

# Ulster County Reuse Innovation Center Strategic Plan and Feasibility Study Final Report

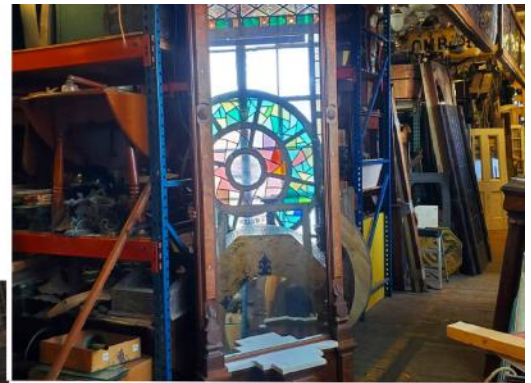
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County Contract # 2022-00000490

Deliverable # 6.0

Updated November 30, 2023



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## PART ONE: BACKGROUND

### 1. Introduction: The Vision of a Reuse Innovation Center

Ulster County, New York, was featured in National Geographic Magazine<sup>1</sup> as a model region for environmental preservation thanks to its extensive trails system, ecotourism industry, local food economy and overall commitment to environmental excellence. As New York gears up to implement the ambitious Climate Leadership and Community Protection Act, passed in 2019, Ulster County continues its commitment to lead. Managing waste is 12% of New York's carbon footprint, as Governor Kathy Hochul emphasized in her 2022 State of the State message. Therefore, materials management is an important arena for innovation in Ulster County, innovation that can provide a foundation for regional efforts.

In late 2022, the County's Department of the Environment, with funding from the Legislature, commissioned Sustainable Hudson Valley (SHV) and ReUse Consulting to develop a vision that had been initially raised up by SHV's board member and Repair Café of the Hudson Valley founder, the late John Wackman. Steeping himself in the culture of repair and reuse as an educator and visionary leader, Wackman had proposed an ambitious project for collaborative implementation by county government and the many other stakeholders who have roles to play. John reached across the country to learn from one of the pre-eminent leaders in reuse innovation and the circular economy, Dave Bennink of ReUse Consulting. Dave's company had advised numerous reuse businesses in their startup and operations, and had founded the nation's first Reuse Innovation Center (RIC).

The intent, as stated in the contract between Ulster County and these two consulting organizations, is "a primary focus of maximizing diversion opportunities and relevant community participation activities for the portion of the solid waste generated in Ulster County that is currently being landfilled. The RIC facility is envisioned as one solution towards implementation of broader community-scale waste diversion goals." The contract goes on to state, "The proposal will include general considerations for supporting a local circular economy via the priority programs and activities identified, as well for supporting the achievement of broader community-scale waste diversion goals and planning for local/regional partnership opportunities."

What is a Reuse Innovation Center? Our working definition of the RIC is an ecosystem of enterprises, programs and projects, which can be any combination of public or private entities, that reuse materials in their original or similar form through craft or light industrial approaches, with one or more physical locations that can also house an array of supplemental businesses and projects that add value, such as training and repair services. This contrasts with a waste recovery park, which is designed for industrial recycling and reprocessing of materials into new and different ones.

Sustainable Hudson Valley is a regional leadership organization whose mission is to speed up, scale up, jazz up and leverage progress against climate change, creating communities where people and nature thrive. SHV specializes in designing innovative, community-engaged programs that accelerate the adoption of climate solutions by removing barriers and expanding community participation. SHV coordinates the Repair Café of the Hudson Valley and Catskills, with over 55 local partners, a grassroots program that helps people to help each other fix items, learn and have fun. This program has connected SHV to an extensive community of makers and fixers whose insights will be critical to the success of the

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<sup>1</sup> December, 2016

Reuse Innovation Center.

ReUse Consulting is a family business with international reach and rigorously measured impacts. Founded and led by Dave Bennink, it was launched in 2004, and has now worked in 44 states, 5 Canadian provinces, the District of Columbia, the US Virgin Islands and 12 countries. ReUse Consulting has helped to divert over 100,000,000 pounds of material and helped 200+ reuse operations to start or adapt. Reuse Consulting is the lead enterprise in the Bellingham (WA) Reuse Innovation Center, the first in the U.S.

## **2. The Bellingham Story**

Dave Bennink started his first reuse store in 1993 and grew it into one of the largest in North America, with over 50 employees, 8 trucks and 55,000 square feet of retail, repair, remanufacturing and recycling space. His approaches have been customized to the many local situations he encounters, but guided by an underlying model of creative entrepreneurship, resourceful problem-solving, and collaboration among businesses to achieve low overhead and economies of scale.

This experience has given rise to the model of the Reuse Innovation Center, which began in 2018 in Bellingham, WA. Without any business loans or outside funding, it broke even the first month. This is in part because Dave was the only employee and did everything, so he could control everything; it also required him to pay himself a low wage to start. The RIC has been managed for steady, financially sustainable growth and the adaptiveness to capture opportunities.

The Bellingham RIC runs on a specific model, as an ecosystem of privately owned businesses, with one lead business responsible for managing overall operations. A critical element of the model is cooperation and cost-sharing among the businesses, to reduce capital requirements and overhead. For example, businesses may share employees, equipment, inventory and marketing expenses. Each business is responsible to establish its own supply chain, procedures, equipment, and overall business model. At the same time, the businesses serve as each other's support system and "eyes and ears" to help identify resources of use to their fellow entrepreneurs. When opportunities arise for funding proposals, they can be pursued by individual businesses or by flexible partnerships created for a given purpose. This "ecosystem" model can be adapted to include not only private businesses but governmental and nonprofit projects and programs. It does not imply that every enterprise will be profitable, but that the economics of each enterprise be clearly factored into the plans and goals of the partnership.

The Bellingham RIC began in rented space, with Reuse Consulting as the managing partner. A 20,000 square foot property was identified as the largest that the initial partners could afford. It was initially rented and subsequently purchased. Collaborating businesses invested sweat equity in outfitting the space with racking to reduce startup costs. The initial business in the space was a combination of building deconstruction and salvage, along with a sizable used building materials warehouse with a showroom. Building on this foundation, additional small businesses were brought in, with a preference for minority- and women-owned enterprises wherever possible. It has been operating continuously for 5 years, and began to grow after the covid-19 pandemic subsided. Key to this has been the synergy among existing businesses. This allows the RIC to divert more materials and a more diverse range of materials. The RIC has grown the circular economy through its ability to be an incubator for microbusinesses and lower their startup costs.

### **3. The Ulster County Story**

New York State’s framework for managing materials is “beyond waste.” Numerous Ulster County stakeholders are engaged in developing strategies for achieving zero waste throughout the County. Legislative approval for the RIC Feasibility Study and Strategic Plan was based on an interest in designing it to achieve the maximum possible waste diversion, especially in terms of bulky, heavy and carbon-intensive materials that are transported to the Seneca Meadows landfill in Central New York at significant cost. Ulster County established an internal Department of the Environment to lead environmental management initiatives, as well as a Recycling Oversight Committee in the Legislature which shares the commitment to zero waste goals.

This study was funded with a 13-month timeline in order to allow for significant data collection and review, field observation and stakeholder engagement, all to develop an implementable strategic plan that would significantly reduce the County’s waste stream. While this work has been underway, New York’s Climate Action Council published its Final Scoping Plan for implementation of the CLCPA, codifying the requirement to reduce greenhouse gas emissions in the waste sector 70% from 1990 levels by 2030. The project team was directed to consider approaches that would be economically viable, and would meaningfully contribute to the waste diversion goals that have become more critical than ever.

While the Bellingham Reuse Innovation Center serves as a model in terms of its core operating and growth strategies, Ulster County is unique in terms of the connection of its proposed RIC to ambitious county waste diversion goals and the potential for integration of the RIC into the county and municipal materials management systems. This provides an opportunity for levels of diversion and innovation not found in other Reuse Innovation Centers.

### **4. The Project Pathway**

The County’s Department of the Environment worked with numerous stakeholders in the worlds of resource recovery, legislative oversight, and environmental policy to refine a scoping document that has shaped the work done under this contract. It has been guided by the following assumptions:

- Single location;
- Maximize diversion of “MSW and/or C&D” per the statement of work ;
- Stakeholder engagement guides the project;
- Waste shall be separated from the waste stream prior to arriving at the facility;
- Processing of organics is out of scope;
- NYSDEC Part 360 permits will not be required.

This research was primarily guided by Ulster County’s resource recovery goals and vision of zero waste, and potential integration of the RIC with other County operations. The consulting team has kept in mind the Bellingham RIC experience, the diverse models of viable reuse businesses that are operating around the country, and Ulster County’s unique ambitions and circumstances. Contrasting Ulster County’s goals with the Bellingham model, SHV and ReUse Consulting analyzed the best path forward for Ulster not as a private undertaking but as a collaboration of businesses, non-profits, municipalities under the auspices of an Ulster-County-run RIC.

To bring the unique Ulster County opportunity into focus, the project has been structured around four distinct deliverables, guided by methodical stakeholder engagement:

- Waste characterization
- Review of diversion strategies and business opportunities
- Conceptual plan
- Siting considerations.

These elements have been reviewed through several rounds of stakeholder feedback to inform this final report.

As requested by the Department of the Environment and other stakeholders, a thorough review of the opportunities has been conducted, allowing for a series of data-driven recommendations on priorities and strategies. The four study components include several complex matrices to guide decision making. The team has analyzed the marketplace and supply chain, and the economic climate, and considered the workability of models that have been valuable elsewhere. Rather than advocating for one specific approach, this report reviews several viable options to allow flexibility on the part of decision makers. In the final section of this report, a structured review of key decisions is provided, with assessments of the advantages and disadvantages of each path. This is intended to provide a decision tool that will support productive deliberation.

## **5. Stakeholder Engagement Summary**

Project stakeholders have been defined broadly to include everyone who has an interest in the project, may benefit from it or potentially will be impacted by it. Stakeholders include:

- The County’s Department of the Environment, which is charged with overseeing key environmental management initiatives including the administration of this contract
- The County’s resource recovery system, including the Ulster County Resource Recovery Agency, local transfer stations, haulers working under contract, employees, regulators, legislative overseers and others
- Municipalities and municipal solid waste systems
- The Ulster County Legislature’s Recycling Oversight Committee and Energy, Environment and Sustainability Committees
- A working group within the Ulster County Legislature that has begun to develop a Zero Waste Implementation Plan
- Potential suppliers
- Potential customers
- Potential competing or collaborating businesses
- Ulster County residents who stand to benefit from proactive climate change response and reduced environmental impacts in the management of waste and recovery of resources.

Key stakeholders were further identified for their special involvement, expertise and interest in the success of the Reuse Innovation Center. These included the County’s Department of the Environment, the Ulster County Legislature’s Recycling Oversight Committee, the Ulster County Resource Recovery Agency (UCRRA) board and staff, municipalities and municipal solid waste systems potential suppliers, competing or collaborating businesses. This smaller group is a focal point of investment and decision making for waste diversion and resource recovery in both the public and private sectors, and is an accessible group whose members understand the needs and opportunities in the wider ecosystem.

A stakeholder engagement process was designed to make sure that all stakeholders were informed about this initiative, while key stakeholders were consulted repeatedly and in depth as sources of guidance on their own needs and those of their constituencies. The consulting team:

- Built a list of stakeholders in all the categories above.
- Announced the project via an email blast to SHV’s list of over 1800 and on our social media channels, as well as briefings to an interest group of legislators and personal calls to the UCRRA board;
- Began the project with several days of phoning, scheduled meetings and informal stop-ins to relevant organizations to meet and greet, explain the project and get a preliminary understanding of their needs and aspirations;
- Held an initial onsite meeting at UCRRA with board and staff leadership, UC DOE and other stakeholders to view their facility and understand their perspectives;
- Held several onsite observational sessions in which Dave Bennink observed the flow of customers to, and the drop-off of materials to, the UCRRA tipping floor at the main Flatbush Rd facility and interviewed staff;
- Organized a special site visit for Dave Bennink at the 120-acre parcel next to, and owned by, UCRRA, to consider this as a potential RIC site;
- Held a drop-in meeting on the project hosted by the Ulster County Habitat for Humanity ReStore at their location in Kingston;
- Designed an online survey to collect “first impression” inputs about stakeholder perceptions and priorities for the RIC;
- Held 6 virtual stakeholder engagement meetings, publicized via email to lists of identified stakeholders + SHV social media + UC DOE email outreach;
- Briefed the Ulster County Legislature’s Recycling Oversight Committee on the project twice, as well as the Energy, Environment and Sustainability Committee;
- Briefed stakeholders at a meeting hosted by UCRRA, focusing on diversion opportunities and engaging the core group of materials management system stakeholders from across Ulster County, including representatives of private haulers and the City of Kingston, which hauls its own MSW.
- Obtained and reviewed comments from stakeholders regarding the deliverables for this project at all stages and used them to improve and clarify the goals and written deliverables. See Appendix C,D,E.

These opportunities consistently engaged stakeholders from the legislature, private sector and community members to learn about the project, ask questions and provide initial thoughts. However as this proposed plan is finalized, an additional level of stakeholder engagement is strongly recommended to weigh in on the finally formulated plan.

## 6. Economic and Equity Considerations

The economics of waste and materials management provides a foundation for considering the value and priority of increased diversion of materials for local processing or re-use. Shipping waste to Seneca Meadows has significant costs for Ulster County. From UCRRA’s Local Solid Waste Management Plan (2020) it was determined that 32.5 tons of waste is loaded per trailer to Seneca Meadows landfill, a round trip is 550 miles, at 5 mpg average per truck.

With rising fuel prices and increased shipment of construction and demolition (C & D) waste, these costs increased in 2022.

Table 1 Hauling Costs from UCRRA to Seneca Meadows

Item	Cost
Tons hauled to Seneca Meadows	149,786

Tons per trailer	32.5
Round trips to Seneca Meadows	4609
Gallons of diesel per trip (at 5 mpg, \$4.62/ gallon)	110 (of which 93 is paid by UCRRA with the rest covered by the hauler)
Fuel cost per round trip	\$508 - (of which \$430 is paid by UCRRA, the remainder by the haulers)
Fuel costs for shipments to Seneca Meadows in 2022	\$2,342,294 (of which about \$1,981,870 is paid by UCRRA, the remainder by the haulers)
Average expense per ton (fuel costs and tipping fees)	\$75
Total cost to UCRRA for shipping to Seneca Meadows (fuel costs and tipping fees) in 2022	\$11,233,950

as provided by Tim DeGraff, Director of Finance and Administration, UCRRA

Ulster County is home to multiple “Disadvantaged Communities” including parts of Kingston, Ellenville and New Paltz. Improving access to resources in these areas is a priority for New York State funding and for the County’s policy goals. Instability in small to medium business employers, connected with the pandemic, and a widely acknowledged housing crisis worsened the economic inequities that were already present. A Reuse Innovation Center can help economically struggling households to access high quality consumer goods and home repair supplies, as well as creating small business opportunities that allow for flexible work commitments. Well established small business fields such as woodworking, clothing upcycling, furniture making and other craft skills, and emerging skills such as building deconstruction, as well as warehousing, logistics, retail and other general business skills, can be productive arenas for training in a Reuse Innovation Center.

## PART TWO: FINDINGS, RECOMMENDATIONS, RESOURCES

### 7. Waste Characterization and Materials Flows

The analysis began with a characterization of waste and materials flows through Ulster County’s materials management system, chiefly the Ulster County Resource Recovery Agency’s main transfer station in the Town of Ulster and additional facility in New Paltz, and the transfer stations run by local governments. It should be noted that though all of the study was done evaluating UCRRA's operations, it was not assumed that UCRRA would be the host to the RIC, simply that it was utilized as a study site to understand the flow of materials in Ulster County.

Data for 2018 - 22 from state and county sources were reviewed; site visits were made and key



stakeholders were interviewed. A matrix was created to prioritize materials for their contribution to the County’s waste diversion goals and their value to a Reuse Innovation Center from several perspectives, identifying materials that were:

- Major contributors to greenhouse gas emissions through their volume and weight in municipal solid waste (MSW) or construction & demolition waste (C&D);
- High in value for resale and reduction of demand for virgin materials;
- Associated with tough recycling problems that might be addressed at the RIC.

Municipal solid waste and construction & demolition waste sent to the Seneca Meadows landfill by the Ulster County Resource Recovery Agency is estimated below.

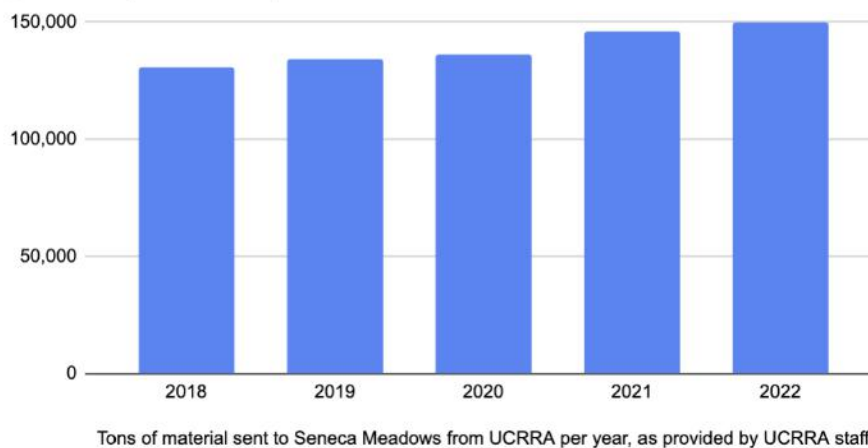
Table 2 Waste Materials Breakdown 2018-2020

	UCRRA C&D (tons)	Total Estimated C&D (tons)*	MSW**	Total Estimated MSW + C&D
2018	31569.25	61,062.38	101780.05	162,842.43
2019	35220.48	68,124.72	100805.66	168,930.38
2020	38184	73,856.87	100,564.00	174,420.87

\*inclusive of material handled by other facilities and extrapolating from 51.7% of C&D estimated to be handled by UCRRA based on their survey-based 2019 annual report. \*\* Flow control requires all Ulster County MSW to go through UCRRA.

The amount of material hauled to Seneca Meadows from UCRRA, after its internal diversion efforts removing cardboard, tires, scrap metal etc., was 130,580 tons in 2018. That number has now risen to 149,786 tons or a 15% increase, while the population of Ulster County has seen a net increase of just 2.54%.<sup>2</sup> The most likely explanation is the increase in home and small commercial remodeling as large numbers of people have relocated both into and out of the Hudson Valley, reflecting significant flux in spite of the small net change.

Figure 1 Tons of materials sent to Seneca Meadows by year



<sup>2</sup><https://mhvcommunityprofiles.org/demographics/total-population>

A more detailed characterization of the waste stream via annual reports to the NYS Department of Environmental Conservation (NYSDEC) provided the basis for a prioritization matrix [Appendix A] to identify the reusable materials that are most relevant to a possible Reuse Innovation Center.

Observations at the UCRRA main transfer station, including a 4-hour period on the tipping floor, further inform the analysis of divertible materials and provide evidence of key approaches to diversion for Deliverable #3: Diversion Strategies and Business Opportunities. Reuse Consulting observed and photographed approximately 200 deliveries of reusable items, and [estimated the value<sup>3</sup>](#) of each. Many were assigned a low value to avoid inflating the estimates. The reusable items were valued at an estimated \$2,396, with the key items providing more than half that value at \$1,385. Extrapolating this to a year’s flow of reusable materials, at 9 hours/day, the daily total would be 12,826.58 pounds of divertible material, and it would be valued at \$5,391 in a day, with key items valued at \$3,116.25. Assuming that this was a relatively typical day, one year could see a minimum of 4,000,000 pounds diverted and a conservatively estimated \$900,000 of materials - if employees dedicated to this task were on the floor consistently. In light of the shipping costs identified earlier, there appears to be a significant opportunity for UCRRA to dedicate staff to focus solely on diverting materials from the tipping floor for reuse and recycling, without incurring increased expenses.

