Circular Food Innovation Lab

Toward Equity and Circularity in Vancouver's Food System

March 2026, Final Report from the Circular Food Innovation Lab
City of Vancouver Solid Waste Services and Emily Carr University

We are grateful to be on the unceded, ancestral and contemporary homelands of the xʷməθkʷəy̓əm (Musqueam), Sḵwx̱wú7mesh (Squamish) and səlilwətaɬ (Tsleil-Waututh) peoples.

Turning towards Coast Salish stewardship of these lands and waters reveals stark contrasts with the ways most of us feed ourselves here and now, and shows us how the food system is deeply entangled with legacies, dynamics and impacts of colonialism.

We are working to innovate with and within a colonial institution, and are particularly grateful for the people who have contributed perspectives on Indigenous ways of thinking, being, knowing, and doing to this process.

City of Vancouver
Solid Waste Services

The City of Vancouver Solid Waste Services Branch is responsible for developing strategies and policies, managing solid waste programs and projects, and providing technical support to operational teams, with the goal of maximizing waste reduction and diversion and advancing the City's vision of a waste-free community. Solid Waste Services also works closely with Metro Vancouver on long-range planning for effective solid waste management in the region and engages with other levels of government on waste management policy and regulation.

Emily Carr University of Art + Design
DESIS Lab

Founded in 1925, Emily Carr University of Art + Design is one of B.C.'s oldest post-secondary institutions, and the only one dedicated solely to professional education and learning in the arts, media and design.

The DESIS Lab at Emily Carr University supports research that advances design for social innovation towards sustainability. DESIS envisions a future of resilience, equity and diversity across human and ecological systems through social innovation, design and environmental justice. Emily Carr's lab joined the DESIS network in 2012 and is the only DESIS lab in Canada.

City of Vancouver Solutions Lab

The Solutions Lab is a public sector social innovation lab inside the City of Vancouver that began in 2016. We work with greenest city, healthy city, climate emergency, reconciliation, and equity policies and programs. Our approach draws from design, social innovation, systems thinking, equity, decolonization and visionary futures. We bring City staff and community collaborator together in creative, experimental, and learning-oriented processes to seek transformative solutions to some of the most complex challenges facing Vancouver.

Any works referring to this material should cite: Toward Equity and Circularity in Vancouver's Food System: Learnings from the Circular Food Innovation Lab, City of Vancouver Solid Waste Services and Emily Carr University of Art + Design, 2026.

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We are incredibly grateful to our funding partners Environment and Climate Change Canada, Carbon Neutral Cities Alliance and Mitacs, without whom this work would not be possible.

CITY OF VANCOUVER

EMILY CARR UNIVERSITY of Art + Design

CNCA CARBON NEUTRAL CITIES ALLIANCE

Mitacs

Environment and Climate Change Canada / Environnement et Changement climatique Canada

Circular Food Innovation Lab

Toward Equity and Circularity in Vancouver's Food System

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Cover Image: Destination Vancouver

Wasted food – the result of a linear pattern of producing, under-consuming and disposing of food – is a pervasive problem globally and in Canada, where 47% of the food produced is wasted each year: that's 21 million metric tonnes of food valued at $58 billion[1].

Wasted food is a complex challenge, in that it intersects with issues of food security, climate change, social justice and health, and involves many actors across the public and private sector.

In Vancouver, disparate economic realities and extractive relationships with lands and waters have disproportionately affected food access for systemically marginalized communities, resulting in increased reliance on charitable food sources. Meanwhile, food charities and non-profits are questioning the trajectory and effectiveness of the charitable food system in Canada in addressing food insecurity and their role within it.

To meet these complex, systemic challenges, operational approaches within food organizations and public policy governing the food system must be reimagined through inclusive processes that meaningfully engage diverse cultural voices and interdisciplinary perspectives.

[1] Nikkel, L., Gooch, M., Bucknell, D., Marchildon, J., Chau, G., LaPlain, D., Whitehead, P. and Chin Sang, G. (2024) The avoidable crisis of food waste roadmap: Update. Ontario, Canada: Second Harvest and Value Chain Management International.

The Circular Food Innovation Lab was a collaborative public sector research lab that brought together grocery stores, food producers, distributors, food service providers, food rescue organizations, health authorities, municipal and Indigenous government and food justice advocates.

Using action research, codesign and storytelling to work towards the transformation of Vancouver's food system, we experimented with ways to intervene on systems, structures and behaviours to prevent and reduce food waste and create enabling conditions for circularity.

The lab was guided by the idea that those who work in the food system have deep knowledge about the challenges and opportunities that this moment presents, and are well equipped to improve the system if given the right supports and opportunities.

This report describes a year-long process within the Circular Food Innovation Lab to codesign food system interventions, chart alternative local food policies and develop tools and resources to support action and implementation.

Graphics throughout this report were produced using inks made from food scraps. See page 20 for more details.

Participants

How might we work together to increase circularity in Vancouver's food system so that:

- **food is not lost or wasted;**
- **access to food is nourishing, equitable, and culturally resonant;**
- **habitats are protected for current and future generations?**

Food Businesses*

- Grocery Stores
- Food Producers
- Food Distributors
- Hospitality Sector

Government Agencies and Indigenous Nations

- City of Vancouver Solid Waste Services
- Squamish Nation (Rights and Title)
- Vancouver Park Board
- Environment and Climate Change Canada
- Metro Vancouver

Education and Health

- Emily Carr University of Art + Design
- Vancouver Community College
- Lasalle College
- UBC Open Kitchen
- Vancouver Coastal Health
- Providence Health

Non Profit Food Security Orgs.

- City Reach
- Strathcona Community Centre
- Yarrow Intergenerational Society for Justice

Food Rescue Services

- Reroot Kitchen
- Food Stash Foundation
- Vancouver Food Runners

Community Advocates

- Vancouver Food Policy Council
- Industry Associations
- Urban Indigenous Community Members
- Musqueam Community Members
- Vancouver Urban Food Forest Foundation

** See page 37 for a full list of food businesses who participated in the lab.*

Core Team

Erin Nichols For over 25 years Erin Nichols has worked in the small business, non-profit and public sectors to optimize the local food system. She's a founder of the Vancouver Farmers Markets, and was the Food Quality and Sustainability Manager at a large food bank. At the City of Vancouver, she served as the Senior Project Manager with Solid Waste Strategic Services, where her work to address wasted food was guided by the City's Zero Waste 2040 strategy. Rather than piling solutions onto an already too complex food system she is interested in getting to root causes.

Laura Kozak is a design researcher and Assistant Professor in the Faculty of Culture + Community at Emily Carr University of Art + Design. Her work focuses on relational, place-based ethics, and asks how designers contribute to relationships with communities, land, water and ecological beings through decolonizing and anti-oppression practices. She has two decades of experience convening interdisciplinary teams to engage in participatory design processes towards climate justice and food sovereignty. As an affiliate of Emily Carr's DESIS Lab, she has published and presented papers internationally in Nature: Climate Action, PDC2020 (Participatory Design Conference), PIVOT: A World of Many Centers, Cumulus and ServDes.

Lily Raphael (she/her) is a systems transformation practitioner, social planner and researcher oriented towards ecosocial justice and decolonizing practices. Her work focuses on designing spaces of dialogue, learning, and creativity to navigate our communities' pressing complex challenges and co-imagine possible futures beyond them. Recent projects include the Climate Justice Field School and the Circular Food Innovation Lab, via the City of Vancouver and Emily Carr. Lily also co-authored Step into the River: a Framework for Economic Reconciliation (2022, SFU Faculty of Environment) with Sxwpilemaát Siyám, Chief Leanne Joe of Squamish Nation.

Morgan Martino (she/her) is an inter-disciplinary designer, artist, researcher, and facilitator whose work focuses on building and supporting communities that foster caring relationships, critical learning, and informed social change. Her practice uses community- and place-based engagements to explore how everyday material culture and designed systems inform and reflect our complex relationships to care. She completed her Masters of Design (MDes) at Emily Carr University of Art + Design, where she also works with the DESIS Lab, Circular Food Innovation Lab, and Stationery Project.

Maria Azam is a developer, animator, and designer bridging art and technology for animation, digital storytelling, and ethical software development. She is passionate about interrogating the world we live in, using critical and creative co-design methods to deeply understand today and imagine tomorrow. She graduated in 2025 with her Master of Design (MDes) in Interaction Design at Emily Carr University of Art + Design, focusing on how we can counter narrative and algorithmic injustices through community-led storymaking. Ultimately, she believes that design can be used to inspire good and social change, if we work relationally.

Sania Siddiqui is an interaction/graphic designer and researcher who is passionate about uncovering the "why" in design and amplifying voices that might otherwise go unheard through thoughtful, impactful design solutions. She views design as the ultimate form of storytelling and is dedicated to mastering the art of narrative through her work. Specializing in bold, responsive, and visually stunning UI designs, Sania integrates UX methodologies, conducting in-depth research to drive meaningful user experiences.

Frankie Fowle (she/they) is an illustrator, designer, and researcher who believes that visual language is a powerful tool for bringing awareness to complex issues and creating change in our current social and economic systems. Frankie has assisted in several national research projects on maker spaces, circular economy, and maker culture. Frankie is currently researching how thing-centred narratives can be used to promote sustainability and change our perspectives on material culture, and completed her Master of Design (MDes) at Emily Carr University.

Kina Utoro is a recent Bachelor of Design graduate of Emily Carr University of Art + Design, currently residing on the unceded territories of the xʷməθkwəy̓əm, Skwxwú7mesh and Sə̓lílwətaʔ/Selilwitulh Nations. Kina's interests in climate resiliency, equity, and food systems have led to her current involvement with social impact initiatives, notably through volunteer work at national and regional organizations, including Propel Impact, Public Health Association of BC, and Waterlution.

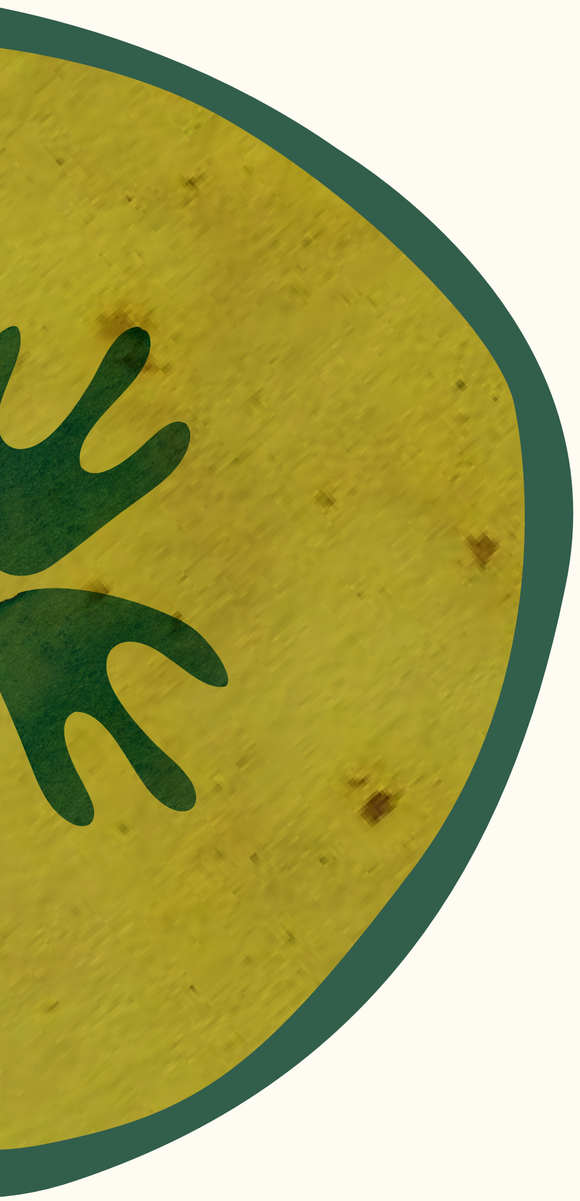
Yuki Xiang has an interdisciplinary background in art, environmental studies, and cross-cultural experiences in China and Canada. Growing up in a Waldorf-inspired environment, she was encouraged to learn through direct engagement with nature—harvesting wheat, identifying herbs, and observing seasonal rhythms. These early experiences grounded her belief that nature is our first educator and continues to inform her respect for ecological cycles and traditional wisdom. Yuki holds a Bachelor of Art (Illustration) with a minor in Social Practice and Community Engagement from Emily Carr University. There, she is currently pursuing a Master of Design degree, where she is working with heirloom seed preservation and regenerative farming.

