of households with curbside recycling and specifically, non-subscription curbside recycling
	Upgrade from subscription to contract	2024	Ongoing	
	Target lower-performing communities	2024	Ongoing	To help communities that are struggling to increase their landfill diversion rates

Upgrade from Drop-Off to Curbside

One community (the City of Cheviot) has a community-collected curbside trash program and offers recycling drop-offs. This community has a densely populated neighborhood and could drastically increase recycling participation and tonnage collected by offering a curbside recycling program. Making recycling as easy as trash collection has proven effective at increasing participation. Cheviot could either contract out the recycling service or develop the infrastructure and staff needed to implement a curbside recycling program themselves.

R3Source will offer technical assistance and support in promoting the program to Cheviot residents. The primary target audience will be City of Cheviot officials and Cheviot households. R3Source estimates that converting from a drop-off site to contract curbside recycling will increase the per capita recycling

rate in Cheviot by 308 pounds per year. Cheviot has a population of 8,254, which means this change could annually increase recycling by approximately 1,270 tons.

Assistance will not require any additional funds, and R3Source will monitor its performance through the annual RRI report that Cheviot submits. The City of Cheviot's willingness to fund curbside recycling is the primary barrier to implementing this strategy.

Upgrade from Subscription to Contract

Fifteen communities in Hamilton County offer subscription-based recycling, which has lower participation than community-collected or contracted recycling programs. Seven of the 15 communities with subscription-based recycling contracts for curbside trash service on behalf of their residents. In their next bidding process, these communities could include curbside recycling and start offering this service to their residents in their next contract. The other eight communities that only have subscription services available could improve recycling participation by contracting out both waste and recycling services for their residents.

R3Source will offer technical assistance and support to these fifteen communities through this process. This support could include meeting with their government officials and residents. This support could also include reviewing procurement documents. R3Source may require outside legal or consulting assistance for this review and has budgeted \$10,000 per year.

The primary target audiences will be officials and households. R3Source estimates that converting from a subscription to a contract curbside recycling system will increase the per capita recycling rate by 226 pounds per year. These 15 townships have a population of 261,532, which means this transition could annually increase recycling by approximately 29,560 tons.

R3Source will monitor the performance of the communities that award curbside recycling through their annual RRI report. In addition to financial considerations, local waste haulers may oppose the elimination of subscription recycling.

Target Lower Performing Communities

Communities with low recycling rates often lack the internal resources to improve recycling infrastructure in their community. R3Source could work with select communities every year with low recycling rates to improve the available recycling infrastructure. This would align with R3Source's current target community approach. R3Source will work with the community to establish goals, prepare bid specifications, help site a recycling drop-off, or offer other technical assistance as needed.

R3Source does currently help low-performing communities but may include demographic considerations to enhance the diversity, equity, and inclusion of its programs.

2. Business Reduction and Recycling Programs

Table I-4. Summary of Business Sector Current Initiatives

Primary Audience	Program Name	Start Date	End Date	Goal
Commercial Establishment, Manufacturing Industries, Schools (Businesses)	Let's Stop Waste	Existing	Ongoing	To provide a comprehensive suite of services to decrease business waste
	Waste audits	Existing	Ongoing	To share data with businesses to improve their landfill diversion programs
	P2 Internship Program	Existing	Ongoing	To provide future solid waste professionals with real-world experience
	Promotion of the 513Green Workplace Certification	Existing	Ongoing	To bring public recognition to green businesses
	Professional enrichment seminars	Existing	Ongoing	To inform participants on recent trends, technologies, and programs on sustainable materials management
	Grants to schools, communities, non-profit organizations, and businesses	Existing	Ongoing	To help fund innovative waste reduction, reuse, food rescue, composting, and recycling programs
	Promotion of the Ohio Materials Marketplace	Existing	Ongoing	To facilitate the reuse of business waste
	Multi-family assistance	Existing	Ongoing	To provide technical assistance and resources to increase multi-family recycling

Let's Stop Waste

Let's Stop Waste helps schools, businesses, bars, restaurants, and multi-family establishments decrease reliance on landfills. R3Source's support includes technical assistance, waste characterization studies, recycling audits, educational seminars, and physical infrastructure (ex. providing recycling bins and signage). R3Source emphasizes waste management best practices and does not charge businesses for this support and materials. In 2020, R3Source assisted 99 businesses and reached 19,490 people. This

was down significantly from the 168 businesses that received support in 2019 and were due to COVID. R3Source also helped four Hamilton County departments improve their recycling programs during 2020.