Table 3 Top Materials for Reuse

**Top Materials Reuse Opportunities for an RIC:**

Material	Resell?	Repair?	Craft/Upcycle?
Metals	Yes	yes, weld	Yes
Clean Wood	Yes	Yes	Yes
Doors	Yes,	Yes	Yes, arty designs, other uses e.g. desks
Appliances	In working order	Yes	Not often done
Architectural Detail	Yes	Yes	Sometimes
Bicycles	Yes	Yes	Not often done
Building Materials/C&D	Yes	Yes	
Cabinets & similar furniture	Yes	Yes	Yes, ornamentally
Textiles	Yes	Yes	Yes

Two other observations were made at the main UCRRA transfer station. First, intact items brought in via trucks were often damaged or destroyed in the unloading process. Second, customers pay by weight to bring items across the scale at the entrance to the main transfer station. Both these observations suggest a need and opportunity for an upstream, systemic redesign of the collection system to allow unloading of reusable materials before the customer crosses the scale. This would be facilitated by incentives for

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<https://docs.google.com/spreadsheets/d/1LvCKRS5gM564zOh2Z0H8wG-Du6e3TYz2/edit?usp=sharing&oid=101080033496982669272&rtpof=true&sd=true>

source separation, especially by private haulers whose cargo contains the majority of the potentially reusable materials. Specialized trucks with multiple compartments exist and could be part of an education and incentive program with motivated partners, possibly the City of Kingston, for separating reusable materials when they are collected. Key partners in designing this system will be architects and renovation contractors, private hauling companies, and municipalities that manage their own recycling collection such as the City of Kingston.

Estimating the Flow of C & D Materials: Building Permit Data

Although building permits throughout the County are in various states of paper and digitization, affecting their availability, digitized data was ultimately obtained from the City of Kingston for analysis. According to the City of Kingston Building Safety & Zoning Enforcement Annual Report for 2022, “Construction during the 2022 year has continued at a record setting pace and over 2250 permits were issued.” A solid stream of material and potential sales of material is indicated from the City of Kingston and by extrapolation, very likely the County.

Table 4 Building Permits

**Building Permits, City of Kingston**

2018	2019	2020	2021	2022
753	1317	1280	1837	2250

An analysis of Kingston’s permit data for 2022 identified a variety of permit types, many of which relate to the RIC. “Additions” projects, of which there were 18 in 2022, usually involve altering the existing structure in some way to adapt to the addition. This often yields items like siding, windows, framing, and even exterior doors.

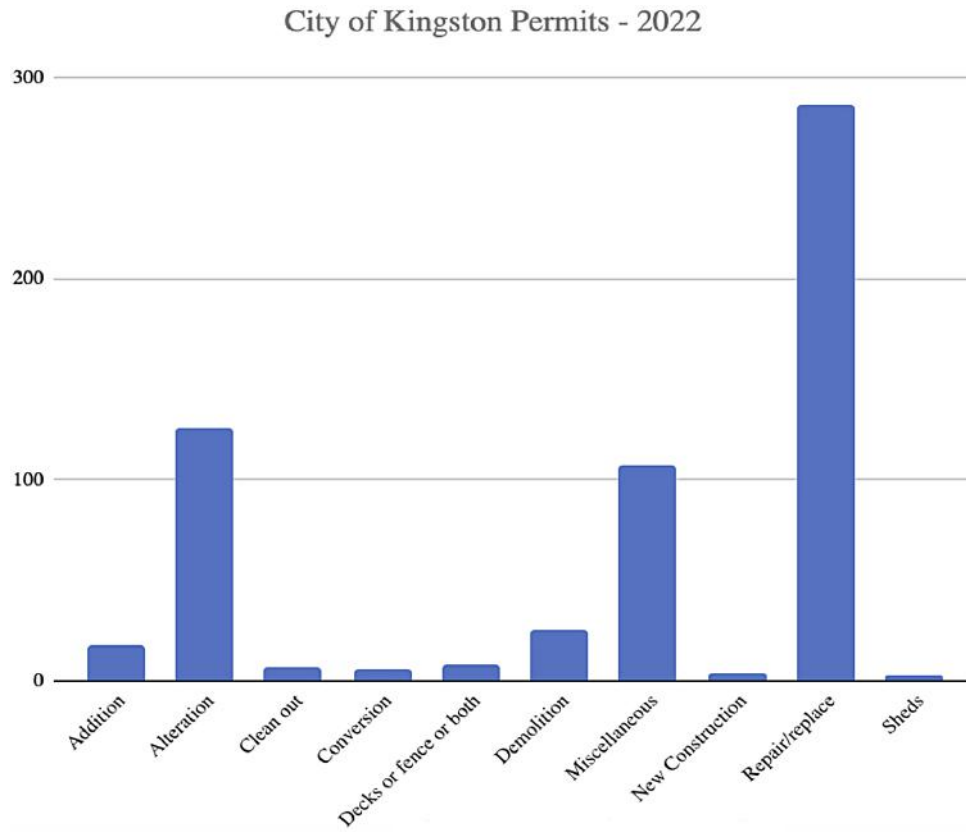
There were 126 alterations in Kingston, many of which could be defined as a remodel. These were often extensive alterations to the existing structure and could yield everything from kitchen cabinets to interior flooring, but also involved removal of lathe, drywall, scrap wood and more recyclable materials that the RIC members could divert from the landfill. Clean outs seemed to involve the interior gutting of a structure and would yield similar materials, and there were 7 of those. There were only 6 conversion projects, but they were similar in scope. Only 8 permits were issued for decks and fences, but it is likely that there are many more decks and fences being built where permits are not being issued, and that can be a good source of material reuse and recycling by the RIC. In 2022, 25 demolition permits were issued, which is not a high total for a city the size and age of Kingston, but would yield some full deconstruction opportunities. The miscellaneous permit category (107 entries) seemed to catch a variety of projects that were similar to the other categories listed.

Very few new construction permits were issued. It is clear from the surprisingly low 4 permits for the entire year that most of the activity in Kingston involves remodeling/altering the existing infrastructure. It was noted that there were also 3 permits for sheds, probably new construction of those buildings. The largest category tracked was the repair/replace permit category. Reviewing the descriptions of many of these showed that some would have yielded materials that could have been diverted from the landfill.

One point became clear: that partnering with City staff to get the word out about the RIC is critical. For

example, the City could easily attach a brochure about the RIC to every permit issued (electronically or otherwise). This would be a good first step to seeing materials diverted for reuse and recycling. The combination of the proposed deconstruction services and hauling services that focused on diversion would be useful to many of the permit applicants.

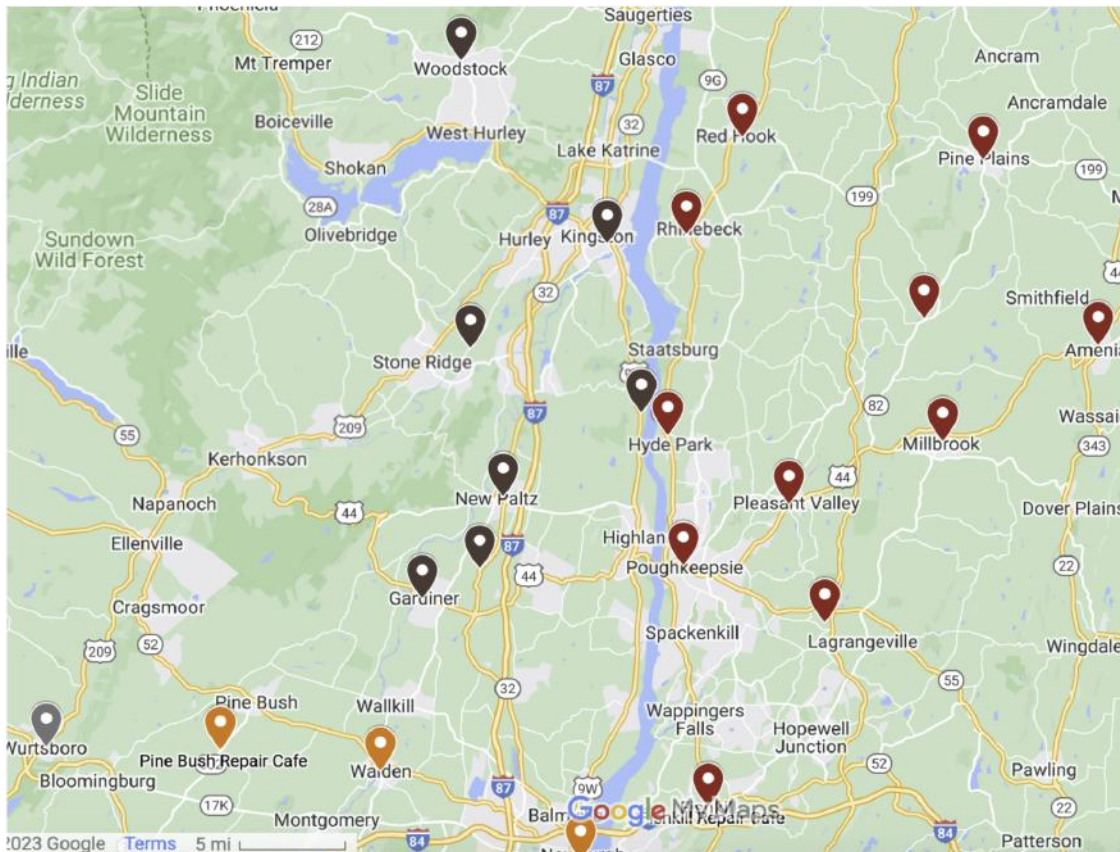
Figure 2 Kingston Building Permits by Type



### Repair Cafe

In addition to the MSW and C & D waste streams, the opportunities for repair were considered to allow for extended use of consumer items by their current owners, and for repair-and-resale of items (such as appliances) as a business opportunity in the RIC. With over 45 local Repair Café groups regionally diverting over 3,000 items from the landfill in 2022 alone, the Hudson Valley and Ulster County’s status as a Repair Café hotbed created a robust source of inputs from the fixer community and their wider networks of makers and crafters. An informal focus group of Repair Cafe coordinators identified this list of items that are most in-demand for repair: electrical, especially lamps; clocks, jewelry, textiles and appliances, knife and garden blade sharpening.

Figure 3 Repair Cafes



A regional map of Repair Cafe community partners shows the concentration in Ulster County

## 8. Diversion Strategies and Business Opportunities

### a. Diversion Strategies: Sourcing Material for the RIC

Multiple approaches to waste diversion have been identified through direct observation at the UCRRA transfer station and conversations with key stakeholders. It is clear that upstream diversion from businesses, municipalities and other large materials producers as well as diversion at transfer stations are all part of the key strategy.

At the main transfer station, before customers reach the scale, there is a clear opportunity to unload pre-sorted, reusable materials, saving customers money. An area dedicated to this purpose could also include a “take or leave” shed for community members, creating an additional reason for visiting. This however would require constant monitoring by an assigned resource, to avoid dumping by those seeking to avoid paying a tipping fee. Incentives for haulers to pre-sort their loads is a critical element for success, and support for retrofitting or replacing collection trucks in favor of models that are internally divided, could ease this process over time. Bins at cooperating local transfer stations can increase collection options. National companies that provide extra diversion education and training could provide it for Ulster County's current large-scale haulers.

As discussed earlier, diversion on the tipping floor could be cost-effectively accomplished by adding dedicated staffing, paid for through savings in reduced fuel costs and tipping fees for shipments to Seneca Meadows. Additional diversion is feasible at transfer stations with regular pickup of usable materials for the RIC.

Commercial districts are additional focus areas for exploring expanded waste diversion by facilitating the aggregation and exchange of materials that are byproducts for some businesses and have value for others, otherwise known as “industrial symbiosis”. This may be a business opportunity for an entrepreneur in the RIC of the future. The Department of Commerce in WA has funded a grant to ReUse Consulting to analyze 20 businesses and recommend how to divert materials through exchanges among them. ReUse Consulting will perform business waste stream evaluations and match them with symbiotic partner businesses for materials exchange. Ulster County could apply a similar strategy. Smaller haulers who handle things like estate sale or renovation cleanup could partner with the RIC and are important partners for organic spreading of the RIC’s business and sourcing.

### **b. Diversion business opportunities: the core enterprises at the RIC**

Priority materials for diversion were reviewed from the perspective of their reuse potential, and how it compares with their potential for recycling or other industrial processing. Based on this analysis, cardboard, film plastic, contaminated wood and generalized C & D debris were removed from the priority list of suitable business types for the Reuse Innovation Center. This leads to a list of priority materials to meet the County’s goals of high diversion volume and climate benefits, as well as to provide functions that would serve the needs of Ulster County communities. High value, potentially popular enterprises would attract customers and publicity to the RIC, which would help ensure its success. These priority materials are:

- Appliances
- Architectural Detail
- Bicycles
- Bricks
- Cabinets
- Clean Wood
- Construction and Demolition Materials
- Doors
- Electronics
- Glass
- Metal
- Textiles/Carpeting

Among building materials, wood related businesses are the most common examples in reuse centers throughout the United States. There are thousands of examples of micro or small businesses that resell wood or produce re-manufactured products like reclaimed wood tables, other reclaimed furniture, knick knacks, souvenirs, carvings, lathed products, outdoor furniture, art, and more. [New York Heartwoods](#), [Black Creek Mercantile and Trading Company](#) in Kingston and [Flotsam](#), a furniture and home goods producer in Napanoch, are examples.



Textiles are proposed as another priority because the resource recovery agency staffs of Mid-Hudson counties are currently engaged in an exploration of ways to collaborate for increased textile diversion. The textile recycling B Corporation, Helpsy, provides collection services via bins and sorts textiles into three categories, for upcycling, wholesaling, and downcycling for production of rags and insulation through facilities they already work with – most located in the United States, an antidote to the problem of textile waste pile-up in the Global South. Examples of upcycled textile businesses that are already in and near Ulster County include:

[Katwise Sweaters \(katwise.com\)](http://katwise.com)- recycled and redesigned knitwear

[Cal Patch \(calpatch.com\)](http://calpatch.com) - sewing and upcycling

[Unshattered \(unshattered.org\)](http://unshattered.org) - articles created from reclaimed leather and fabric in a social venture run by women in recovery from addiction

[La Vie Apres l'amour \(apreslamour.com\)](http://apreslamour.com) - upcycled clothing

A similar approach can be taken to recruiting small businesses in other priority categories.

Table 5 Reuse Businesses and Organizations by Material and Use

Material	Use	Real Business Examples
Appliances	repair, resell	<a href="#">Habitat Restore</a> ; Steve Mudd Appliance Repair
Architectural Details	repair, resell, craft, remanufacture	<a href="#">Hudson Valley Houseparts</a> , <a href="#">Zaborski Emporium</a>
Furniture and fixtures	repair, resell	<a href="#">The Door Jamb</a> , Shokan; <a href="#">New Paltz Reuse Center</a>
Bricks	repair, resell, repurpose	<a href="#">Kingston Block Co.</a> , <a href="#">Chicago Brick</a>
C&D Debris	repair, resell, craft, remanufacture	<a href="#">Reuse Action, Buffalo</a> ; <a href="#">Construction Junction</a> , Pittsburgh
Wood related businesses (garden frames, sheds, shelves, clocks, etc.)	repair, resell, craft, remanufacture	<a href="#">New York Heartwoods</a> , <a href="#">Black Creek Mercantile and Trading Company</a> in Kingston and <a href="#">Flotsam</a> , a furniture and home goods producer in Napanoch
Textiles	resell, craft, upcycle, remanufacture	<a href="#">Helpsy</a> , <a href="#">The Skirt Sisters</a>
Scrap Metal	repair, resell, craft, remanufacture	Welding for repair or remanufacture; <a href="#">West Kingston Recycling</a> ; Metalwood Salvage, Portland OR
Artist Studios	upcycle, craft, remanufacture	Suprina Sculpt

These examples are potential partners and do not represent a commitment from individual organizations.

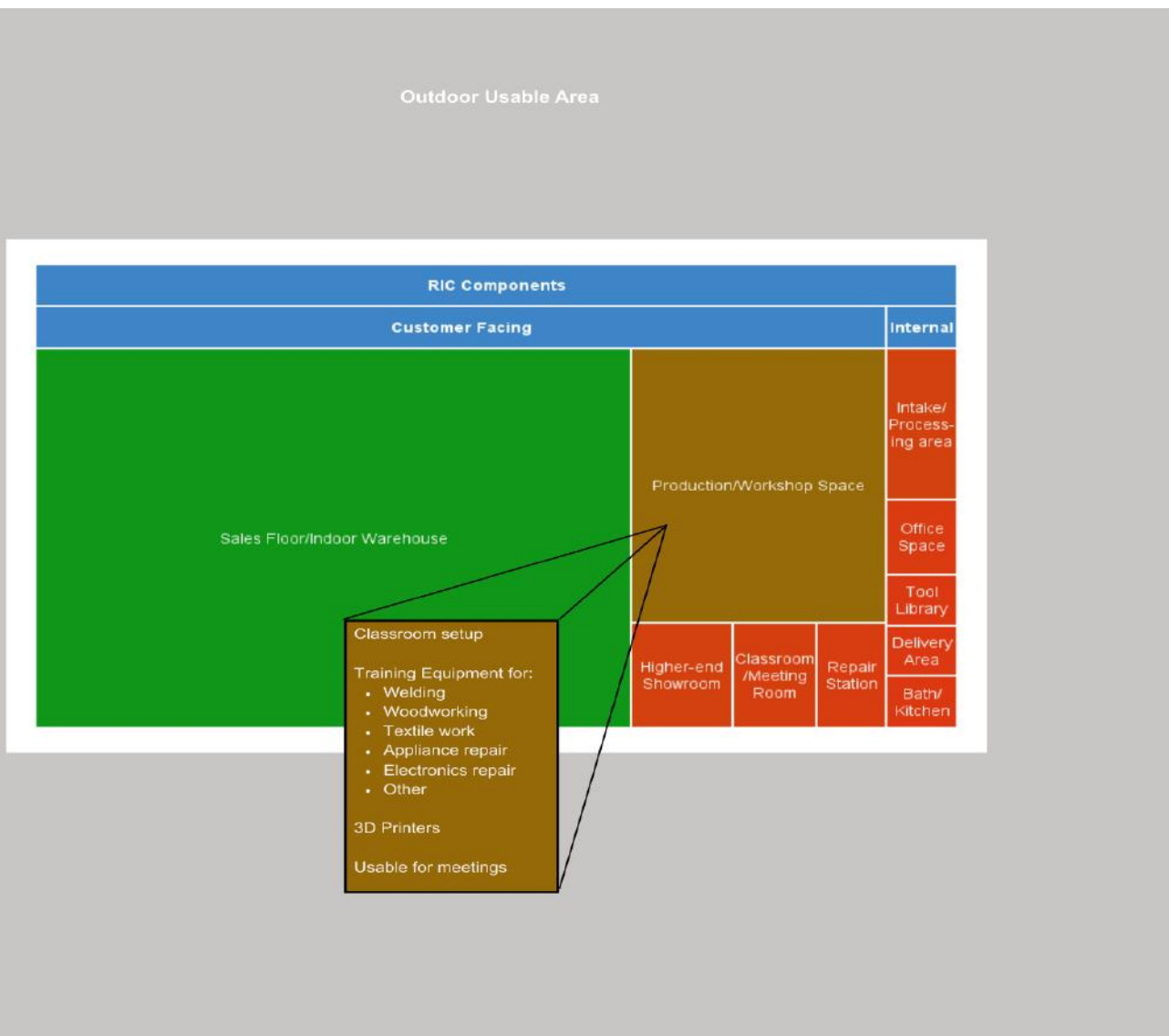
## 9. Conceptual Plan

With a wide range and coherent list of diversion opportunities available to the project, the Ulster Reuse Innovation Center can be conceived as a large, indoor-outdoor facility that can wholesale and retail products, support craft and light industrial operations by maker business partners, exhibit wares in an attractive showroom, provide repair services, educate and train members of the community, and also collect and sort materials for reuse and recycling in coordination with other county operations.

Establishing a group of enterprises with diverse products, services, and business models, over time, will ensure that the operation is resilient and responsive to changing conditions. Collection of the necessary materials will be a multi-dimensional process, involving diversion at Ulster County’s transfer stations and through numerous other means as outlined in Diversion Programs. Reintroducing the materials into the circular economy may take the form of sales, donations of materials to, or partnership with existing reuse organizations or other entities that can put them to practical use. Our recommended model with a non-profit component, overseen by Ulster County, will best facilitate this flexibility.

### a. Components and Overall Design

Figure 4 Proportional Diagram of Components of a Reuse Innovation Center





Conceptually, the RIC is an ecosystem of collaborating enterprises that reuse materials in their original or similar form through craft or light industrial approaches. This diagram represents components that best support resource and skill sharing to optimize efficiency and save costs for the participants. The essential core components of the physical location for the Reuse Innovation Center are a showroom, warehouse with some amount of customer access, and outdoor display/ storage area. Storage is a significant issue as the materials do not always move as quickly as they would in a conventional, for-profit retail operation. Based on experience with other RICs,

- The showroom does not need to be large, but it should have a polished look with good lighting and layout.
- The warehouse is more of a “Home Depot-like” experience with very large storage racks and displays that efficiently store and display the maximum amount of product.
- The outdoor section is also designed for efficient storage and display of large amounts of product. It may include a covered area with or without walls that provides minimal protection from the weather, and uncovered outdoor storage which is less expensive to rent and does not require heat.