Bianca Del Rio Kodato is an interdisciplinary designer using design as a tool for social innovation. Through playful and participatory approaches, she advocates for a future that prioritizes agency and support between individuals, communities and the environment. She is interested in the exchange that happens between physical spaces and living beings, seeing place and the personal connections developed with them as critical influences to how we exist and behave in and with the world. Bianca holds a Bachelor's degree in Industrial Design with a Minor in Social Practice and Community Engagement from Emily Carr University, and is currently pursuing a Master's of Architecture at UBC.

Marcia Higuchi is a communication designer, design educator and researcher originally from São Paulo, Brazil. She holds a Bachelor's in Design (Visual Communication) from UNESP and a Master of Design from Emily Carr University. She currently holds an Assistant Professor position at the Graphic and Digital Design department at the University of the Fraser Valley. Her research is focused on relational, dialogical practices and reflexive approach, focusing on critical pedagogies of empowerment. She investigates the importance of self-awareness, storytelling and how our own experiences are brought into a broader understanding of our social relations that can affect our sense of interdependence and belonging to nature.

Hae-In Kim (she/her) started work in the food systems world serendipitously but fell in love with the dynamic, intersectional nature of the space. Hae-In holds a Master's in Public Health and has worked on projects supporting sustainable food production, food access and local economic development. She is invested in community-driven solutions and is interested in supporting food sovereignty efforts, particularly in urban settings. She strives to hold an equity and power-mapping lens to her work and is always looking to strengthen this perspective.

Coro Strandberg is President of Strandberg Consulting and a Canadian trailblazer in social purpose and ESG strategy. With more than 35 years of experience, she works with boards, businesses, governments, and industry associations to advance business models and strategies that address societal challenges while strengthening long-term performance. She is Co-founder and Chair of the Canadian Purpose Economy Project, helping to shape the field of social purpose business in Canada. Coro brings a tri-sector background across business, government, and the non-profit sector, with 25 years as a corporate director. Recognized as a 2015 Clean50 Top Sustainability Consultant, she specializes in integrating ESG and social purpose into strategy, governance, and operations across sectors.



Context

Policy Landscape

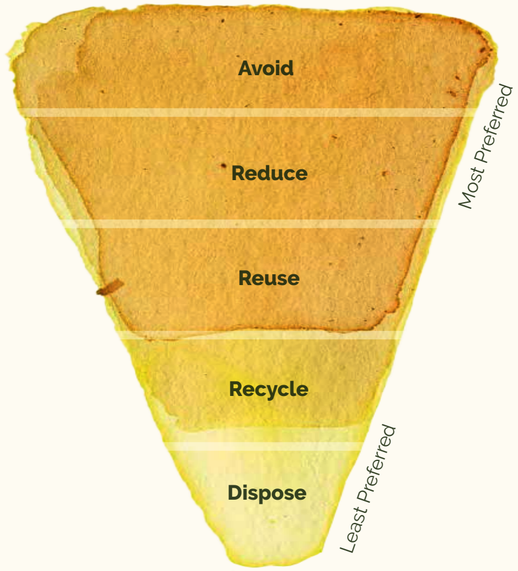
Lineage of the Circular Food Innovation Lab

Mapping Food System Patterns

Process Overview
Guiding Orientations
Methods

Policy Landscape

Each level of government enacts policies, strategies, regulations, and guidelines that define and support food production, processing, distribution, access and sales, while trying to mitigate adverse consequences such as wasted food. Overall, these standards are intended to create a predictable and reliable supply chain and help maintain high food safety standards.



Adapted from Zero Waste 2040, City of Vancouver

Working from a municipal perspective, CFIL was conceptualized largely as a response to two key City of Vancouver policies:

Zero Waste 2040

Approved by Vancouver's City Council in 2018, the Zero Waste Strategic Plan sets an aspirational goal of zero waste disposed to landfill and incinerator by 2040. Preventing edible food waste is a priority action item identified in the City's Zero Waste 2040 strategic plan and in its 5-year implementation update.

The strategic plan relates zero waste and sustainability to advancing a Circular Economy, and identifies the benefit of working with businesses and institutions to help solve the issue of good food being wasted. By orienting to an innovation lab process prompted by the goals set out in this plan, CFIL explored how local government might expand its role beyond collecting and transporting materials for processing waste for disposal to one of collaborator and facilitator in addressing an intricate, complex issue alongside a web of actors.

→ Read the *Zero Waste 2040 Strategic Plan and Update*

UNDRIP Action Plan

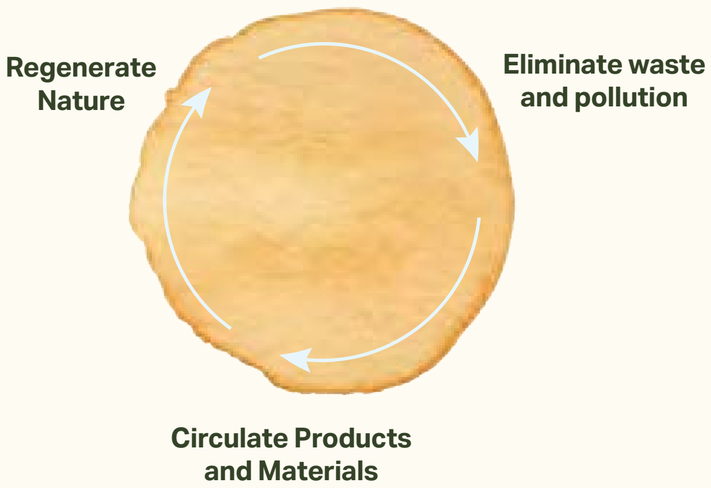
The United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) was adopted by the UN General Assembly in 2007. UNDRIP establishes a universal framework of minimum standards for the survival, dignity and well-being of Indigenous Peoples worldwide, expanding existing human rights standards and fundamental freedoms as they apply to the specific situations of Indigenous Peoples, including self-determination and free, prior, and informed consent. Canada ratified UNDRIP in 2016 and passed the UNDRIP Act in 2021. The province of British Columbia passed the Declaration on the Rights of Indigenous Peoples Act (DRIPA) in 2019.

In 2022, the City of Vancouver became the first Canadian city to adopt a municipal strategy for implementing UNDRIP. It was co-developed with Musqueam, Squamish and Tsleil-Waututh Nations and includes various food-related Calls to Action, including 1.10:

Within food policy and other areas, support Indigenous food sovereignty in ways that follow Musqueam, Squamish and Tsleil-Waututh people's own stewardship knowledge and practices, and support community-led initiatives to heal the lands and restore access to healthy food systems.

→ Read UNDRIP and the UNDRIP Action Plan 2024 - 2028

Circular Economy, adapted from the Ellen Macarthur Foundation



At its root, Canada's dominant food system was developed in concert with colonization: it treats food as a product, negating Indigenous ways of relating to plants and animals as kin or understanding food as an integral part of land and marine ecology.

Federal
The Government of Canada oversees agriculture, fisheries, aquaculture and health services. Agriculture and Agri-Food Canada (AAFC) focuses on international and inter-provincial trade and commerce of agricultural products and other regulatory and research work around agriculture and farm activity (Metro Vancouver, 2025). In 2019, AAFC launched The Food Policy for Canada, a framework meant to align and coordinate federal food-related initiatives with reducing food waste identified as a short-term action priority (Agriculture and Agri-Food Canada, 2019). This work aligns with priorities of other departments such as Environment and Climate Change Canada, whose 2030 Emissions Reductions Plan advocates for advancing a circular economy to reduce greenhouse gas emissions (Environment and Climate Change Canada, 2022). Environment and Climate Change Canada is responsible for protection of the environment through legislation such as the Canadian Environmental Protection Act 1999. Other departments like Infrastructure Canada and Statistics Canada support solid waste infrastructure and innovation funding and solid waste data collection and reporting.

The Canadian Food Inspection Agency (CFIA), another Federal Agency, is responsible for safe and sustainable food production, including enforcing Federal food safety regulations. Administered by CFIA, the Safe Food for Canadians Regulations 2018 outlines the responsibilities of businesses in maintaining licensing to work with food, keeping accurate records for traceability and preventing food hazards. For example, the Food and Drug Act 1985 under the Regulations addresses food safety issues such as packaging, labeling and composition. Health Canada, another Federal Agency, then enforces these Acts.

The British Columbian government shares a similar mandate for agriculture and health with the Federal government but has primary authority for economic growth, job creation, social welfare, transportation systems, and the environment (Metro Vancouver, 2025). The Ministry of Health regulates BC's food industry through Acts such the Food Safety Act 2002 and the Public Health Act 1999 - outlining food industry practices and food safety requirements. The Ministry of Agriculture and Food administers the Food Donor Encouragement Act 1997, which protects businesses from liability when donating food in good faith. The Ministry of Environment and Parks administers the Environmental Management Act 2003, a framework for waste management that covers food waste. Other programs support BC-based businesses and research and development within the food sector.

Indigenous Policy and Stewardship
Vancouver is situated in the territory of the xʷməθkʷəy̓əm (Musqueam), Sḵwx̱wú7mesh Úxwumixw (Squamish Nation) and səlilwətaɬ (Tsleil-Waututh Nation). Across the Metro Vancouver region there are many other local Nations, including q̓icə̓y̓ (Katzie), q̓ʷɑ:n̓ƛ̓ən̓ (Kwantlen), kʷikʷəƛ̓əm (Kwikwetlem), máthxwi (Matsqui), qiqéyt (Qayqayt), Semihamoo and scəw̓aθən məsteyəxʷ (Tsawwassen). These Nations have stewarded these lands and waters since time immemorial, and uphold the relationship between land, water and living beings as sacred. Forced removal from lands displaced entire communities from many of their food, medicine and gathering spaces. Each Nation is unique, and throughout different self-governing strategic plans embed policies and actions that impact food security and wasted food.

Squamish Nation's Climate Legacy Strategy (2025) lays out a strategy to take climate action, including making food security infrastructure investments and implementing a zero-waste operations policy. Musqueam's Comprehensive Sustainable Community Development Plan sets out a plan for overall community development, which includes improving health and wellbeing by increasing access to traditional and healthy foods by leveraging resource harvesting and food donations (2018). The Musqueam Land Code (2012) gave Musqueam authority to make bylaws in relation to reserve lands, resources and the environment. Tsleil-Waututh Nation also adopted a Land Code in 2019. The Tsleil-Waututh Nation Climate Change Resilience Plan (2022) highlights species abundance and food security as community health outcomes and links climate change, social inequities and food security together.

Regional
Under the Greater Vancouver Sewerage and Drainage District Act 1959, Metro Vancouver is responsible for developing and implementing solid waste management plans for 23 local authorities. Metro Vancouver's Regional Food System Strategy and Solid Waste Management Plan Update identify priorities and strategic actions to support a regional circular food system and reduce wasted food (Metro Vancouver 2025, 2026). Metro Vancouver has moved forward on some of these recommendations through the Food Mesh regional food recovery network, solid waste food recovery efforts and the National Zero Waste Council (NZWC). The National Zero Waste Council brings together governments, businesses, and NGOs to advance waste prevention and a circular economy. The NZWC offers a Circular Economy Business Toolkit that can be used by businesses to move towards

"Real progress on food waste reduction will not come from goodwill and voluntary action alone. While businesses and food recovery organizations are making strides, the scale of the problem demands systemic change, which requires government intervention, clear regulation, and targeted financial support.

By setting mandatory reporting standards, providing incentives, strengthening supply chain practices, and funding capacity-building and food recovery, government can unlock the conditions for meaningful prevention.

Without this leadership, the system will continue to reward overproduction and normalize waste."

Michelle Reining, Vancouver Food Runners

a circular economy (National Zero Waste Council, 2021). Metro Vancouver has also implemented an Organics Disposal Ban since 2015.