Waste Audits

R3Source offers waste characterizations for organizations seeking to understand their waste makeup better. This data can inform new reduction opportunities and identify any issues regarding recycling contamination. RE3Source did not conduct any waste audits in 2020 because of COVID. In 2019, R3Source audited two businesses.

P2 Internship Program

The Southwest Ohio Pollution Prevention (P2) Internship Program is a 12-week internship program occurring from late May to early August that pairs college students with companies seeking new and innovative approaches to pollution prevention and conservation. Hamilton County R3Source, the Butler County Recycling and Solid Waste District, the Montgomery County Solid Waste District, and the OhioEPA sponsor this program. Re3Source placed one student in 2020.

Promotion of the 513Green Workplace Certification

R3Source recognizes and promotes businesses in Hamilton County that voluntarily operate environmentally through sustainable actions. In 2020, R3Source certified 20 businesses.

Professional Enrichment Seminars

The Professional Enrichment Seminars are for local organizations to inform participants on wasted food, backyard composting, proper recycling procedures, sustainable management of resources, and R3Source waste reduction and recycling programs. In 2020, R3Source conducted a seminar on reducing food in commercial kitchens, and thirty people attended and reached 859 adults through 38 seminars.

Grants to Schools, Communities, Non-Profit Organizations, and Businesses

These grants help fund the innovative waste reduction, reuse, food rescue, composting, and recycling programs that significantly reduce waste in the county. R3Source offers the Waste Reduction Innovation Grant, which had a limit of \$10,000 per grant in 2020. R3Source also administers the Greater Cincinnati Smart Kitchen Initiative, a grant program that provides assistance and funding to reduce pre-consumer food waste and/or donate prepared foods. R3Source also promotes and sponsors grant opportunities through OhioEPA on its website. Statistics on 2020 R3Source grants are below:

- Organics Diversion Grant/Waste Reduction Innovation Grant
 - 27 applications received
- Smart Kitchen Initiative
 - One Smart Kitchen initiative implemented
- Market Development Grant
 - 15 tons of capacity to remanufacture recyclables added
- OhioEPA Recycling Partnership Grant
 - 27,628 households reached
 - Recycling contamination was reduced by 32%
- World Wildlife Fund Grant
 - Three schools implements

Promotion of the Ohio Materials Marketplace

R3Source promotes the Ohio Materials Marketplace. This online platform allows companies and organizations to connect and find reuse and recycling solutions for waste and by-product materials. R3Source does not have data on the amount of Hamilton County waste that the Marketplace recovered in 2020.

Multi-Family Assistance

R3Source provides technical assistance to property managers of apartments, condominiums, retirement communities, and other multi-family dwellings to reduce waste and start a recycling program. R3Source posts waste reduction tips on its website, and the website also includes a map that identifies multi-family properties with a recycling program. R3Source also distributes in-unit recycling collection containers and educational materials to residents who request them and are willing to sign a recycling pledge. R3Source helped six multi-family properties establish recycling programs during 2020.

Table I-5. Summary of Business Sector New Initiatives				
Primary Audience	Program Name	Start Date	End Date	Goal
	Target Businesses by SIC Code	2024	Ongoing	Improve the efficiency and effectiveness of business assistance
	Work with local government to include language about recycling in their zoning codes	2024	Ongoing	Increase the amount of space available at multi-family establishments to recycle
	Facilitate recycling cooperatives for small business	2024	Ongoing	Decrease the cost of recycling for small businesses
	Target communities with low recycling rates but a high number of multi-family dwellings	2024	Ongoing	Increase multi-family recycling and overall diversion rates

Target Outreach/Technical Support

With almost 21,000 business establishments in Hamilton County, R3Source could increase outreach/technical support efficiency and effectiveness by targeting support by types of establishments (i.e., restaurants, hospitals, hotels).