The facility should also include:

**Production area** – spaces for specialty businesses that may include assembly or other light industrial operations. This may be one integrated space with multiple stations for different tools, equipment and processes; or there may be specialized areas for particular assembly or remanufacturing enterprises requiring more space or more continuous access to the space. To accommodate both significant-sized production businesses and specialty smaller producers, an adaptive space is recommended. To address priority materials and capture diversion opportunities identified here, the production area should be designed to support - at a minimum - one or more businesses in each of the following categories:

- Upcycling clothing, fabrics, textiles into craft fashion and home products
- Home and office furnishings
- Art and craft producing featuring reused materials
- Wood related businesses (furniture, garden frames, sheds, shelves, clocks, etc.)
- Welding (for repair as well as remanufacturing)

**Warehouse Store** - a large and expandable all purpose store to sell building materials and other designated products

**Classroom/conference room(s)** - for workforce development and community education classes (how to build a raised garden bed with reclaimed materials, for example), meetings, and (optionally) co-working space.

**Repair Station** serving the public and the members of the RIC and staffed by RIC members, a place to repair appliances, furniture, etc. both for resale at the RIC and as a public-facing business.

**Tool lending library** could be associated with the Repair Station; tools available for members and partners of the RIC to borrow, saving on costs.

**Staging room:** when materials are received (for example, from a deconstruction site), they are raw and need to be processed in a non-customer-facing area. They need to be cleaned and evaluated for routing to repair, sale, etc. When processed, they can also be photographed in this area for the website and/or

social media.

**Recycling area** - an outside area where both RIC members and the public can bring recycling items, including common materials and specialty items that can be sent to the appropriate facility when they have accumulated in sufficient quantities - for example, porcelain.

**Flex-storage to accommodate changes in materials flows** - can be temporary storage areas inside or outside the building, and/or modular approaches like shipping containers.

**Loading dock** - ideally with variable heights

**Office/ Bathroom/kitchen spaces** proportional to the level of occupancy and expandable

**Parking lot** for customers and deliveries - suggested initial size to accommodate at least 50 customers at a time and 4 - 5 trucks which may be pulling trailers.

If expansion space is available, longer-term planning can incorporate reuse and resource recovery activities that are emerging in the green economy but have significant space requirements and have not been part of previous Reuse Innovation Centers, but clearly have value. Three examples are:

- Conversion of internal combustion vehicles including cars and small boats, to electric, an industry that is mainstreaming.
- Collection and dismantling of solar panels at end of life for recycling.
- Collection and disassembly of mattresses for recycling (an area of substantial interest) – potentially as part of a regional system for dealing with these challenging materials.

## **b. Rollout Strategy**

A phased approach is recommended for creating the baseline conditions for Reuse Innovation Center success, then phasing in operations in priority order, beginning with the most essential.

### **Phase 1:**

a. Establish the roles of county executive and legislative branches, UCRRA, municipal and private partners, in collecting materials and interfacing with the RIC.

b. Training and industry capacity building are a critical underpinning for creating a viable deconstruction industry that can scale up to accommodate the extensive opportunities that are envisioned here. It is critical to train contractors who are managing and bidding deconstruction jobs, before (or in parallel with) training the workers.

c. Supportive policy development is recommended to create the conditions for success – for example, design a county deconstruction ordinance and/or flow control (if feasible) for C & D and other materials. The deconstruction ordinance should only go into effect once the appropriate infrastructure and trained workforce are in place. More generally, policymaking and industry training should take place in a coordinated fashion so that policies are only implemented when there is a trained work force to carry them out.

d. Begin a proof of concept initiative involving design and testing of approaches to collection that are

integrated with UCRRA. Build up the training offerings beginning with deconstruction and other essential reuse crafts such as woodworking, welding, textile crafts and repair, and testing the market for training with one-time experiments. This phase should provide initial and the marketing of training several projects to begin building inventory.

e. Design systems to implement the two key **diversion strategies** that were identified: first accessing items upstream of the waste/ recycling collection system, and then by realistic redesign of the collection systems at UCRRA and local transfer stations:

Upstream	Municipal and County facilities Box stores and other large waste producers Donation / wholesale purchase from contractors Donation from the public Separate collection systems where feasible, e.g. working with City of Kingston
At UCRRA and local transfer stations	Dedicated collection spots for sorting & delivery to RIC

This design effort should take place early to ensure that there are no unanticipated barriers to implementation.

g. A deconstruction, salvage and resale operation could begin by partnering with an existing operation to provide a temporary processing and sales location. Test and refine the marketing strategy to establish a cycle of sourcing and selling to prove the concept at a small scale in the local context.

**Phase 2:** Create anchor operations and core business for the actual RIC. Anchor operations include administration, financial management systems, office space, branding and outreach materials and a web presence. Core businesses begin with building materials salvage/ surplus collection and building deconstruction, both serving as the supply chain for a resale business that anchors the RIC.

**Phase 3:** Bring in partnering reuse businesses (startups and co-locating established businesses) that make use of the salvaged materials. Build out spaces for them using reclaimed materials from the core business wherever possible. Establish a tool library, define shared equipment. While various combinations of businesses could be successful, and business startups are often opportunistic, a likely list of early stage businesses might include:

- Reuse center/ sell building materials, architectural details; act as a hub accepting materials from other activities
- Deconstruction service (disassembling entire structures)
- Small remodeling company
- Existing small hauling company (people moving, etc.) that sorts out recyclables and reusables
- In-demand businesses, starting with a furniture maker, appliance repairer/seller, artist, textile upcycling.

**Phase 4:** Establish a repair business when materials flow and business activity are sufficient. Expand recycling infrastructure. Continue expanding business partnerships as materials supply, market demand and capacity allow.

### **c. Sourcing Plan**

The following collection strategies are recommended as minimum to capture materials from the County and municipal waste streams.

1. Policy to require municipalities and large producers of waste like box stores to set aside specified reusable materials
2. Establish a collection area near the entrance to UCRRA and potentially at the other municipal transfer stations where pre-sorted materials can be dropped off by customers who are incentivized by the opportunity to avoid costs. Establish a monitoring system in close consultation with UCRRA. Develop an education program on this opportunity.
3. Design a system for diversion at the tipping floor – for example, by identifying dropoff points before the scales for reusable materials and by funding dedicated staff positions for tipping floor diversion – aiming to cover costs through reduced transportation fees.
4. Partner with any haulers who are willing to work with their customers to source-separate reusable items vs recycling.
5. Develop a network of architects and renovation contractors to increase diversion of construction and renovation surplus and salvaged materials by informing the RIC of materials availability.
6. Establish textile collection bins, preferably in partnership with a vendor that can sort and responsibly recycle these materials, with items that can be upcycled sent to the RIC and the remaining textiles wholesaled or sent to remanufacturing facilities in the US. Surrounding counties have begun to work with Helpsy for this purpose, an opportunity for regional collaboration.

Separately from this central system, RIC management and/or partner entrepreneurs and projects can develop their own materials streams from the wider community. The following examples of adaptive sourcing of materials for reuse are presented to show the range of possibilities that viable businesses and other partners themselves can drive.

#### Reuse of Barn Wood



#### Some Examples of Upstream Sourcing:

##### Deconstruction:

- Barns
- Warehouses

##### Surplus and Salvage:

- Big box store partnerships
- Factory scratch/dent
- Estate Sale
- Retail store closing
- School District surplus

Special programs:

- Box store/large waste producer additional materials sorting requirements
- Business waste evaluation
- Large contractor sustainability effort
- Public drop-offs
- Textiles suitable for upcycling, delivered to the Center

**d. Marketing Plan**

RIC marketing must reach and inspire two primary groups: suppliers of materials and customers. Potential suppliers include construction and renovation companies, UCRRA, haulers (large or small scale), renovators, Ulster County and municipalities, deconstruction businesses and individual residents. Customers include homeowners, renters, construction companies, architects, all forms of reuse businesses, Ulster County and municipalities, thrift shoppers; makers, artists and repairers in need of studio space; and trainees in reuse skills.

Customers need not be limited geographically to Ulster County and may include donees, for example non-profit or public building projects in disadvantaged communities. Successful marketing ensures ease of access, availability of product, responsiveness to inquiries and a strong motivation to do personal outreach and form relationships with and between sources and consumers of materials. Parallel to the phased development of the project, suppliers will need to be engaged first and key partnerships formed with reuse businesses and organizations. As soon as there is firm commitment to going forward, a broad multi-media approach should be employed to ensure public awareness of the RIC starting well before doors open.

Initial public awareness can be raised by deconstruction training and sample projects, with promotion of the goals of the RIC and waste diversion by the County and municipalities and events that will draw the public. In keeping with Ulster County's commitment to workforce development and innovation, a strong focus on training is recommended from the start. Diverse learning opportunities, from trade and certificate programs to pop-up classes, will help to attract the curious and creative see the Reuse Innovation Center as a real asset.

Key to marketing the Ulster RIC will be the collaboration among these stakeholders. The makers, crafters, artists, salvagers and other creatives can be involved in the training, and can quickly begin securing materials and selling them, with help from the RIC. It is important to connect sourcing and selling into a cycle, to move the product and create a healthy enterprise that can then expand. Therefore, key marketing elements are:

- Accessible website showcasing the Center, member businesses and their stories, products and services;
- Extensive pre-launch media events to a well developed customer list anchored by the maker/ fixer/ thrifter/ DIY community, and the businesses that serve homeowners such as realtors, contractors and hardware stores;
- Regular, ongoing social communications and opportunities to interact and spread the word.
- Pop up events, classes and sales, heavily promoted on social media as initial draw.

- Demonstrate value through initial emphasis on clearly valuable, good quality items such as clean wood, other salvaged building materials, architectural features, appliances, and fabric.
- Ongoing program of advertising, word-of-mouth and event-driven marketing.

Wishlist tracking has been a successful method used at the Bellingham RIC. People can fill out a form on the website for what they want which can be cross-checked against materials that become available. Some local research needs to be done as early as possible to evaluate local materials pricing and price accordingly. Initial leads on materials, apart from agreements with UCRRA and/or large haulers, will likely come from partnerships the RIC manager form. Existing businesses might be included in marketing operations as the RIC’s goal is to grow the circular economy and partner rather than compete.

Of course, all these activities should be supported by an active, attractive website presence. In terms of interactivensess, the wishlist should be created with the initial live website; online sales capabilities for services and materials could also be developed.

Table 6 Chart of Marketing Approaches and Timing

Audience	Goal	Method	Timing
UCRRA and municipal entities as deconstruction partners and materials sources	Sourcing, training opportunity, public education	Direct outreach - phone, email, in person	Initial, Phase 1 and ongoing
Construction Companies and Architects	Sales, Sourcing	Direct outreach - phone, email, in person	Initial, Phase 1
Haulers	Sourcing	Direct outreach - phone, email, in person	Initial, Phase 1 and ongoing
Reuse Businesses	Collaboration, materials exchange, incubation	Direct outreach - phone, email, in person; online wishlist	Initial, Phase 1 and ongoing
Homeowners, renovating	Sourcing, sales of materials	Social media, online ads, print, radio, tv online wishlist	Phase 2 and ongoing
Trainees	Expand circular economy workforce, training income	Direct outreach to and through nonprofits, municipal entities, trade schools, BOCES, construction companies; targeted social media	Initial, Phase 1 for beginning deconstruction projects and buzz building; ongoing
Renters, repairing	Sales of materials Pop-up events	Social media, online ads, print, radio, tv; online wishlist	Phase 2 and ongoing
Thrift Shoppers	Sales Pop-up events	Targeted social media, online ads, print, radio, tv	Phase 2 and ongoing
Artists and Crafters	Training classes, Pop-up events, Sales of materials, rent, product source/commission sales	Through Arts Mid-Hudson and other arts organizations; targeted social media	Phase 3 and ongoing
People who want to rent or use space (including events)	Rental income	Targeted social media, online ads, print, radio	Phase 4

**e. Budgeting and Funding Sources**

As of this writing, some discussion has occurred between Ulster County legislators and UCRRRA regarding where funding for the RIC may come from, but no clear decisions have been made. Though funding decisions are out of scope for this deliverable, initial research on the subject indicates multiple potential sources of grants as indicated in Table 8. Funding strategies may differ for the proposed proof of concept phase versus the full RIC development. A proof of concept period is much less expensive, therefore more flexibly accomplished, and need not be delayed due to considerations regarding the timing of grants from foundations or state or federal government, or the legislative schedule.

In advance of scoping and facility selection decisions, a conceptual budget is provided to illustrate order-of-magnitude costs and possible funding strategies. Given the caveat that locations and facilities vary widely in costs, but that an example is needed, iPark87 buildings - building C4 and C3 - have been used for this exercise.

For the incubation/proof of concept (“Prequel”) period, it is assumed that the smaller of the two buildings is in use, at 13,000 interior square feet. The larger facility is 50,000 square feet. At the time of this writing, at the end of the year, some government and other granting entities are between funding application cycles. It is assumed that funding can be obtained from a combination of grants and County expenditures, for which bonding has been mentioned by County legislators.

Table 7 Proposed RIC Budget  
**Proposed RIC Budget**  
*(Assumption: iPark87 location)*

	Prequel - 6 mo	Y1	Y2
Service Contracts	\$24,000	\$20,000	\$60,000
Donations, cash, grassroots	\$500	\$5,100	\$6,000
Funding from Grants, capital appropriation and/or loans	\$221,370	\$796,000	\$669,000
Misc. Income	\$1,500	\$30,000	\$50,000
Consignment Items	\$2,500	\$10,000	\$30,000
Sale of Materials	\$36,000	\$220,000	\$290,000
<b>Total Revenue</b>	<b>\$285,870</b>	<b>\$1,081,100</b>	<b>\$1,105,000</b>
<b>Personnel Costs</b>			
Wages (including benefits) - Director/Manager	\$30,000	\$100,000	\$100,000
Research, project and clerical support	\$19,500		
Training of staff, 7-10 days; ongoing support	\$5,000	\$8,500	\$0
Wages - Sales (Asst. manager + 1 staff; assuming not starting until 5 months in)	\$26,000	\$75,000	\$110,000
Wages - Field (start after 2 months)	\$0	\$45,000	\$60,000
Contract Wages	\$1,000	\$12,500	\$10,000
Emp. Benefits	\$3,672	\$21,420	\$29,376
Payroll Taxes	\$14,345	\$45,825	\$53,000
<b>Total Personnel Costs</b>	<b>\$99,517</b>	<b>\$308,245</b>	<b>\$362,376</b>

<b>Facility Costs</b>			
Business Taxes & Licenses	\$400	\$400	\$425
Sales Tax	\$2,970	\$23,100	\$35,475
Rent	\$156,000	\$600,000	\$600,000
Telephone/Fax	\$0	\$2,400	\$2,400
Utilities	\$200	\$5,000	\$5,000
Disposal	\$1,500	\$2,400	\$2,600
Vehicle Expenses	\$500	\$9,000	\$5,000
Vehicle Fuel	\$2,000	\$7,000	\$7,000
Postage	\$10	\$120	\$120
Website Expense	\$250	\$272	\$275
Printing & Copying	\$50	\$600	\$500
Graphic Work	\$250		\$500
Office/Sales Supplies	\$100	\$400	\$425
Safety Supplies	\$500	\$750	\$500
Equipment Rental	\$2,400	\$750	\$1,000
Building/equipment Maintenance & Repairs	\$500	\$2,400	\$2,400
Mileage	\$750	\$1,200	\$1,350
Meeting Expenses	\$250	\$600	\$625
	<b>Prequel - 6 mo</b>	<b>Y1</b>	<b>Y2</b>
Major Equipment Purchases	\$5,000	\$50,000	\$25,000
Conferences & Education	\$0	\$1,500	\$1,600
Insurance (contractor, renters?,	\$2,300	\$5,000	\$6,000
NSF	\$0	\$900	\$900
Credit Card Fees/Bank Charges	\$25		
Publications & Dues	\$0	\$150	\$175
Miscellaneous	\$75		
Till over / short	\$0	\$100	\$75
Advertising	\$5,120	\$5,000	\$5,000
Purchase of Materials for Sale	\$400	\$6,500	\$8,000
Freight	\$800		
Equipment - small	\$4,000	\$20,000	\$8,000
<b>Total Facility Costs</b>	<b>\$186,350</b>	<b>\$745,542</b>	<b>\$720,345</b>
<b>Total Expenses</b>	<b>\$285,867</b>	<b>\$1,053,787</b>	<b>\$1,082,721</b>
<b>Revenue - expenses</b>	<b>\$3</b>	<b>\$27,313</b>	<b>\$22,279</b>



## Potential Funding Sources

Table 8 Funding Sources

Function	Source/Deadline	Type	Amount
Startup (including small reuse businesses)	NYSAR3 (N/A, probably 11/2024)	<a href="#">Grant</a>	\$1,000-5,000
	<a href="#">The Hudson Valley Startup Fund</a> (Investment Collaborative based at SUNY New Paltz) (N/A)	Seed and other capital	\$50,000 - \$200,000
	EPA Solid Waste Infrastructure Grants for Communities - political subdivision must apply. “; including development of and/or upgrades to drop-off and transfer stations ... online reuse platforms, community repair spaces, technology and equipment to improve materials management reuse options, food donation, and upcycling, staging areas for material reuse/donation, reuse warehouses, and reuse centers, and electronic waste and computer recycling and refurbishing” (2024 applications not available yet, but program is slated to continue through 2026).	<a href="#">Grant</a>	\$500,000 minimum
Equipment/renovation	Empire State Development Workforce Development Capital Grant Program - for modernization of existing training centers, construction of new facilities, or the purchase of machinery and equipment to support workforce development initiatives. Note: this grant is specifically for training-focused projects so may not apply unless a large training effort is planned. Equipment, renovation, land/facility purchase (applications quarterly)	Grant	\$\$100,000 to \$100,000 to \$3 million
	Empire State Development Not-for-Profit Capital Grant Program - 501c3 Not-for-profit organizations whose mission is to provide an economic and		\$25,000-100,000

Function	Source/Deadline	Type	Amount
	community benefit. Matching program; reimbursement model. Renovation, equipment. (applications quarterly)		
	Regional Council Capital Fund Empire State Development Grant (applications quarterly)		\$50,000 minimum
Training	US Department of Labor through NYS Department of Labor, grant for deconstruction training ( <a href="#">example</a> )		
	NY Department of Labor <a href="#">Workforce Development Grant</a> (11/24, no open funding at the time of this writing)		up to \$250,000 available
	NY Department of Labor Apprenticeship Expansion Grant BID #AEG-4, covers instruction, 50% wage for OJT at prevailing rate, tools, books (8/30/24)	Grant	Up to \$300,000
Collection	New York's Climate Smart Communities (CSC) program; would likely need to be based on emissions reduction as pertains to shipping to landfill	Grant	between \$10,000 and \$200,000 for CSC related C&D policies
	NYS Pollution Prevention Institute Community Grants Program (next application period TBD, check back early 2024)	Grant	N/A
Collection, possibly other uses	NYS Department of Environmental Conservation - Municipal Waste Reduction and Recycling Program	Grant	\$100,000+ has been awarded, range unknown
Education	Environmental Research and Education Foundation (only for research on materials management, not for community program)	Grant	\$15,000 to over \$500,000 with the average grant amount in recent years being \$160,000

Function	Source/Deadline	Type	Amount
	NYS Pollution Prevention Institute Community Grants Program (next application period TBD, check back early 2024)	Grant	N/A

Deconstruction training may be paid for in part or in total by NYS Department of Labor grants or possibly U.S. Department of Labor grants. Looking longer term, One of the most effective ways of ensuring the stability of the initial RIC is to remove the greatest financial obstacle, rent. In a rental scenario, the cumulative cost may be nearly as high as new construction, but it will be spread out over years and in parallel with revenue. If possible, beginning with a smaller scale proof of concept in a building already owned by Ulster County would be a cost-saving strategy allowing the focus to be on developing diversion capabilities rather than finding ways to pay the rent. iPark87 may be in the ballpark of \$12 per square foot.

For comparison purposes, a recent new green construction project, the New Paltz Fire Station, cost \$481 per square foot<sup>4</sup> over the life cycle of the building. Assuming this rate is comparable, a new construction for an RIC at an estimated 50,000 sq feet, would cost \$24,050,000.