Local

The City of Vancouver manages business licensing, bylaw enforcement, and waste services as well as sets long term local food system strategies. The Vancouver Park Board Local Food System Action Plan and the City of Vancouver Food Strategy both outline actions to develop a more sustainable, just and decolonized local food system (Vancouver Park Board; City of Vancouver, 2017). Under these plans, Park Board and the City of Vancouver support local growing through community gardens and urban farming, composting, and food processing. In 2018, City of Vancouver also adopted the Zero Waste 2040 Strategic Plan, a long-term strategic plan to become a zero waste community that identifies preventing edible food waste as a priority action (City of Vancouver, 2024b). Implementation of the Green Bins program under this plan increased organics diversion from 60% in 2013 to 75% in 2017 from single-family homes (City of Vancouver, 2024b).

Valuing Food

Despite these policies, regulations and programs at all levels of government, rates of waste food remain high across the food supply chain. In 2019, 23% of most avoidable waste was reported to occur during the manufacturing process (Second Harvest and Value Chain Management International, 2019). Additionally, 21% of avoidable food waste occurred on the consumer level (Second Harvest and Value Chain Management International, 2019). In Vancouver alone, residents and businesses threw out an estimated 21,000 tonnes of edible food in 2022 (7% of Vancouver's garbage). An additional 11,000 tonnes of food that could have been eaten was composted through the City's green bin program (City of Vancouver, 2024b).

Within a system that understands food to be a product, consumers have come to expect that all categories of food, including fresh produce, should look perfect and be available year round. This "fictional abundance" puts enormous pressure on food businesses to procure and present food in a way that obscures the labour, lands and fossil fuels powering our food system. To meet this expectation, perfectly good food gets thrown away before it ever reaches plates, costing businesses significantly and adding methane-producing solid waste to landfills.

Food rescue organizations can, to some degree, intervene to reroute still-edible food from businesses to organizations and individuals in the community who need food. As food insecurity rises, demand for food from charitable sources has exploded, with 16% of households in BC considered food insecure (Li et al., 2022). Registered charities and nonprofit organizations in Vancouver rescue over 4.93 million pounds of surplus food each year, with an in-kind value of $15.8M (Food Stash Foundation, Vancouver Food Runners and Vancouver Food Justice Coalition, 2023). Increasing reliance on charitable food-rescue organizations to both meet growing food insecurity needs and to provide uptake systems for wasted food is an unsustainable and problematic pattern noted by numerous scholars, media articles and governmental reports (National Zero Waste Council, 2018; Nikkel et al, 2019; Pellegrini, 2024; Soma, 2022).

Collaboration across levels of government, industry and the public on new business models and systems are needed to transition to a circular economy, and culture and behaviour change are needed for residents to more fully participate in practices that reduce waste (City of Vancouver, 2025b). Facilitating a shift towards creating a regional circular food system requires adjusting existing priorities, connections, value chains, decision making structures and markets (Metro Vancouver, 2025).

Second Harvest's Hungry for Change specifically urges Canadian municipalities to "consider public policy related to the measurement of food waste by business to support future planning and identify areas of potential improvement as well as sources of healthy donatable food" (2023). Lifting up a quote from Charlene Seward in the Sḵwx̱wú7mesh Úxwumixw Climate Legacy Strategy (2024, p. 46):

"There's no such thing as perfect in zero-waste, but we need to adopt it as a practice, which means it needs to be implemented as a policy."

Charlene Seward, as quoted in Sḵwx̱wú7mesh Úxwumixw, Climate Legacy Strategy

Lineage of the Lab

The Circular Food Innovation Lab has expanded over three iterations, each building on previous work and collaboration.

2019

Grocery Retail Solutions Lab

14 Grocery stores

City of Vancouver Solid Waste Services

City of Vancouver Solutions Lab

2021 - 2023

Circular Food Innovation Lab I

18 food businesses - producers, distributors, restaurants, grocery stores

City of Vancouver Solid Waste Services

City of Vancouver Solutions Lab

Emily Carr University Shumka Centre

Vancouver Economic Commission

2024 - 2026

Circular Food Innovation Lab II

23 food businesses and organizations - producers, distributors, restaurants, grocery stores, health authorities, food service providers

Equitable Food Circle: food rescue organizations, local Nations, food justice advocates

City of Vancouver Solid Waste Services

City of Vancouver Solutions Lab

Emily Carr University DESIS Lab

Our projects began in 2019 with the Grocery Retail Solutions Lab, a public sector innovation lab which convened City of Vancouver's Solid Waste Services and 14 grocery stores operating in Vancouver. The lab used participatory approaches that recognize those who are most impacted by the challenge of wasted food as key actors in finding solutions. A key finding that came through this collaborative learning process was that in addition to grocery retailers, more actors across the food system needed to be involved if we wanted to work at developing more transformative systemic solutions to reducing wasted food. We also found that process-wise, this challenge would benefit from dedicating more resources to prototyping and experimentation.

The circle of collaboration expanded from 2021-2023 through a partnership with Emily Carr University and the Vancouver Economic Commission, and we ran the first iteration of the Circular Food Innovation Lab. This unique collaboration enabled the formation of a design team that focused explicitly on prototyping and co-designing with participating businesses around potential solutions for reducing wasted food and increasing circularity in Vancouver's food system. Lab participants developed and tested nine prototypes that explored different possible interventions in Vancouver's food system. CFIL I is documented in Peeling Back the Layers: Learnings from the Circular Food Innovation Lab.

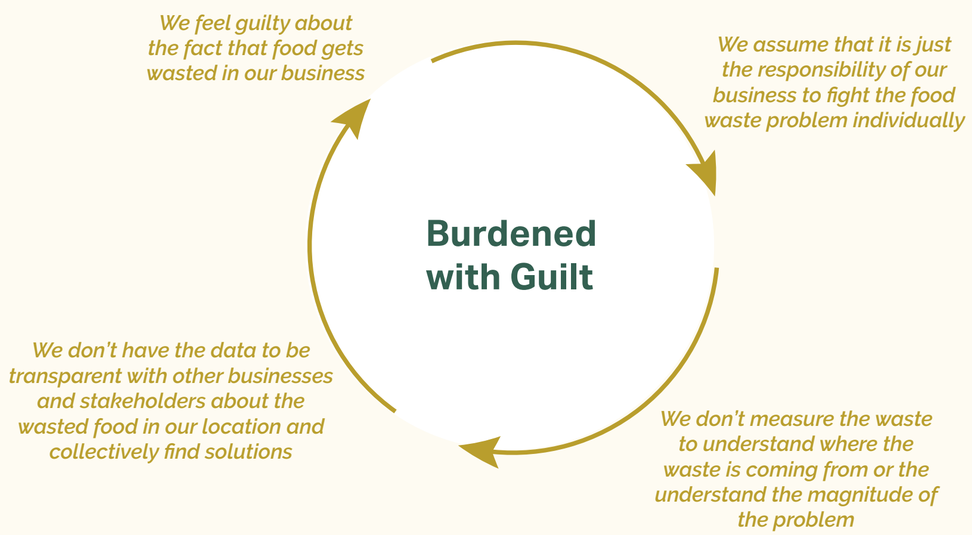
Following CFIL I, participants continued to connect in different configurations and networks establishing an informal Circular Economy of Food Coalition. In 2024, the City of Vancouver secured another round of funding from Carbon Neutral Cities Alliance and Environment and Climate Change Canada which helped establish a CFIL II. This lab included food businesses and organizations, an Equitable Food Circle with participants from local Nations, food rescue organizations and food justice advocates, and a team of design researchers from Emily Carr University, City of Vancouver Solutions Lab and Solid Waste Services. This iteration also had an Advisory Committee representing the Vancouver Board of Parks and Recreation, Metro Vancouver, Industry Associations, and local food rescue organizations.

Through seven years of collectively holding the broader question of reducing wasted food and enacting circularity in our city, we've gathered many learnings about what kinds of collaborations, networks, roles and work already exist, and what others might be possible to create to further enact and transform Vancouver's food system.

→ Read *Peeling Back the Layers: Learnings from the Circular Food Innovation Lab*

Mapping Food System Patterns

A core practice of CFIL I included mapping dynamics that exist amongst actors in the food system, taking into consideration both very localized practices and interactions within a given food actor's context as well as broader systemic challenges. In CFIL II, we continued to pay attention to and refine our understanding of these and other patterns surrounding our food system.



Key patterns that we worked with included:

Across the system, actors place responsibility and fault of wasted food on one another. For complex challenges such as reducing wasted food and fostering more resilient and equitable local food systems, many actors have a role to play. Discussions amongst participants revealed a multitude of perspectives on whose responsibility it is to do something about food waste.

"Shrink" (or loss of inventory) is accepted as part of doing business. The reasons for loss of inventory may vary widely. Typically, shrink is calculated using percentages, which can mask the often very large physical amount of actual food being wasted especially when it comes to larger operations.

Left: One of 14 Feedback Loops from the Circular Food Innovation Lab I

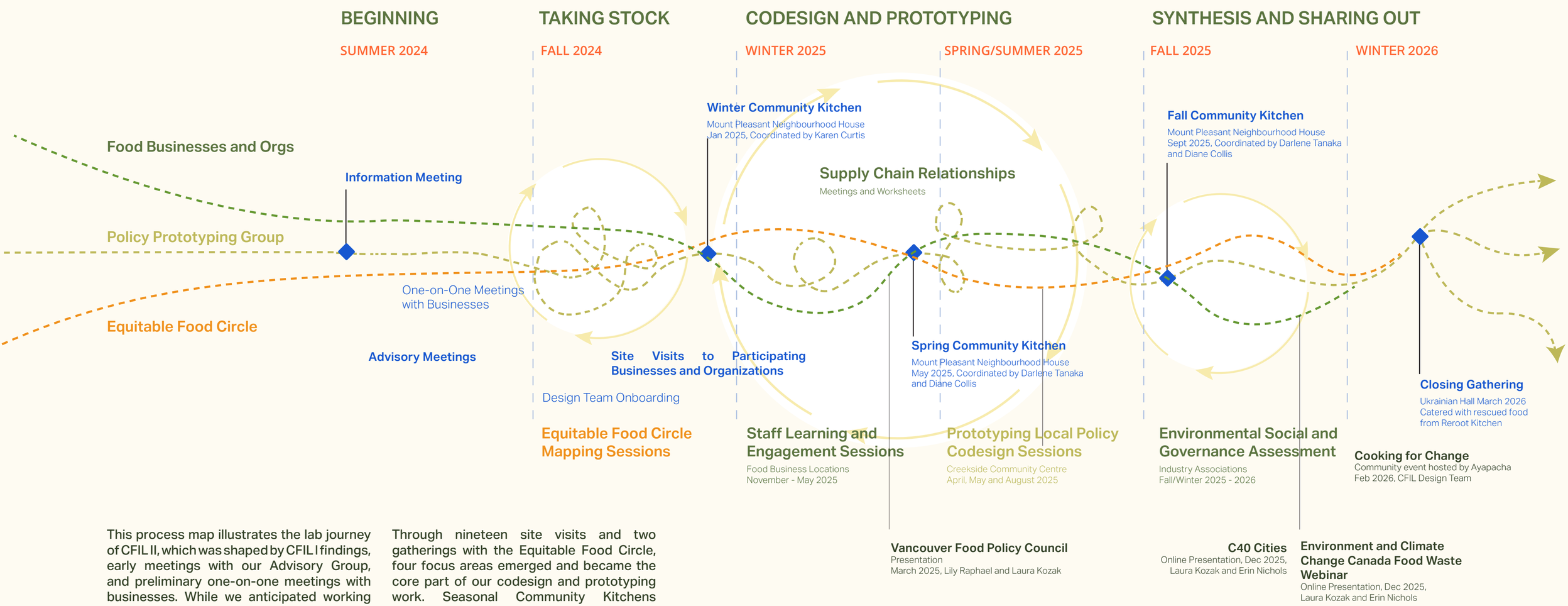
→ *See all Feedback Loops from Circular Food Innovation Lab I*

Consumers expect perfection and an abundance of choice when it comes to food, and businesses comply. This leads to the configuration of retail spaces designed for staging endless availability of food irrespective of local seasons or how far food has had to travel to appear on the shelves.

