Investment and Innovation grants

Assessment Report

February 2025

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Project purpose and goals

The Metro Council established the Investment and Innovation (I&I) grant program in 2018 to invest in private and nonprofit sector efforts to reduce the harmful impacts of waste generated in greater Portland, in ways that advance racial equity. The I&I Assessment and Update Project is a strategic update of the program's objectives and funding priorities considering changes to the policy and funding landscape since the inception of the program. This project is intended to clarify how Metro can prioritize among many possible investment opportunities, to ensure the program:

- Aligns with and advances current strategic priorities, policies and regulations;
- Results in direct and measurable positive environmental impacts;
- Provides direct and measurable benefits for underserved communities; and
- Supports strategic investments and responsible use of public funds.

The project considered multiple intersecting factors, including new policies, regulations and funding opportunities. Program staff analyzed past I&I grants to identify where the program has had the most success and where it has fallen short of its goals. Analytics staff developed an assessment of materials and products in the regional system to determine which are particularly high impact in terms of lifecycle generation of greenhouse gas emissions that drive climate change. Engagement with interested parties through a variety of methods informed needs and opportunities and helped shape program recommendations. The engagement will further inform the grant criteria, solicitation methods and materials, particularly measures to increase the equity impact of the grants.

Research/analytics

Engagement input

Learnings from past I&I grant cycles

Key findings

The project resulted in numerous findings described in this Assessment Report. Interested parties broadly expressed strong support for the I&I program and the impact it has had on the region's waste system and equity, and encourage the continuation of the program. They also recommended a shift to a more explicit focus on addressing climate change, a Metro strategic priority. The following materials (and products made from those materials) were identified as investment priorities because of the high emissions associated with their product lifecycles, and because they are not fully addressed by Extended Producer Responsibility programs: organics, textiles and electronics.

Waste prevention and reuse were identified as the most beneficial pathways for managing these materials based on the level of emissions associated with their production and disposal. This included a range of materials including furniture, textiles, and organics.

This project fostered a robust conversation on whether Metro should be investing in new ideas for reducing waste, or if Metro's role should be limited to supporting and sustaining proven, low-risk strategies. Many assessment participants support promoting innovation as a primary goal of the program, taking calculated risks on novel solutions that could affect meaningful change.

Aligning with the current landscape

Since the assessment of the Investment and Innovation program began, there have been two major developments. First, the emergence of new funding streams that intersect with the scope of the Investment and Innovation program, including Metro's proposed Reuse Impact Fund that is intended to serve as a dedicated resource for waste prevention and reuse initiatives, and those of the Recycling Modernization Act for infrastructure upgrades. Second, the proposed investment strategy outlined in the System Facilities Plan includes investment in regional organics infrastructure. These developments address many of the identified needs in this space.

The assessment identified innovation in the circular economy as a key area not addressed by these and other existing funding sources and identified strategies for more effectively fostering innovation. Staff identified successful circular economy innovation programs operating in other states that may serve as a framework that Metro could customize. This approach includes partnering with an experienced contractor team that would provide the business incubator and technical support elements.

However, launching an innovation-focused program would require a significant shift in approach from the Investment and Innovation program's traditional grant funding model. It would require new resources and capacity, including contracting with a team of experts in business incubation and technical assistance in the waste field. It would also require development of new public-private partnerships with other support providers, ideally at a statewide level, to establish the support ecosystem needed for emerging circular economy businesses to succeed, particularly BIPOC businesses. These factors must be considered when Metro determines if and when to further develop and launch this type of program.

1. INTRODUCTION

The Metro Council established the Investment and Innovation (I&I) grant program in 2018 to invest in private and nonprofit sector efforts to reduce the harmful impacts of waste generated in greater Portland, in ways that advance racial equity. The program advances Metro's 2030 Regional Waste Plan by funding efforts to create lasting system improvements in waste prevention, reuse and repair, recycling, and composting.

The I&I program has invested nearly $13 million in creative strategies of for-profit businesses and nonprofit organizations over five funding cycles. Grants ranged in size from $10,000 to over $700,000 for new infrastructure improvements and equipment, and new or expanded programmatic costs. Examples of funded projects include the region's first recycling sorting robots at a material recovery facility; investments in compost processing infrastructure to more effectively process additional food and yard waste; refrigerated trucks and staffing for food rescue organizations expanding into new areas of the region; equipment and staff to launch a mobile home-repair education workshop to enable residents of primarily BIPOC communities to stay in their homes; new workforce development programs of reuse and repair organizations; and more. The complete list of grants awarded is in the most recent Investment and Innovation annual report.

Project purpose

This strategic update of the program's objectives and funding priorities is intended to clarify how Metro can prioritize among many possible investment opportunities. The program has become increasingly competitive with growing demand each year for limited funds. At the same time, the funding landscape has significantly changed since 2018, with new policies, resources, and research in existence or in development that overlap with the current scope of the program.

The I&I Assessment and Update project began in February 2024. Research and engagement with interested parties informed staff recommendations for a reimagined investment program that will reduce climate impacts associated with the disposal of materials and products, in ways that advance equity. References to a future "I&I program" is shorthand; it is anticipated a redesigned program would be renamed to better reflect its focus and intent.

Project goals and outcomes

The I&I Assessment and Update project was designed to achieve the goals and outcomes described below.

- **Goal 1:** Develop understanding of the highest priority needs and opportunities where the I&I program could invest in private and nonprofit sector efforts to reduce waste and make better use of waste, in ways that advance equity.
    - **Outcome:** An analysis of current waste prevention needs and opportunities is provided in Section 3 based on technical research on waste streams and associated climate impacts (Appendix C) and on the current policy and funding landscape (Appendices A and B), and engagement with interested parties.

- **Goal 2:** Update and clarify the program's goals, objectives, funding priorities and grant evaluation criteria to align with current conditions and ensure the program continues to advance Regional Waste Plan goals.
    - **Outcome:** The staff recommendations (Section 5) describe two options for a reimagined I&I program with new intended outcomes. If/when one of the proposed program directions is approved by Metro leadership, that program's goals, objectives, and funding priorities will be codified in more detail in new program guidelines, solicitation materials, and grant review criteria.
- **Goal 3:** Reduce barriers for accessing I&I funds, particularly for community organizations and small businesses.
    - **Outcome:** A summary of barriers gleaned from lessons learned over five I&I grant cycles and targeted engagement, particularly with community organizations, is provided in Section 4. High-level recommendations are proposed for addressing the major barriers, with additional work on this to be done during the program guidelines and solicitation development process.
- **Goal 4:** Increase awareness of the grant program, both internally and externally.
    - **Outcome:** The project team developed an engagement plan informed by Metro's Racial Equity Framework to ensure Metro staff subject matter experts, industry, community organizations, the Oregon Department of Environmental Quality (DEQ), and local governments had an opportunity to learn about the project and provide input on needs and opportunities and barriers to funding. This report summarizes input from these interested parties in Section 3.

2. ASSESSMENT METHODOLOGY

Project team

Staff convened a project team of Metro staff with a range of subject matter expertise in solid waste policy, grant making, communications, racial equity, and data analytics. This team provided thoughtful guidance and feedback on the assessment's technical analysis, engagement, and learnings from past I&I grant cycles.

Research/analytics

Engagement input

Learnings from past I&I grant cycles

Assessment criteria

The project team developed assessment criteria as a way of comparing options for updating the program's focus and desired outcomes. These high-level criteria were used to ensure that staff recommendations achieve the project's goals and outcomes.

- Program aligns with and advances current strategic priorities, policies and regulations.
- Program results in direct and measurable positive environmental impacts.
- Program provides direct and measurable benefits for underserved communities.
- Program supports strategic investments and responsible use of public funds.

Technical analysis

Since the I&I program was created in 2018, there have been many changes to the policy and funding landscape in which the program operates. For the assessment, staff researched relevant policy changes and new funding opportunities. Staff analyzed the impacts of past grants to identify where the program was successful in achieving its goals, and where it fell short. These lessons learned are invaluable in guiding the focus and structure of the next iteration of a funding program focused on waste prevention and equity.

Addressing climate change is a strategic initiative across all of Metro's work. For this project, the WPES Analytics team provided an assessment of the materials, products and specific management pathways (prevention, reuse/repair, recycling, composting, waste-to-energy) associated with the highest environmental benefits. A detailed overview of this analysis is included in Appendix C, and the findings incorporated into Section 3.

Racial Equity Framework

Metro's Racial Equity Framework is intended to help Metro rethink how programs are designed and for whom, change how decisions are made, and truly center the most marginalized communities in all our work. The use and practice of a Racial Equity Framework is critical to achieving racial equity at Metro and in our region's communities so that race ceases to be a predictive factor in life outcomes.

A key step in the Racial Equity Framework process is identifying "most impacted communities" for the purpose of directing engagement efforts and centering community voices. For this project, the project team developed a definition of "most impacted communities" based on who has access to the I&I funding, which is critically important to equity. The team identified "most impacted communities" as *organizations that have been left out of the benefits of the grants because they may have had an idea for reducing waste and advancing equity but faced barriers to applying for and/or receiving the funding*. The project contracted with Start Consulting to help identify these organizations that had not interacted with I&I previously, and develop and conduct targeted outreach centered on relationship-building. Focusing beyond those that frequently engage with Metro has the added benefit of raising awareness of Metro, its waste prevention work, and the I&I program.