### 10. Siting considerations

It is possible to create a Reuse Innovation Center of sorts in a wide variety of sites, and these businesses take pride in their adaptiveness. But to achieve Ulster County’s ambitious diversion goals and take advantage of the political will behind this RIC, a site should be selected that meets key criteria in terms of its features, size and economics. The main factors considered were:

- **Site features** including size, indoor-outdoor components, structural factors, infrastructure or infrastructure-readiness, parking and loading capacity;
- **Site location** including proximity to UCRRA’s main transfer station, accessibility for pedestrians and vehicles, accessibility for those who most need the affordable products and services through proximity to one of the County’s “disadvantaged” communities, and appropriate commercial or light industrial zoning;
- **Site economics** including affordability per square foot, rent/purchase options, eligibility for priority funding programs.

The following are optimal recommendations; there is flexibility regarding the breakdown of space, size, etc.

Table 9 Siting Recommendations

Criteria	Rationales	Recommendations
Overall Size of Property	Sufficient space for operations, potential expansion, and accommodating various functions like showrooms, classrooms, and offices.	Phase 1 Proof of concept: (Starter site could be smaller, 10,000-20,000 sq ft interior and this is flexible) Phase 2 Full site: 50,000 sq ft interior for full size RIC 50,000-100,000 sq ft outside space

<sup>4</sup> Source: Alfandre Architecture

Criteria	Rationales	Recommendations
		Total recommended space at least 100,000 sq ft
Size of Covered Area	Required for protecting stored materials and providing workspace.	Approximately 54,000 to 80,000 sq ft for a 100,000-150,000 sq ft property size
Size of Heated Area	Necessary for maintaining appropriate conditions for stored items and comfort of employees or visitors.	Approximately 40,000 to 60,000 sq ft for a 100,000-150,000 sq ft property size
Size of Total Useful Area	Maximizing useful space ensures efficient operations and storage capacity.	At least 80% of the property and preferably more should be usable; for a smaller site, the maximum usable space would be needed.
Parking Spaces for Customers, Trucks	Convenient access and storage for customers, delivery trucks, and potential electric vehicle charging infrastructure.	20-30 but flexible on this
Structural Features, Infrastructure Readiness	Adequate ceiling height, door width, load capacities, and other structural features to support the intended use. Ensures that necessary equipment like racking and forklifts can be accommodated, facilitating smooth operations.	<ul style="list-style-type: none"> <li>• Showroom entrance minimum: 9-12 feet wide</li> <li>• Warehouse door: 12 to 20 feet wide</li> <li>• Elevators, floors, and docks for ease of material movement and operations. High ceilings, racking capabilities, loading docks, and the flexibility to create showroom, classroom, or office spaces</li> <li>• a high ratio of useful square footage to total square footage</li> </ul>
Site Location	Accessible and in a well-trafficked area to maximize material reuse by the public and ease of delivery. Should be within 10 miles of UCRRA for ease of transport. Easily accessible to or within a disadvantaged community.	Available real estate changes continuously; the ideal property would be an existing functional building and land owned by Ulster County
Zoning	Compliance with local zoning regulations to ensure the site's intended use is permissible.	Industrial or light industrial use, but near or in well-trafficked commercial zone
Permitting and Regulatory Considerations	Adherence to relevant permits and regulations for waste diversion operations.	Operations should not include complex, heavy industrial activities that require 360 permits.
Proximity to County Collection and Transfer	Reduced transportation costs and environmental impact by minimizing distances to essential facilities.	Within 10 miles of UCRRA Flatbush location
Proximity to Transit and Economically	Enhances accessibility, especially for disadvantaged communities, and reduces the carbon footprint of operations.	Choose location near one or more DACs

<u>Criteria</u>	<u>Rationales</u>	<u>Recommendations</u>
Disadvantaged Communities		
Vehicle Access, Traffic Volume, Foot Traffic	Ensures ease of accessibility for vehicles, consideration of traffic volume, and potential walk-in customers.	Should be accessible to both vehicle and foot traffic and public-facing areas should be ADA compliant
Price Overall and Per SF (Rent or Mortgage)	Consideration of costs, whether through rent or mortgage, and ensuring it aligns with the project's budget.	*Acceptable range is a decision for Ulster County; again, County ownership is ideal*
Eligibility for Economic Incentives	Evaluation of incentives such as those for disadvantaged communities or alignment with County priorities.	
Other Strategic Factors	Consideration of rental/lease options versus ownership, which may affect the long-term feasibility of the project.	Ideally the site would be owned by the County and a non-profit would manage its operations.

These criteria and rationales provide a comprehensive framework for selecting the most suitable site for the Ulster Reuse Innovation Center in line with Ulster County's waste diversion goals and commitment to equity.

Overall, to accomplish Ulster County's waste diversion goals, the RIC site should at a minimum:

- Be structured with high ceilings, racking or readiness to install racking, a loading dock, sufficient access for trucks and trailers, showroom, classroom or office space or ability to create those spaces, a high ratio of useful square footage to total square footage ...
- Showroom entrance minimum: 9-12 feet wide
- Warehouse door: 12 to 20 feet wide
- Forklift load capacity: 5000 to 8000 lbs
- Be located conveniently to the Ulster County Resource Recovery Agency as a primary diversion partner, to minimize transportation costs and traffic/ environmental impacts (generally within 10 miles).
- Have some accessibility for both foot and vehicle traffic.
- Be properly zoned for commercial or light industrial uses.

In addition, to reflect Ulster County's commitment to equity, the RIC site should either be located in a Disadvantaged Community or be easily accessible to transit.

Potential sites were reviewed in the spring / early summer 2023. The following shortlist met the criteria adequately.

Table 10 Potential Sites from Early Summer 2023

King's Highway Industrial Complex Route 212 & I-87 Exit 20 Saugerties, NY
2 North St., Kingston, NY 12401
290 E Strand, Kingston, NY 12401
Sawkill Road Business Park 220 Sawkill Road Kingston, NY 12401
1711-1715 Route 9W Lake Katrine, NY 12447
85-101 Katrine Lane Lake Katrine, NY 12447
906 Route 28 Kingston, NY 12401
1099 Ulster Avenue Kingston, NY 12401
214 Glasco Turnpike Saugerties, NY 12477
255 Milton Cross Road Highland, NY 12528

In addition, several pieces of open land have been identified that have special relevance to the County's materials management system and economic development goals.

- An approximately 120-acre parcel of mostly forested land, located at 995 Flatbush Road, next to UCRRA's main transfer station, is owned by the County and accessible to the main road, with potential especially for the collection and initial processing of materials captured from UCRRA. Much of this land is hilly and a stream runs through it; however, the 1 - 2 acre portion near Route 32 is relatively flat. If the County is considering creation of a Waste Recovery Park as a longer-term, complementary strategy, however, this land should be evaluated for that use before being committed to the RIC, as immediate proximity to UCRRA will be even more valuable for that use.
- The extensive complex of land and buildings at iPark 87 are currently being redeveloped by the County with private partners; the possibility of adaptive reuse of an existing building on this site, and the possibility of new construction on iPark 87 land, should be considered. If enough open land exists on this property to provide the square footage needed for a Reuse Innovation Center, benefits would include the ability to design a high-performance site specifically for the RIC, and proximity to the planned Center for Workforce Innovation.
- Kingston Business Park, a greenfield that was partially developed about 20 years ago but contains some undeveloped land on which a custom construction project could be considered.

However, the commercial rental locations on the market should not be assumed to be still available without verification. If a suitable site in a suitable location is not available, an alternative is construction of a new facility on an adaptively reused site, using reclaimed or surplus materials wherever possible. In

spite of the irony of considering new construction for a reuse innovation center, the scale of the project and the extensive list of criteria under consideration make it worthwhile to consider this kind of scenario. New construction would obviously need to have the lowest possible environmental footprint and the most cost-effective design for the purpose. For example, a net zero building, constructed with reclaimed materials and powered by renewable energy, could illustrate the reuse opportunities associated with the products for sale and provide a unique educational attraction.

Effectively pursuing the moving target of a suitable location for the Reuse Innovation Center will require confirmation of ownership model, funding, and business plan, as described below, to allow for nimble acquisition of the facility and startup of the initial operations.

## **11. Decisions Ahead.**

This section lays out the decisions ahead for Ulster County's key stakeholders (such as the Department of Environment, Legislature's Recycling Oversight Committee, Executive's Office and Ulster County Resource Recovery Agency) regarding the form of the Reuse Innovation Center. They are presented in the sequence the authors of this report recommend tackling them.

### *1. What policies will the Ulster County Legislature pass to create optimal conditions for the Reuse Innovation Center?*

Requiring deconstruction of certain buildings, perhaps based on age as in Portland OR, or buildings of a certain size, or that are owned by the County, would be an important first step; but this can be effected only after there is a sufficient deconstruction trained workforce to be able to scale it up. Flow control for C & D could significantly increase the County's ability to divert these materials, but has not yet been explored with relevant stakeholders. This option should be explored thoughtfully with all relevant stakeholders to determine its potential for scaling up diversion.

### *2. How will Ulster County coordinate planning and decision making regarding the Reuse Innovation Center, to ensure that the project has the autonomy and – at the same time – the accountability and support that are needed to move forward in a way that benefits all parties and is organizationally and financially sustainable?*

### *3. What materials collection systems will be established by the County's Executive Branch through appropriate departments and agency partners, to ensure a steady flow of materials that are diverted from the landfill through the County's resource management system?*

These decisions are the underpinnings of the value of a Reuse Innovation Center specifically as it relates to the original premise of this study, to "maximize" diversion of waste from the landfill.

### *4. Who will own the facility and what is Ulster County's role?*

This decision is suggested as #1 because it is a political and strategic choice that will guide other business development considerations such as funding sources and administrative organization. Each of this series of options is workable and in effect somewhere in the world of reuse. Clearly, there are hybrid approaches involving public-private partnerships; but with any of them, the choice of one owner with buck-stops responsibility for the initiative is strongly encouraged.

Table 11 Ownership Models

Ownership	Advantages	Disadvantages	Comments
County as owner-operator	Control of operations, straightforward opportunities for public financing	Subject to political forces. Big project for government staff to take on. Cannot receive tax-deductible donations of materials.	
County as owner; nonprofit under contract to county for ongoing operations	Allows for tax-deductible donations of goods, services and money including eligibility for philanthropic and governmental grants. Potential liability protection for the County.	Less direct control of operations and by the County [may not be disadvantage]	An operating entity under contract to the County could be engaged under a performance-based contract and/or incentivized through subsidies that are contingent on levels of diversion achieved.
Nonprofit owner/operator setting the agenda and utilizing funding from Ulster County, NYS and private sources	Autonomy, political independence, ability to accept tax-deductible Donations. Potential liability protection for the County.	Less direct control of operations and outcomes by the County	Could be an existing nonprofit or new one formed for this purpose. If the latter, could have a board of stakeholders representing key agencies & interests.



Ownership	Advantages	Disadvantages	Comments
Private business (a Public Benefit Corporation formed by the County for the purpose or an existing business engaged through an RFP process)	Streamlined and nimble operations and autonomous decision making are easiest. Access to small business financing.	Less direct control of operations and outcomes by the County. No ability to receive tax deductible donations without a nonprofit partner. Least desirable scenario, entity could be trying to remove competition.	An operating entity under contract to the County could be engaged under a performance-based contract and/or incentivized through subsidies that are contingent on levels of diversion achieved.

*5. What are the components of the initial Reuse Innovation Center, and how will the project be rolled out?*

The Conceptual Plan has identified the following core elements for the RIC:

- a) anchor operations including administration, financial management systems, office space, branding and outreach materials and a web presence.
- b) essential businesses that include deconstruction, sale of used building materials and wood, wood and metal working, appliance repair, textile reuse... Convening a group of motivated entrepreneurs is the recommended way to identify these initial opportunities and additional businesses and projects to be phased in subsequently
- c) a training center, production center, showroom, etc.

A relatively brief Capacity Building and Proof of Concept phase is strongly encouraged, to create foundational conditions for success and validate the assumptions behind this plan. This includes:

- Training an initial group of contractors and technicians in deconstruction, and supporting them in conducting an initial group of demonstration projects.
- Piloting key aspects of the Sourcing Plan, including some work with private suppliers and some work with county or municipal collection systems to achieve and document an initial flow of diverted materials; through these experiments over a very few months, developing an initial inventory of surplus building materials and working with an initial group of contractors to source reusable materials from remodel projects; potentially storing these in a short-term leased space.
- Piloting key aspects of the Marketing Plan to sell these materials, focusing especially on education and training opportunities tied to use of the materials, to confirm that there is a market for the RIC's offerings over and above the used materials marketplace that currently exists.

*6. What type of facility is best to house the Reuse Innovation Center? How will it be acquired and prepared?*

Table 12 Facility Types

Facility type	Advantages	Disadvantages	NOTES
New construction on a greenfield	Control features, access, choose location	Capital investment, lead time, financing; environmental impacts. Potentially restricting alternative uses for that land such as a waste recovery park.	Main reasons to consider this option would be absence of alternatives or strong consensus to locate on the parcel adjacent to UCRRA.
New construction on an adaptively reused site	Control features, access, choose location; more consistent with project vision; brownfields and other dedicated funding.	Capital investment, lead time, financing.	A new, custom-designed structure could incorporate significant amounts of reused/ surplus building materials. Land on iPark87 is an example.
Adaptive reuse of an existing facility with major investment and ongoing commitment	Control features and continuously improve the facility to expand uses over time. Avoid environmental impacts of building new. Reuse.	Work for the County; potential investment of political capital.	<b>Recommended option</b>
Rental of commercial facility	Simplest and lowest-cost option from a management perspective.	Least easy to customize and adapt the physical space.	

*7. How will the Reuse Innovation Center source materials, and market its products and services?*

Will the sourcing plan be adopted as proposed or modified?

Will the proposed marketing plan be adopted as proposed or modified?

*8. How much funding will be allocated to start and operate the Reuse Innovation Center? Will the proposed budget be adopted as presented or modified?*

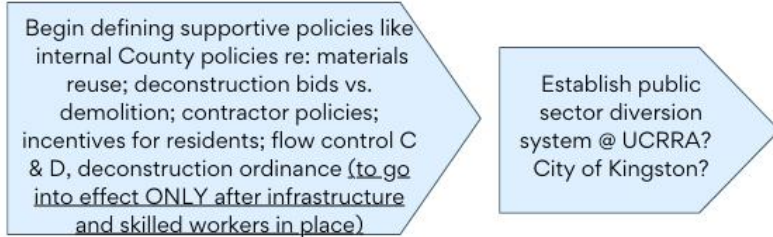
Some of these decisions can be made based on the economics and opportunity analysis presented in this study. Other questions of internal organization can only be answered at a leadership level in Ulster County government by negotiation among the agencies and departments that must cooperate to realize this vision. The Reuse Innovation Center is an exciting strategic priority that is timely to implement as the County tackles its zero waste and climate action agendas. But, if implemented without a solid agreement on how strategic and operational decisions will be made, the RIC could under-perform and ultimately distract attention from other waste diversion initiatives that must also be supported. If planning for the Reuse Innovation Center is viewed as integral to the larger planning for quantum increases in waste diversion, the necessary coordination will come naturally.

**Summarizing the Path**

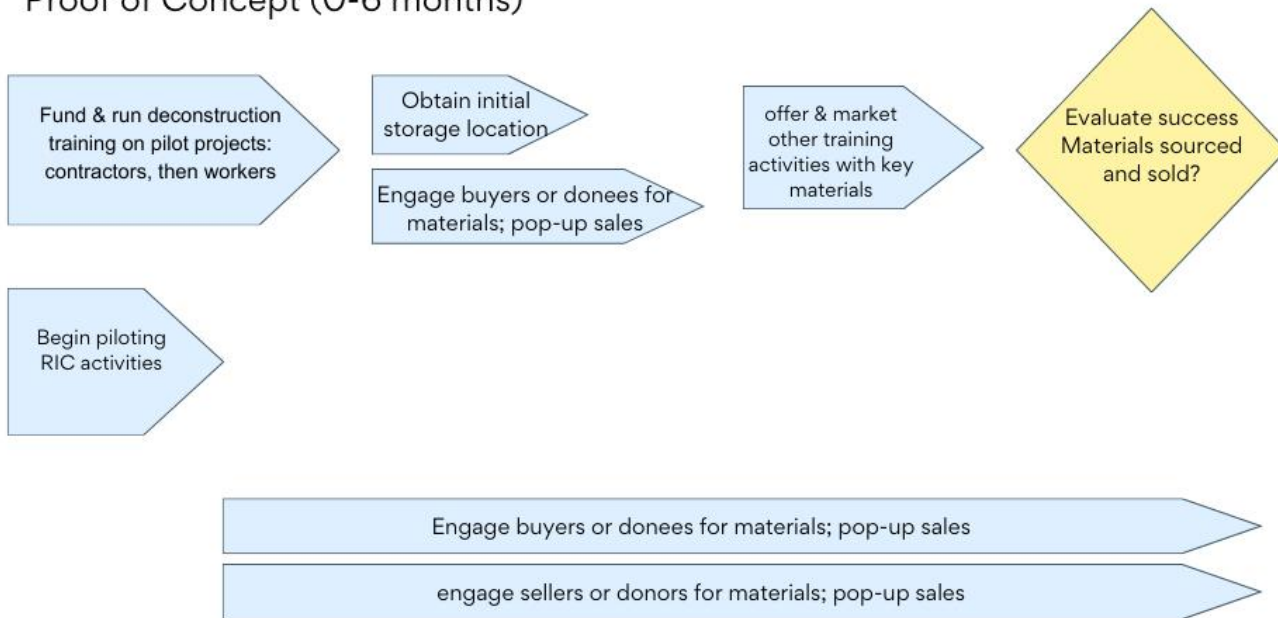
Below is a high-level flowchart intended to clarify our proposed sequence of events. For the first two

rows, an evaluation point comes in column 3; the specific criteria for proceeding to the next step can be subsequently defined. These decisions below are summarized to clarify the role of the initial groundwork and critical path to an effective launch in 2024.