Our ways of thinking and language are so entrenched in linear thinking that it is difficult to imagine circularity or relationality. Terms like "supply chain", "shrink", "expiration", "product" and "best before" contribute to cultural norms that emphasize linearity.

Food system actors feel isolated in trying to make change: those who are working to reduce wasted feed feel they are alone in bearing the burden and associated costs of this work, and there is a demand for stronger public policy to distribute this change-making effort across the food system.

Process Overview



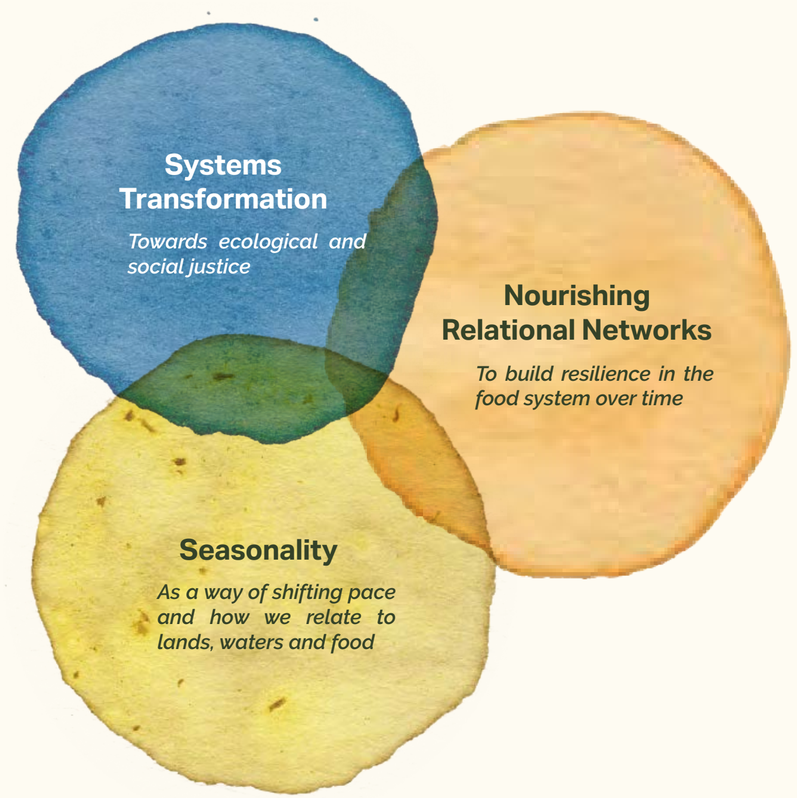
This process map illustrates the lab journey of CFIL II, which was shaped by CFIL I findings, early meetings with our Advisory Group, and preliminary one-on-one meetings with businesses. While we anticipated working with three distinct groups throughout the lab, we found that participants wanted more contact with each other, and the strands merged.

Through nineteen site visits and two gatherings with the Equitable Food Circle, four focus areas emerged and became the core part of our codesign and prototyping work. Seasonal Community Kitchens and a number of in-person participatory workshops and events became a significant anchor-point for convening and relationship-building amongst food system actors.

Guiding Orientations

Responding to feedback and guidance from participants in earlier iterations of the lab and ambitions described in policy documents such as Zero Waste 2040 and the UNDRIP Action Plan, we worked with three guiding orientations.

These guiding orientations informed decisions about approach, scope, methods and project goals.



Systems transformation towards ecological and social justice The lab deliberately focused on shifting away from stuck legacy systems that perpetuate colonial patterns. Paying attention to the entangled root causes of food insecurity, food waste, and climate change, we sought to learn more about social and ecologically just food systems where access to nourishing, culturally resonant food is supported by healthy local ecosystems.

Nourishing relational networks to build resilience in the food system over time A key idea held in CFIL was that no one actor is responsible for food waste and related cumulative effects, and working towards transformative change involves developing an interdependency amongst different actors. Rather than siloing responsibility, we focus on relationship-building and cultivating a sense of neighbourliness and shared accountability.

Seasonality as a way of shifting pace and how we relate to lands, waters and food Subverting the linear food system that dominates our ways of relating to food in Western culture, we drew upon cyclical intelligence of the seasons to guide us. We practiced seasonal attunement to our local ecosystem to understand when certain foods are available, turned toward local Indigenous harvesting practices and food traditions, and explored what kinds of collaborations are necessary and possible when we relate to each other and food cyclically rather than linearly.

Methods

Site Visits and Observational Research
Site visits and observational research are a method to gather qualitative data about the spatial, operational and social contexts of participating organizations. Site visits allowed us to see and ask questions about where and how food arrives, how it gets stored and moved around, what systems staff use for communicating with each other and others in their supply chain, and what kinds of infrastructure or supports are in place to mitigate wasted food. Each of 19 site visits generated a set of photos and written notes. This method filled a gap in research from CFIL I, as that phase of the project largely took place during COVID-19 restrictions and access was limited.

Food Journey Mapping
Adapted from conventions of user journey mapping in service and interaction design, this method followed particular food items as they moved through the operations of food businesses. We were seeking qualitative data about how food gets tracked, quantified, stored, portioned, described and moved around and gathered this information by asking staff to imagine a tiny camera strapped to the food product, notating what it might record along its way. These journey maps were produced collaboratively by staff at participating businesses and the CFIL design team.

Codesign Sessions
Codesign, a participatory design method, works to "actively involve the people who are being served through design in the process to help ensure that the designed product/service meets their needs" (Sanders). Codesign methods are considered to extend beyond simple engagement or transactional exchanges of information in order to query underlying power structures, accountabilities and long term needs (Qazi), and provide more meaningful and enduring alternatives to "quick technical solutions whereby designers 'parachute in' to communities and organizations to tell them how things should be done, ignoring knowledge already held by communities" (Costanza-Chock). Altogether we hosted seven codesign sessions that brought together participants in different groupings, including the Equitable Food Circle and Prototyping Local Policy and Guidelines group.

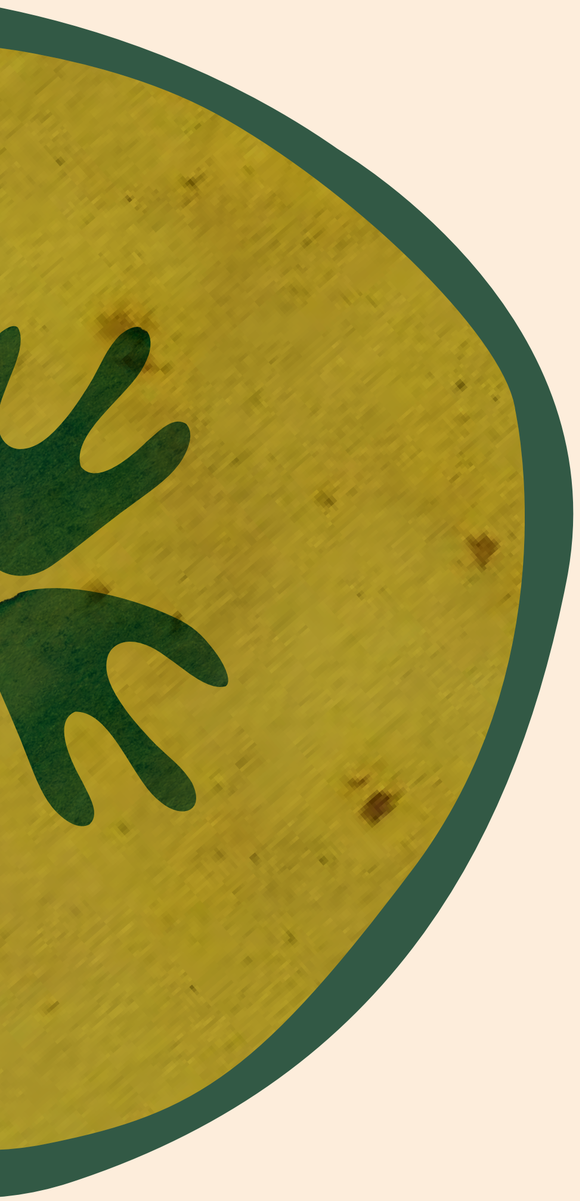
Probe Kits
Probe Kits are a participatory design research method that involves sending a prepared kit of materials to participants to respond to in their own time, often generating data that is either difficult to remember or characterize out of context or for qualitative data that requires more expressive or reflective response. We used probe kits to query the potential impacts of speculative policy interventions amongst participants in our Prototyping Local Policy group.

Learning Journeys
Our team visited two community sites to learn from organizations working to support food access and equity in community settings. We shared preliminary mapping from codesign sessions and asked community participants to reflect on these systems in a localized, neighbourhood-scale context to help us understand how these systems play out in a place-based context.

Systems Mapping
The design team used systems mapping to contextualize and synthesize learnings. We worked to see and work with the complexity that exists in the challenge of reducing food waste in our food system, using methods such as Feedback Loops and Iceberg Mapping to tease apart different dynamics and patterns happening at different scales and contexts. This helped us to query where things might be getting stuck or snagged in how the food system behaves, and to understand what kinds of interventions we were making with our activities in the lab.

Seasonal Community Kitchens
Community Kitchens are often used to promote social bonding, cooking skills and food literacy in community settings. They typically involve 10 - 15 people gathering in a larger kitchen facility with a set of recipes and groceries: over the course of a few hours, the group prepares and eats a meal together and often takes some food home at the end. We chose to host Community Kitchens as a way to strengthen the relational aspects of the project, to build some seasonal rhythms into the ways we gathered and to honour participants' skills and love for food. As a method, we noted the informal exchanges of information taking place

Learning Journey at Strathcona Community Centre to hear about the Backpack Program and Breakfast Buddies.