Engagement

Engagement with interested and potentially interested parties informed the needs and opportunities (Section 3) and program recommendations (Section 5), and will further inform the grant criteria, solicitation methods and materials, particularly measures to increase the grants' equity impact. The primary goals of engagement for this project were:

1. Give meaningful opportunities for a variety of audiences to share input on program updates.
2. Demonstrate the need for the program assessment and updates.
3. Engage underserved communities, including "most impacted communities," defined as community organizations who may have ideas for reducing waste but have faced barriers to applying for and/or receiving I&I funding.
4. Increase awareness of the program and show how the program supports Metro's Regional Waste Plan goals.

Before seeking new input to inform potential changes to the I&I program, staff reviewed recent engagement findings from related projects as a starting point. By using what we already know and have repeatedly heard about the needs and opportunities in the region, we avoid causing "engagement fatigue" in our partners and community members. Themes from the following projects' engagements were evaluated:

- 2030 Regional Waste Plan
- Metro Regional System Facilities Plan (SFP)
- Metro Large Item Reuse Study
- Household Hazardous Waste Strategic Planning
- Oregon DEQ Materials Management Grant Assessment
- City of Portland's Reuse, Repair, and Share Needs Assessment
- NextCycle Oregon Feasibility Study

Engagement activities

I&I program staff delivered presentations and facilitated discussions with numerous Metro and local government staff, private industry representatives, small business owners, and nonprofit leaders. Prior applicants and grantees responded to a survey with feedback on the draft recommendations for the program focus and on the application experience. Program staff worked

with Start Consulting to interview several community-serving organizations that had not interacted with the I&I program to learn about possible barriers that may keep organizations from applying for and/or receiving I&I funding.

Audience	Activity	Participation
I&I Project Team	Meeting series	14 participants
WPES subject matter experts	Individual meetings on specific topics	8 participants
Local government and DEQ	Meetings (July 17, Aug. 28)	24 participants
Private industry	Meeting (Aug. 14)	13 participants
Prior applicants and grantees	Survey	30 responses (18 nonprofit organizations, 12 businesses)
Reuse/repair organizations	Reuse roundtable (Sept. 16)	9 participants
BIPOC-focused community organizations that have not applied to I&I before	Interviews conducted by Start Consulting	3 organizations (*additional interviews were planned but paused due to timing of Council work session*)

Alignment with Metro's Reuse Impact Fund (in development)

The 2030 Regional Waste Plan emphasizes reuse as a key priority for reducing waste, and the proposed Regional System Facilities Plan identifies the need to support and grow the reuse, repair and share sector. In June 2024, the Metro Council adopted a budget amendment directing staff to explore funding approaches for private and nonprofit organizations that support reuse. Staff presented a proposed funding approach for Metro Council consideration in November 2024.

The proposal for the new Reuse Impact Fund (RIF) pilot program will provide multi-year, flexible funding to nonprofit reuse, repair and share organizations for a broad range of activities and expenses. After the three-year pilot, private reuse businesses may become eligible for the funds. The program is anticipated to launch in FY25-26.

There is significant overlap with the I&I program and the forthcoming RIF. The I&I program has awarded 41 grants for reuse, repair, and share projects since 2018, investing a total of $2.5 million. Many of these grant recipients will now be eligible for funding through the RIF. The synchronous emergence of RIF while the I&I assessment was underway is exciting in that the RIF will address significant findings identified through the I&I assessment, as outlined more in Section 3. The recommendations in this report for the I&I program's updated funding focus are designed to avoid duplication with the scope of the RIF.

Participation in NextCycle Oregon Feasibility Study

During the project period, a feasibility study was conducted by Resource Recycling Systems to evaluate the need and potential structure of a new NextCycle Oregon program that would support

the development and growth of innovative for-profit and nonprofit ventures to expand or strengthen local circular economies.[1]

NextCycle was originally founded to help applicants prepare to meet the qualifications of the State of Colorado's market development grant program. It supports business and project planning, networking, development of partnerships, overcoming technical barriers, and preparation for accessing risk-tolerant, sustaining capital. NextCycle is a complement to traditional grants like I&I, in essence providing a steppingstone for new ventures to move their work forward to participate in larger funding opportunities. It has since been replicated in two other states (with others in development), and each program is tailored to the unique needs of the state or region in which it operates. For an overview of NextCycle, see https://recycle.com/our-services/specialty-services/nextcycle/.

The NextCycle feasibility study was funded by a 2023 I&I program grant. The grant review committee recommended funding the project because of the alignment between the two programs' goals. Two I&I Assessment project team members participated in the NextCycle feasibility study interviews and co-design workshops to provide Metro input from the perspective of support providers (funder, policy support, etc.). Relevant findings from the Nextcycle Oregon Feasibility Study Report (November 2024, available upon request) are incorporated into this I&I Assessment Report.

[1] "Circular economy" is an economic system designed to benefit businesses, communities, and the environment. It is regenerative by design and aims to decouple growth from the consumption of finite resources. This includes activities related to waste prevention, reuse, repair, rescue, and recycling. *NextCycle Oregon Feasibility Study, p. 2 (2024).*

3. NEEDS AND OPPORTUNITIES

The assessment revealed overall support and enthusiasm for the I&I program across multiple audiences.

> **"Love the program and the Gresham community has really benefitted from it."**
> *Local government staff member*

> **"The [grant] program was such an important thing for our network. Most of the waste reduction initiatives started in our schools during our [grant project] are still going on today, often with new volunteers. Many have been expanded significantly, and these would have never happened without the grant."**
> *2018 I&I grant recipient*

> **"I was fortunate to receive funding for a project and really was grateful for the [Metro-hosted] DEI training and other opportunities to be more inclusive."**
> *2022 I&I grant recipient*

As evidenced in the rapid increase in I&I grant proposals and enthusiastic input for this project, there is no shortage of opportunities for Metro to invest in efforts led by businesses and nonprofit organizations to prevent waste and make better use of discarded materials than disposal in a landfill. The subsections below summarize areas of potential targeted investment that will result in the greatest environmental benefit and not duplicate funding through other programs. The needs and opportunities below are not meant to include every way Metro could invest in efforts to reduce material disposal. Rather, this section synthesizes themes that emerged through the assessment methodology outlined in Section 2.

WPES Analytics staff identified "high-impact" materials/products and management pathways[2] that the program could prioritize to increase environmental benefits for the region. This analysis defined high-impact materials as those materials with the highest level of greenhouse gas emissions (in terms of metric tons of CO2 equivalent emissions) generated during the production of those materials and products. The most beneficial pathways for managing the materials at end of life were also identified based on the level of emissions attributed to each of those pathways. Other factors included the recovery rate of materials that are recycled or composted in the Metro region and whether materials are covered by Extended Producer Responsibility (EPR) programs in Oregon. This analysis generated a list of specific materials and management pathways that could deliver the greatest environmental benefits in terms of avoided greenhouse gas emissions while

[2] Management pathways are the various ways that materials are managed at their end-of-life. These include reusing, repairing, recycling, composting, anaerobic digestion, energy recovery, and landfill disposal.

avoiding duplication of efforts supported by EPR programs. A detailed discussion of the methodology and findings supporting the materials and pathways below is included in Appendix C.

Priority materials and products

The following materials (and products made from those materials) were identified as investment priorities because of the high emissions associated with their product lifecycles and they are not addressed by EPR programs: organics (food and wood),[3] textiles, and electronics (see Appendix C).

Food

Food waste makes up the largest portion of greater Portland's garbage and is one of the largest contributors to local carbon pollution—second only to vehicles. Food waste is a high priority material to reduce from landfill disposal because of the greenhouse gas emissions associated with food production and disposal. Strategies to reduce food waste span prevention activities, food donation, composting, and energy recovery. Food will not be a qualifying material eligible for Reuse Impact Fund awards.

Prevention of food waste at the source (i.e., before a product is sold into the marketplace or where food is grown, produced, manufactured or packaged) is the most impactful in terms of reducing greenhouse gas emissions.[4] Prevention includes producing, buying and serving only what is needed. Food spoils quickly, so anything that can be done to slow that process down will ensure more food gets consumed. Successful efforts in other countries have included changes in packaging design, marketing promotions and portion sizes, and food date labeling.[5] It is unlikely an I&I grant would be large enough to incentivize a multinational corporation to make dramatic changes to manufacturing processes, but may be sufficient to incentivize local prevention efforts. However, I&I funding could support the development or implementation of technological solutions for food waste prevention and reduction, with a focus on source reduction at food manufacturers and food service establishments. A recent DEQ study identified opportunities for financial incentives and financial investment that a grant program could deliver to prevent food waste, including:

- Systems to store, transfer, and "upcycle" byproducts from food manufacturing.
- Production line efficiency improvements at food manufacturers. [6]

Rescue and redistribution of nutritious food that would otherwise be wasted, and "upcycling," or repurposing food waste into new products for human consumption, is second on the EPA's Wasted Food Scale. In addition to the environmental benefit, there are significant direct equity benefits to getting nutritious, culturally relevant food into the hands of people in need, often those living with low-incomes and from BIPOC communities.