As discussed in Appendix H, a private developer will open an anaerobic digestion facility in 2023 that can process almost 200,000 tons of pre-consumer food scraps annually. Thus, R3Source will initially target

food scrap generators such as manufacturing industries in SIC code 20, produce distributors, grocery stores, and large commercial kitchens. R3Source will also target large generators of the two next most significant business waste streams: cardboard and other compostable fibers.

R3Source will purchase an electronic database to help identify businesses and contacts by SIC code, but does not envision additional funds being required as the software typically cost approximately \$1,000 a year. The primary barrier to this program is businesses being concerned that recovering these materials will interfere with their core operations. Therefore, R3 Source will share information on how similar businesses successfully diverted these waste streams and help with conducting cost/benefit analyses and training.

Coordinate Requirements for Recycling in Zoning Ordinances

R3Source will work with local jurisdictions to guide them on universal space requirements to accommodate recycling at new, multi-family properties. R3Source will research how other communities have adopted similar zoning requirements and share this with Hamilton County Communities with zoning.

R3Source cannot estimate the amount of waste that this zoning will recover. R3Source may require outside legal counsel and budgeted a one-time fee of \$15,000. A primary barrier is that recycling may not be important to multi-family property owners, and they may perceive this zoning requirement as excessive and unnecessary.

Facilitate Recycling Cooperatives for Small Businesses

R3Source will assist clusters of small businesses in establishing cooperative recycling programs. A cooperative recycling program involves a single contract for recycling collection services with costs/revenues shared amongst multiple adjacent businesses.

R3source will target businesses near each other and generate significant quantities of similar waste streams with an emphasis on food, cardboard, and compostable fiber waste. R3Source will also target businesses located close to the Cincinnati Recycling and Reuse Hub and generate a substantial amount of plastic film. R3Source estimates that participating businesses could increase landfill diversion by 20 to 50%.

R3Source may require outside legal counsel to structure a generic cooperative agreement and a one-time budget \$15,000 fee. The primary barrier to implementing this strategy is getting businesses to work together, especially if they compete for similar customers.

Target Communities with Low Recycling Rates but A High Number of Multi-Family Dwellings

R3Source will target communities with a high proportion of multi-family dwellings but low waste diversion rates. It should be noted that most communities do not include recycling tonnage in their residential recycling numbers. Thus, the technical assistance to these communities will also include helping them develop a system to obtain this information. R3Source cannot estimate the quantity of materials that this assistance will recover. The primary barrier to this program will be finding property managers that are interested in providing recycling for their tenants and space for recycling dumpsters in the parking lot.

3. Waste Composition

Table I-6. Summary of Target Materials Existing Initiatives			
Program Name	Start Date	End Date	Goal
Technical and financial assistance to reduce food waste	Existing	Ongoing	Provide businesses with the resources they need to rescue and recover food waste
Food rescue organization support	Existing	Ongoing	Increase the amount of edible food delivered to food insecure individuals
Cardboard awareness campaign	2020	One-time campaign	Increase general awareness of the most commonly disposed materials and empower individuals to decrease their disposal of cardboard

As discussed in Appendix H, R3Source will focus its efforts to recover residential food, cardboard, and film; and business food, cardboard, and compostable fiber waste.

Food Waste Reduction and Food Rescue

Hamilton County has many food recovery organizations that rescue edible food to feed hungry people. R3Source supports these organizations through grants and professional development opportunities. In 2020, R3Source conducted a food prevention workshop where 30 chefs attended. R3Source also held a community composting workshop where several dozen small composters and community organizers attended to learn about composting food scraps. R3Source ran a Save the Food campaign in 2020 that received 1,130,545 display ad impressions.

Cardboard Campaign

R3Source implemented a cardboard campaign in 2020, and Sinclair/Local 12 was the digital advertising partner. R3Source targeted Hamilton County residents with website display ads, pre-roll videos, OTT (streaming television), and Facebook ads. The campaign received 9,189 website hits and 447,276 video hits.