Focus Areas

FOCUS AREA #1
Reframing Relationships with Food

FOCUS AREA #2
Staff Learning and Engagement

FOCUS AREA #3
Supply Chain Relationships

FOCUS AREA #4
Prototyping Local Policy and Guidelines

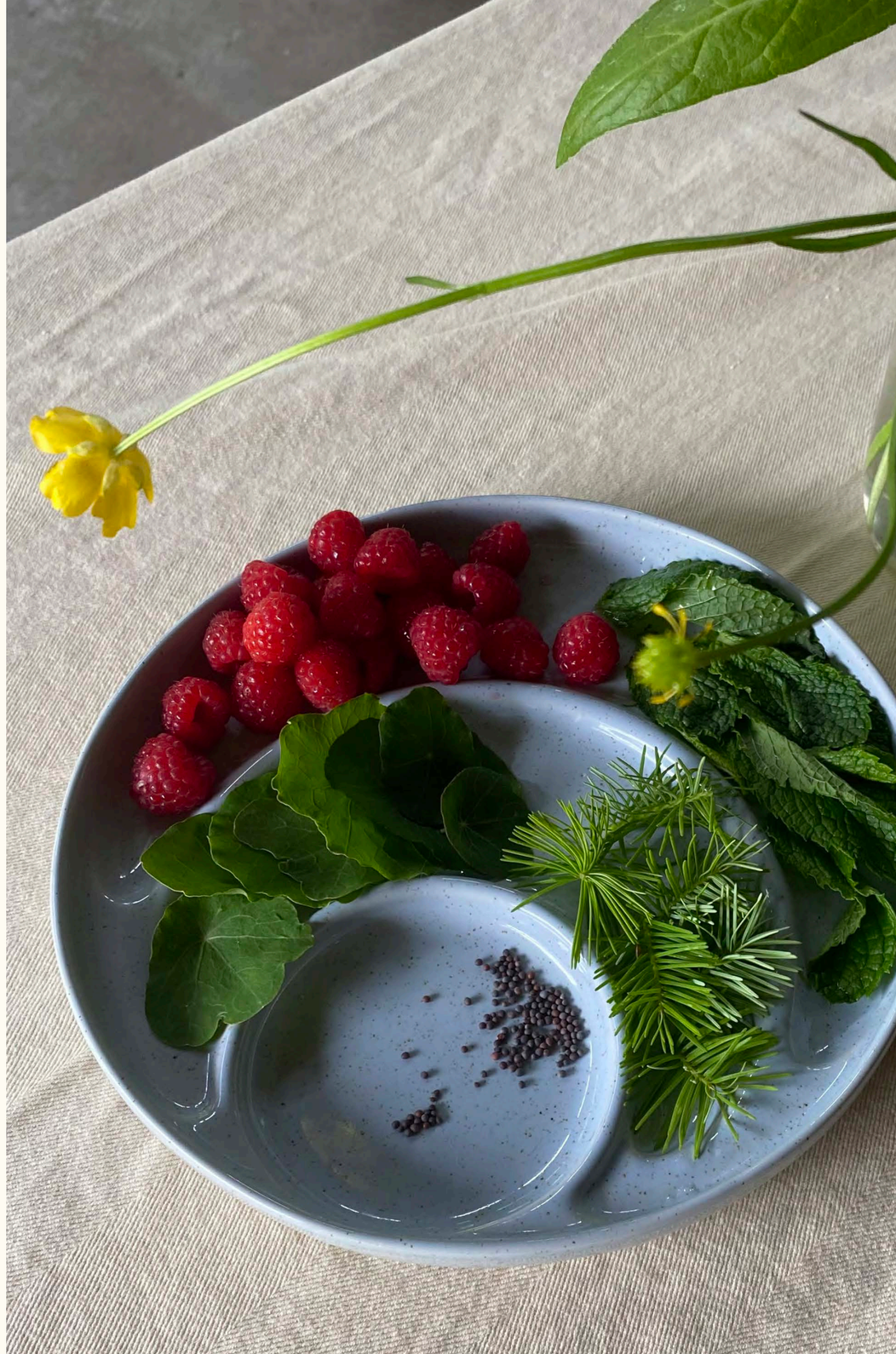
FOCUS AREA #1

Reframing Relationships with Food

Exploring how our relationships to food are conveyed through the way food is presented, described, shared, and offered has been a focus of the lab since its outset. We experimented with concepts of seasonality, cultural foodways, and alternative approaches to surplus food, paying attention to language and materiality as expressions of the way food might be valued or devalued. Reframing relationships with food was woven through the ways we practiced hosting, relating and making.

With this work, we aimed to build up a set of practices and resources that help us to see and understand our food system at a deeper level and work towards revaluing food and the ecological and human systems that support it.

This work was completed with the Equitable Food Circle and drew upon insights from site visits to food businesses.



Spring flavours at the an Advisory Committee meeting, Strathcona Community Garden, May 2024. Plate by Ranee Lee and Amanda Huynh, One Lovely Hour.

Mapping a way toward Equitable Food Futures

The Equitable Food Circle, which included local food recovery organizations, food justice advocates and community and staff members from First Nations in the region, served the role of describing pathways to transform Vancouver's colonial, linear food system into one that is rooted in climate justice and dignity. The dialogues and materials created with this group served as a compass for reframing relationships with food, our ecosystems and each other throughout the lab.

This map, which was first created on a large piece of paper at the first Equitable Food Circle gathering, was intended to invite an open, non-linear discussion about the attributes of our local food system. We used the analogy of a river to help us think of the food system through time (what are we noticing now, where are we headed, and what will help us get there?) This model helped contextualize our questions about food equity in broader, land and water relationships, taking a broader and more interconnected view of systems. We used this early in our design process to help shape subsequent gatherings, and shared drafts with other participants to add to throughout the lab. Responses have not been synthesized or paraphrased to maintain integrity of expression.

Characteristics of our current food system

What are we noticing now?

Large-scale

Complex

Processed

Fragile; vulnerable to political and climate shifts

Efficient

Imported

Wasteful; false sense of abundance

Distorted understanding of connection to food

Broken relationships with lands and waters

People are sick and starving

Heavily influenced by money and economics

Isolation and Loneliness

Extractive relationships with lands, waters, knowledge-holders

Devaluing of food itself; overemphasis on ease of access and convenience

Tributaries, Stories and Precedents

What is working that we can learn from?

Vancouver Food System Talks

Food Policy Council

Tsleil-Waututh Nation Shoreline Adaptation & Restoration Project

Delgamuukw

Food waste prevention and food preservation methods

Sḵwx̱wú7mesh Úxwumixw Climate Legacy Strategy

Potato Ty / Ugly Potato Day

Cooperation between existing organizations

Knowing what to do or who to ask to make changes in our food system

Food Justice Coalition Briefs

Repetition of talking about the same things in different rooms

Straight lines, linear thinking

Seedlessness

Universal basic income

Intergenerational knowledge sharing

Knowing what stories to tell; make the good things happening more visible or widely understood

Localized food networks within region as density increases

Seasonal foodways

Being close to our food, land and water

Food policy and funding to support these shifts

Loss of Indigenous knowledge

Trappings, Risks and Patterns

What do we want to avoid replicating or perpetuating?

Contextual Conditions

What needs to surround food equity?

Compass Points

What are we navigating toward?

Culture of gratitude; praise for lands, waters, animals, plants

Climate Justice

Regional food security

Circularity

Eating food that helps our bodies heal and be healthy

Create the conditions to live by Indigenous knowledge

Indigenous sovereignty

"Only take what you can carry" attitude

Understanding of food as medicine

→ *Download a blank version of this map here if you would like to replicate this exercise in your own context.*

Focus Area 1: Reframing Relationships with Food

Seasonal Community Kitchens

We hosted three seasonal Community Kitchens, where all individuals involved in the lab – Equitable Food Circle members, participating businesses, advisory committee members, designers and funders – could visit and foster relationships with one another while we cooked a meal together. Community Kitchens were hosted at the Mount Pleasant Neighbourhood House and coordinated by experienced community facilitators. For each Community Kitchen, we produced a take-home recipe zine which included scaled recipes for large group gatherings (20+ people) and family-size meals (4-6 servings). The seasonal rhythm was a way we came together to mark the changing of the seasons, share food and information in informal and unstructured ways, and most importantly, establish comfortable face-to-face familiarity among food system actors who don't typically have the opportunity or time to get together.

"We need to relearn to value food itself. An overemphasis on ease and convenience means we have forgotten where our food comes from."

Leona Brown, Equitable Food Circle

Top left: Name buttons made with food scrap inks gifted to participants; top right: Preparing greek salad and tzatziki at the fall Community Kitchen; below: Community Kitchen Coordinators Diane Collis and Darlene Tanaka preparing to serve rhubarb cake.

→ *Download the recipe zines produced for CFIL Community Kitchens*

Food Scraps Inks

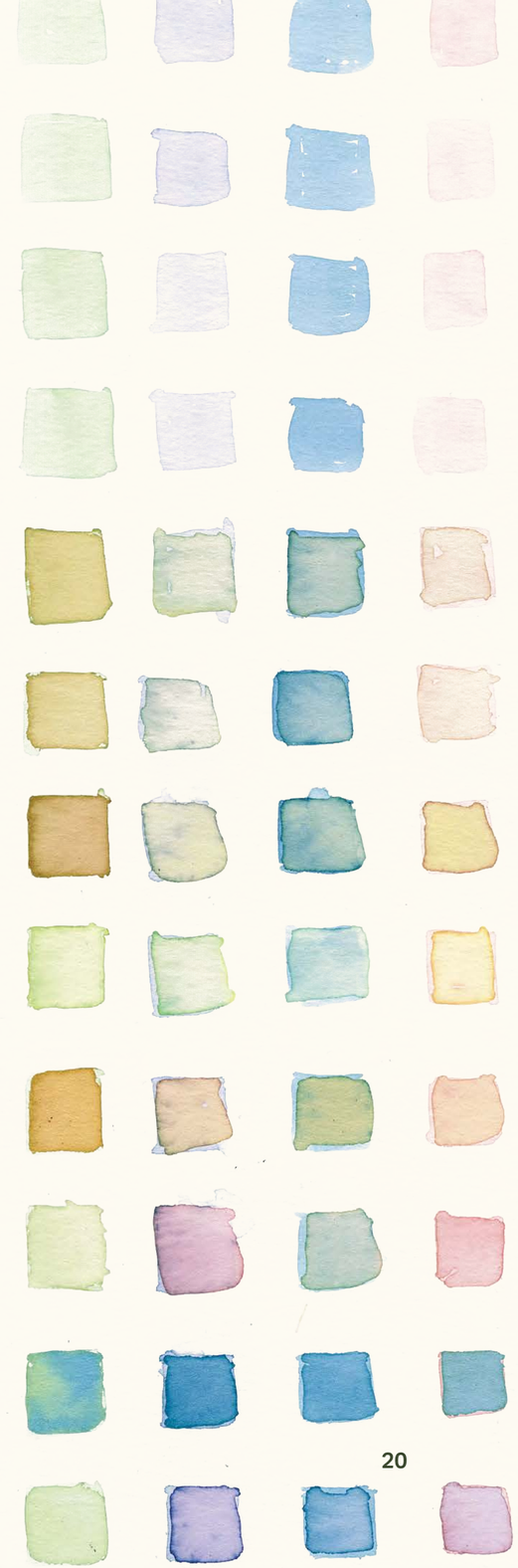
We wanted to explore the materiality of food. Working with food scraps like onion skins, purple cabbage beet peels, coffee and turmeric, we made a set of colourful inks. Playing with the inks allowed to engage with waste in multi-sensory ways and to use them to produce name buttons as small gifts for participants. Wearing the buttons gave participants an opportunity to talk about food waste with others. We shared the inks at various community events with elementary schools and members of the public, and used them to create the information graphics in this report and in print materials.

Glossary Deck

Throughout the project, we paid attention to how we use language to talk about food and food waste across the system. Through site visits and participatory sessions, we assembled a collection of terminology used to describe food and the food system, and have also probed how different ways of talking about food can invite different kinds of relationships with food. This vocabulary is gathered in a CFIL Glossary deck, which was gifted to participants as a way to support dialogue and communication between food system actors.

Inks were made from various food scraps and used to create information graphics for print and digital materials and small gifts for participants in the lab. We experimented with these inks as a way to talk about food waste differently.

The inks were shared with community members in elementary school settings and at public events, and provided an interactive way for us to talk about wasted food.



Glossary Deck

The CFIL Glossary deck gathers up the many vocabularies we heard, inviting food system actors to consider where language can be reimagined or shared understanding can be deepened in order to strengthen relationships to support food waste reduction.

→ Download the CFIL Glossary Deck

FOCUS AREA #2

Staff Learning and Engagement

Working closely with staff at food businesses, this focus area supported learning opportunities and capacity-building for food businesses to discuss challenges and share expertise and knowledge with each other as they relate to food waste prevention.

Mapping the journey half-and-half cream takes as it moves through loading bays, cold storage and food prep areas, front of house hospitality services and food recovery at the JW Marriott.

→ Download the *Food Journey Mapping* workbook for staff at food businesses

We facilitated opportunities for staff to re-imagine practices and processes within their work and begin to prototype materials and resources to support these ways of working. Typically this work took place across two sessions with teams on-site at food businesses.

The first session traced the pathway of a particular food item or product from the moment it arrives at a business until the moment it leaves. Staff chose which product to trace, and we mapped the journey it took, noting where and how it gets stored, who comes into contact with it, what communications or technology trigger the movement of the product. The second session mapped what we learned from the first site visit. We identified key challenges, and uncovered areas of opportunity for food waste prevention.

Approaches / Methods

At the core of our approach, we wanted to build genuine commitment to listening and learning from staff. We understand that each staff member brings valuable insights into the workplace and many have been working together for years, knowing all the ins and outs. We wanted to hear their thoughts, ideas, current understanding of dynamics and systems, communication and concerns. This approach helped us create meaningful solutions that reflected their experiences and met their needs. We emphasized that we are here to support staff in ways that may not be working, not to impose on them. Our role was to facilitate, learn, and co-create alongside them, making sure every voice is heard and respected.