[3] More than one third of I&I funding has supported compost and yard debris facility improvements and food rescue/donation infrastructure and staffing.
[4] https://www.epa.gov/sustainable-management-food/wasted-food-scale.
[5] National strategy for reducing food loss and waste and recycling of organics, EPA/USDA/FDA.
[6] https://www.oregon.gov/deq/mm/Documents/mm-SEITechnicalReport.pdf.

"The more food rescue becomes a localized process, the more sustainable the services. Locally based food rescue operations can move the food from grocery donor to the plate utilizing less resources – impacting the environment less."

Survey respondent

The I&I program has funded 14 food rescue and redistribution grants totaling $1.3 million. There is ongoing need to invest in this system to make it more efficient and impactful, including funding for:

- Refrigerated vehicles and onsite cold storage for food rescue organizations to increase their capacity to safely collect and distribute food donations.
- Culturally-specific food waste prevention outreach and education at businesses and farms (particularly if led by community organizations).
- Food preservation workshops to promote food waste reduction while building self-sufficiency and supporting cultural practices related to food.
- Programs focused on gleaning produce that would otherwise be wasted from small local farms and farmers markets, with a strong focus on supporting BIPOC growers and providing high quality, culturally relevant, and nutritious food to underserved communities.
- Expanded access to rescued food distribution for multifamily residents, seniors and disabled people.

Composting, recovery for animal feed, and energy creation are downstream management pathways for food waste, with lower environmental benefits than prevention or rescue/redistribution. However, these actions have significant benefits over landfill disposal, especially at scale.[7] Composting and energy production of food waste yield beneficial products, whereas disposal of organic matter in landfills generates methane, a powerful greenhouse gas and driver of climate change.[8]

The I&I program has invested a total of $2.9 million in capital investments to grow the region's composting capacity, prioritizing options for mixed organics (yard waste and food). The System Facilities Plan (SFP) highlights critical gaps in the food scraps and yard debris transfer and processing system. Increased capacity is needed to achieve the goals of Metro's Business Food Waste Policy that requires businesses in the greater Portland area that generate more than 250 pounds of food waste per week to separate food scraps from other waste to ensure the food scraps do not end up in the landfill. The issue of filling the compost system gaps identified in the SFP is complex and will require public-private partnerships, large financial investments in land and infrastructure, and new facilities that would be subject to local, regional and state regulations and permitting requirements. Over the coming year the SFP team will be developing strategies to tackle this issue, which could include ways of incentivizing private facilities to accept and manage this material stream. The I&I program could complement or enhance these strategies.

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[7] https://www.epa.gov/sustainable-management-food/wasted-food-scale

[8] Many residents in the region lack access to food scraps collection at home, especially those living in multifamily homes. This need for expanded, ongoing collection service is outside the scope of a Metro grant program and must be addressed by cities and counties responsible for providing basic services.

Opportunities for investment through the I&I program include:

- Investing in infrastructure and equipment to build capacity at existing compost facilities, through large capital grants for equipment such as de-packagers to remove contamination from food waste and new technologies to deal with bags and other plastics mixed with food.
- Complementing or enhancing public-private partnerships to build new compost facilities.

Transitioning to durable food service ware is a waste prevention strategy that is also related to improving compost processing capacity. Disposable service ware is often mixed in with food scraps, causing contamination and reducing the ability of facilities to process the material into compost that has beneficial agricultural use. There is growing energy and collaboration around building systems to support reusable service ware, and the I&I program has seen an increase in these types of applications. The I&I program funded grants to Bold Reuse for a pilot program focused on reusing glassware and washing and storage equipment for their reusable service ware collection and redistribution system, and OKAPI Reusables to expand their reusable cup services to more cafes and corporate campuses. The I&I program could continue funding this type of grant. Other investment opportunities include:

- Start-up costs for restaurants and grocery stores to make the switch to reusable food service ware (could include schools as eligible applicants for greater impact) and reusable container programs.
- A mini-grant program to help businesses transition from disposables to durables. This would enhance the work of the local government Commercial Food Waste Group (led by Metro), which is developing an education and outreach campaign supporting the transition to durables that does not currently include a funding source to support businesses.

However, a new large funding opportunity is likely coming soon to support these types of projects. Reusable service ware has been identified as a potential focus area for DEQ's forthcoming Material Impact Reduction and Reuse Program (MIRROR), a component of the Recycling Modernization Act. MIRROR is anticipated to fund approximately $15 million per year, and eligible applicants under consideration are public bodies, tribal governments, community organizations, and possibly private businesses if there is a public benefit. These and other MIRROR details are still in development, and the program is anticipated to launch in 2026.[9]

Wood and wood-based building materials and furniture

Wood, primarily from the construction and deconstruction waste stream, has been identified as a high impact material and faces challenges to recovery for beneficial use. Current markets for recycling wood waste are primarily limited to burning for energy recovery ("hogged fuel"), and there is a need for innovation and market development to create more sustainable options. Burning wood for energy is not the highest and best use of reclaimed wood and may generate more carbon emissions than landfill disposal. Wood reuse is environmentally beneficial but faces major operational hurdles to implement at scale.

[9] Most recent information at the time of this report via presentation by Arienne Sperry, Oregon Department of Environmental Quality, at Association of Oregon Recyclers Fall Forum, 10/28/2024.

Examples of areas for investment include:

- Robotic de-nailing equipment to remove screws and nails from structural lumber so that it can be reused.
- Investment in equipment to convert unusable structural lumber to biochar, an ingredient in low-carbon concrete.
- Support for new handling, sorting and storage processes to protect reclaimed structural lumber so it can get to end markets with refined uses, such as reuse.
- Support for wood recovery "hub" to scale up and make large scale reuse a viable local market.

Wood-based furniture and building materials are also identified as a high impact product types for reducing climate impacts. Nonprofit organizations reusing furniture and building materials are eligible for funding through the Reuse Impact Fund.

> **"Support non-profits or startups that focus on deconstruction vs. demolition and similar non-profits or startups that reuse and repurpose construction materials. We need more options for responsibly handling construction materials. The Metro region continues to grow and have a high volume of construction projects, especially in the multi-family sector."**
>
> *Survey respondent*

Textiles

A literature review makes clear textiles have significant impacts across their life cycle. Left unchecked, textiles will be responsible for more than a quarter of the world's global carbon budget by 2050.[10] Clothing alone represents 60 percent of the total textiles used and this figure is anticipated to grow, with total clothing sales anticipated to exceed three times the current amount by 2050.[11] Textile manufacturing relies on non-renewable resources including oil and water. Approximately 20 percent of global industrial water pollution is attributable to the dyeing and treatment processes in the textile industry.[12] Today's textiles also have multiple negative societal impacts including modern slavery, child labor and hazardous working environments due to unsafe processes and the use of harmful chemicals.[13]

In the future, textiles may be subject to extended producer regulations, but this is far from certain. It is often helpful to have a voluntary program tested and with viable end markets in place before EPR/regulatory approaches are implemented, and I&I could help support the development of new textile reuse and recycling options.

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[10] Ellen MacArthur Foundation, *A New Textiles Economy: Redesigning fashion's future* (2017), p.21. *https://www.ellenmacarthurfoundation.org/a-new-textiles-economy*.
[11] *Id.*
[12] *Id*.
[13] *Id*.

Examples of areas for investment include:

- Equipment and infrastructure to upcycle textile waste into new products, which avoids production of new goods and the associated GHG emissions.
- Industrial washing equipment for washing and redistributing usable garments gleaned from transfer stations or other sources.
- A low-barrier workforce development program for unhoused workers to sort discarded textiles for reuse or recycling markets.

Nonprofits that divert textiles for reuse in Metro's service area are anticipated to be eligible for the Reuse Impact Fund.

Electronics

Electronic waste is rapidly becoming the most prevalent type of waste. Electronics are identified as a high-impact material because though they make up a relatively small percentage of the waste stream by weight, the climate impacts are high by volume. Recycling of electronics is the domain of Oregon's E-Cycles producer responsibility program but does not address the need to develop and expand systems of recovering, repairing/processing, and redistributing electronics that can be kept in use longer. Nonprofits that divert electronics for reuse in Metro's service area are anticipated to be eligible for the Reuse Impact Fund.

> **"Electronics waste can be minimized by hosting repair cafés and e-waste refurbishment programs that extend the lifespan of devices and keep them in circulation."**
>
> *Survey respondent*

Other materials

Some survey respondents highlighted a continued need for funding for other materials such as plastics, upholstered furniture, general household items, art supplies, and compostable service ware. Additionally, there is an ongoing need for easy access to bulky waste (furniture, household goods, mattresses) collection for multifamily residents, seniors and disabled people.

Material management pathways

Material management pathways are the strategies for dealing with waste materials. They include prevention, reuse/repair/share, recycling, composting, waste-to-energy, and disposal in landfills. Understanding of the impacts of specific management pathways considers greenhouse gas emissions and other harmful impacts generated across product lifecycle, from extraction, manufacture, use, and disposal.