Table I-7. Summary of Target Materials Future Initiatives			
Program Name	Start Date	End Date	Goal
Explore supporting food label legislation	2024	Periodic	Reduce label confusion amongst consumers

Table I-7. Summary of Target Materials Future Initiatives			
Program Name	Start Date	End Date	Goal
Secure organic feedstock	2024	Ongoing	Optimize the opportunity to divert significant quantities of organics from the landfill
Facilitate a Public-Private- Partnership to attract a processing facility that accepts food scraps and compostable paper	2024	Possibly Ongoing	Establish a large-scale facility to compost food scraps and compostable paper
Establish specific outreach campaigns for the top four materials	2024	Ongoing	To increase awareness of the amount of these materials disposed of and options to divert them from the landfill
Work with the Cincinnati Recycling and Reuse Hub to estimate their capacity to accept additional plastic film	2024	2025	Assess the opportunity to increase plastic film recovery

Asses Label Legislation

Research shows that standardizing labeling dates on food products can save over 16,000 tons of food annually in Hamilton County. While R3Source cannot directly impact food labeling, opportunities exist to support legislation that could standardize labeling. In 2021, the US Congress introduced the Food Date Labeling Act, requiring food products to have standard date labels and requiring federal agencies to create a consumer education campaign to address misconceptions. "Best if used by" would be used on products labeled to indicate quality, while "Use By" would instead be used on a select number of products to indicate the date there may be safety concerns. Therefore, R3Source will explore whether they can advocate for legislation that reduces food waste.

Secure Feedstock

During the reference year, an estimated four to six small-scale and individual facilities composted food waste on approximately 1,500 to 2,000 square feet of land. Ideally, R3Source would like to see that increase to 10,000 square feet at 20 locations. In addition to small composting facilities, a private company is developing large-scale anaerobic digestion (AD) plant that they plan to open in

2023. The AD plant will have the capacity to process 195,000 tons of food waste annually. Ideally, the operator would like pre-consumer food waste with high liquid content.

At this time, R3Source does not know how much of this feedstock is generated in Hamilton County. R3Source estimates recovering approximately 30,000 tons of pre-consumer food waste from businesses. R3Source will survey the companies that generate food waste to refine this estimate further.

R3Source will consider expanding the "in-kind" match to new small composting businesses and help the AD plant secure this feedstock by informing food waste generators about the project, including large manufacturing industries within SIC code 20, institutions, and businesses with cafeterias, and produce distributors.

Establish Public-Private-Partnership

While the new AD facility can process pre-consumer high-moisture organics, a significant portion of the business waste stream is low moisture consumer fibers such as napkins and paper towels and there is an increasing number of residents and businesses interested in composting post-consumer organics. In addition, an increasing number of Hamilton County food establishments are replacing Styrofoam with compostable alternatives. Therefore, R3Source will evaluate creating a public-private partnership (PPP) to attract a processing facility that could accept commercial compostable fibers and post-consumer organics.

Executing a PPP could cost R3Source between \$75,000 and \$150,000, and estimates it could process approximately 7,500 tons of business fiber. The primary barrier to establishing this PPP is local opposition to siting a solid waste facility.

Initiate Material-Specific Campaigns and Grants

R3Source will initiate campaigns to reduce consumption and recover the most predominant components of the waste stream. These materials are food, cardboard, and plastic film for the residential waste stream. Food, cardboard, and other compostable fiber comprise the majority of the business waste stream. R3Source already has a budget for education and outreach and does not envision any barriers to implementing these campaigns. R3Source will also target grants towards recovering these materials.

Work with the Cincinnati Recycling and Reuse Hub to Estimate Their Capacity to Accept Additional Plastic Film

A new facility, Brightmark Industries, opened in Ashley, Indiana that accepts and processes all plastic types- two through seven—even those co-mingled with different kinds of plastic or "contaminated" with food, dirt, moisture, paper, etc. Brightmark processes the plastics in an anaerobic environment, removing the oxygen required for combustion. Their technology converts plastics into products, like fuels and wax or new plastic products.