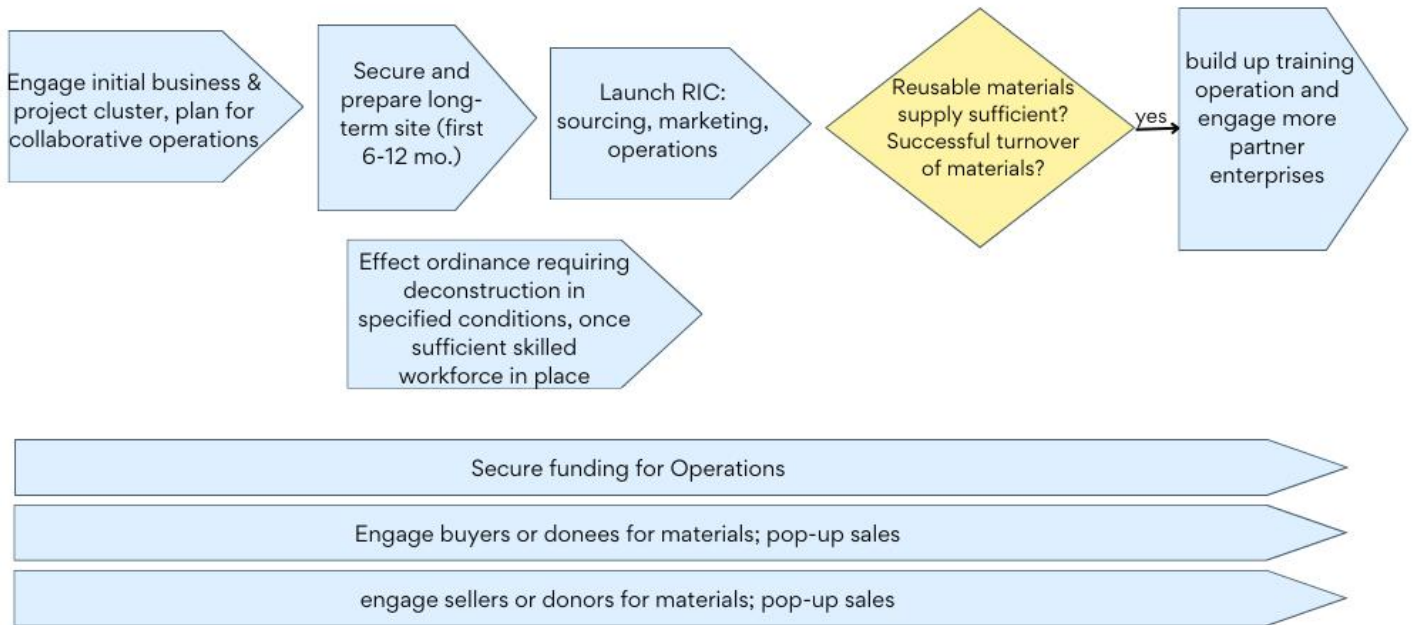
### Groundwork Policy and Planning



### Proof of Concept (0-6 months)



# RIC Development



## Appendices

## Appendix A - Waste Prioritization Matrix

Waste Stream Component	Type	Mass Reduction Potential	Volume Reduction Potential	Reuse/Repair Potential	Ease of separation/diversion	GHG reduction potential	Community concern	Commodity market value	Longevity	Toxicity	Barrier-free, less complex diversion	Diversion opportunities exist	Additional Diversion Potential	Handled by other regulations*	FINAL SCORE
MULTIPLIER x		1	1	2	2	3	2	3	2	2	2	1	2	-2	
Scrap Metal	C&D	5	3	6	8	15	8	9	8	8	8	5	6	0	89
Clean Wood	C&D	4	4	10	8	9	6	9	8	0	10	3	8	0	79
Doors	C&D	2	2	8	10	9	6	12	8	2	8	4	6	0	77
Appliances/White Goods	C&D	2	2	10	10	12	6	9	4	8	10	3	4	-4	76
Architectural Details	C&D	2	2	10	6	9	8	12	8	2	8	5	4	0	76
Bicycles	MSW	1	1	10	10	9	8	9	6	2	10	5	2	0	73
C&D Debris	C&D	5	4	8	8	9	6	6	4	2	8	4	8	0	72
Cabinets	C&D	2	2	8	8	9	6	12	6	2	8	4	4	0	71
Plastics - durables	MSW	2	3	6	6	9	6	3	8	8	8	5	6	0	70
Tires	MSW	3	2	4	10	12	8	6	8	6	8	5	2	-4	70
Bulky Items/Furniture	MSW	4	3	6	8	9	6	9	6	4	6	3	6	0	70
Cardboard (OCC)	MSW	2	2	4	8	6	6	9	10	2	8	4	8	0	69
Textiles	MSW	3	2	6	6	9	6	6	6	2	6	5	8	0	65
Bricks	C&D	3	2	8	8	6	6	9	8	0	8	4	2	0	64
Carpet/padding/rug	C&D	2	2	6	8	9	2	6	4	8	6	4	6	0	63
Electronic Waste	MSW	1	1	6	8	12	4	6	4	8	8	4	4	-4	62
Wood Pallets	MSW	3	3	10	4	12	6	3	4	2	6	5	4	0	62
Mattresses	MSW	2	3	2	10	9	10	3	6	2	2	2	10	0	61
Other durables	MSW	3	2	6	6	6	6	3	10	0	8	5	6	0	61
Contaminated wood	C&D	2	2	6	6	9	6	3	4	10	6	1	4	-2	57
Gypsum board	C&D	3	3	2	10	9	4	3	4	8	2	3	6	0	57
Aluminum (all),non-ferrous	C&D	3	2	4	6	6	6	3	10	0	8	5	4	0	57
Books/Bags/Boxes	MSW	3	3	6	4	6	6	3	6	0	8	5	4	0	54

Waste Stream Component	Type	Mass Reduction Potential	Volume Reduction Potential	Reuse/Repair Potential	Ease of separation/diversion	GHG reduction potential	Community concern	Commodity market value	Longevity	Toxicity	Barrier-free, less complex diversion	Diversion opportunities exist	Additional Diversion Potential	Handled by other regulations*	FINAL SCORE
Miscellaneous items	MSW	3	3	6	4	6	6	3	4	0	8	5	6	0	54
Glass	MSW	3	2	4	6	6	4	3	10	0	8	5	4	-2	53
Film plastic	MSW	1	1	2	8	9	6	3	2	8	2	4	6	0	52
											Average score		68.56		

**Appendix B Diversion Prioritization Matrix**

**Prioritization Matrix for Programs and Activities: Business Needs**

	Cost to start (loosely estimated) [low mod high] L 50-149; M 150-299; H 300+	Gen Profitability <0 = needs subsidy, \$-\$\$-\$\$\$	Facility needs	Equipment needs	Methods well established No/med/yes	Other factors	Threshold Skills	Equipment Costs Low-Med-High L <50K; M 50-150K; H 150K+	Space Needs	Recommended for Inclusion in an RIC
Appliances and white goods repair, upcycling, resale Rank: 76 High	low 2	\$\$ 3	all indoors; showroom and warehouse and workshop 5-25 employees	Tool set; diagnostic equipment; storage racks; carts; trucks; maybe forklift	yes	stand alone business or combined	technical - small appliance repair technical certificate at a college or similar skill set from working. Business: marketing must be done or paid for; website created and maintained. Must know how to handle materials, lift, follow GPS, drive, remove items safely. Pricing, cash register, cleaning.	Med	3-8K sq ft	Yes
Architectural Detail (tiles, mantelpieces, light fixtures, flooring...?) Rank: 76 High	mod 3	\$\$ 3	all indoors; showroom and warehouse and workshop; 5-25 employees	Tool set; storage racks; carts trucks trailers	yes	stand alone business or combined	remove materials, transport, store and sell. Know vocabulary. Training or apprenticeship. see above.	Med	10-20K sq ft	Yes
Bicycles - resale, repair Rank: 73 High	low2	Low - \$ 2	small shop and workshop; 2-10 employees	tool set; small equipment	yes	stand alone business or combined	bicycle repair, apprenticeship, class. see	Low	1-3000 sq ft	Yes



**Prioritization Matrix for Programs and Activities: Business Needs**

	Cost to start (loosely estimated) [low mod high] L 50-149; M 150-299; H 300+	Gen Profitability <0 = needs subsidy, \$-\$-\$-\$	Facility needs	Equipment needs	Methods well established No/med/yes	Other factors	Threshold Skills	Equipment Costs Low-Med-High L <50K; M 50-150K; H 150K+	Space Needs	Recommended for Inclusion in an RIC
							above.			
Bricks - reuse Rank: 64 Moderate	low2	Low -mod	outdoors mainly. 2-6 employees	forklift; truck; pallets, some tools	yes	stand alone business or combined	Just need to know the technique of removing and cleaning. Learn from business owner	Low-Med	outdoor, 5-10K sq ft	Yes
C & D Debris Concrete, cardboard, sheetrock, insulation, etc. Sorting for reuse. Rank: 72 High	high (partly because sheetrock)	high	Need space, a couple dozen employees. recycling yards employ truck drivers picking up, and office people, billing, sorting, operating scale. Takes a lot of people	forklift racks carts pallets tool set truck/trailer	yes	stand alone business or combined	remove materials, transport, store and sell. Know vocabulary. Training or apprenticeship. see above.	Med-High	20-30K sq ft	<b>Yes</b> Deconstruction Business should be first to initialize at RIC
Cabinets - reuse/repair Rank: 71 High	mod 3	\$\$ - 3	showroom warehouse shop space. Not a single business, realistically part of another business with broader products. 2-8 employees, Size variable on that basis.	tool set; truck and trailer; carts racks	yes	Best if part of a larger effort	remove materials (involves electrical, plumbing, gas so you don't damage someone's home), transport, store and sell. Training or apprenticeship.	Med	5-7K sq ft	Yes, as part of

**Prioritization Matrix for Programs and Activities: Business Needs**

	Cost to start (loosely estimated) [low mod high] L 50-149; M 150-299; H 300+	Gen Profitability <0 = needs subsidy, \$-\$\$-\$\$\$	Facility needs	Equipment needs	Methods well established No/med/yes	Other factors	Threshold Skills	Equipment Costs Low-Med-High L <50K; M 50-150K; H 150K+	Space Needs	Recommended for Inclusion in an RIC
							see above.			
Carpet/ padding/ rugs reuse Rank: 63 Moderate	low	-\$2	showroom warehouse 3-5 employees	truck and trailer carts racks cleaning equipment	yes	Best if part of a larger effort	remove materials, cleaning, transport, store and sell. Learn on the job, online resources.	Med	3-6K sq ft	Yes
Clean wood Furniture production Rank: 79 High	mod	mod	showroom warehouse shop space,4-20 employees	Tool set; storage racks; carts trucks trailers	yes	stand alone business or combined	more technical; getting wood is simpler, safety and woodworking skills are more complex than simple resale and may be learned at a technical school or learn on the job.	Med-High	5-10K sq ft	Yes
Doors, reuse/repair Rank: 77 High	low 2	\$\$ - 3	Showroom warehouse workshop all indoors; 2 to 4 employees	Tool set truck trailer forklift carts	yes	stand alone business or combined	similar to cabinets but less complicated removal and less space	Med	2-5K sq ft	Yes

**Prioritization Matrix for Programs and Activities: Business Needs**

	Cost to start (loosely estimated) [low mod high] L 50-149; M 150-299; H 300+	Gen Profitability <0 = needs subsidy, \$-\$\$-\$\$\$	Facility needs	Equipment needs	Methods well established No/med/yes	Other factors	Threshold Skills	Equipment Costs Low-Med-High L <50K; M 50-150K; H 150K+	Space Needs	Recommended for Inclusion in an RIC
Electronics repair/reuse Rank: 62 Moderate	mod 3	\$\$ - 3	warehouse workshop all indoors workshop; 4-15 employees	tool set truck and trailer forklift(optional) or pallet jack carts special processing equipment	yes	stand alone business or combined	technical skills, repair and diagnostics usually learned through technical school certification or other relatively expensive training; knowledge of rules related to electronic disposal and materials handling. Ability to evaluate value.	Med	3-5K sq ft	Yes
Glass - recycling or melting and reforming or blowing Rank: 52 Low	mod 3	\$\$ -3	warehouse shop space material storage area; 3-10 employees	truck trailer forklift processing equipment, kiln	yes	stand alone business or combined	just recycling, very low skilled melting and making glass tiles, learn equipment and safety, right types of glass, OTJ Glass blowing, can find classes but usually OTJ.	Med-High	4-8K sq ft	Yes

**Prioritization Matrix for Programs and Activities: Business Needs**

	Cost to start (loosely estimated) [low mod high] L 50-149; M 150-299; H 300+	Gen Profitability <0 = needs subsidy, \$-\$\$-\$\$\$	Facility needs	Equipment needs	Methods well established No/med/yes	Other factors	Threshold Skills	Equipment Costs Low-Med-High L <50K; M 50-150K; H 150K+	Space Needs	Recommended for Inclusion in an RIC
Books/ bags/ boxes/paper Rank: 54 Low	low 1	0 - 0	must be part of a larger operation; no dedicated employees	no significant equipment	n/a or yes	not a stand alone business	not a separate business. Paper in general is not really part of an RIC. In some way these play into every other category.	N/A	N/A	Yes
Durable plastic - reuse, remanufacturing Rank: 70 Moderate-High	low		must be part of a larger operation; 1-2 employees depending on volume	no significant equipment	yes	not a stand alone business	not a separate business. Plastic pipe in used building equipment stores, toys at Habitat, etc.	N/A	N/A	Yes
Aluminum - reuse Rank: 57 Low			must be part of a larger operation;no dedicated employees		yes	not a stand alone business	not a separate business. In used equipment stores, at Habitat, etc.	N/A	N/A	Yes (as part of welding)

**Prioritization Matrix for Programs and Activities: Business Needs**

	Cost to start (loosely estimated) [low mod high] L 50-149; M 150-299; H 300+	Gen Profitability <0 = needs subsidy, \$-\$\$-\$\$\$	Facility needs	Equipment needs	Methods well established No/med/yes	Other factors	Threshold Skills	Equipment Costs Low-Med-High L <50K; M 50-150K; H 150K+	Space Needs	Recommended for Inclusion in an RIC
Metals including scrap - processing for recycling Rank: 89 High	high 4	\$\$\$ - 4	large outdoor yard with multiple buildings and processing areas. 10 to 20 employees	heavy equipment; trucks; forklifts; specialized equipment; tools; trucks trailers	yes	stand alone business or combined	Assuming just processing scrap metal to send to a mill. OTJ training; technical college training is common because welding and torch cutting are needed. Draining fluids from vehicles, heavy and other equipment usage. Quite a few skills needed in scrapyards.	Very High	covered and outdoor space mostly, some office space or trailer. 50K sq ft or more.	Yes
Textiles - upcycling Rank: 65 Moderate	3	2	warehouse shop space material storage areas indoors; 2-8 employees	trucks; forklifts; specialized equipment; tools; trucks trailers	med	stand alone business or combined	sewing, weaving, sewing equipment use, pattern making. Design. Evaluate condition of incoming materials, sanitizing. OTJ or class; there are still people out there who know how to sew (e.g. in the	Med	3-10K sq ft	Yes

**Prioritization Matrix for Programs and Activities: Business Needs**

	Cost to start (loosely estimated) [low mod high] L 50-149; M 150-299; H 300+	Gen Profitability <0 = needs subsidy, \$-\$\$-\$\$\$	Facility needs	Equipment needs	Methods well established No/med/yes	Other factors	Threshold Skills	Equipment Costs Low-Med-High L <50K; M 50-150K; H 150K+	Space Needs	Recommended for Inclusion in an RIC
							Repair Cafe network)			
Wood Pallets - reuse, ??? Rank: 62 Moderate	low 2	-\$2	shop space and outdoor yard; 1-5 employees	truck trailer forklift; small tool set	yes	stand alone business or combined	low skill requirements. Watch a few youtube videos or learn on the job from a business owner	Med	outdoors mostly or unheated; 5-10K	No. Not physically at RIC facility but partner with others. These businesses don't need a retail location. The RIC can help them to find pallets and partners who want pallets.
Cardboard - processing for recycling Rank: 69 Moderate	3	3	warehouse shop space material storage areas indoors' no dedicated employees	trucks; forklifts; specialized equipment; tools; trucks trailers	yes	Not often a business, may be if prices rise again	Assuming just processing cardboard to send to a mill. Assuming just OTJ, zero special skills.	Med	2-10K sq ft	No; but have a drop box for recycling
Tires - resale or recycling Rank: 70 Moderate	3	3	some structures, some outdoor space; 3-7 employees	trucks; forklifts; specialized equipment; tools; trucks trailers; car lifts	yes	stand alone business or combined	Assuming resale of tires and recycling (based on Beacon Battery and Tire in WA) OTJ, learn how to use equipment. Forklift training.	Med	indoor and outdoor covered space. 5-20K sq ft	No; handled elsewhere

**Prioritization Matrix for Programs and Activities: Business Needs**

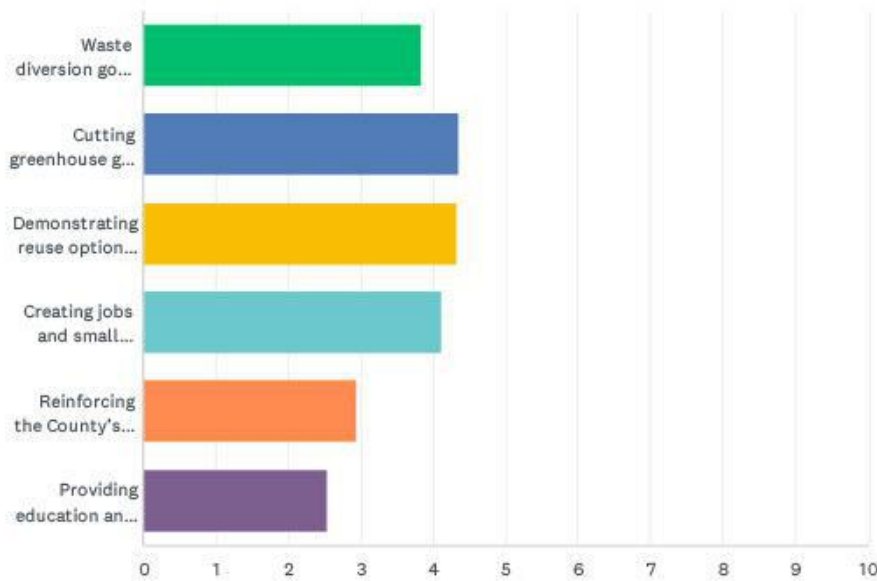
	Cost to start (loosely estimated) [low mod high] L 50-149; M 150-299; H 300+	Gen Profitability <0 = needs subsidy, \$-\$\$-\$\$\$	Facility needs	Equipment needs	Methods well established No/med/yes	Other factors	Threshold Skills	Equipment Costs Low-Med-High L <50K; M 50-150K; H 150K+	Space Needs	Recommended for Inclusion in an RIC
Gypsum board - recycling Rank: 57 Low	high 4	\$\$ - 4	warehouse shop space material storage area; 4-16 employees	heavy equipment forklift storage bins; processing equipment including crusher	medium; not yet common in many areas	stand alone business or combined	Know how to watch out for contaminants; specialized equipment knowledge, OTJ training and specialized training for the specialized equipment for grinding. Need to use heavy equipment.	Very High	20-40K sq ft	No; 360 regs
Mattresses, multiple materials, various uses Rank: 61 Low-Moderate	med 3	-\$2	warehouse shop space material storage areas indoors; 5-10 employees	processing equipment forklift storage bins tool set truck and trailer	medium; must be subsidized in many areas	Best if part of a larger effort	OTJ training; stripping, grinding metal, handling wood, identifying contamination, etc.	Med-High	inside + covered storage 10-20K sq ft	No; UCRRRA working on a solution, would be redundant

Appendix C Stakeholder engagement: survey

Ulster Reuse Innovation Center Stakeholder Inputs

Q1 Considering the potential for a Reuse Innovation Center in Ulster County, what do you consider to be the top 3 goals it can achieve, in rank order?

Answered: 22 Skipped: 0



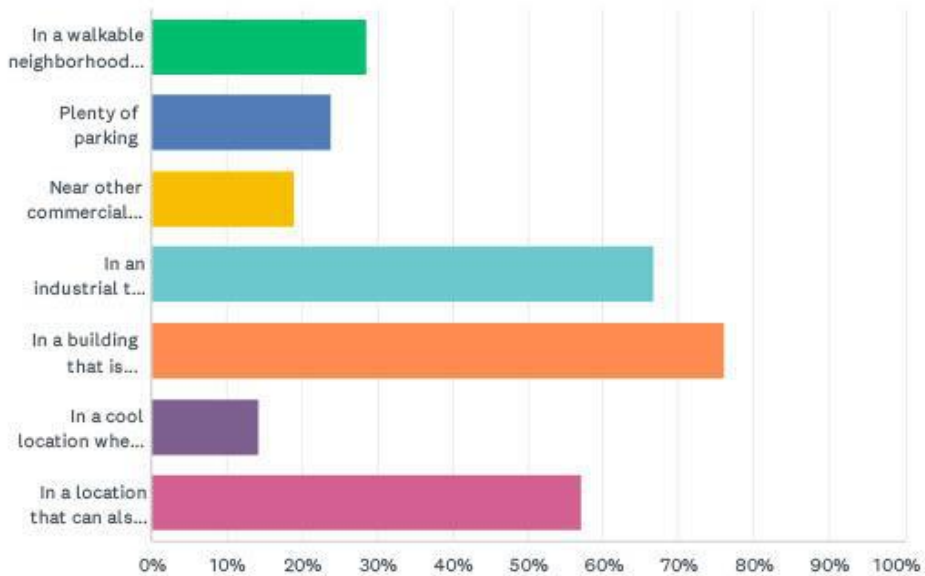
	1	2	3	4	5	6	TOTAL	SCORE
Waste diversion goals as expressed in the Zero Waste Implementation Plan	21.05% 4	15.79% 3	21.05% 4	15.79% 3	21.05% 4	5.26% 1	19	3.84
Cutting greenhouse gas emission by reducing shipping of materials to the landfill and recycling markets	30.00% 6	20.00% 4	30.00% 6	5.00% 1	5.00% 1	10.00% 2	20	4.35
Demonstrating reuse options for hard-to-recycle materials as a matter of principle and best practice	23.81% 5	33.33% 7	19.05% 4	9.52% 2	4.76% 1	9.52% 2	21	4.33
Creating jobs and small business opportunities	26.32% 5	21.05% 4	15.79% 3	21.05% 4	5.26% 1	10.53% 2	19	4.11
Reinforcing the County's role as a leader in green innovation	11.76% 2	11.76% 2	11.76% 2	11.76% 2	29.41% 5	23.53% 4	17	2.94
Providing education and training opportunities	0.00% 0	11.76% 2	11.76% 2	23.53% 4	23.53% 4	29.41% 5	17	2.53



Ulster Reuse Innovation Center Stakeholder Inputs

Q2 What factors are most important to you in terms of the location and facility type for the Reuse Innovation Center? Choose up to 3 top priorities (responses with more than 3 responses will not be reviewed).