Prevention and reuse/repair/share

Prevention of waste from being generated at the source generally has the greatest environmental benefit because most emissions associated with any material or product are generated during the production phase of that material or product's life cycle. Preventing waste by avoiding a purchase is the best way to prevent greenhouse gas emissions associated with materials and products.

> **"Upstream is where we need to keep heading and develop more access to reuse and repair as a means to an equitable approach to waste prevention."**
>
> *Local government staff*

Reuse/repair/share is an element of prevention. The Regional Waste Plan names reuse and repair as a key strategy to reduce waste by keeping products in circulation longer, thus reducing the need to produce new products. Metro and its partners have been working for years to better understand the needs and opportunities of the organizations and businesses providing critical reuse and repair services in the region. The most significant needs for these organizations and businesses are physical space to store and repair items and transportation resources to collect and distribute items for reuse. Many organizations have inadequate staffing levels and need support for workforce development. Multifamily residents, seniors, disabled people, and residents in certain parts of the region lack easy and affordable access to reuse collection services, especially for large household items. There is broad interest in communications support for reuse campaigns to market, promote, and normalize reuse and repair among residents. Many organizations have called for a systems-based approach to close the loops between producers, community members, collectors, reuse organizations and businesses, workforces, fleets, and facilities.

The I&I program has made 39 grants supporting reuse/repair/share organizations and businesses, not including grants for food rescue or reusable food packaging. These grants were to support *new or expanded* initiatives, not ongoing operations. Reuse organizations and businesses highlighted the positive impacts of the I&I grants on their programs, but also noted this funding did not address the need for sustaining funding for their ongoing work to keep materials out of the waste stream.

> **"The margins for repair are very narrow…[we need] hub and spoke models, incubator models so individual business owners don't have to invest as much in space and administrative costs."**
>
> *Local government staff member*

Metro's new Reuse Impact Fund is expected to launch in FY25-26 and provide reliable funding for nonprofit reuse and repair organizations in the region. Private for-profit businesses will not be eligible for this funding during the program's initial three-year pilot. Many opportunities for investment in the reuse and repair sector could be covered by the Reuse Impact Fund, but it will leave a gap in funding for private businesses that previously had access to I&I funding. Areas where I&I could continue to invest in reuse/repair system development (which will likely not duplicate the RIF program scope, though the finer details of the RIF scope have not been developed at the time of this report) include:

- Shared warehouse space or retail locations where organizations can share workforce resources and access common space to store and repair inventory. These have been commonly referred to as "reuse hubs" or "reuse malls" in recent engagements. Shared reuse space is envisioned in the Regional System Facilities Plan and is a priority for implementation.

- Launching, scaling and expanding reuse programs of for-profit businesses such as junk haulers.
- Shared vehicle fleet for reuse organizations and businesses to collect donations of reusable items and/or deliver items to customers or program beneficiaries, and safe parking.
- Uniform data collection system to track reuse in the region and develop a centralized public database to find information about reuse, repair, and donation options.
- Culturally specific, multilingual education and marketing campaigns across reuse organizations and businesses to promote reuse and repair among the public.
- Resource exchange networks that facilitate the exchange of surplus materials between community members, fostering a culture of sharing and reducing waste.
- Community workshops on upcycling and repair of textiles and electronics. Repair cafes can help build community resilience while promoting repair over disposal.

Recycling

The I&I program has funded approximately $2.8 million in infrastructure and equipment upgrades at material recovery facilities for curbside recyclables and dry waste. The program has also funded $1.4 million in grants to a local processor of recycled plastic.

With the implementation of the Recycling Modernization Act starting in 2025, there will be significant funding opportunities for comingled recyclable processing facilities through fees paid by producers of packaging. This is anticipated to include funding for end market development and local processors of materials subject to the RMA. These materials include paper, packaging, and food service ware.

Most interested parties expressed strongly that Metro should not continue to invest public funds in curbside recycling projects, given the massive changes to the system and associated large funding coming through the EPR program. However, some were reticent to completely exclude recycling in case there is an exciting, innovative project that comes along and is not eligible for RMA funding. Two survey respondents were concerned about a narrowed focus for the program and encouraged Metro to remain open to outside-the-box ideas and avoid a narrow perspective on what we mean by "upstream" and "downstream" solutions.

> **"Waste prevention is the priority and where we should focus the I&I grants. However, there may be a need to leave access open for composting or recycling for certain high impact materials like food."**
>
> *Staff on the project team*

There are continuing opportunities for I&I investment related to materials that are not subject to the RMA, so not eligible for those funding streams. These include:

- Research and development to create new, scalable local processing and end markets for hard-to-recycle items not on the RMA statewide collection list, like clothing, certain types of plastic, polystyrene, sharps and plastic film. Storage space and collection for adequate volumes to make these markets viable.

- Support for community collection events for hard-to-recycle (non-RMA) items including those listed in the bullet above, which continues to be of interest to community members and increases accessibility for underserved communities.

Non-putrescible waste, also known as "dry waste" or "construction and demolition debris," includes wood, metal, cardboard, concrete, and drywall. This material stream is not included in the RMA program. Metro is beginning the process of updating its Enhanced Dry Waste Recovery Program (EDWRP) to improve and update dry waste recovery requirements. This project is in the early stages and any new policy would not be implemented until 2026 or later. The EDWRP research and policy update will provide useful insights into needs and opportunities (including for investment) in this sector.

Innovation and market development

The I&I program has received many proposals for innovative projects, some of which were funded. Many lessons were learned along the way. Examples of innovative grants include funding for the region's first recycling sorting robots at a material recovery facility; research and development to test the feasibility of using artificial intelligence in garbage trucks to identify contamination at the point of collection; development of a BIPOC-owned junk hauler's new reuse program that would primarily benefit veterans; and development of a mobile classroom to bring home repair to BIPOC neighborhoods to empower families with resources and skills to enable them to safely maintain their homes.

The outcomes of the program's attempts to foster innovation were mixed. Many of the proposals for potentially exciting new technologies were rejected by review committees, because they were hesitant to risk public funds (especially large grants) when more conventional options were available. In many cases, review committees were unsure about whether proposed new strategies or technologies would be better for environment and community than existing options for specific materials. Meaningfully evaluating waste stream and greenhouse gas (among other impacts) requires a full life cycle analysis, which the I&I program did not have staff capacity or expertise to facilitate. Further, most of the proposals for new, emerging ideas did not demonstrate sufficient business and supply chain planning for reviewers to feel confident in project viability and scalability. Even when the committees recommended taking a risk on a new venture, some did not continue after the grant funding ended.

We learned that most start-up organizations and businesses need more than a one-time grant to be successful; they need a profitable business model, partnerships and networks, technical assistance, and other sources of funding. The I&I program would need to incorporate these elements, in a culturally specific way, to help applicants bridge these gaps and nurture ideas to viability.

This I&I Assessment project fostered a robust conversation on whether Metro (and government generally) should be investing in new ideas for reducing waste, or if Metro's role should be limited to supporting and sustaining proven, low-risk strategies. While some (internal and external to Metro) feel government's role is best suited to maintaining proven strategies, most interested parties support continuing innovation as a primary goal of the program and support taking *calculated risks* on novel solutions that could affect meaningful change.

"If old systems of managing waste worked, they would have. Reality altering change is necessary and innovation is very close to implying that."

Survey respondent

"The innovation aspect of the I&I program is highly valuable, and it would be a shame to lose it. Without innovation, we won't see any change in the materials we are able to divert and the options available in the region. It will be 'business as usual.' I would like to see more start-ups applying for I&I to create new markets for building materials like wood, masonry brick, concrete."

Local government staff member

"By balancing innovation with support for existing impactful programs, the initiative can ensure both immediate and lasting change in how communities address waste and resource use."

Survey respondent

"Without consistent, multi-year funding, proven programs that already exist will remain in a scarcity cycle and will be unable to grow capacity to the level needed to truly impact waste reduction. I would prefer to see multi-year capacity-building grants for existing programs."

Survey respondent

Engagement input revealed exciting opportunities for Metro to invest and catalyze new strategies for avoiding or making better use of waste. For example, an owner of a small local textile mill described her interest in funding for research and development of a prototype a demonstrate a new type of material incorporating textile waste that could be made into a hardened shell for chair or table legs or combined with resin to make light fixtures. Funding for prototype development would open the small business up to bidding for larger public contracts, which would create jobs.

A local government partner explained the need for innovation and market development by noting that setting new policies to require reuse or recycling of specific materials requires viable, stable end markets for those materials.

To more effectively serve as an innovation funder, the program would need to include additional technical support and network building elements. The I&I Assessment team conducted substantial research in how government agencies can effectively foster innovation in the circular economy, described in Section 5.

4. ADVANCING EQUITY

Many interested parties supported the program's current equity strategy and shared ideas for how to strengthen the evaluation criteria to ensure that funds are reaching communities of color and other underserved groups, especially in high-need areas of the region. Several survey respondents highlighted an ongoing need for investment in workforce development, training, and mentoring in the materials management field to help people of color and other underserved individuals advance in their careers. Grantees appreciated receiving access to Metro-organized DEI training opportunities as a benefit of receiving the grant.