We also used visual mapping as our main tool in the sessions to understand the complexity of food systems in a way that traditional conversations might not capture. Using a particular food as the entry point, we mapped the journey of how this food flowed through the operations of each participating business. Staff mapped out the stages it goes through, from delivery to preparation, to serving. Together, we explored where food waste happened and where communication gaps may occur in the process. This activity is highly visual and participatory. We used big rolls of paper and markers to capture the stages of the food item, highlighting where waste happens, who is involved, and how the process flows. We often work with 2-3 different food items, depending on the group, so each map is unique and helps to uncover diverse perspectives on the food system.

This process allowed for a highly engaging discussion, visually seeing what's missing in some of the process, and enabling us to ask more questions and truly follow the problems and work across staff. By seeing the entire process mapped out, staff connected the dots, gained new perspectives, and identified opportunities for improvement that might not have otherwise been overlooked. Since many of these organizations work at a very fast pace, the visual mapping allowed them to pause, zoom in and take the time to identify collectively what's going on.

Focusing on specific needs within each business participating in the co-design session, through this topic we generated a variety of visual communications tools to support improvement of internal operations related to food handling, storage and donation. Through our prototyping we looked at how designing visually compelling materials might add value to pre-existing and new educational resources for food staff.

Hearing that staff in food businesses consistently have questions about the process for assessing food for potential donation and knowing where to send it, we produced this poster, which effectively acts as a flexible whiteboard that can be used for relevant food items and instructions from food recovery organizations.

→ Download the *Can It Be Donated* poster for use in back of house staff areas at food businesses

Eleven successful methods food businesses are using to reduce wasted food

From our work with staff at food businesses, we gathered up a several practices that are working to reduced wasted food. Many of these are common in certain sectors of the food industry, and we offer them here not because they are new ideas but because they are practical and tested methods that have potential application beyond their current use.

Use daily specials or flexible recipes as a way to utilize surplus food in-house
Flexible menu offerings, such as daily specials, allow kitchen and deli staff to improvise with ingredients that might be abundant and/or short-dated. This is particularly effective with recipes for soups, stews, curries or other recipes that can accommodate variable ingredients.

Periodically audit one single product to see where and how it's getting wasted
Getting a bit specific and following one product reveals a lot more detail than trying to audit food waste in general. Across many product categories, we learned dozens of reasons food waste occurs, and these vary significantly by product type.

Repackage or reportion food to promote saleability
For example, bruised or damaged produce can be cut up and sold as ready-to-eat or portioned for smaller households.

Talk with staff about what can be done with short dated food
Improving internal staff communication about how food can be used across different areas of a kitchen or different departments in a grocery store is effective. For example, short-dated dairy products can be used for bakery items. Grocery stores can reposition short dated food in more visible locations or promote these items with discounts or signage. When staff understand and can anticipate food recovery processes, it helps them to sort donatable items as they're culled, and shortens the amount of time it takes to get food where it needs to go.

Use recipe scaling software
For food service providers preparing and serving large quantities of food, it can be common to scale up recipes in simple multiples (such as doubling a recipe). Recipe scaling software can calculate more precise scaling to prepare enough portions of food for exactly the right number of people so that extra portions don't get wasted.

Promote staff ingenuity for food waste prevention
Hosting friendly internal competitions or empowering staff to attempt food waste prevention strategies opens up new imagination for best practices. Often staff handling and working most closely with food have good ideas about how to mitigate waste if they are supported in the process. One grocery store we worked with invites staff members to make one product or area of the store more profitable on a monthly basis, sparking ingenuity and empowerment amongst staff to reduce waste.

Pay attention to where food is stored and what its stored in
The types of containers and, generally speaking, how high off the ground things are, carry implicit information about how valuable a food product is.

Promote education about seasonality and food origins
Expectations that all foods should be available no matter the season or place of origin puts a lot of pressure on grocery stores and results in wasted food. Knowledge of which foods are in season and when promotes a culture of anticipation and valuing local, seasonally available food.

Refine the way you communicate with other businesses
When there is understanding and alignment between supply chain partners about the pace, timing, quantity, measurement units and other practical information, it helps mitigate waste.

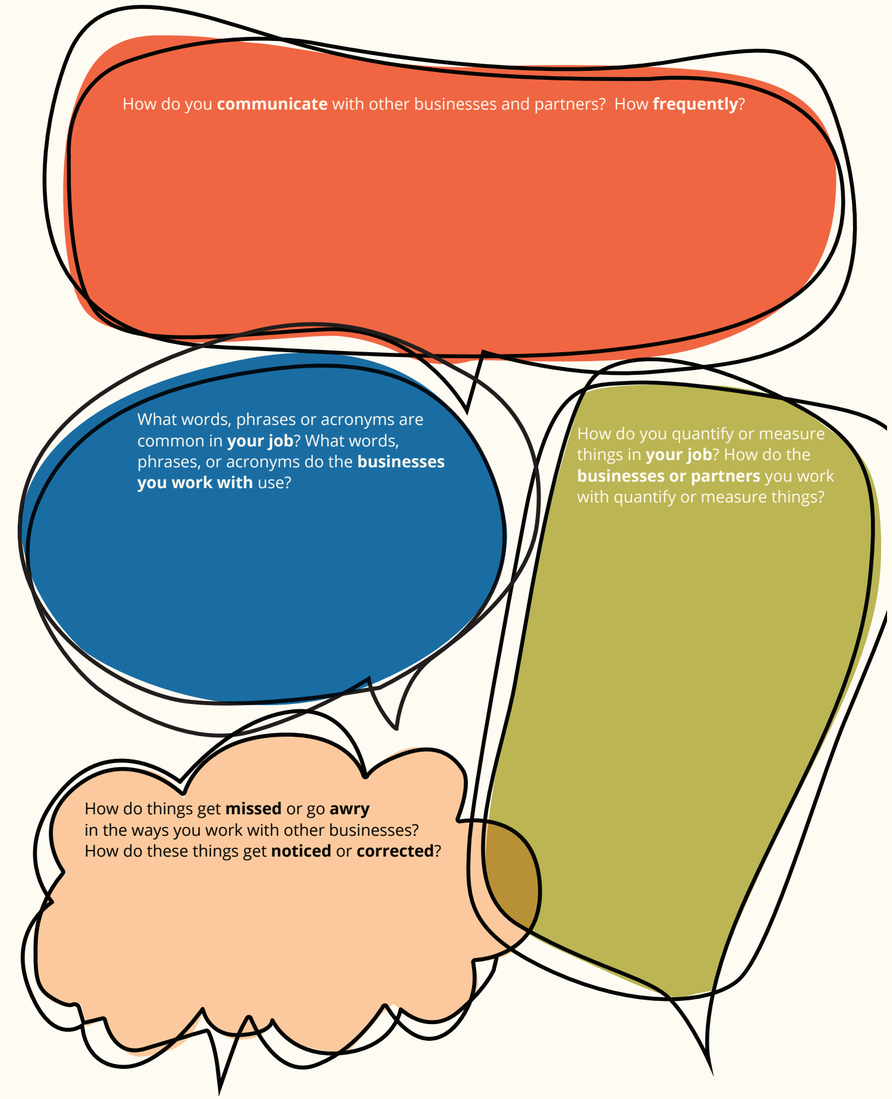
Put energy into humanizing relationships with suppliers and vendors
When communications amongst supply chain partners go beyond transactional relationships, particularly when people get to know each other longer term, staff are more communicative and better positioned to problem solve together, making small adjustments to operations to reduce wasted food. Looking forward to interactions with supply chain partners is a notable attribute when this is working.

Work with other businesses that are in the near vicinity
Proximity supports informal micro-interactions between businesses, allows staff to build face-to-face connections and is conducive to sharing infrastructure or services.

FOCUS AREA #3

Supply Chain Relationships

This focus area looked at how to enhance supply chain collaboration in order to develop more coordinated food waste reduction practices. We were especially curious about the contact points between businesses: how they communicate with each other, what they understood about the pace and operations of their supply chain partners, what language and quantification methods they use and what happens during food order hand-offs.



> "Part of making change is knowing who to do it with."
>
> Sania, CFIL II Design Team

→ Download the *Supply Chain Relationships* poster for use in back of house staff areas at food businesses

Excerpt from "What's the Scoop", a mad-lib style worksheet for businesses to reflect on the ways they relate to and communicate with their supply chain partners.

Doing this task makes me excited / happy / nervous / apprehensive / need to prepare / dread / lazy / annoyed / tired / anxious / wanna hide / go somewhere with no cell service / wanna live on an island / or _____. I consider them a friend/ a colleague/ a coworker/ subordinate/ superior/ a partner/ a client / a superhero / an inspiration / or _____ that I work with / for / alongside / against. Our relationship is transactional / collaborative / supportive / one-sided / reciprocal / friendly / hierarchical / based on exchange + swapping / based on gifting / difficult / or _____ but I wish it was just how it is / transactional / collaborative / supportive/

→ Download the "What's the Scoop" worksheet to get to know your Supply Chain Partners better

Approaches / Methods
The CFIL Design Team connected with individuals and teams from participating businesses who work in interfacing roles of sending/receiving food as it goes from one point of the supply chain to the next. Orienting towards playfulness, we created light-hearted forms of engaging with this topic, first with a "Mad-libs" style activity called What's the Scoop that invited individuals to share about their inter-business relationships with neighbouring supply chain actors.

We also developed posters inviting staff to engage on-site, and held one-on-one conversations with individuals accompanied by visual mapping. The design team sat in on parallel engagement sessions with food business associations that were working with tools to support adopting sustainability standards into their sectors. We synthesized learnings and mapped patterns occurring at these different scales of the food system.

Learnings
This co-design topic was challenging for a few reasons. The context itself was already challenging, as it involved reaching those working on the front lines of supply chain connectivity. It was difficult to maintain momentum on this topic as it was hard to connect with the same individuals in an ongoing way. It was also difficult to actively work on supply chain relationships when the relationships themselves occur in brief interactions, and many noted that communication and information-sharing between supply chain partners could be improved.

Despite the challenges in maintaining momentum with this focus area, feedback we heard provided compelling insights about the smaller, everyday moments and interactions that have a role to play in our food system. Responses from staff gestured that the differences in language and terminology, as well as lack of transparency and awareness of each other's business operations, can contribute to communication breakdowns in the supply chain, which can lead to more food waste. On the flip side, we also heard stories of relationships that have developed over decades, with a healthy layer of trust and flexibility existing between partnering supply chain actors. One example came from the events sector, where venues are at the whim of changing needs of clients when it comes to food service and catering. A quick phone call to a long-time supplier requesting them to pick up boxes of food that would no longer be needed can make a meaningful difference in cost-savings and food waste prevention.

This topic signaled that the presence of printed, playfully designed engagement materials in a food business can invite asynchronous engagement with supply chain actors. We received feedback from some who interacted with the materials that they appreciated the prompt to step outside of their day-to-day to think about their operations and practices. There was an appetite from participating businesses to focus on further exploring supply chain shifts, but as noted by many through this co-design topic and others, it's challenging to find the time when the work is already fast-paced and operations are so ingrained.

Participants expressed that any design interventions could not require supply chain actors to carve out additional time, but rather be usable within how time is already allocated. This sentiment reflects an entrenched stuck pattern around the scarcity of time commonly experienced by many actors in the food system who are looking to enact systems change.

Ultimately this co-design topic would benefit from more investment and more iterations to further understand how interactions and touchpoints between supply chain partners could be strengthened or reimagined to support preventing food waste.

FOCUS AREA #4

Prototyping Local Policy and Guidelines

This focus area invited organizations and businesses interested in collaboratively (re)imagining how strategies for food waste reduction within business operations can be embedded in policy. We focused on specific and actionable shifts that can take place at a city level, using current policy as precedent. Over a series of workshops and activities, members of this group worked together to develop new policy goals and regulations that can then be further developed, tested, and proposed as part of larger policy design.

Speculative policy scenarios that were generated by participants and used as as a starting place to explore what implementation of policy around these scenarios would look like.

→ Download these *Speculative Policy Scenarios*

Workshop 1: Policy Landscape

We collected, summarized and mapped current laws, acts, policies and guidelines that impact Vancouver's food landscape and shared this data with participants as a set of loose cards.

Participants made notations on cards describing the influence these laws, policies and guidelines currently influence their operations.

→ Download the *Policy Landscape* cards we produced for this workshop.