Answered: 21 Skipped: 1

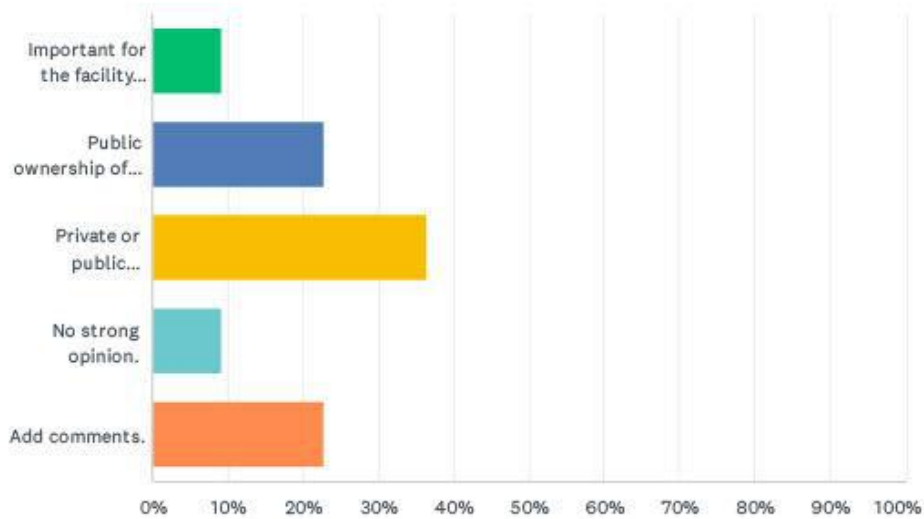


ANSWER CHOICES	RESPONSES
In a walkable neighborhood and/or close to transit	28.57% 6
Plenty of parking	23.81% 5
Near other commercial facilities	19.05% 4
In an industrial type facility with plenty of capacity for delivery and distribution of material, space for big items, etc.	66.67% 14
In a building that is adaptively reused itself, rather than new construction	76.19% 16
In a cool location where people will want to come	14.29% 3
In a location that can also feature complementary activities such as arts, maker space, education and training	57.14% 12
Total Respondents: 21	

#	OTHER (PLEASE SPECIFY)	DATE
1	well organized, items neatly and thoughtfully organized.	8/9/2023 12:33 PM
2	How much is it going to cost to build and operate? How are you going to pay for it?	7/21/2023 11:17 AM
3	I'm hoping to find a way to offer my services to help & participate with reuse, repurpose, upcycle There is a large community you are not using.	4/21/2023 11:54 AM

### Q3 In terms of the ownership and management of the Reuse Innovation Center, which best reflects your views?

Answered: 22 Skipped: 0



ANSWER CHOICES	RESPONSES
Important for the facility to be publicly owned and managed.	9.09% 2
Public ownership of facility is important, but participating businesses can be private, nonprofit or governmentally run.	22.73% 5
Private or public ownership is OK providing there is a sound plan for management and cost-effectiveness.	36.36% 8
No strong opinion.	9.09% 2
Add comments.	22.73% 5
<b>TOTAL</b>	<b>22</b>

#	ADD COMMENTS.	DATE
1	Public or private ownership is fine, but please don't recreate the current relation between UCRRRA and the County; the lack of collaboration and technical disconnect as a "public" entity that exclusively provides service to our municipality has become a political issue that disrupts real problems from being solved.	9/19/2023 3:01 PM
2	This should be used with private money. Not public.	7/21/2023 11:17 AM
3	Cooperatively/Worker-Owned model where folks from the community can have buy in and benefit.	6/27/2023 1:07 PM
4	It needs to be innovative in finding ways to influence manufacturers of 'original' products to make them reusable from the design phase through to the sale phase.	2/9/2023 2:12 PM
5	I think the center needs private ownership and investment in order to have sufficient motivation to succeed. Ulster County has seen failure of similar projects with free money, storage, and materials not finding new owners.	1/30/2023 5:51 PM

Ulster Reuse Innovation Center Stakeholder Inputs

Q4 What materials are most important to you for the Reuse Innovation Center to collect, produce and distribute?

Answered: 20 Skipped: 2

#	RESPONSES	DATE
1	Plastic and food waste.	9/19/2023 3:01 PM
2	furniture, household appliances, televisions, microwaves, coffee makers, e-waste, scrap metal, scrap wood, craft materials, fabric, dishware, carpets, bicycles and cars, books, food?	8/9/2023 12:33 PM
3	Furniture, Single Use Plastic Items	7/21/2023 11:02 AM
4	I would love to learn more before answering this question. But generally, building materials of all kinds, renewable energy But think this is an amazing opportunity for Ulster to set	6/27/2023 1:07 PM
5	Construction	6/13/2023 10:09 AM
6	Construction materials, household items, fabric	5/23/2023 9:13 PM
7	Plastic	5/23/2023 7:12 AM
8	All	5/21/2023 4:46 AM
9	Building materials, textiles,	5/10/2023 10:57 AM
10	Materials for homes that people would often find in other spots like Salvation Army, ReStore or Facebook Marketplace (e.g, furniture, lamps, electronics, etc.) I think offering a spot for folks to perhaps recycle items like batteries, medications, diabetes needles, paints and electronics would be especially useful. Partnering with transfer stations throughout the county to collect their re-usable items could also be a priority.	5/9/2023 8:28 PM
11	A Huge issue globally is the Fast Massed Produce Furniture Industry. Buy , Use & Throw Away. Our landfills are overfilled with discarded poor quality massed produced furniture that isn't recycable due to how it is produced. I want to help & educate	4/21/2023 11:54 AM
12	C and D; appliances and electronics that are repairable; all plastics	3/24/2023 12:55 PM
13	Current recycle waste stream, plastics, glass, paper etc., also metals, fabrics, dependent on the participating businesses	3/7/2023 10:26 PM
14	Building Materials, Industrial Equipment/Waste	3/7/2023 1:01 PM
15	Everything EXCEPT plastic. Attempting to recycle plastic will only further the fallacy that we can recycle our way out of the problem, and distract from the urgent need to reduce it's production in the first place.	2/27/2023 12:10 AM
16	Materials that the building industry already struggles to dispose of and that are used in high volume - materials like concrete, masonry, steel, gypsum board, insulation	2/9/2023 2:33 PM
17	PLASTICS!!	2/9/2023 2:12 PM
18	Anything that can be diverted, rather than sent to the landfill.	2/9/2023 9:28 AM
19	lets start with ones that make sense economically and environmentally so this is successful	2/7/2023 11:20 AM
20	Construction and building materials, strong useable furniture, possibly working appliances	1/30/2023 5:51 PM



Ulster Reuse Innovation Center Stakeholder Inputs

## Q5 What funding sources do you recommend that the ReUse Innovation Center should seek out?

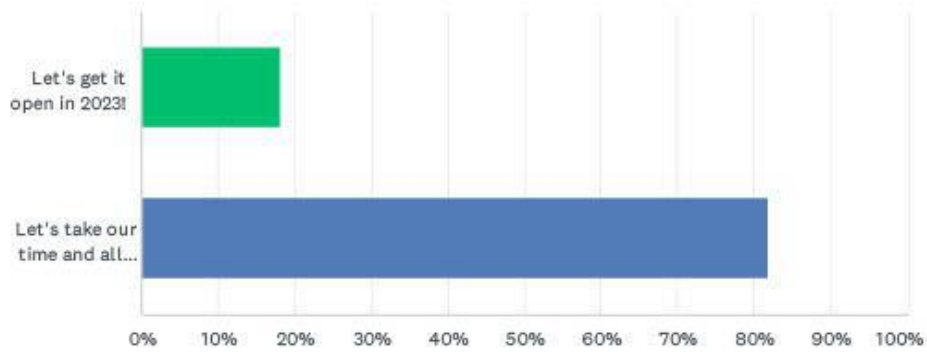
Answered: 15 Skipped: 7

#	RESPONSES	DATE
1	MORE PV is a great funding opportunity, but the application period has passed. Here are some open grants: - Clean Communities Investment Accelerator - Just Transition Site Reuse Planning Program - Climate Ready Workforce - National Clean Investment Fund	9/19/2023 3:01 PM
2	GOVERNMENT FUNDING, University partnerships for staffing, volunteers, research and development, engineers for item repair and innovation projects. The Park Foundation offers grants for NYS projects	8/9/2023 12:33 PM
3	Private business.	7/21/2023 11:17 AM
4	Government and Grants	7/21/2023 11:02 AM
5	- <a href="https://www.closedlooppartners.com/funds/project-finance/closed-loop-infrastructure-fund/">https://www.closedlooppartners.com/funds/project-finance/closed-loop-infrastructure-fund/</a> - Two grant opportunities that could be relevant through the US EDA - "July 28 - Fiscal Year 2023 Build to Scale (B2S) Program; Aug 15 - Tech Hubs Program Phase 1" <a href="https://www.eda.gov/funding/funding-opportunities/all-opportunities?q=/funding/funding-opportunities/all-opportunities&amp;f%5B0%5D=funding_status%3A6565">https://www.eda.gov/funding/funding-opportunities/all-opportunities?q=/funding/funding-opportunities/all-opportunities&amp;f%5B0%5D=funding_status%3A6565</a> - Novo Foundation - <a href="https://recyclingpartnership.org/grants/">https://recyclingpartnership.org/grants/</a>	6/27/2023 1:07 PM
6	Private	6/13/2023 10:09 AM
7	Government grants	5/21/2023 4:46 AM
8	Federal, state, corporate...	5/10/2023 10:57 AM
9	Sales tax; deposit on retail items that may end up in waste stream	3/24/2023 12:55 PM
10	public and private grants, sponsorship from local businesses	3/7/2023 10:26 PM
11	Should be funded by private sector so it will be ran with end market in mind.	3/7/2023 1:01 PM
12	NYS Green Innovation Grant Program	2/9/2023 2:33 PM
13	This is beyond me in general, but there should at least be a way for the general public to feel 'involved' even if it is only to making a small donation.	2/9/2023 2:12 PM
14	County, NYS grants, among others.	2/9/2023 9:28 AM
15	To work, the RIC has to be self-sustaining.	1/30/2023 5:51 PM

Ulster Reuse Innovation Center Stakeholder Inputs

Q6 Considering the timeline for the ReUse Innovation Center, which statement best describes your views?

Answered: 22 Skipped: 0



ANSWER CHOICES	RESPONSES	
Let's get it open in 2023!	18.18%	4
Let's take our time and allow for the careful design of a potentially complex facility.	81.82%	18
TOTAL		22

## Appendix D Stakeholder Engagement: Conversation and Public Session Notes

### Public Session Notes Organized by Date of Public Session

Following are the detailed notes and comments from participants in public sessions regarding the Reuse Innovation Center throughout the phases of development of deliverables and their associated presentations.

**2/7/23**

\*The recording failed from this Zoom meeting. The chat record is below.

Christian Sweningsen to Everyone (Feb 7, 2023, 11:31 AM)

Christian Sweningsen, Columbia County Environmental Management Council, co-founder Zero Waste Columbia.

Melissa Everett to Everyone (Feb 7, 2023, 11:31 AM)

Melissa Everett, ED, Sustainable Hudson Valley

Mike Ewall to Everyone (Feb 7, 2023, 11:31 AM)

Mike Ewall, Executive Director of Energy Justice Network and consultant to the county for the development of the county's Zero Waste Implementation Plan.

Kathy Galione to Everyone (Feb 7, 2023, 11:32 AM)

Kathy Galione - Program Coordinator for Rockland Conservation & Service Corps - A Program of the Rockland County Youth Bureau

stephen cerini to Everyone (Feb 7, 2023, 11:32 AM)

Nick Hvozda, Director of Ulster County Department of the Environment

Regis Obijiski to Everyone (Feb 7, 2023, 11:32 AM)

Regis Obijiski, TownOfUlsterCitizens.org

Michael Hartner to Everyone (Feb 7, 2023, 11:32 AM)

Michael Hartner, Town of Gardiner ECC

Julie Noble to Everyone (Feb 7, 2023, 11:32 AM)

Julie Noble, City of Kingston Sustainability Coordinator and Recycling/Organics Coordinator

Michael Sheridan to Everyone (Feb 7, 2023, 11:32 AM)

Michael Sheridan, Professor of Management, SUNY New Paltz / Sustainable Hudson Valley, Treasurer

Josephine Papagni to Everyone (Feb 7, 2023, 11:32 AM)

Josephine Papagni & Shabazz Jackson / Greenway Environmental Services

Neil Bettez to Everyone (Feb 7, 2023, 11:33 AM)

Neil Bettez, New Paltz Town Supervisor

Sarah Swinko - STW to Everyone (Feb 7, 2023, 11:33 AM)

Sarah Swinko, Community Sustainability Planner, Southern Tier West Regional Planning and Development Board

Michelle Gluck, UC Dept of the Environment to Everyone (Feb 7, 2023, 11:33 AM)

Michelle Gluck, Sr. Env. Resource Technician, Ulster County Department of the Environment

Ashley Seyfried to Everyone (Feb 7, 2023, 11:33 AM)

Ashley Seyfried, Sustainability Coordinator, Southern Tier 8 Regional Board - located in Broome County

Kai Lord-Farmer to Everyone (Feb 7, 2023, 11:33 AM)

Kai Lord-Farmer, Ulster County Planning Department

Kathy Galione to Everyone (Feb 7, 2023, 11:33 AM)

I think I received an e-mail about it. I will check back to see from where.....

Pearl Gray to Everyone (Feb 7, 2023, 11:33 AM)

Pearl Gray, Assistant Director Policy Impact Lab Columbia University. Resident of the Hudson Valley engaged with Riverkeeper and Strawtown Studio and environmental communications opportunities.

Esi Lewis, UC Diversity Officer to Everyone (Feb 7, 2023, 11:33 AM)

Esi Lewis, UC Chief Diversity Officer

Gail Lennstrom to Everyone (Feb 7, 2023, 11:33 AM)

Gail Lennstrom - -Central Catskills Chamber of Commerce - Long Time Supporter SHV and working on new "Resell" campaign with donors

Eleanor Peck to Everyone (Feb 7, 2023, 11:33 AM)

Eleanor Peck, Clean Energy Communities Manager, Hudson Valley Regional Council. Received email!

Christian Sweningsen to Everyone (Feb 7, 2023, 11:32 AM)

M Ewall, which county?

Natalie Kikel to Everyone (Feb 7, 2023, 11:36 AM)

Natalie Kikel, City of Kingston Grants Manager and Town of Lloyd Envi Conservation Council participant (not yet member). Received an email about the program.

Chris Pletcher to Everyone (Feb 7, 2023, 11:38 AM)

Chris Pletcher, board member at Build Reuse, consultant for reuse businesses and social enterprises, Syracuse, NY

Kathy Galione to Everyone (Feb 7, 2023, 11:39 AM)

lol @ kneecapped

Christian Sweningsen to Everyone (Feb 7, 2023, 11:40 AM)

Also Repair Cafe Stuyvesant, work at several repair cafes.

Melissa Everett to Everyone (Feb 7, 2023, 11:53 AM)

And apologies to all, we have fussed a bit extra with the drafts before posting them, but keep the faith. We will ping you all when they are up for review.

laura petit to Everyone (Feb 7, 2023, 11:56 AM)

Laura Petit, UC Recycling Oversight Committee and retired Director of New Paltz ReUse and Recycling Center

Manna Jo Greene to Everyone (Feb 7, 2023, 12:00 PM)

Manna Jo Greene

UC Legislator

ZWIP. Working Group

former RC Coord/Educator UCRRA

Melissa Everett to Everyone (Feb 7, 2023, 12:23 PM)

In case it's hard to see, the parameters are: Retail value, recovery effort needed, carbon footprint, availability, collection infrastructure in place, weight compared to value, value compared to size, and an overall resulting ranking

This will be posted for everyone to delve and think about the rankings - they are obviously estimates but useful

Donna Egan to Everyone (Feb 7, 2023, 12:28 PM)

Approx how many acres are required for the example given? For building, parking, setbacks etc?

You to Melissa Everett (Direct Message) (Feb 7, 2023, 12:30 PM)

Manna raised her hand

stephen cerini to Everyone (Feb 7, 2023, 12:30 PM)

I was under the impression that UCRRA could not participate in selling items to the public once they were brought to their facility.

laura petit to Everyone (Feb 7, 2023, 12:32 PM)

I think we lost the original mission of the RIC which is upstream diversion before it ends up in the back of a garbage truck. The RIC was supposed to be a warehouse for diverted materials with an element of education NOT a green business maker space.

Donna Egan to Everyone (Feb 7, 2023, 12:33 PM)

Suggested item for next deliverable: letters of interest including SF requirements from interested tenants.

Michael Sheridan to Everyone (Feb 7, 2023, 12:38 PM)

How accurate is our characterization of the existing waste stream?

Europa McGovern to Everyone (Feb 7, 2023, 12:44 PM)

Thank you to the RIC project team for this introduction to the RIC project! Please keep an eye out for more updates on this project

### **3/7/23**

Unknown: Have you spoken with RC operators?

Melissa Everett: Yes of course, we asked them how we could support existing repair businesses & ecosystem of the repair world.

Unknown: Role of food waste: Have you talked to food banks?

Dave Bennink: Organics were deprioritized for this project because there are processes in place for that. Could be an extension but not commonly colocated with a RIC. A waste recovery park could accommodate organics like food waste.

Greg Ollivier, UCRRA - on our website there is a statement of interest, asks widely for interested parties to talk with us about how to reduce landfill waste. Trying to explore broader spectrum of options with their process to address all the waste streams.

Unknown: Did we factor in population growth in our stats on C&D trends?

Dave Bennink: Yes. Waste increased during a population decrease.

Barbara Todd: Any thoughts on prioritization matrix ?

Unknown: You should factor in whether there are already existing businesses covering materials. Dave visited a number of existing businesses to understand what they did and make sure the RIC's model and operations would be complementary. The innovation part of the name means targeting things that others are missing or not covering fully.

James Easley - any incentive program for residents who bring to transfer station to sort their C&D?

Greg Ollivier, UCRRA: something like that may happen in the future. One issue with the transfer stations is a law that we cannot haul commercial waste from those facilities. Some contractors were delivering to town transfer stations and ran up against that law. Possibly we could identify specific items that are not "commercial".

Timothy Rose - seems like you're right on track.

Julie Noble - City of Kingston is eager to participate and we're excited to see what's happening.

**5/23/23** Manna Jo Greene - UCRRA has some land, could it be considered as a location?

Melissa: We will look at that in the later siting deliverable.

Legislator Manna Jo Greene - what about separating C&D at the town transfer stations?

Dave: dropoff could happen outside the gate, being tried elsewhere.

Manna Jo - what about the town transfer stations (the various municipal sites)

Greg Ollivier, UCRRA - he is currently working on permit requirements for C&D bins and being able to haul it in separate from the MSW. Also looking at locations currently processing C&D that we could send to before we come up with our own diversions.

Evelina Knodel - have you identified minimum square footage given the different scales of materials and fluctuations in volume received over time?

Dave Bennink: maybe 30K sq ft inside and 30K outside (\*when we actually got to the conceptual phase we decided 50K/50K = 100K square feet.\*)

Evelina Knodel - what about R&D? Not a lot of opportunities on ways to divert some materials like gypsum. Can this be a place to do R&D and testing on these types of materials.



Dave Bennink - Taylor processes sheet rock or gypsum board. In BC, it's mandatory that you recycle sheet rock.

Legislator Manna Jo Greene - premature to mandate C&D recycling, some steps before, Greg indicated one of them. But she wants to see any proposed demolition provide a sound deconstruction plan and deconstruction must be part of the RFP. She thinks the legislature is ready to propose.

Andy Willner (chair, Rosendale Econ Dev Committee) - Dave, are you aware of the Restore on Puget Sound? Dave - yes, he supplies them with materials whenever has a job on Lopez Island.

Europa McGovern - re: waste stream component prioritization matrix - it seems like a lot of C&D components are rising to the top here.

Dave Bennink - yes, based on other operations in other parts of North America, C&D represents a large portion of the waste stream, are more easily separated and less likely to be contaminated. Carbon footprint and also the value of the material are additional factors.

Legislator Manna Jo Greene - marketability - is there a way to market it and what are the steps; also reminder that the Mid Hudson Regional Sustainability Coalition has Materials Management working group. It has been discussed that each County specialize in a particular material like mattresses. Perhaps Ulster could take on that material. Worth discussing to plan how different materials will be handled. Excellent work, thank you.