> **"Every program, business, or organization funded by the I&I program should be able to demonstrate how it is either advancing equity or taking measures to ensure it is not creating harm - providing funding for businesses that have inequitable hiring practices, use casual labor, or pay poor wages is not an acceptable use for these funds."**
>
> *Survey respondent*

Engagements, particularly with Community Based Organizations (CBOs), highlighted barriers that applicants and grantees face in accessing funds and implementing projects. Metro aims to reduce barriers so that funding is accessible for applicants regardless of their experience seeking grants or working with a government agency. Applying for, receiving and managing grants can be time-consuming and highly competitive for organizations working in sectors that value collaboration.

Some of the most common reasons an organization chose not to apply for one or more I&I grant opportunities included:

- Not being aware of the opportunity, or not having a project idea that seemed like a good fit.
- Not having a grant writer on staff, or otherwise lacking the ability to write the application.
- Not having enough time or capacity to apply.
- Concerns about being able to meet the grant's contractual requirements such as insurance, reporting, match requirements, or other requirements.
- Concerns about being able to sustain a grant-funded program or staff position after the grant ends.

Input from CBOs and grantees and a review of grantmaking best practices were used to develop the following recommendations for reducing barriers:

- Expand eligibility to tribes and tribal entities directly, rather than requiring tribes to apply through their business or nonprofit entities (which presents unnecessary complexity and barriers for tribes for accessing these funds).
- Plan for working with applicants in languages other than English throughout the grant process. Sufficient budget and staff time are needed to follow through with translation and interpretation commitments.

- Reporting requirements can be burdensome. Consider more flexible reporting and alternative formats. It is a burden for grantees to create custom data tracking systems for each grant. Funding should support data tracking if it is going to be a grant requirement.
- Plain language should be used to ensure all applicants can clearly understand the grant application requirements and easily decide whether they want to apply.
- Technical support from Metro staff or on-call contractors can help organizations without prior grant experience, or that need access to information about local waste streams.
- The administrative burden of managing grant contracts can keep some organizations from applying. A percentage of overhead funds to manage the grant could be automatically added to grant awards to support grantee staff time for managing the grant.
- Increased outreach and long-term relationship building are needed to build trust with applicants and encourage underserved groups to apply.

> **"We want more opportunities for our communities, Spanish speaking, because sometimes we feel like there's a lot of information that's only in English, we need to have it in another language so the community can learn from you and how they can learn to take the lead in the community."**
>
> *CBO interviewee*

> **"So many grants are project based so it requires starting a whole new thing, we don't really have core types of funding. We add a new project then our core operations get strained. Or they're pilot based and then don't have an option to continue the project."**
>
> *CBO interviewee*

The I&I program has included information sessions and office hours for applicants to access staff throughout the application process, but potential applicants expressed a desire for more conversations with I&I staff during the application process and while managing the grant. The emphasis on written work and documentation is time-consuming and sometimes leads to confusion. Site visits, interviews, or other ways to verbally explain project ideas could make it easier for grant reviewers to understand projects and applicants' approaches to reaching underserved communities. Survey respondents were interested in support through various methods, particularly technical assistance and grant writing help.

> **"We have just 3 paid staff and so many commitments. Getting a robust application completed is a lot of work. If only we could do a lot of it verbally, or have a much more streamlined application, that would be awesome."**
>
> *Survey respondent*

"Learning from peers and clarifying with staff about alignment would be the most valuable for us. I think I've thought very narrowly in the past about what might be eligible/prioritized and that has limited what we propose maybe unnecessarily."

Survey respondent

Survey respondents, interviewees and roundtable participants shared many additional equity recommendations to improve the grants process and equity outcomes.

- Double-down on supporting the communities that need the support most but have challenges accessing the funding opportunity.
- If the intention is to target BIPOC-owned businesses, make the grant for small businesses (rather than businesses of any size).
- Offer funding for professional development and job training programs to create pathways to higher paying jobs in reuse and repair.[14]
- Hold application parties, use inclusive business resource networks and partner with community organizations to promote the funding opportunity.
- Make it easier for frontline garbage and recycling workers and other underserved communities to contribute ideas to make improvements to the grant program.
- Connect this grant program to other government outreach and community-based organizations' programs to create awareness of the funding, mentorship, and networking opportunities.
- Provide funding for sites and space for repair/reuse hubs that are low commitment for small businesses, and opportunities for networking between reuse and repair organizations to improve likelihood of these models being profitable.
- Ensure the grants are funding living wage recycling jobs for women and people of color.
- Support small organizations that need help navigating fiscal sponsorship and insurance requirements.

For advancing equity we need to have people in the decision-making spaces that represent minority groups' voices that are usually not around the table. We don't only need people working in organizations that do waste management or education, we need people who are in the rooms making the policies, guidelines, and grants.

CBO interviewee

[14] These types of costs have been eligible expenses from the outset of the grant program, and we take this input to recommend continuing or even expanding investments in job creation and career pathways in the waste reduction sector.

Staff recommend expanding eligibility for future programming to include tribes. According to a report by the organization Native Americans in Philanthropy, the average share of annual philanthropic grant dollars from 2002 to 2016 that benefitted Native Americans was only 0.4%, while Native Americans and Alaskan Natives represent 2% of the United States population.[15] Tribes are often left out of funding opportunities (for example, tribes are not eligible for the annual waste reduction funding that goes to cities and counties). Program staff confirmed with Office of Metro Attorney and Metro's procurement department that there are no legal or procurement-based reasons to exclude tribes from eligibility for I&I funding.[16]

[15] Native Americans in Philanthropy. (2019). *Investing in Native Communities: Philanthropic Funding for Native American Communities and Causes.* https://www.issuelab.org/resources/35493/35493.pdf.
[16] Project staff met several times with Katie McDonald, Metro's tribal liaison, to explore engagement on the future of I&I with tribes. Due to more pressing Metro priorities for tribal engagement during the project period, we determined that opening eligibility to tribes would be a first step, with later direct outreach to tribes (through Metro's tribal liaison) to encourage applications and reduce barriers.

5. ANALYSIS AND STAFF RECOMMENDATIONS

In forming the following recommendations, staff applied the assessment criteria developed by the project team to the identified needs and opportunities:

1. Program aligns with and advances current policies, priorities, and regulations.
2. Program results in direct and measurable positive environmental impacts.
3. Program provides direct benefits for underserved communities.
4. Program supports strategic investments and responsible use of public funds.

Many of the areas where I&I has invested in the past will receive significant funding through (1) Oregon's new Extended Producer Responsibility scheme, i.e., the Recycling Modernization Act, which will provide funding streams for prevention, reuse and recycling of packaging, paper products and food serviceware; and (2) Metro's new Reuse Impact Fund, which will serve as a dedicated resource for proven waste prevention and reuse strategies. In addition, the proposed investment strategy outlined in the System Facilities Plan includes investment in regional organics infrastructure. These developments address many of the identified needs in this space.

However, upcoming future investments and funding streams will not be applicable to all of the wide range of types of projects and programs previously funded by the Investment and Innovation program. The assessment identified fostering innovation in the circular economy as the key opportunity for I&I's evolution. There is a need to catalyze new, high-impact solutions for preventing waste and managing materials such as organics, textiles, and electronics, including through product design, remanufacturing, development of new end markets, and more.

To achieve desired innovation outcomes, the I&I Assessment team identified a potential framework for supporting innovation more effectively that will yield greater environmental and economic benefits than previous innovation grants.[17] This program concept was informed by the NextCycle Oregon Feasibility Study completed in 2025.

[17] See page 20 for key lessons learned on prior efforts to foster innovation through the I&I program.

Innovation program concept

Model: Three-year pilot with a suite of programming to foster innovation in prevention, reuse, recycling and composting and develop local end markets prioritizing high-impact materials. Proof of concept could be centered in the Metro region while Metro and partners work to expand to include other funders to potentially to become statewide.[18]

This model would incorporate business incubator and accelerator elements along with traditional grant funding. Metro would need to partner with a third-party contractor with experience in supporting businesses and nonprofit organizations launching and growing circular economy ventures to design and lead the incubator and accelerator aspects of the program. The program elements would include:

1. Seed grant program focused on early-stage feasibility, proof of concept, market research, prototype development, and/or business plan development.
2. Circular economy business and project accelerator program to advance concepts to maturity.
3. Larger grant program for implementation (infrastructure and programs); an aspirational target for those applying for the seed grant and accelerator programs.

Other program elements include a collaborative panel to recruit and mentor historically underserved entrepreneurs and organizations, and a communications and outreach strategy.

Rationale:

1. New strategies and systems are needed to significantly decrease the impacts of climate change associated with product lifecycles. This includes innovations in the way products are manufactured, consumed, recovered, reused, recycled, or composted. As a respondent to the I&I assessment summarized, "If we don't have innovation as a focus, we'll keep getting the same results."

2. Creating strong, stable local end markets for reuse and recycling of recovered products sets the stage for new government policies, such as additional Extended Producer Responsibility schemes and material recovery requirements.