"These policies aren't visibly talking to each other: the intersections are not legible to community.

There are lots of plans and strategies in different government contexts, but it's not clear where they're at in terms of implementation."

Equitable Food Circle Member

Members of our Equitable Food Circle asked us to bring them analysis of the scope and jurisdiction of a variety of food policies and wanted to understand more about how government funding shapes the food system. They also asked to get involved in collaborating directly with food businesses to prototype local policy and guidelines.

We were interested in how we, as designers, could use codesign methods to give agency to food system actors earlier in the policy development process. Rather than replicating a more conventional approach to public engagement at the end of a policy-making process, in which civil servants develop policy in advance and then engage with the public for input and feedback, we wanted to lay out the landscape of existing policy for participants and seek their input from the beginning. We were inspired by Margaret Hagan and Legal Design Lab's work described in articles such as "How to bring a prototyping spirit into the policymaking process", the Center for Urban Pedagogy's Making Policy Public projects and the authorship process of A Climate Justice Charter for Vancouver.

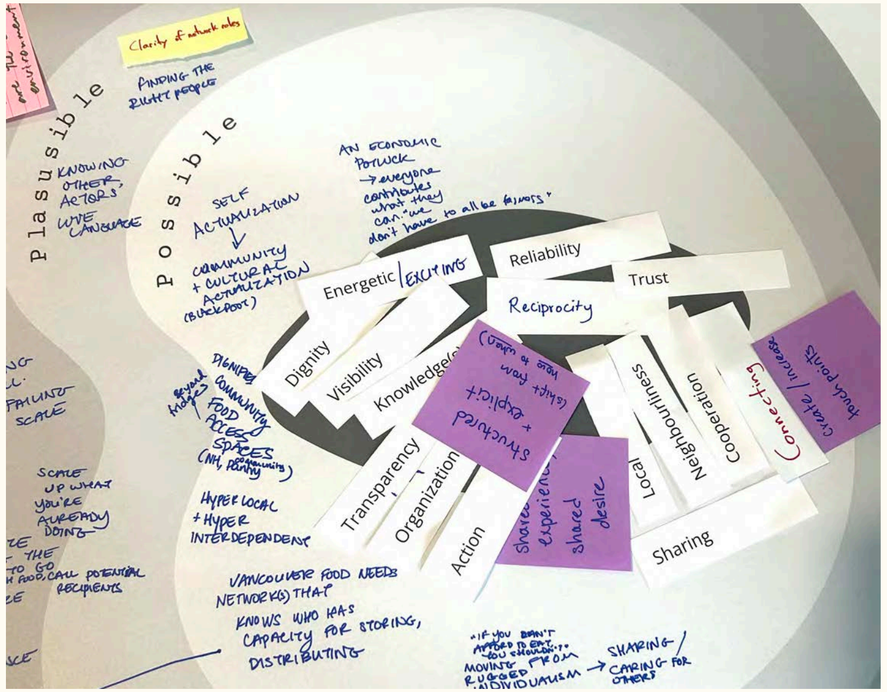
From this precedent research, we understood design as a powerful tool in communicating technical and bureaucratic language to a diverse community of people involved in the food system. This could be done specifically through the use of creative verbal and visual activities, supported through the use of design artifacts, including illustrations, short games, and collaborative exercises.

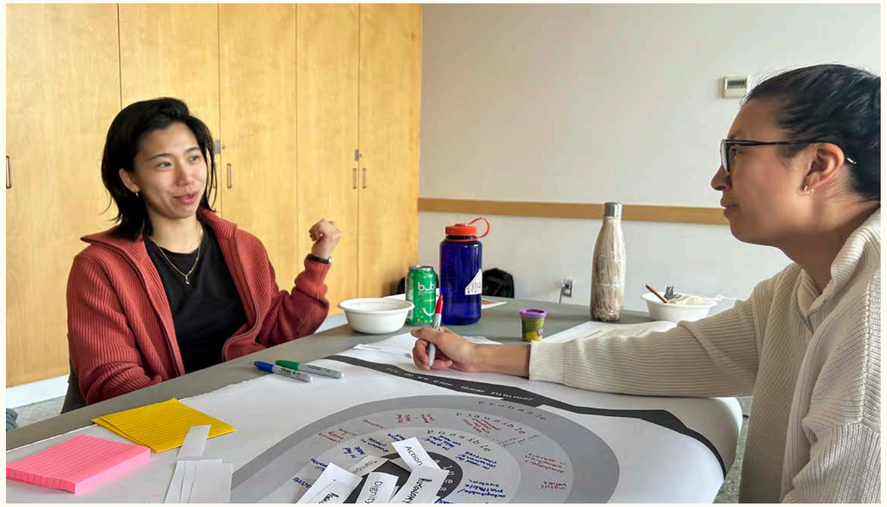
Research in early-stage policy design work guided us to an exploratory, abstract space to start with before moving into the detailed and lower-level work. This approach encouraged us to shape expectations with our stakeholders, setting up our work to iterate and explore current food systems and desires for the future rather than developing specific policies.

Together, these two core learnings enabled us to demystify the intricacies and complexities of traditional policymaking work, focusing on the imaginative ideation and iteration needed to develop a rationale and the seeds for potential future policies and guidelines.

Policy Workshop with Equitable Food Circle
As requested by the EFC, preparation for our first session included a scan of the policy landscape influencing the food system across levels of government and jurisdictional boundaries. We presented these to the group on loose cards so they could be spread out, marked up and grouped in different ways.

Participants described overwhelm at the range and complexity of food system policies. While certain policies, such as the provincial Food Donor Encouragement Act, stood out for being legibly influential in the day-to-day operations of their organizations, the group noted that many of the acts, laws and guidelines we looked at play a largely invisible role in shaping the food system. They also noted that many policies were based in incentives and positive encouragement, rather than punitive enforcement.





Workshop 2: Design-Based Approach

We used a desire-based approach to imagine what kind of food system the group would like to move towards and which values would be embedded in it. Our poster used a 'stone fruit format' with descriptions of the future clustered around values that participants selected.

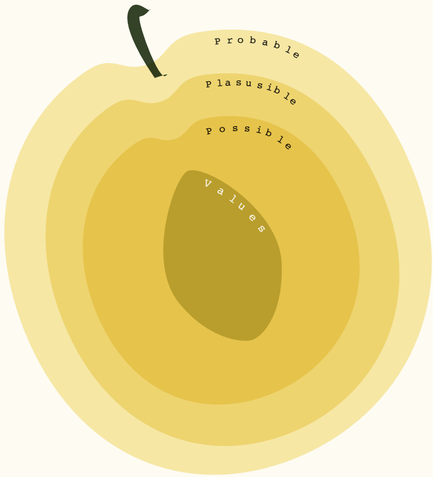
→ Download the *Probable, Plausible and Possible Futures Codesign Tool*

Probable, Plausible and Possible Futures and Desire-Based Design

As we were entering the policy development process at a very early stage, we saw an opportunity to begin this work by asking our collaborators to identify the core values that they wanted to underpin the food system they wanted to be a part of. Renata Leitão described desire-based design methods in From Needs to Desire: Pluriversal Design as a Desire-Based Design. By asking our collaborators to start this work by imagining a desirable future through values, we hoped to help break out of the current food system paradigm and work backwards to see how we could design a pathway towards a more desirable system.

We produced a set of "stone fruit posters" for this codesign session, drawing on Dunne and Raby's speculative "PPPP" diagram: each fruit had three rings, labeled "Plausible", "Probable", and "Possible", with the stone pit in the centre labeled "values".

During the session, participants worked in groups of 3-4 to identify values that they want to embed/centre in their desired food system. We had some pre-written values cut up and ready to be used, with the option for participants to write their own. These values were placed in the pit of their stone fruit diagram. The design team acted as facilitators to help discussion flow. Participants returned to the full group and shared back their team's map, leading to a discussion on how these ideas could be cultivated, encouraged or mandated through policies or guidelines.



Speculative Scenario Exploration

For the subsequent session, we used these mappings to produce a set of speculative policy scenarios and a deck of cards that could help participants respond to these scenarios from the perspective of their own role in the food system. This built directly off the ideas and conversations generated during the previous workshop, with a goal of bringing the values and ideas generated into a more tangible and actionable space. What would have to actually happen if a specific policy was put in place? What are the intended/unintended consequences?

We created a list of possible "what if?" scenarios that imagined policies which would impact the local food system. These prompted participants to imagine scenarios such as:

- All food waste from businesses is measured and receives fines
- Food education programs become mandatory across the K-12 curriculum
- Zoning and permits for urban and vertical farming are expanding throughout Vancouver
- Businesses must now pay food recovery organizations for their diversion services
- 60% of food must be supplied by farms in a 10 kilometer radius

Workshop 3: Speculative Scenarios

Based on the desired futures from our first workshop, we produced a series of scenarios to explore through a deck of speculative question cards.

"Businesses don't currently have incentive to implement a system focused on food waste. I believe there is interest, but we need to make it easy for them to get involved - provide a list of food rescue companies to choose from that can measure and provide the metrics to the business so documentation can be provided as 'proof of donation' of which would generate a rebate.

It needs to be easy for businesses to participate, possibly a tax break for events (like the GST rebate) on eligible conventions. Currently only half of the GST can be claimed for this so perhaps the other half could be by way of food waste donations via the venue. The launch of an initiative like this needs to be big: use landmarks in the city to show the point like filling up BC Place stadium using the amount of food waste metrics we have.

A rebate like this can help reduce costs for food waste hauling to organizations."

CFIL II Participant, Hospitality Industry

Speculative Scenario Exploration
To facilitate conversation and idea generation, our team developed a series of speculative policies and a deck of cards. The cards were written in plain language and included questions that could help further and focus the conversations about each policy scenario. These included speculative questions, such as "What emotions drive this?", "What fears arise?", "How are our grandchildren impacted?", "As a result of this intervention, what can we say we are proud of?" and so on.

Each group at a table picked one (or multiple) scenarios to explore through conversations and by drawing cards to help them respond to the scenarios. This allowed us to query how the introduction of new policies might impact different people, businesses and systems in a variety of ways. Working in small groups, participants were able to select which scenario to discuss: these ranged from incentive-based programs ("new financial incentives encourage food from catered events to be shared with food rescue organizations") to punitive ("all food waste from businesses is measured and fined"). Cards prompting different types of exploration allowed us to gain a variety of perspectives on how new food policy would play out for a variety of actors in the food system.

Some key themes that emerged from these conversations included:

- using different combinations of incentives and enforcements to help businesses reduce food waste;
- different ways of tracking, reporting, and communicating food waste data;
- food waste education from a public and business facing perspective

We also had many group members discuss how Indigenous worldviews, values, and policies could be incorporated and centred in policy approaches to these scenarios.

→ Download the *Speculative Policy Implementation Deck*

is this incentivized?

Implementing this requires letting go of...

How are people invited to participate?

Who is collaborating?

t happens when
nething breaks?

What cultural ways of knowing might get fractured through this?

Who pays?

How is this taught and learned?

result of this
ntion, what can
ve are proud of?

What slows down?
What speeds up?

What happens in summer?
In winter?