The Cincinnati Recycling and Reuse Hub (Hub) currently sends plastics to Brightmark. R3Source will work with the Hub to estimate their capacity to accept the additional plastic film. Based on this assessment, R3Source will promote the Hub to residents and businesses as an outlet for plastic films. R3Source will also facilitate the development of additional plastic film preprocessing infrastructures through its grant programs. R3Source does not foresee any additional costs or barriers to implementing this strategy and estimates that it could annually recover almost 800 tons of plastic film

4. Economic Incentives

Table I-8. Summary of Economic Incentive Existing Programs				
Primary Audience	Grant Name	Start Date	End Date	Goal
Communities	Residential Recycling Incentive	Existing	Ongoing	Provide funds to support residential litter, reduction, recycling, and composting programs

Residential Recycling Incentive Program

R3Source divides RRI funds among Hamilton County communities as an incentive to increase recycling. As a community increases its diversion rate and tons of materials collected, it receives more RRI funds. This program allows communities the flexibility to design a recycling program to best meet their needs. Communities fill out applications for the RRI once per year.

Program Change

Starting in 2018, R3Source began budgeting the total amount of the RRI program based on revenue.

- \$2.5 million in revenue- \$800,000 for the RRI
- \$2.6 million or higher revenue- \$900,000 per year
- \$2.4 million or lower revenue - \$700,000 per year

Since the start of the new plan in 2018, R3Source has budgeted \$900,000 per year for the RRI program. Eight communities participating in the RRI program in 2020 received a less than \$1,000 grant: the lowest payment being \$34.73. Communities receiving minimal RRI funds cannot make substantial purchases to improve their recycling or organics collection infrastructure. Therefore, R3Source will establish a minimum amount that all communities will receive at least \$3,000 annually. R3Source does not plan to increase the total amount of funds it allocates to the RRI program. Thus, some communities will receive less and may not initially support the program adjustment. R3Source will help these communities understand why the change is necessary and beneficial. For the eight communities, landfill diversion quantities could increase from 10% to 20%

5. **Difficult to Manage Materials**

Table I-8. Summary of Difficult to Manage Materials Existing Programs				
Primary Audience	Program Name	Start Date	End Date	Goal
Communities	Keep Cincinnati Beautiful Scrap Tire Partnership	1995	Ongoing	To prevent the open dumping of used tires
Residents	Community yard trimmings drop-off sites	1990	Ongoing	Decrease the amount of yard waste disposed of and greenhouse gas emissions emitted from decomposing yard waste
	Get the Dirt	2012	Ongoing	Educate residents on backyard composting
Residents	Household hazardous waste collection events		Ongoing	Provide residents with an opportunity to recover household hazardous waste

Scrap Tires

R3Source annually provides Keep Cincinnati Beautiful (KCB) up to \$20,000 to conduct tire clean-ups and collection events throughout Hamilton County. In 2020, this program recycled 47 tons (4,673 tires) and supported:

- 17 collections in 14 communities
- 15 collections outside of the City of Cincinnati
- 2 collections within the City of Cincinnati

Program Change

In 2018, R3Source worked with stakeholders and the Hamilton County Sheriff's Department to designate a deputy to investigate illegal dumping and enforcement of existing laws, primarily focused on scrap tires. In 2020, the program investigated 131 cases and issued 62 citations, of which there were 24 convictions. The program does not track this data by type of waste, such as tires.

Yard Waste

R3Source has two programs targeting yard trimmings, both residential in focus. One is the annual Yard Trimmings Drop-Off program which began in the early 1990s, and the other is the Get the Dirt on Backyard Composting seminar series, which started in 2012.

R3Source operates three residential drop-offs for yard trimmings via contracts with outside providers. All contractors' compost or mulch dropped off materials. Below are the 2020 yard trimmings drop-off statistics:

- Tons recovered- 3,870
- Households participating- 9,076
- Cost- \$231,886
- Cost per ton- \$59.90

The Covid-19 pandemic likely affected the 2020 number of households participating. The east-side location did not count residents, and the west-side location did not open until June 6, 2020.