3. For innovation to succeed (particularly for new organizations and businesses), more than just funding is required. New ventures often need coordinated networks of partners with subject matter expertise and mentorship, business planning assistance, market research and sizing, supply chain development, financial modeling, life cycle analysis, and more. Metro is not equipped to provide these services to I&I applicants and grantees, and as a government entity has been risk-averse with investing public funds without these elements

[18] This approach is similar to how NextCycle Washington was created. The program began as a project funded by King County, and then transitioned to Washington Department of Ecology after the first program cycle was completed. It is now funded by Washington DOE (primary funder), Department of Commerce, King County, Seattle Public Utilities and Seattle Office of Economic Development.

in place. An innovation program could fill these gaps in services by using a proven model that moves innovative approaches from conceptual to being qualified for larger funding opportunities like I&I.

4. This model could be customized to the unique material and community needs of the Metro region and would intentionally focus on recruiting and supporting BIPOC and other underserved entrepreneurs.

Goals/outcomes:

1. Provide initial funding and technical support through a **seed-grant program** for businesses, organizations and tribes in the conceptual/ideation phase, as a first step toward building sophistication and capability.

    - Yields a set of concrete actions and resolution of early hurdles around new concepts and ideas, and preparation for meeting more rigorous funding requirements and/or participation in the accelerator program and larger funding opportunities.
    - Expands the pool of applicants with a wider range of innovative ideas by assisting emerging organizations and businesses.

2. Provide deeper technical support, coaching, funding pitch development, and partnership development through **circular economy business and project accelerator program** to develop circular economy ventures that are beyond the ideation phase (e.g., have early market penetration, prototype, pilot, extensive lab or community trials, documented material or community impact, etc.) into sophisticated business models.

    - Yields models with defined product-market fit and supply chains, life cycle analysis, marketing plans, impact metrics, and other critical due diligence factors that will attract large funding opportunities.
    - Teams participate as a cohort in the six-month accelerator program

3. Provide funding through larger **implementation grants** (I&I grants or similar) to firmly establish new prevention strategies and local end-markets to reduce greenhouse gas emissions that drive climate change.

    - By funding projects that have established due diligence factors, these grants are strategic and more assured of long-term impact.
    - Yields additional tons of high-impact materials diverted for reuse and recycling, resulting in measurable greenhouse gas benefits. Additional GHG benefits will be achieved by new and expanded end markets being local, minimizing the transportation distance of recovered materials.
    - Grants could be $100,000 to $500,000 with cost-share requirement for for-profit businesses. Total funding amount could grow over time as new funders are brought into the program.

4. Intentionally incorporate equity strategies at the outset and throughout the pilot to reduce barriers for historically underserved entrepreneurs and organizations through an ongoing

collaborative **community panel to strategically focus on program accessibility, recruitment and mentorship.**

- Panel includes diverse perspectives through robust participation by members representing underserved communities along with business, nonprofit and government representatives.
- Yields a wider pool of applicants that serve BIPOC, people with disabilities, low-income communities, veterans and other underserved communities, and strategies to ensure these participants succeed designed by and for historically underserved community members.

"[NextCycle] was a worthwhile exercise for us. It was quite different than a traditional grant program with the hands-on mentoring and cohort experience. We were given two coaches assigned specifically to us that helped introduce us to mentors. We participated in a series of workshops on business fundamentals, similar to what other small business accelerator programs might offer (finance, marketing, etc.), but tailored for the Circular Economy, and with a larger focus on government partnerships."

NextCycle Washington participant

The I&I Assessment team believes the innovation approach outlined above has tremendous potential benefit for the region, particularly if the innovations focused on high-impact materials and pathways (Appendix C). However, this approach would be a significant change from the I&I program's structure. It would require significant new resources and capacity, including contracting with a team of experts in business incubation and technical assistance in the waste field. It would also require development of new public-private partnerships with other support providers, ideally at a statewide level, to establish the support ecosystem needed for emerging circular economy businesses to succeed, particularly BIPOC businesses. These factors are critical to the success of this type of programming, and must be considered in Metro's determination of if and when to further develop and execute it.

APPENDIX A: POLICY AND LEGAL LANDSCAPE

Regional System Fee

Currently, the sole funding source for Investment and Innovation program is the Regional System Fee (RSF). The RSF is assessed by Metro on every ton of waste generated in the Metro area that is delivered to a Metro transfer station or otherwise disposed. Both Metro Code and state law (ORS 459.335) impose restrictions on the use of RSFs. Specifically, Metro may only use RSFs on "activities [] related to solid waste" and the "planning, administrative and overhead costs" for those activities.[19]

To remain within the scope of allowed uses of RSF funds, Metro needs to be able to articulate how spending on a given item is a "solid waste related activity," or the planning, administrative or overhead costs related to a solid waste related activity. If the RSF expenditure funds an external contract or grant, all those funds must be used for either solid waste related activities or for the overhead costs of administering the contract or grant.

The limitations on spending of RSFs creates the "guardrails" for the scope of I&I grants and program administration. For example, grant funds can only be used for general indirect and overhead costs, such as rent, utilities, payroll software, and administrative staff, insofar as those costs are tied to solid waste activities. The I&I program has limited overhead to 10 percent of grant awards (though may increase this cap in line with grantmaking best practices and as allowed by RSF expenditures) and requires grant recipients to describe how their overhead expenses relate to the solid waste-related project or program.

2030 Regional Waste Plan Policy guidance

The Regional Waste Plan (RWP) provides policy guidance for the I&I program. The RWP policy guidance is derived from Metro's regional desired outcomes; Metro's Strategic Plan to Advance Racial Equity, Diversity and Inclusion; EPA's Sustainable Materials Management Plan; Oregon 2050 Vision; Oregon Toxics Reduction Strategy; and Oregon Environmental Literacy Plan. Themes include:

- Protect the environment and human health.
- Apply a lifecycle approach, focusing on a product's full life cycle from production to disposal, instead of focusing solely on the end of a product's life.
- Advance equity by eliminating the disparities that people of color experience with the materials management system, especially in areas related to Metro's policies, programs, services, and facilities.

As described in the most recent Regional Waste Plan progress report, the priorities and outcomes that Metro and partners are seeking to advance are:

- Waste prevention & healthy environment
    - Outcome: Reduced waste generation and increased recovery

[19] Regional System Fee Expenditure Guidelines, Office of Metro Attorney (April 2023).

- Excellent, accessible & resilient garbage and recycling system
    - Outcome: Environmental impact of products minimized
- Shared prosperity
    - Outcome: Equitable access to the garbage and recycling system and economy

Grants are identified as an implementation approach for several actions within each of these three desired outcomes of the Regional Waste Plan. I&I grants awarded to date have advanced the following actions:

- **RWP Action 2.3** – Utilize grant programs to invest in businesses and nonprofit organizations to strengthen regional efforts around reducing waste, making better use of the waste that is produced and helping foster economic opportunities for communities of color and others who have historically been left out of the garbage and recycling system.
- **RWP Action 8.1** – Support efforts to ensure that surplus edible food desired by agencies serving communities experiencing hunger is made available to them.
- **RWP Action 8.2** – Implement strategies to increase the salvage of building materials for reuse, without increasing exposure to toxics.
- **RWP Action 8.5** – Invest in neighborhood-scale reuse and repair services and infrastructure.
- **RWP Action 15.3** – Develop public-private partnerships to expand local markets for priority recyclable materials, with an emphasis on minority-owned and other business owners from historically marginalized groups.
- **RWP Action 15.4** – Fund investments to improve the performance of material recovery facilities through collection rates and/or other mechanisms.

The RWP emphasizes the whole life cycle of products and materials, from product design, to manufacturing, to consumption and use, to end-of-life management. Many I&I grants have funded end-of-life management, including recycling and composting. Many other grants have funded reuse/repair/share projects, which is both a downstream (end-of-life) strategy and an upstream (prevention) strategy by reducing the need for creation of new products. End-of-life management of products accounts for less than one percent of greenhouse gas emissions related to consumption; the other 99 percent is generated through the making, consumption, and use of materials and products.

Regional System Facilities Plan

Metro is developing a long-range plan for facility and program investments that will reduce garbage, improve service quality and access, and keep services affordable. The Regional System Facilities Plan will take a holistic view of the system and help clarify Metro's future role in providing facility-based services, including facilities to be built or renovated by Metro or in cooperation with public, private, and nonprofit partners.

At the Metro Council meeting on July 30, 2024, staff presented options and recommendations across six policy areas. Council direction in two of the plan's policy areas are relevant to the I&I program:

- **Reuse and repair:** Metro should increase its financial support for the reuse sector and partner with reuse organizations to plan and operate new facilities.
- **Organics:** Metro should invest and partner with the private sector to increase access and capacity to transfer and process organics to end markets.

Once the plan is adopted in 2025, the SFP team will scope individual projects that will further inform potential future focus areas for the I&I program.