Europa McGovern - at what point in prioritization and consideration of what's possible, does the question of how the source separated materials get to the facility? If other drop off locations, for example?

Dave Bennink - Over time as demand is generated, there will be incentive for reuse businesses to collect.

Melissa Everett - we are giving thought to working with County Operations.

Timothy Furstnau - how is green waste handled?

Europa McGovern UCRRA & other composting facilities; not in scope for RIC.

Evelina Knodel - impact of household composting on the ability to divert waste from MSW because of contamination? Any correlation?

Dave Bennink - we were told not to focus on organics because there's already a mechanism.

Greg Ollivier, UCRRA - Kingston doing a small pilot for collection of organics, possibly they'll do a citywide collection eventually. We are able to better overcome the problem of diversion from MSW with organics in it with newer technology. Working with a couple entities to help us recover more from MSW.

Legislator Manna Jo Greene - law in Ulster - as of next year, if generate 1/2 ton of food waste or more, must be diverted for reuse by humans if edible and safe, or animals or composted. Other alternative is anaerobic digestion. Hurley just issued an RFP to approach Zero Waste, which would include setting up at transfer stations and curbside.

Timothy Furstnau - love the prioritization matrix. Add a score for carbon involved in upcycling work, like welding? Also in terms of time and space involved.

## **6/20/23**

Cynthia Power, Molte Volte - are you interested in textile diversion? Yes, there is regional interest in textiles. Also very small to very large ways to divert.

Dave Bennink - yes; what are being missed by existing infrastructure; what can we do to leverage more, what can the RIC do to complement.

Laura Petit - there is a large network and social need for second hand stores.

Tyler Miller - is this a nonprofit or for profit effort?

Dave Bennink - At this point in the project, no constraints on that and there are multiple models.

Tyler Miller - what is the method of collecting materials?

Dave Bennink - people taking buildings down, haulers, repurpose existing waste infrastructure into diversion infrastructure. Ithaca has a constant stream of people dropping off materials rather than having them picked up. We would like to work with UCRRA to find ways to divert materials.

Laura Petit - clean wood, bikes doors and so forth are big sellers in the New Paltz Reuse Center.

Tyler Miller - online sales possible? Yes, feasible, with appropriate resources.

Dave - has a materials exchange online in Bellingham with a wishlist. Rheaply is a software provider specializing in a platform for reuse organizations, providing inventory management, resource exchange and ecommerce support.

Cynthia Power - it's really exciting and I love all the job creation opportunities.

Amy Biddle, Flotsammade - have you reached out to freecycle and Craig's list free?

Dave Bennink - uses Craig's list all the time. Sometimes you reach a point where you would rather give stuff away than pay rent to store it.

Tyler Miller - what can we do to help and what is the timeline?

Dave Bennink - First, we need people who are willing to start working in reuse businesses, start their own. Young people who want to learn how to work in these businesses.

Unknown - will this recording be shared? Yes.

### **7/11/23**

Casey Plasker - I'm so glad there is support from the County to do this. I'm wondering how you envision this RIC partnering with existing recycling facilities and waste sites. Is there appetite for further machinery to break down waste they don't have capacity to do today?

Dave Bennink: we don't count any materials out, but our focus is mainly on reuse, repurposing and repair. We are looking at plastic film, mattresses, and other materials as to their potential with the RIC. Partnering businesses don't have to be located in the RIC.

Barbara Todd - heavy manufacturing and regulated materials are things we probably want to avoid doing; but it will ultimately be up to Ulster County. That would affect zoning constraints as well.

Dave Bennink: The RIC would have a recycling collection area and send materials on to the appropriate recipient.

Additional materials could be collected like porcelain, until there is a sufficient quantity to make it cost effective to send to a distant recycling provider. We want to work closely with UCRRA to enable them to do more recycling.

Gretchen Worth - is there discussion about incentives or policies regarding separation at the transfer station?

Dave Bennink - there is talk of incentives, legislative support of deconstruction over demolition. Possibly collocating a collection facility near UCRRA.

Casey Plasker - I have a consultancy focused on circularity strategies for businesses, we help design products for circularity and extend life cycles, ultimately enable reuse or regeneration at the end. I have an integrated relationship with Circle Economy based in the Netherlands, which issues a Circularity Gap report annually. I am helping them bring that to the States.

Gretchen Worth - I'm based in Ithaca and work for the Susan Christopherson Center for Community Planning, a founding partner of CrOwd, Circularity Reuse Zero Waste Development. We work statewide and would love to have someone from Ulster join us. Very interested in the idea of a RIC which we need desperately all over the state. Crowd is also interested in incorporating more robust building materials solutions into County Solid Waste Plans throughout NY state. Tompkins and Cayuga are developing draft plans.

Casey Plasker - Dave, how have you been able to acquire funding in the past?

Dave Bennink - started with a \$25,000 grant. After that went 12 years without additional funding. If you can do it without funding, imagine what you can do with funding on a larger scale? Seattle and another RIC in central WA got funding through an industrial symbiosis grant from the WA State Dept of Commerce; another grant was from the Dept. of Ecology for an environmental grant. Working with office of historic preservation. There is the EPA.

Gretchen Worth - is there a preference for rental vs. purchase?

Melissa Everett - no bias at this point. Depends on Ulster's financial appetite for.

Casey Plasker - how is business to be structured and how can Gretchen and I be involved to help?

Dave Bennink - Core anchor business of reuse store, but with multiple businesses. We are actively looking for people who want to participate in starting a business that is part of the center. Referrals are very welcome.

Melissa Everett - we are providing a menu of options for Ulster County, they will ultimately decide.

Casey Plasker - I have experience in the B Corp realm, really excited to learn more as you learn more.

Gretchen Worth - to see how far this has gotten in a pretty quick time is really exciting. How much deconstruction goes on formally and informally in Ulster County right now?

Dave Bennink - we couldn't find any, or even much new construction.

Gretchen I'd like to follow up with you on the work we're doing with CrOwd, and what you are doing is really momentous.

### **8/1/23**

Sonia Wright - I'm focused on C&D waste. Ideally I would have a small recycle business that would take all the windows, for example. Is there a list of such businesses. Secondly, won't it be much more expensive to deconstruct and are there programs to support businesses that want to do that? Or is it just up to the owner if they want to do all this good stuff to pay for it?

Dave Bennink - every week we tackle the issue of costs. We have gotten much faster which has lowered our costs. We also get paid twice because we get paid when selling the materials as well as for taking it down. We pay less at the landfill and we get paid more for metal recycling. And if you combine those strategies, and maybe the owner reuses some of their own materials, then sometimes it can even be cheaper than demolition and doesn't take that much longer. We want to do a training in Ulster and get them up to speed and have all those strategies in their tool belt so they can do it too.

Michael Hartner - I commend you for working on this. I think it's important to get the word out that when people bring items in, try to bring it in good condition and be careful not to ruin things on the way to the RIC or recycling center.

James Dean Conklin - Are there relationships yet established between these efforts such as Dave has been doing for years, and construction companies? I often see outrageous amounts of material at construction sites being thrown away.

Dave Bennink - at this point in time the infrastructure does not exist, but that is the ultimate goal.

Melissa Everett - in the strategic plan we are working on, we are trying to cover all these considerations in our recommendations. Having a network of collaborating architects and contractors will be important.

Lee Anne Albritton - meeting with UCRRRA and a bunch of the transfer stations to talk about how she can come there.

Dave Bennink - we are meeting with them too, and are having those conversations and want to work closely with them.

Sonia Wright - in NYC they have the contractor divide the metal, sheetrock, wood etc. otherwise they get fined. What about Ulster?

Barbara Todd - I don't know about Ulster's specific regulations now, but we are evaluating policy recommendations like a deconstruction ordinance based on age or type etc.

Melissa Everett - that sounds like a good policy suggestion to make to those legislators we have been talking with, who are open to that kind of suggestion. If you can point us to that rule, we can share it with them.

Sonia Wright - ok I will find out.

Cynthia Power - discussed the potential flow of textiles and handling in an RIC. Suggested receive, sort for value on site, decide what to do with each:

REPAIR

On/Off site

RESALE

On/Off site

UPCYCLING

On/Off site

REMANUF

On/Off site

RECYCLE

Helpsy / Offsite

## DOWNCYCLE

Helpsy / Offsite

Then retail, repair or remanufacture on site with machines in a dedicated space.

Lisa Pellegrino - very excited about this model. Involved with Lifecycle Building Center in Atlanta. Shared link for [allforreuse.org](http://allforreuse.org), ecosystem map. Many entities could be added to that. Can we create a hyperlocal version of this map?

Melissa Everett - possibly the Vassar College GIS mappers could work on that. But not guaranteed.

Jenni Minner - good luck with this effort, I think it's really important.

## Appendix E Stakeholder Engagement: Summary of Key Concerns

### **Summary of Comments and Concerns on Draft 1 of the RIC Project Final Report and Associated Changes**

The Draft version of the Reuse Innovation Center Strategic Plan and Feasibility Study Final Report Draft was sent to all stakeholders of record on September 28, 2023. The deadline for comments was extended repeatedly because of the importance of stakeholder input to creating a successful Plan for this project. As of November 17, 2023, comments on the first draft of the RIC Final Report have been received from:

Legislator Manna Jo Greene

Julie Noble, EES Coordinator, City of Kingston

Emilie Hauser, Chair, Kingston Conservation Advisory Council

Casey Plasker, Founder, Circularly

Director Europa McGovern, Department of Environment

Legislator Laura Petit

Anna Roppolo, Interim Director, UCRRA

Tim DeGraff, Director of Finance and Administration, UCRRA

Legislator Eric Stewart (who indicated no changes)

Timothy B. Rose, Dir. of Environmental Health Services, Department of Health (who supported with no changes)

Neil Bettez, Supervisor, Town of New Paltz

Justine Cheape Porter, founder, Found & Fixed Hudson Valley

Cynthia Power, founder, Molte Volte (who supported with no changes)

The following items have been brought up and require clarification or stronger emphasis in our written deliverables:

- The role of the RIC in recyclables, and mattresses in particular
- Emphasis on upstream vs downstream materials diversion in the waste stream
- What model of ownership and management we are recommending
- The relationship of the RIC with existing reuse and repair sites as one of mutual support and growing the circular economy
- Rollout strategy
- That the RIC needs to work with transfer stations, not just the main UCRRA site on Flatbush Rd.
- UCRRA has been asked to create a budget; but as of this writing, a plan has not been made by the legislature or committees as to ownership, model, structure etc. regarding the RIC
- Many policy and financial considerations related to the RIC need to be addressed by the legislature
- Land adjacent to UCRRA may be needed for other uses and may, or may not, be feasible to use for an RIC location or adjunct

Also, more visuals and summary flows have been requested.

As might be expected, there were different opinions on some subjects. Primary of these is the ownership model/organizational structure. Sustainable Hudson Valley and Reuse Consulting have attempted to incorporate these concerns in light of our research, experience and the goals and scope of the project as we understand them from the statement of requirements in our contract with the Ulster County Department of Environment. There have been concerns about County ownership of property, private vs. public ownership, and whether to implement non-profit, public corporation or private entity management.

Changes that were ultimately made to the Final Report were based first on alignment with the description of requirements in the contract for this project and ongoing guidance from the Department of the Environment, then on thoughtful consideration of the comments and suggestions made by stakeholders in light of the substantial data, research and analysis done for this project and what it indicated is the best path forward. All the above concerns have been addressed in the ultimate version of the final report.

There has been some dialogue to which we have been privy regarding how the RIC will be funded. A list of potential funding sources has been included.

Additional suggestions that were made but did not make it into the Final Report:

Though it's outside the scope of this project to cover organics, how about a place at the RIC to drop off food waste that can be made into compost?

Consider a worker-owned cooperative model. through Coop Hudson Valley, coops have access to additional sources of very progressive, non-extractive financing. Workers would co-manage rather than a hierarchical management structure and earn at a similar level.

A Reuse  
Innovation  
Center  
for Ulster  
County

Reuse Innovation Center Feasibility  
Study and Strategic Plan in  
Contract with the UC Department  
of the Environment  
Final Report Presentation to  
Stakeholders

Sustainable Hudson Valley and Reuse  
Consulting

November 20, 2023

## The Team

Tech Lead: Dave Bennink, CEO, ReUse Consulting; Proprietor of the first ReUse Innovation Center in Bellingham, WA

- has worked in 44 states, DC, Virgin I., 14 countries
- helped start 80 reuse operations, helped 200 total
- diverted 100,000,000 pounds from landfills
- master trainer in deconstruction

Admin Lead: Barbara Todd, Program Coordinator, Sustainable Hudson Valley; career managing software quality assurance projects and teams, as well as arts/marketing

Senior Support Person: Melissa Everett, Ph.D., Executive Director, Sustainable Hudson Valley

# Today's Agenda

1. Introductions and Definition of a Reuse Innovation Center
2. Phases and deliverables
3. Stakeholder Engagement and Concerns Identified
4. Briefing on the project, including recommendations for an RIC from the Conceptual Analysis and Siting Considerations
5. Conclusions and Recommendations of the Final Report
6. Path forward, Decisions to be made
7. Discussion / Q&A

## What is a Reuse Innovation Center (RIC)(Dave)?

Definition: an ecosystem of enterprises, programs and projects, which can be any combination of public or private entities, that reuse materials in their original or similar form through craft or light industrial approaches, with one or more physical locations that can also house an array of supplemental businesses and projects that add value, such as training and repair services.

What isn't it? 1)A waste recovery park 2) a place to store garbage



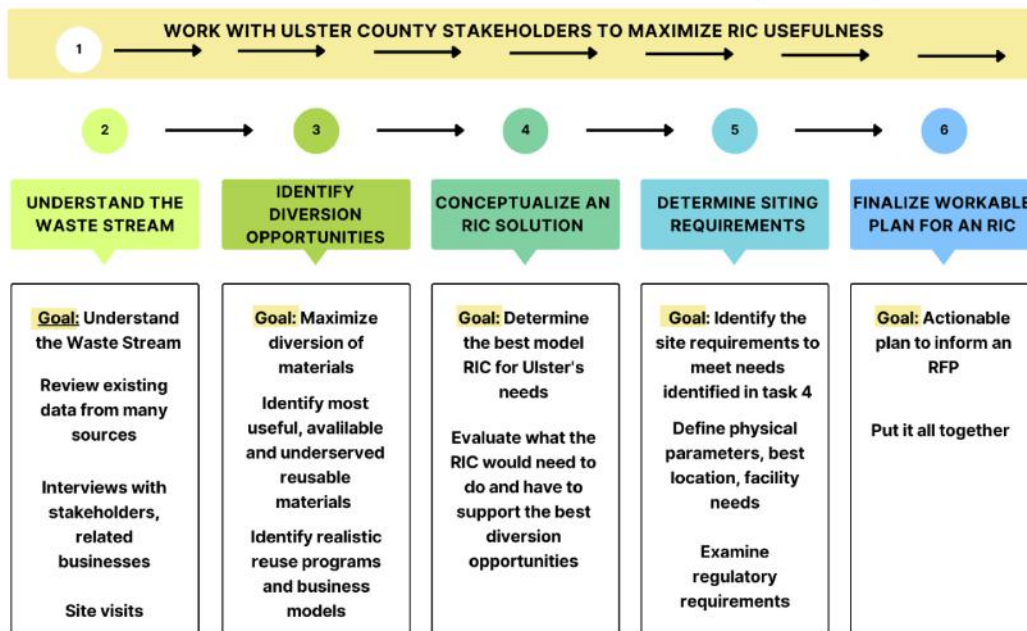
# Understanding and Defining Goals of the Project

Priorities, as defined in the contract with Ulster County Department of the Environment, are to identify how an RIC can:

- 1) Maximize diversion opportunities from the landfill and relevant community participation activities
- 2) Support a local circular economy via the programs and activities identified
- 4) Be one solution supporting broader community-scale waste diversion goals
- 5) Support planning for local/regional partnership opportunities

Out of scope: organics; toxics; heavier industrial activities that would require 360 permitting.

## Reuse Innovation Center Feasibility Study



## Evaluation of Deliverables by the DOE

For each phase deliverable, a draft was submitted and reviewed by committee at DOE.

Comments were provided and updates made according to those comments.

A subsequent version was submitted and when accepted, work began on the following phase deliverable.

Each phase's deliverable built on the previous so continuity and consistency was maintained.

Public sessions were held for deliverables throughout project

## 2. Analysis of the Waste Stream (Dave)

Sources of information for this deliverable:

- UCRRA Local Solid Waste Management Plan
- Ulster County Legislature's Zero Waste Implementation Plan working draft
- Ulster County Annual Waste and Recycling Solid Report Planning Unit Update 2019
- NYS Beyond Waste Plan, Appendix H: Waste Materials Composition and Characterization
- Ulster County 2018 Inventory of Communitywide Greenhouse Gas Emissions Appendix D: Solid Waste Sector
- Annual reports by permitted private waste management facilities.
- 2018-2022 UCRRA Data Summary sheets provided by UCRRA staff
- Permitting information from the City of Kingston
- Numerous interviews and site visits to UCRRA and reuse organizations and businesses in Ulster County

Conclusion: Reusable materials up and down the waste stream exist in sufficient quantity to support an RIC





## Textiles Spotlight (Melissa Everett)

Recycling coordinators of Mid-Hudson counties exploring how to move the needle on textiles collection  
 proper recycling  
 information sharing  
 Joint commitments

### Waste Stream Component Prioritization Matrix

Waste Stream Component	Type	Mass Reduction Potential	Volume Reduction Potential	Reuse/Repair Potential	Ease of separation/diversion	GHG reduction potential	Community concern	Commodity market value	Longevity	Toxicity	Barrier-free, less complex diversion	Diversion opportunities exist	Additional Diversion Potential	Handled by other regulations**	FINAL SCORE
<b>MULTIPLIER x</b>		1	1	2	2	3	2	3	2	2	2	1	2	-2	
Scrap Metal	C&D	5	3	6	8	15	8	9	8	8	8	5	6	0	89
Clean Wood	C&D	4	4	10	8	9	6	9	8	0	10	3	8	0	79
Doors	C&D	2	2	8	10	9	6	12	8	2	8	4	6	0	77
Appliances/White Goods	C&D	2	2	10	10	12	6	9	4	8	10	3	4	-4	76
Architectural Details	C&D	2	2	10	6	9	8	12	8	2	8	5	4	0	76
Bicycles	MSW	1	1	10	10	9	8	9	6	2	10	5	2	0	73
C&D Debris	C&D	5	4	8	8	9	6	6	4	2	8	4	8	0	72
Cabinets	C&D	2	2	8	8	9	6	12	6	2	8	4	4	0	71
Plastics - durables	MSW	2	3	6	6	9	6	3	8	8	8	5	6	0	70
Tires	MSW	3	2	4	10	12	8	6	8	6	8	5	2	-4	70
Bulky Items/Furniture	MSW	4	3	6	8	9	6	9	6	4	6	3	6	0	70
Cardboard (OCC)	MSW	2	2	4	8	6	6	9	10	2	8	4	8	0	69
Textiles	MSW	3	2	6	6	9	6	6	6	2	6	5	8	0	65
Bricks	C&D	3	2	8	8	6	6	9	8	0	8	4	2	0	64
Carpet/padding/rug	C&D	2	2	6	8	9	2	6	4	8	6	4	6	0	63
Electronic Waste	MSW	1	1	6	8	12	4	6	4	8	8	4	4	-4	62
Wood Pallets	MSW	3	3	10	4	12	6	3	4	2	6	5	4	0	62
Mattresses	MSW	2	3	2	10	9	10	3	6	2	2	2	10	0	61
Other durables	MSW	3	2	6	6	6	6	3	10	0	8	5	6	0	61
Contaminated wood	C&D	2	2	6	6	9	6	3	4	10	6	1	4	-2	57
Gypsum board	C&D	3	3	2	10	9	4	3	4	8	2	3	6	0	57
Aluminum (all),non-ferrous	C&D	3	2	4	6	6	6	3	10	0	8	5	4	0	57
Books/Bags/Boxes	MSW	3	3	6	4	6	6	3	6	0	8	5	4	0	54
Miscellaneous items	MSW	3	3	6	4	6	6	3	4	0	8	5	6	0	54
Glass	MSW	3	2	4	6	6	4	3	10	0	8	5	4	-2	53
Film plastic	MSW	1	1	2	8	9	6	3	2	8	2	4	6	0	52
Average score															68.56