R3Source intentionally sited the three Yard Trimmings Drop-Off sites to provide convenient access to residents in the county's northern, western, and eastern areas. Host communities do not offer separate curbside collection of yard trimmings for composting. R3Source located the sites in Anderson, Green, and Colerain Townships.

R3Source prioritizes educating residents about backyard composting. When residents compost material in their backyards, local governments have no energy or other costs associated with the transportation and composting of the material. R3Source reaches residents with the backyard composting message primarily with three programs:

- Seminar: conduct an annual seminar series titled "Get the Dirt on Backyard Composting". In 2020, 428 residents attended the one-hour seminar, which R3Source held virtually on four dates.
- Compost Bin Sale: in 2019, R3Source brought back the popular Backyard Compost Bin Sale, holding events in 2019 and 2020. In 2020, residents purchased 600 compost bins at the sale.
- Blog: R3Source writes a composting blog to encourage residents to compost in their backyards. In 2020, the blog received 77,200 page views.

Program Change

The Green Township (west) site was relocated in 2020 due to renovations at Kuliga Park. Since 2018, communities can claim organics collected and composted in the RRI program under the current Solid Waste Plan Update. In 2020, 26 communities claimed yard trimmings composted or mulched, representing 17,238 tons. In addition, in 2019, R3Source offered communities a Yard Trimmings Infrastructure Grant to help offset the startup costs for yard trimmings programs. Amberley Village and North Bend applied, and both received funds through this grant and composted 11 tons of yard trimmings.

Household Hazardous Waste

In 2020, R3Source held a one-day event to collect household hazardous waste. Statistics on the event are below:

- Tons recovered- 55
- Households participating- 1,610
- Cost- \$134,927
- Cost per ton- \$2,453

Program Change

R3Source did not conduct collection events in 2018 and 2019.

Table I-9. Summary of Difficult to Manage Materials Future Initiatives				
Primary Audience	Program Name	Start Date	End Date	Goal
Communities	Community scrap tire partnerships	2024	Ongoing	Facilitate more communities having access to scrap tire collection programs
Residents/ Communities	Encourage communities to maintain or adopt the curbside collection of yard trimmings	2024	Ongoing	Decrease the use of yard waste drop-off sites and increase the amount of yard waste collected
Residents	Increase awareness of the HHW disposal issue at the state level	2024	Periodic	Reduce local government costs for managing HHW

Community Scrap Tire Partnerships

28 communities offer no scrap tire program. Therefore, R3Source will work with communities to partner with neighboring communities to conduct tire collection events. Some communities may be reluctant to host community events due to set-up costs. Thus, R3Source may help offset some of these costs. R3 Source has identified strategies to improve the environmental enforcement program that the Needs Assessment section addresses. R3Source cannot estimate the additional quantity of tires that may be collected.

Encourage Communities to Maintain or Adopt Curbside Collection of Yard Trimmings

Use of the three drop-off sites is limited to those residents with vehicles large enough to transport materials, whereas curbside collection receives much higher participation. Based on recycling numbers, individuals with access to non-subscription curbside collection recycling divert 86% more material from the landfill than those who only have access to drop-off sites. R3Source has budgeted \$10,000 per contract for outside legal or consulting assistance. Local communities and waste haulers may oppose organizing curbside yard waste collection.

Increase Awareness of the HHW Management Issues at the State Level

Hamilton County is not the only district struggling to fund HHW collection and reaching only a small portion of the population. If Ohio passed producer responsibility legislation requiring companies to create a safe disposal or recycling outlet if they manufacture hazardous products, then the cost burden of disposal would be on the manufacturer and the consumer choosing to purchase the product. Similar programs usually require outlets at the store of purchase making disposal easy and convenient for residents and achieving greater participation.