WPES Department's Diversity, Racial Equity and Inclusion (DEI) Workplan

The Metro Council has adopted two agency-wide strategies that set goals for the agency's work to advance racial equity, diversity and inclusion at Metro. These are the Strategic Plan to Advance Racial Equity, Diversity and Inclusion, adopted in 2016, and the Diversity Action Plan, adopted in 2012 and updated in 2017. The Waste Prevention and Environmental Services Department (formerly Property and Environmental Services or PES) adopted its first DEI workplan to support Metro's agency-wide plans in 2016 and updated the plan in 2018. Although the plan does not specifically address grant programs, many parts of the plan's DEI strategy provide a basis for the I&I program's equity strategy and desired outcomes:

- **Strategy 2:** Meaningfully engage communities of color and partner with community-based organizations (CBOs) to advance racial equity.
- **Strategy 3:** Provide services equitably, with a priority on communities of color.
- **Strategy 5:** Create jobs, career pathways and promote workforce equity in the sectors where WPES works, with a priority on people of color and women.
- **Strategy 6:** Incorporate racial equity outcomes into WPES procurement, contracts and allocation of budget resources.
- **Strategy 7:** Evaluate and report on WPES's diversity, racial equity and inclusion efforts to ensure accountability and transparency.

Opportunity to Recycle Act

Metro helps cities and counties in the region comply with Oregon's Opportunity to Recycle Act (OTR) through waste prevention programs such as the youth education program, I&I grants for reuse and repair, web and social media content, and other education campaigns. Cities and counties incorporate details about these Metro waste prevention programs into annual OTR reports submitted to Oregon DEQ. To claim reuse and repair funding as one of the Metro's OTR waste prevention program elements, approximately $330,000 in grant funding is required for each year, with the specific annual funding amount calculated based on population size and inflation. Staff estimate previously awarded I&I grants can be used by cities and counties for OTR compliance through 2028. Grants for reuse and repair must be available to applicants located in all cities and counties for the Metro program to be eligible for OTR compliance.

Right to Repair

Oregon's Right to Repair Act was signed into law in March 2024. Oregon is the fourth state to pass right to repair legislation, which requires manufacturers to provide the same parts, tools, and documentation to individuals and independent repair shops that are available to their own repair

programs. Oregon's Right to Repair Act will make it easier for individuals to repair their own electronics and keep them in use longer. The law does not apply to certain types of electronic devices, such as video game consoles, medical devices, HVAC systems, motor vehicles, and electric toothbrushes. This law will open new opportunities for reuse/repair/share across the state.

Other Metro policies and projects

Metro's Multifamily Bulky Waste Collection Study

Metro staff presented findings from the Multifamily Bulky Waste Collection Study to the Metro Council in July 2024. The purpose of the study was to gather data to better understand how much and how often bulky waste material was generated for collection at multifamily households and estimate the cost to operate a regular on-route bulky waste collection service. The study found that only 9 percent of the bulky items set out for collection were suitable for reuse and that the opportunity to collect large items for reuse is generally before they are set out on the curb or point of collection. The study provides important context on needs and opportunities to inform future I&I funding priorities if they are to include this difficult to manage waste stream.

Business food scraps policies

The Business Food Waste Policy requires city and county governments within the Metro region to ensure that food waste collection services are provided to food-based businesses. The requirement went into effect in March 2022 after a two-year delay due to the impacts of COVID-19. All businesses generating more than 250 pounds of food waste per week were required to participate by September 2024. As of November 2024, the overall compliance rate is 44 percent of food-based businesses in the region. Metro direct funding to cities and counties is helping them continue to provide businesses with comprehensive support to achieve compliance through FY25-26.

Metro is also working to address gaps in the regional transfer system for business food waste and to support local and stable processing capacity. Metro's Access to Services Payment Program covers the added transportation costs of haulers traveling a longer distance to a facility that accepts commercial food waste than would be required if the material were mixed with garbage. The Regional System Facilities Plan includes continued investments in the Metro Central transfer public-private partnerships to expand compost transfer and processing capacity. An I&I program that includes a focus on food waste should further these goals.

Enhanced Dry Waste Recovery Program

Non-putrescible waste, also known as "dry waste" or "construction and demolition debris," includes wood, metal, cardboard, concrete, and drywall. For many years, Metro's Enhanced Dry Waste Recovery Program (EDWRP) program required material recovery facilities to provide quarterly sampling of residual (disposed) waste. In March 2024, the Metro Council adopted a permanent suspension of the quarterly sampling requirement and directed staff to develop updated recommendations for dry waste recovery requirements to advance actions of the Regional Waste Plan. (Although Metro has suspended certain recovery, sampling and reporting requirements, Metro still requires that all mixed dry waste generated within the region be transported to an authorized material recovery facility prior to disposal.)

Future recommendations for EDWRP could include changing the materials Metro focuses on, the amount that needs to be recovered, material handling to prevent degradation, and/or direct the

highest and best use of materials. Any new requirements would be implemented through Metro's regulatory authority to issue licenses to facilities that accept this type of waste. This project is in the early stages and any new policy would not be implemented until 2026 or later. Future I&I grants involving dry waste should align with the updated EDWRP policy recommendations and any new regulations as they are developed.

APPENDIX B: FUNDING LANDSCAPE

The following section outlines the funding landscape in which the Investment and Innovation program (I&I) operates, or will soon operate. It describes at a high level the level of overlap and distinctions between I&I and these other funding sources.

Reuse Impact Fund / Regional System Facilities Plan / Metro

In July 2024, staff presented a package of policy options for the Metro Council to consider as part of adopting the Regional System Facilities Plan. The reuse and repair policy option includes sustainable funding for reuse organizations that collect, repair, and distribute building materials, furniture, and large household items. Metro staff are developing a pilot program that is anticipated to implement this new funding opportunity beginning in FY25-26. This program is expected to offer $1 to $2 million annually to nonprofit reuse organizations through multi-year funding contracts. The funding would mainly cover direct service operating expenses to sustain these organizations' ongoing work.

- **Overlap with I&I:** Significant overlap. Applicants (nonprofit reuse organizations), eligible expenses (staffing, materials and supplies, rent, overhead).
- **Distinction from I&I:** Funding would not be available to for profit businesses (though this could change after the pilot phase). Food is not an eligible material.

Reduce, Reuse, Reimagine Grants / Oregon Department of Environmental Quality (DEQ)

DEQ's Materials Management Grant program paused in 2020 for an equity assessment and general update. The program relaunched in May 2024 as the Reduce, Reuse, Reimagine Grant Program. This statewide funding opportunity has a $1 million annual budget for grants ranging from $25,000 to $125,000. The program focused on waste prevention for the 2024 grant cycle, but in future years could address other materials management pathways. The program excludes recycling for paper, packaging, and food service ware to avoid overlap with the Recycling Modernization Act. The grant opportunity is open to nonprofits, small businesses, public schools and universities, local governments, and tribes.

- **Overlap with I&I:** Significant overlap. Applicants (nonprofits, small businesses, universities, tribes), eligible activities.
- **Distinction from I&I:** Statewide grant program, smaller annual budget, some applicants are not eligible for I&I funds (local governments, K-12 schools), focuses exclusively on waste prevention, does not offer large capital grants.

Commingled Recyclable Processing Facility funding / Recycling Modernization Act / PRO

The Recycling Modernization Act (RMA) is a shared responsibility model applicable to paper, packaging, and food service ware in Oregon. The RMA will modernization Oregon's recycling infrastructure so that more high-quality materials can be captured and delivered to responsible end markets. This will be accomplished through funding paid by producers of covered materials: the Processor Commodity Risk Fee (PCRF) and the Contamination Management Fee (CMF). In 2025, the PCRF will provide an estimated $200 per ton and the CMF will provide an estimated $341 per ton.

Total costs are estimated above $50 million in 2025, with adjustments each year as the program needs change.

- **Overlap with I&I:** Significant overlap. Applicants (commingled recyclable processing facilities), funding for capital projects such as equipment upgrades and facility infrastructure improvements.
- **Distinction from I&I:** Significantly more funding available, non-competitive funding for a limited number of eligible entities. Does not fund other eligible I&I applicants directly (nonprofit organizations, tribes, businesses that are not recycleable processing facilities).

MIRROR grant / Recycling Modernization Act / DEQ

The Oregon Material Impact Reduction and Reuse Program (MIRROR), administered by the Department of Environmental Quality (DEQ) is likely to launch the program's first grant (and possibly loan) award cycle in FY26-27. These grants are intended to reduce the environmental impact of RMA covered products through activities other than recycling. The focus on covered products limits this program to projects related to paper, packaging, and food service ware. The total amount of annual statewide program funding will not be decided until late 2024, however it is estimated to provide $15 million in annual program funding. Eligible recipients include public bodies, Tribal governments, nonprofits, and possibly private organizations if there is a demonstrated public benefit.

- **Overlap with I&I:** To be determined; potentially significant overlap. Applicants (nonprofits, Tribal governments, potentially businesses), waste prevention focus. (Note, Metro could be a MIRROR grant recipient)
- **Distinction from I&I:** Statewide grant program, significantly larger annual budget, narrow focus on paper, packaging, and food service ware, may not provide funding for private businesses if there is no public benefit.