## How we Identified the Best Diversion Materials/Opportunities (Dave)

Material Evaluation Factors: Mass Reduction Potential Volume, Reduction Potential, Reuse/ Repair, Potential Ease of separation/diversion, GHG reduction potential, Community concern, Commodity market value, Longevity, Toxicity, Complexity of diversion, Additional Diversion Potential, Whether handled by other regulations

Identified specific uses and proven process and/or business models in reuse, repair, repurposing, upcycling, remanufacturing

Identified businesses, projects, organizations doing these things



### Top Materials Reuse Opportunities for an RIC (BT):



Reclaimed wood work above by Ron Haase, Rust & Co



Material	Resell?	Repair?	Craft/Upcycle?
Metals	Yes	yes, weld	Yes
Clean Wood	Yes	Yes	Yes
Doors	Yes	Yes	Yes, arty designs, other uses e.g. desks
Appliances	In working order	Yes	Not often done
Architectural Detail	Yes	Yes	Sometimes
Bicycles	Yes	Yes	Not often done
Building Materials/C&D	Yes	Yes	
Cabinets & similar furniture	Yes	Yes	Yes, ornamentally
Textiles	Yes	Yes	Yes

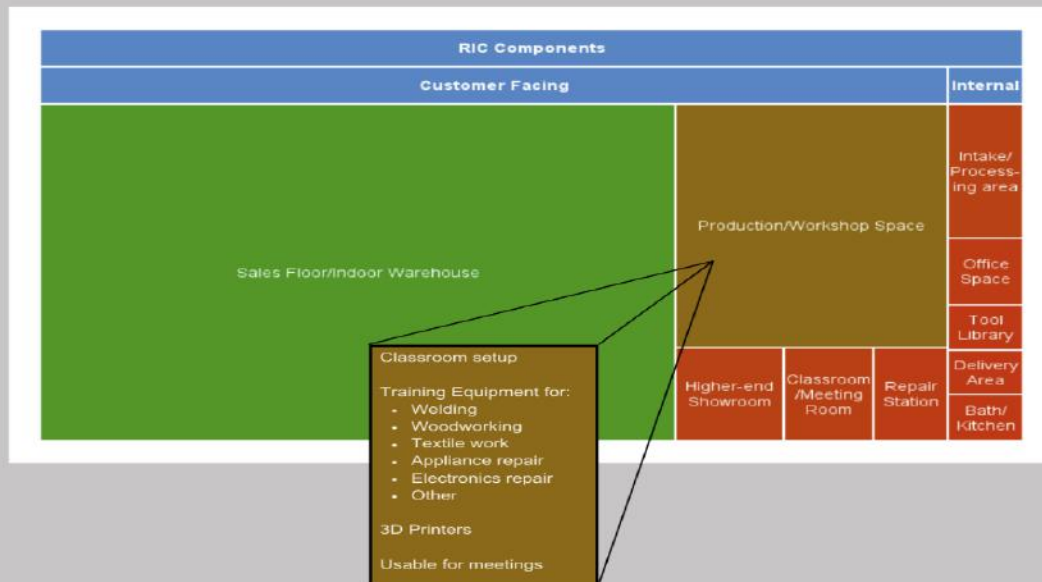


## A Few Example Business Opportunities (Dave)

Material	Use	Real Business Examples
Appliances	repair, resell	Habitat Restore; Steve Mudd Appliance Repair
Architectural Details	repair, resell, craft, remanufacture...	Hudson Valley Houseparts, <a href="#">Zaborski's</a>
Bicycles	repair, resell	Pleasant Valley Bicycle Shop; New Paltz Reuse Center
Bricks	repair, resell, repurpose	Kingston Block Co., Chicago Brick
C&D Debris	repair, resell, craft, remanufacture...	Reuse Action, Buffalo; Construction Junction, Pittsburgh
Cabinets	repair, resell	Renovation Angel, UC Habitat Restore
Clean Wood	repair, resell, craft, remanufacture...	Bellingham Reuse Innovation Center, Hudson Company, White Plains
Doors	repair, resell, craft, remanufacture...	The Door Jamb, Shokan; Doors Unhinged, Pittsburgh
Textiles	resell, craft, upcycle, remanufacture	Helpsy, The Skirt Sisters
Scrap Metal	repair, resell, craft, remanufacture...	West Kingston Recycling; Metalwood Salvage, Portland OR

## Conceptual Plan for the RIC: Components and Overall Design

Outdoor Usable Area



## 4. Conceptual Plan for the RIC

### Rollout Strategy

**Phase 1:** Planning, Policy Making and Proof of Concept

Establish the roles of county governmental branches, UCRRA, municipal and private partners, in developing and running the RIC.

Incubation and proof of concept through development of the nucleus of a deconstruction industry - Training of contractors, then workers to build capacity in UC

\*\*\*Supportive policy toward flow control and deconstruction once capacity is established is key

Design systems to implement key diversion strategies upstream and downstream

Proof of concept initiative - test methodology, throughput of materials

## 4. Conceptual Plan for the RIC

### Rollout Strategy

**Phase 2:** anchor operations and core business for the actual RIC. Anchor operations include administration, financial management systems, office space, branding and outreach materials and a web presence.

**Phase 3:** Bring in partnering reuse businesses

**Phase 4:** Establish a repair business and workforce training operation. Expand recycling infrastructure. Continue expanding business partnerships as materials supply, market demand and capacity allow.

## 4. Conceptual Plan for the RIC

### Recommended Sourcing Plan

- 1) Require box stores and other large producers to set aside specific materials
- 2) Diversion before the tipping floor at UCRRRA and at transfer stations
- 3) Partner with haulers where feasible to source-separate
- 4) network of architects and renovation contractors
- 5) Network of collection bins for priority materials esp. textiles
- 6) Sourcing by participating enterprises for their specific uses and the RIC as a whole (“more eyes and ears”)
- 7) Expand onsite collection with bins for specialty materials as traffic into the RIC grows

## 4. Conceptual Plan for the RIC

### Recommended Marketing Strategy

Build awareness and familiarity with pop up and online activities

- Fun education and training activities
- Pop up and short duration sales
- Online wish list building

Build initial client base of contractors + makers, thrifters, crafters with regular invitations, specials, how-to-use-the-materials info + social/educational activities

Stabilize initial cluster of businesses with collaborative marketing for the RIC and its member enterprises

Include publicity support for non-RIC businesses in the County to minimize competition and build synergy



## 4. Conceptual Plan for the RIC

### Lead with Training and Community Building

#### Specialized hands-on skills:

deconstruction, welding,  
woodworking, repair of all kinds +++

#### Broadly useful skills: retail,

wholesaling, warehousing & logistics,  
small business management

Fun specialized crafts: how to make a garden frame, fix your own  
jewelry, sew & sip gatherings etc.

Foundational skills for engineering and architecture occupations in  
clean energy economy



## 4. Conceptual Plan for the RIC

### Budgeting and Funding Sources

Initial investment:

- Supports coordinated planning
- De-Risks participation by partners
- Incentivizes diversion and invests in circular economy as public good

Costs may be mitigated with funding sources identified in the Final  
Report and with savings in reduced waste hauling



## Siting Considerations (Dave)



Goal: identify considerations for siting;

identifying an actual site was not in scope

Features - size, facility characteristics and capabilities match intended functions

Location - zoned appropriately; near UCRRA location; proximate to “disadvantaged” communities for ease of access to low-cost items

Economics - depends on ownership model, but an investment is needed to accomplish the project goals

## Stakeholder Concerns and Related Updates

**The following items were brought up, clarified or further emphasized in our written deliverables, particularly the Final Report:**

- The role of the RIC in recyclables, and mattresses in particular
- Emphasis on upstream vs downstream materials diversion in the waste stream
- Recommended model of ownership and management
- The relationship of the RIC with existing reuse and repair sites as one of mutual support and growing the circular economy
- Rollout strategy
- That the RIC needs to work with transfer stations, not just the main UCRRA site on Flatbush Rd.

**Other questions, concerns, changes and updates:**

- More visuals and summary flows have been requested
- What is the ownership model / organizational structure? There have been concerns about County ownership of property, private vs. public ownership, and whether to implement non-profit, public corporation or private entity management. This has been addressed in the ultimate version of the final report.
- There has been some dialogue regarding how the RIC will be funded. As per the contract, a list of potential funding sources has been included.

**Additional suggestions that were made but did not make it into the Final Report:**

- A place at the RIC to drop off food waste that can be made into compost?
- Consider a worker-owned cooperative mode

## Our Conclusions and Recommendations in Final Report

1. Focus on diverting materials that can definitely be used and has a known model to maximize material re-entry into the circular economy
2. Divert upstream, mid-stream, downstream
3. Start with a smaller scale proof-of-concept
4. Early focus on training for capacity building and public awareness
5. Supportive policies like flow control and a deconstruction ordinance
6. Establish public sector diversion system at UCRRA/transfer stations, Kingston

## Potential RIC Models/Our Recommendation (Dave)

Bellingham: privately owned & purchased land

Portland: privately owned and rented land

Central Washington: starting - nonprofit owned and rented

Madison WI: would be gov owned land, nominal rent/lease. Undecided who runs yet.

British Columbia: was going to be private but may choose to be nonprofit so can accept tax deductible donations of material & save on taxes.

Silicon Valley: (cancelled by Covid) would have been corporate land/building with small businesses occupying.

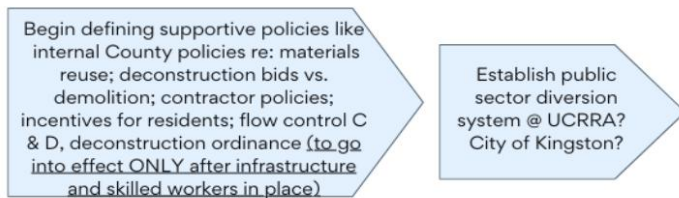
**RECOMMENDED: Government provides location and/or seed funding; privately run, poss. through contract; a nonprofit involved so tax-deductible materials donations**

# Budget: Facility Cost

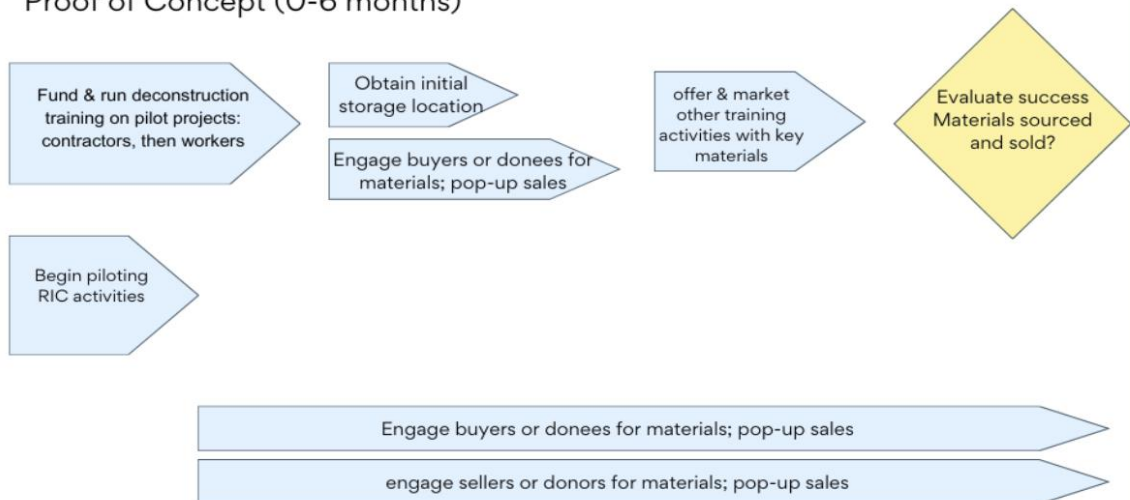
Facility	Estimated Cost
Rent - 13,000 sq.-ft. building (ex., C4 at iPark87) at \$1/sq. ft.	\$156,000 per year
Rent - 50,000 sq.-ft. building at \$1/sq. ft.	\$600,000 per year

## The Path Forward

### Groundwork Policy and Planning

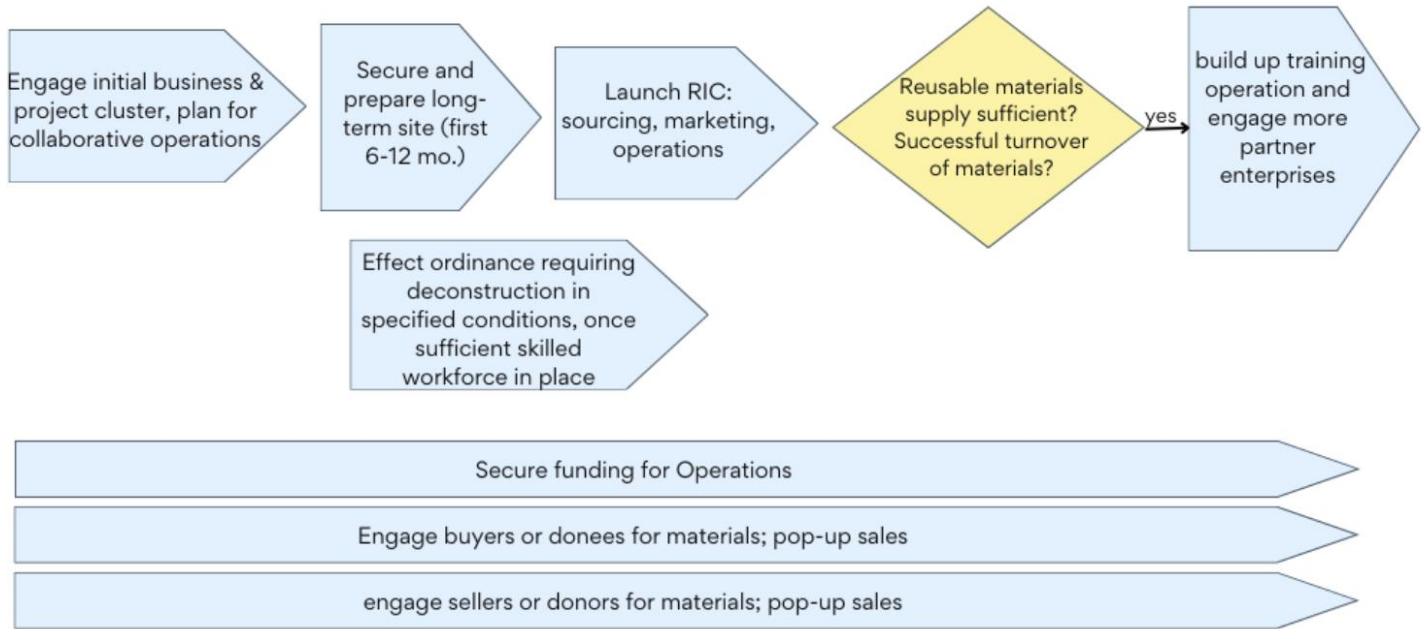


### Proof of Concept (0-6 months)





## RIC Development



## Decisions to be Made

1. What policies will the Ulster County Legislature pass to create optimal conditions for the Reuse Innovation Center?
2. Who will own the RIC? How will Ulster County coordinate planning and decision-making regarding the Reuse Innovation Center to ensure that the project has the autonomy and – at the same time – the accountability and support that are needed to move forward in a way that benefits all parties and is organizationally and financially sustainable?
3. What materials collection systems will be established by the County's Executive Branch through appropriate departments and agency partners to ensure a steady flow of materials that are diverted from the landfill through the County's resource management system?
4. RIC components including partnering enterprises, and rollout process
5. Facility type and location
6. Additional sourcing of materials for participating enterprises and marketing products and services
7. Budget and funding sources

# Discussion Q&A

## Appendix G Sample Matrix of Available Sites, May 2023

Note: the following information is a snapshot of what was available when the Site Selection deliverable was completed and is not current; it is included to show the factors and weights under consideration for site selection.

### Site Selection Matrix

The following chart reflects numerous property examples that we have compared to each other using numerous environmental and other parameters. The average score is about \_\_\_\_ The higher the score, the more 'valuable' location is. These matrix assumes sites are zoned properly unless otherwise noted.

Property Type:	
L	Bare Land
GL	Gravel Lot
BL	Building Lot
BY	Building/Yard

Scoring (5 high, 1 low) -- Multipliers of -1 to +3 for each parameter based on importance (+3 high, -1 low)

Address or property name	Type	Proper ty size	Covered area size	Heated area size	Total useful sq ft	Parking spaces	Community access	On bus line or close	Traffic Volume	Price of useful space per month	Vehicle access	Building type and configuration	Rent / own	Close to UCRRA	FINAL SCORE
		sq ft +4	sq ft +4	sq ftX4	sq ft X4	# x3	H/M/L +3	H/M/L +3	Cars/day +3	\$/sq ft +5	H/M/L +4	Prop. type +5	Rent/own +3	H/M/L +3	
<b>MULTIPLIER x</b>															
Perfect Building YYY	BY	150000	80000	60000	120000	30	H	H	12000	\$0.33sf	H	BY	Own	L	
Perfect Building YYY	BY	16	20	18	20	12	15	12	12	20	20	20	15	12	212
Terrible Building ZZZ	BL	25000	5000	3000	12000	5	L	L	1000	\$1sf	L	BL	Rent	H	
Terrible Building ZZZ	BL	4	4	4	4	3	3	3	3	-5	4	10	3	3	43
IPark 87 90-98 Boices Ln	BY	120000	105000	105,000	115000	100	H	H	H- nearby	1.25	H	BY	Rent	H	
IPark 87 90-98 Boices Ln	BY	14	16	16	16	12	12	12	10	-25	18	15	3	12	131
Metropolitan - Novo	BY	135000	40000	40000	80000	10	M	M	1000		H	BY	Rent	M	
Metropolitan - Novo	BY	16	16	16	16	6	9	9	6		16	20	3	9	142
Bldg 33 IBM Boices Ln	BL	50000	42000	42000	45000	4	M	H	10000	0.75	M	BL	Rent		
Bldg 33 IBM Boices Ln		12	16	16	12	6	12	9	12	10	12	10	3		
Land adjacent to UCRRA	L	150000	0	0	120000	10	L	L	4500	0	H	Add Bldg.	No rent		
Land adjacent to UCRRA		17	4	4	17	6	3	3	8	20	20	20	15		137
IPark 87 90-98 Boices Ln		not available													
IPark 87 300 Enterprise Drive		not available													
5010 US-209	BY	213444	12034	12,034	100000	12	L	L	m	m	m	BL	Own	L	
5010 US-209	BY	14	8	8	12	6	6	6	9	10	8	10	15	3	115
186 Mohonk Rd	occupied	337154		40,000											0
186 Mohonk Rd															0
155 Vineyard Ave Highland, NY	BY	130680	95000	95,000	115000	20	L	L	I-m	m	M-H	BY	Own	L	
155 Vineyard Ave	BY	12	14	14	14	9	6	6	8	12	12	10	12	3	132
King's Highway industrial comp															0
King's Highway industrial comp		no longer available													
Kingston Business Park															0
Kingston Business Park															0
Trudy Farber Resnick Center															0
Trudy Farber Resnick Center															0
P&T Surplus 198 Abeel St.		too small to review													
P&T Surplus 198 Abeel St.		too small to review													
32 Chambers St		couldn't find													
32 Chambers St		couldn't find													
310 Fishkill Ave		couldn't find													
310 Fishkill Ave		couldn't find													
381 Vineyard Ave Highland NY	BY	344000	27000	27000	35000	15	M	M	L	\$1	M	BY	own	L	
381 Vineyard Ave Highland NY	BY	12	15	12	10	14	8	10	6	4	8	8	10	3	120
214 Glasco Turnpike		Too small to review													
1099 Ulster Ave Kingston		too small to review													
906 Route 28 Kingston		too small to review													
70 Boices Lane Kingston NY	BL	32000	31000	31000	31500	10	M	M	M	0.75	M	BL	Rent	H	
70 Boices Lane Kingston NY	BL	10	12	8	8	8	10	10	12	8	12	10	3	14	125
290 E Strand St Kingston NY		too small to review													
220 Sawkill Rd Kingston NY		need to consider - not developed or approved yet													
1711 Route 9W Lake Katrine NY		too small to review													
example: price per useful sq ft is referring to the total price of rent or mortgage payment per month divided by the total useful sq ft including outdoor and indoor (not parking or driveways etc) and the multiplier is 5 so															
255 Milton Cross Road	BY	206800	9700	9700	25000	5	L	L	L	0.5	M	BY	own		
255 Milton Cross Road	BY	12	6	8	9	6	6	6	6	10	8	10	12	3	102
<b>Average score</b>															<b>50.36</b>