6. Special Needs

Table I-10. Summary of Special Needs Programs			
Name	Start Date	End Date	Goal
Environmental Enforcement	2018	Ongoing	n/a
Health Departments	Existing	Ongoing	n/a

In 2018, Hamilton County R3Source and the Environmental Crimes Task Force (Task Force) established a program (Environmental Enforcement Program) in Hamilton County to prevent illegal dumping and prosecute violators. R3Source contracts with the Hamilton County Sheriff's Department (Sheriff) and reimburses the Sheriff for the cost of the salary of a Sheriff's Deputy and the costs associated with a vehicle, uniforms, and maintenance to assist in the enforcement of open dumping and scrap tire disposal. Hamilton County individuals who see an illegal dump or pile of tires in Hamilton County, Ohio, complete a Citizen Tip Form for the Environmental Enforcement Deputy to investigate. In 2020, the program investigated 131 cases and issued 62 citations, of which there were 24 convictions. The program does not track this data by type of waste,

To improve the performance of the Environmental Enforcement program, R3Source will

- Apply for grants to increase equipment to monitor illegal dumping "hot spots" electronically
- Create a network of Ohio solid waste districts with environmental enforcement programs
- Create criteria for where the Environmental Enforcement program should focus its efforts

Solid waste districts can fund health departments to enforce Ohio's solid waste regulations. R3Source funds Hamilton County Public Health and Cincinnati Health Department to inspect municipal solid waste landfills, transfer stations, compost facilities, and tire retailers. Funding also covers their response to

nuisance complaints and illegal dumping. R3Source did not analyze the health department funding as there were no issues during the previous five years.

7. **Data Gathering**

Each year, R3Source gathers data for the residential sector by surveying communities using the Re-TRAC platform. Re-TRAC specifically designs this platform to collect recycling data at the municipal level and provides a clear and consistent form for reporting. With few exceptions, local communities enter data into the Re-TRAC platform when R3Source requests it, resulting in easily aggregated information. There are 48 communities, and the response rate is high (98% for 2020, collected in 2021).

R3Source collects data from a curated list of commercial businesses, including solid waste and recycling businesses. Most of the businesses have previously interacted with R3Source. The current commercial list represents approximately 200 non-manufacturing entities. Similar to the commercial data collection process, R3Source maintains a curated list of industrial businesses in the county. This list represents manufacturers across various SIC/NAICS codes with representation from multiple business categories such as metal, food producers, and packaging/paper products industries. R3Source emails each business and provides a fillable pdf form, similar to the one used for the commercial sector. Some businesses do not have contact information.

Program Change

To the extent possible, R3Source will collect all recycling data electronically. No matter what platform R3Source uses, collecting data in a central repository enables more efficient requests upfront and more effective aggregation on the back end.

R3Source will use certain techniques to encourage more potential respondents to complete their recycling information.

- R3Source may consider sending out a preparation email that sets the stage for the upcoming request. This email could explain the reasons for the request, including information on how R3Source will use the data to improve environmental impacts and possibly decrease costs for their business. R3Source would emphasize privacy.
- R3Source customizes surveys for different types of waste generators (residential, commercial, and industrial). R3Source may consider aligning the survey to the business model. R3Source may use a more customized format for specific types of business.
- R3Source may adjust the request for data to include the purpose for gathering the information. A possible approach is to emphasize the team membership of the business as part of the overall goal to improve the environment, keep landfill disposal to a minimum, and save costs. Working with a platform organized around recycling will better enable R3Source to estimate the value to the businesses that divert waste from landfills. R3Source will use this information as an example for other companies.
- R3Source may also include an incentive for participation. R3Source may base incentives on the data requested at the business/team level, and any prize drawing depends on sweepstakes rules subject to legal guidance. Possible choices are a group lunch for the business or suite tickets for a Cincinnati Reds or Bengals game. As an alternative, R3Source may choose to offer to make charitable donations to one of a choice of charities.

- To the extent possible, R3Source may wish to keep the letter's language informal and friendly—less about government requests for information and more about positively contributing to recycling, which has myriad benefits for participants.
- The data collection request should include a link to the platform for gathering the information. The process should limit time requirements for respondents.

8. **Education/Outreach**

New programs related to education and outreach are outlined in Appendix L.

DRAFT