Community Change grant, Solid Waste Infrastructure for Recycling grant / EPA

The Environmental Protection Agency (EPA) has made significant funding available for investments in recycling programs and projects to address environmental and climate challenges nationwide. In early 2024, the EPA issued a Notice of Funding Opportunity for approximately $2 billion in Inflation Reduction Act funds for community-driven initiatives to address environmental and climate challenges. Additionally, the Bipartisan Infrastructure Law allocated $55 million per year from fiscal years 2022 to 2026 for projects that improve recycling systems for post-consumer materials. The EPA recently announced another round of the Solid Waste Infrastructure for Recycling grant, with applications due in December 2024. In 2023, local reuse organization Community Warehouse was awarded a $1.5 million EPA Recycling Education and Outreach grant.

- **Overlap with I&I:** Applicants (nonprofits), recycling focus.
- **Distinction from I&I:** Nationwide grant program (few local recipients likely given the competitiveness), significantly larger budget, broad environmental focus, infrequent and complex application process.

Portland Clean Energy Fund / City of Portland Bureau of Planning and Sustainability

The Portland Clean Energy Fund (PCEF) invests in community-led projects to reduce carbon emissions, create economic opportunity, and help make Portland more resilient to a changing climate. PCEF offers three types of funding for nonprofit organizations: planning grants, implementation grants, and mini grants. The PCEF program does not have a direct focus on materials but includes an "Other" category for projects that advance the program's overall priorities of reducing greenhouse gas emissions and advancing racial and social justice. The City of Portland's Climate Investment Plan does not directly include materials management, but it could incorporate a more direct materials focus in several years when the plan is updated. In the 2024 cycle, the Portland City Council approved 71 grants totaling nearly $92 million.

- **Overlap with I&I:** Low given PCEF's broader focus. Applicants (nonprofits), general focus on climate and social justice.
- **Distinction from I&I:** Primarily focused on energy efficiency and transportation decarbonization. Limited to Portland-based nonprofit organizations. Annual funding amount is significantly greater than I&I. Offers a rolling, low-barrier mini grant option.

APPENDIX C: HIGH-IMPACT MATERIALS AND MANAGEMENT PATHWAYS

WPES Analytics staff provided technical analysis to identify high-impact materials and management pathways that the I&I program could prioritize for a narrowed program scope. This work was intended to address two elements of this project's assessment criteria (highlighted in bold):

- Program aligns with and advances current policies, priorities, and regulations.
- **Program results in direct and measurable positive environmental impacts.**
- Program provides direct benefits for underserved communities.
- **Program supports strategic investments and responsible use of public funds.**

The analysis looked at environmental impact to determine the specific materials and management pathways that could deliver the greatest environmental benefits in terms of avoided greenhouse gas emissions. It also considered the current recovery rate of the materials, and which are covered by EPR programs such as the Recycling Modernization Act.

Data types and sources
This analysis defined **high-impact materials** as those materials with the highest greenhouse gas emissions (in terms of metric tons of CO2 equivalent emissions). Most emissions are generated during the phase of producing materials and end-products. Based on this, high-impact materials were identified by the level of emissions attributed to the production of those materials as a way of considering the impact of the full lifecycle of products and materials. The **most beneficial pathways** for managing the materials at the end of their life were also identified based on the level of emissions attributed to each of those pathways.

Greenhouse gas emissions for each of these materials were drawn from per ton estimates and scenarios included in the Environmental Protection Agency's Waste Reduction Model (WARM). WARM provides emissions estimates for both the production of the materials and different management pathways along the waste management hierarchy (e.g., prevention and reuse, recycling, composting, or landfill disposal). The Oregon Department of Environmental Quality (DEQ) Waste Impact Calculator provided the recovery rate by material for the Metro wasteshed.

The analysis used emissions of greenhouse gases, which include carbon dioxide, methane and nitrous oxide expressed as carbon dioxide equivalent, as a way of measuring environmental impact. These emissions increase the absorption of radiation in the atmosphere and trap heat from escaping into space, accelerating the natural greenhouse effect. As a result of a warming planet, adverse impacts on ecosystems and human health are expected. Addressing climate change is a strategic priority of the Metro Council and will be a focus of future changes to the I&I program.

Data limitations
The analysis is largely focused on materials, like metals, wood, plastics, etc., rather than end-products, like furniture, appliances or cars. This is because WARM is primarily focused on materials, with a few exceptions such as electronics and food. A comprehensive product-level, publicly available database similar to WARM is not available.

Not all materials with known high environmental impacts are covered in detail by the WARM tool, due to available information on the processes for producing and transporting those materials to

people and businesses in the United States. Examples include textiles and concrete. The EPA regularly updates the WARM tool and may add emissions factors for these types of materials in the coming years.

Additionally, this data does not consider material quantity as one of the criteria for defining high-impact materials. One of the reasons is that measuring quantity is typically based on weight and does not consider the environmental impacts that may be incurred regardless of how large the material stream is; light products can have significant environmental impacts. Instead, the I&I program may want to consider the anticipated material quantity addressed through a given grant as part of the grant review process.

High-impact materials

The table below illustrates the environmental impact (based on production) of major categories of materials. It also includes the share of those materials that are recycled or composted in the Metro wasteshed (as of 2022) and those materials that are covered by Extended Producer Responsibility (EPR) programs in Oregon.

Looking at the table, the materials with the most impact are **food waste** and **electronics**; up to 30 metric tons of carbon dioxide equivalent (MTCO2e) are attributed to producing one ton of these materials. **Textiles**, **wood** and **other construction** materials have an environmental impact of greater than 1 MTCO2e per ton and are not well covered through existing or planned recycling programs. Several other materials, including paper products and packaging, metals, tires and plastic, have an environmental impact of 1 MTCO2e or more per ton; most of these materials are already being managed by local garbage and recycling systems or are covered under EPR programs like the Recycling Modernization Act. Electronics recycling is itself covered under an EPR program but reuse of electronics is not.

Material	Environmental impact	Recovery rate, Metro wasteshed (2022)	Covered by EPRs in Oregon
	Metric tons of CO2 equivalent per ton	*Recycling or composting*	
Food waste	<1 - 30	13%	
Electronics	10 - 30	44%	Yes (recycling)
Paper products/packaging	5 - 9	65%	Yes
Metals	2 – 7	89%	
Textiles/carpet*	4 - 5	0%	
Tires**	4	79%	
Wood	2 - 4	26%	
Other construction	<1 - 4	4%	
Plastics	1 - 3	14%	Yes
Glass	<1	73%	

Data sources: *EPA WARM v.16, DEQ Waste Impact Calculator (2022),*
**Textiles are not included in WARM directly; they are represented by a combination of office paper (proxy for cotton) and PET (proxy for polyester).*

***Recovery rate for tires was calculated by Metro using the DEQ 2016 Waste Composition Study and disposition data from the DEQ 2022 Material Recovery Survey.*

Material management pathways

The following table illustrates the emissions from four pathways for managing materials and products at the end of their life: preventing waste entirely by reusing an existing product instead of buying a new one or refraining from purchasing it wholly or partially; donating food that was not consumed; recycling or composting; and landfilling. Food donation is considered separate from reuse because food loss or spoilage and some uncertainty about whether may preclude reuse of the full amount of donated food.

Material	Waste prevention & reuse	Food donation	Recycling/ composting	Landfilling
	Metric tons of CO2 equivalent per ton			
Food waste	-6	-3	<-1	1
Electronics	-19		-1	<1
Paper products/packaging	-7		-3	<1
Metals	-5		-5	<1
Textiles/carpet	-4		-2	<1
Tires	-4		<-1	<1
Wood	-3		NA	-1
Other construction	<1		<-1	<1
Plastics	-2		-1	<1
Glass	-1		<-1	<1

Data source: *EPA WARM v.16; Metro**

**WARM's material categories were consolidated by Metro. The reported value is an average of the values for materials in each of the following consolidated material categories:*

- *Food waste: Beef, Poultry, Dairy Products, Bread, Grains, Fruits and Vegetables*
- *Electronics: CRT Displays, Portable Electronic Devices, Flat-Panel Displays, Desktop CPUs, Mixed Electronics, Electronic Peripherals, Hard-Copy Devices*
- *Paper products/packaging: Textbooks, Magazines/third-class mail, Office Paper, Mixed Paper (primarily from offices), Phonebooks, Mixed Paper (general), Mixed Paper (primarily residential), Corrugated Containers, Newspaper*
- *Metals: Aluminum Ingot, Copper Wire, Aluminum Cans, Mixed Metals, Steel Cans, Structural Steel*
- *Textiles/carpet: Carpet, Office Paper/PET (textiles are not included in WARM directly; they are represented by a combination of office paper as a proxy for cotton and PET as a proxy for polyester)*
- *Wood: Wood Flooring, Medium-density Fiberboard, Dimensional Lumber*
- *Other construction: Vinyl Flooring, Fiberglass Insulation, Clay Bricks, Drywall, Asphalt Shingles, Asphalt Concrete*
- *Plastics: PS, PLA, PET, PVC, LDPE, LLDPE, PP, HDPE*

Summary

The tables above indicate that across most of the material types, prevention represents the greatest impact in reducing greenhouse gas emissions (a negative value of metric tons of CO2 equivalents). Recycling or composting are generally better than landfilling. However, the size of the impact is small in comparison to what could be achieved through prevention and reuse.

High impact materials recommended for I&I investment are: food waste, electronics (prevention and reuse only), textiles and wood.