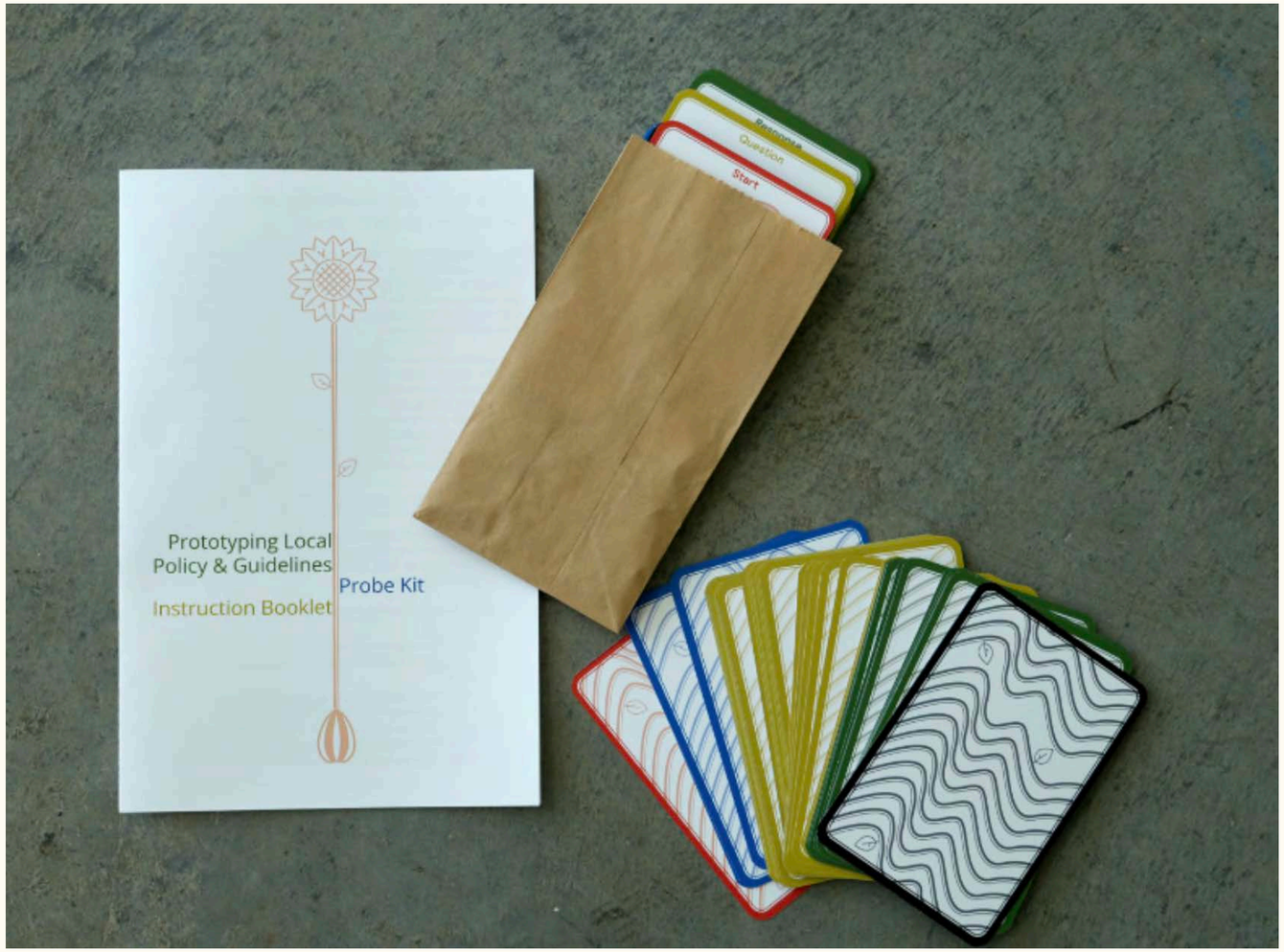
How does this impact our grandchildren?

does food travel?

How does this impact our elders?

What fears arise?

What values drive this?



→ Download the *Prototyping Local Policy and Guidelines Probe Kit*

Policy Impacts on Operations
Our final participatory method to query the topic of food policy was a series of probe kits that were sent to participants to complete in the context of their own business or organization. Each standard deck of cards included a customized card for the individual, organization or business it was sent to. Responses from this probe were intended to help us identify what existing resources can businesses and organizations currently leverage to achieve food waste goals; and what supports or incentives would be especially helpful, relevant, and desirable for municipal governments such as the City of Vancouver to consider offering to support businesses and organizations in achieving these goals?

What is one incentive a municipal authority could provide that would help you in achieving this goal?

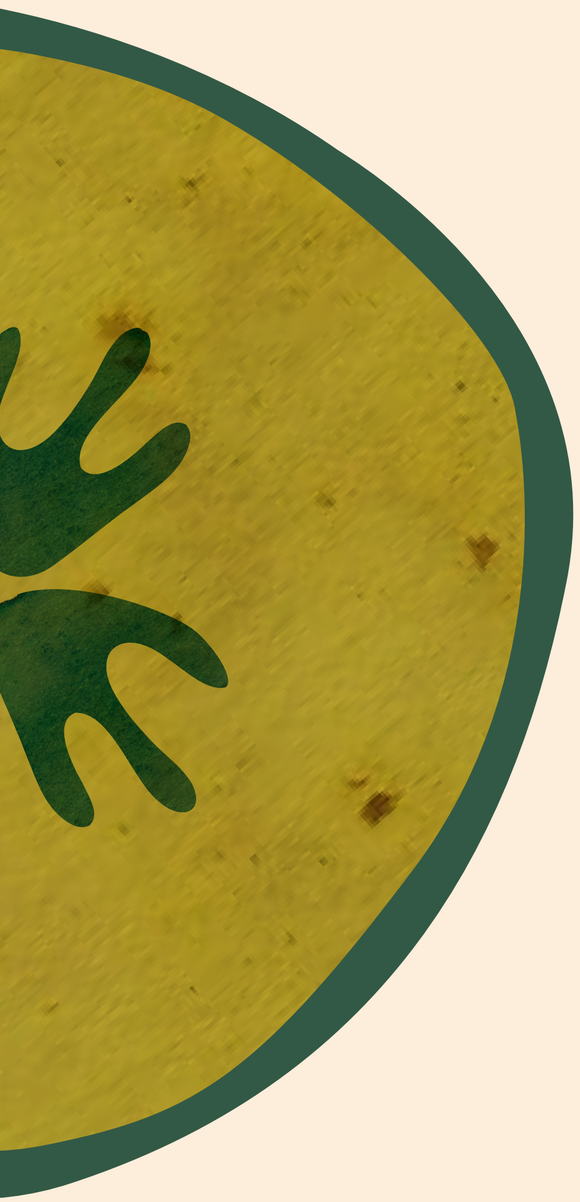
"A tax rebate to incentivize businesses to donate excess to food rescue organizations (like the carbon tax rebate). This could be looped into an enforcement measure, if the business has not complied then they would be fined (like paying for a bag at the grocery store). Data measurement and staff engagement are also baked into this. Most food rescue organizations have a dashboard for companies to track metrics that produce a report so they don't need to develop and implement data collection as it will be done for them.

In addition, the storytelling about this enables staff engagement - they can see the rescued food numbers that have been diverted from landfills."

Prototyping Local Policy and Guidelines Participant

Asynchronous Probe Kit Activity

We queried participants to find out which goals were their highest priorities for further exploration and then used probe kits about the impacts implementation of policy supporting these goals would have on their operations. what kinds of supports would be needed to actualize these goals.



Recommendations and Resources

Recommendations

Participants in the Circular Food Innovation Lab repeatedly voiced a desire for a relational approach to reshaping the food system. This aligned with the lab's belief that those who work in the food system have deep knowledge about the challenges, opportunities and solutions for transforming our colonial, linear food system into one that is rooted in climate justice, dignity, and is not reliant on food charities to address food insecurity.

CFIL Closing Gathering, March 2026 at the Ukrainian Hall.

Below are key learnings and recommendations from CFIL participants for the City of Vancouver and other municipalities interested in advancing food waste reduction practices and policies:

Hire and sustain a dedicated senior staff-person who can draw linkages between food waste reduction, circularity and equitable food systems. Along with previous labs, coalitions and initiatives stewarded by the City of Vancouver and Vancouver Economic Commission in the past ten years, CFIL II demonstrated that there are many local actors already working towards more equitable and circular food systems. However, the presence of a senior staff person who can receive and direct needs and queries from the broader community of food businesses and organizations is key for encouraging buy-in order to achieve the City's longer-term goals of becoming a zero waste community. This role is pivotal for convening different food actors in the system.

Establish a collaborative lab practice that brings food system actors together in an ongoing and relational way. Hosting a lab process showed the important role that the City and other municipalities can play as

network conveners. There is currently little incentive or opportunity for food system actors to connect and share knowledge. Innovative solutions can arise and be amplified when food system actors can find one another, and share both common experiences as well as new skills and practices. CFIL II witnessed new connections form, leading to new partnerships between food recovery organizations, businesses and various actors across the food system articulating common goals and building understanding across different operations and organizational cultures. Sustained momentum is needed to ensure that food actors can keep finding one another and consistently work towards systems change.

Advocate for high-impact policy at all levels of government and adopt participatory approaches to policy development. Nearly all participants in the lab identified a need for the City of Vancouver and other municipalities to create and advocate for high-impact policy both at the local level and broader levels of government. A core guiding principle from CFIL for policy development is to involve those most impacted by the potential policies at the onset of policy development. As a result of the layered participatory sessions and probe kits for prototyping local policy, many lab participants developed clear and specific ideas for the incentives they would respond to. By incorporating design early on in the policy making process, prototyping policy offers a framework that can lead to more innovative and effective policy development and implementation while building collective buy-in through continuous engagement and co-creation with food businesses and organizations.

Directly involve and provide resources to food recovery organizations as part of the solution space for municipal food diversion services. Local food recovery organizations participating in CFIL clearly described the role of food recovery organizations in driving system change. In their words, some of the ways food rescue and recovery organizations can work with municipalities include:

- Providing data collection on food waste from businesses and institutions
- Being positioned as trusted partners who can use existing relationships with grocers, distributors, and restaurants to educate rather than surveil or enforce
- Providing consulting and training, offering waste audits, forecasting tips, and storage guidance alongside food recovery services

- Advocating for and elevating business voices and supporting systemic policies such as mandatory reporting and upstream incentives
- Promoting culture change, celebrating businesses that cut waste and reframing recovery as a temporary measure until true prevention takes hold

Municipalities should strengthen and formalize partnerships with food recovery organizations and support the core service they are providing in food waste reduction by directing resources– including monetary and physical capital– to their operations.

Create micro-granting programs for food businesses and organizations to implement food waste solutions
The food sector is instrumental in reducing food waste at the city level. The design team learned of the many ways that food businesses and organizations are already using their own resourcefulness and inventiveness to solve food waste challenges within their businesses. While lab processes can be helpful for learning and relationship-building, there is only so much time that participants can take out of their day-to-day operations. Giving micro-grants to businesses who are ready to or already developing food waste and circularity solutions will enable businesses to make direct interventions on their operations and practices. It would encourage incentives and buy-in from the business community, supporting distributed accountability of achieving zero waste goals.

Support educational initiatives that promote the revaluing of food. Participants from the Equitable Food Circle expressed the need for sectoral and public education to support an equitable circular food system. Educational frameworks, curricula and programming to promote the revaluing of food and a deeper understanding of seasonality and where food comes from would ease many of the pressures businesses expressed that lead to wasted food. When led by Indigenous people, worldviews and knowledge, this education can serves as an act of healing and reconciliation, enabling a shift and return to Indigenous foodways and practices as a foundation of how we relate to food.

Resources

For Food Businesses and Organizations

Feedback Loops (Information Graphic)
To notice what might be keeping food wasting patterns stuck

Food Journey Mapping (Workbook)
To understand or audit one product and its routing through your business

Can it be Donated (Poster)
To notate what food can be donated, to whom and under what circumstances

What's the Scoop (Worksheet)
To query how you relate to your supply chain partners

Supply Chain Relationships (Poster)
To query how you communicate with your supply chain partners

For Industry Associations and Government

Advancing Sustainability in the Food Value Chain (Report)
Insights from Engaging Industry Associations to Advance ESG Practices, Strandberg Consulting

For Municipalities and Government Agencies

Policy Landscape Mapping Cards
To support conversation and input about how policies influence the food system

Probable, Plausible or Possible Futures Worksheet
To surface what values are being expressed through food policy

Speculative Scenarios and Implementation Deck
To explore how the system might respond to the introduction of new policy

Prototyping Policy Probe Kit
To query food businesses and organizations about what supports they might need during the implementation of new policy

Key Lessons from Prototyping Food Waste Policy
A Design-centric Policy Development Toolkit for Policy Makers from the Circular Food Innovation Lab

For Everyone

Food System Mapping Tool
To map the current and future food system through an equity lens

Food System Glossary (Card Deck)
To produce inks made from food scraps

Community Kitchen Recipe Zines
Examples to help host a Community Kitchen

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