



# York Region Circular Economy ROADMAP

April 2022



# INTRODUCTION

Cities and regions are where people, knowledge and ideas come together, where innovation is cultivated, and where most waste is generated and natural resources consumed. These dynamics position local governments at the heart of the circular economy transition, with an opportunity to lead the way in their communities.

A circular economy eliminates waste and pollution and conserves resources. It is a shift from a throw-away to a circular mindset that extends the life cycle of goods, food and resources through better design and continuous reuse, so nothing goes to waste.

In a circular economy, instead of industries, manufacturers and consumers taking and using resources for a short period of time and then disposing of them, they will be kept in use. Innovators will design products that are more durable, reusable, repairable and recyclable. This circular shift will lessen impacts on the environment, allowing its resources to recover and regenerate.

Transitioning to a circular economy brings numerous benefits on a global scale, including:

- Greater climate change mitigation and greenhouse gas reduction (potential of 39% decrease globally) as a result of cleaner manufacturing, 28% less virgin material use, reduced need for transportation of goods, waste collection and processing<sup>1</sup>
- Stronger global economic well-being, with an estimated \$4.5 trillion in economic benefits and lower supply chain risk from using recycled and locally sourced materials and services<sup>2</sup>
- Healthier communities and environment by fostering local food systems, reducing air pollution and litter impacts on local ecosystems and waterways

The [SM4RT Living Plan](#) is York Region's long term waste management master plan, first completed in 2014 and updated in 2020 with the visionary goal of "a world in which nothing goes to waste". The plan reinforces York Region's continued leadership in waste management with a strong focus on waste prevention, reduction, and reuse, along with waste diversion programs and infrastructure needs.

This Circular Economy Roadmap builds on objective three of the SM4RT Living Plan to "inspire people across the Region to embrace SM4RT Living and advance the circular economy" and will act as a guiding tool to provide direction, commitment and focus. The roadmap will identify linkages, and opportunities for collaboration to advance York Region as a circular economy.

**The Circular Economy Roadmap is a living document and will evolve as we continue to learn, innovate and build capacity over time.**

<sup>1</sup> [Circle Economy, \(2021\). The Circularity Gap Report.](#)

<sup>2</sup> [World Economic Forum, \(2020\). Circular Economy and Material Value Chains.](#)

## Global Scale Benefits of a Circular Economy



# ROADMAP JOURNEY

Nearly half of global greenhouse gas emissions comes from making and using products and food. **Our current system is not sustainable.** A recent study by the Council of Canadian Academies (2021) looked at the state of the circular economy in Canada. It estimated a circularity rate of only 6.1% (the percentage of recycled source materials entering the economy) with 94% of Canadian manufacturing relying on extracting or importing new raw materials. Most materials are thrown away at the end of life as waste, including reusable, durable goods, resulting in 73% of waste generated from all sectors of the economy (primarily institutional, commercial, and industrial) still going to landfill. If Canada maintains a circularity rate of just 6.1% while population and economic growth continues, over the next 20 years, waste generation and greenhouse gas emissions could increase by 40%.<sup>3</sup>

The circular economy is gaining momentum amongst leaders and stakeholders in Canada and around the world. Over time, increase resilience and economic prosperity while reducing dependence on finite resources and fossil fuels.

In Canada, multiple levels of government are taking action to increase circularity:

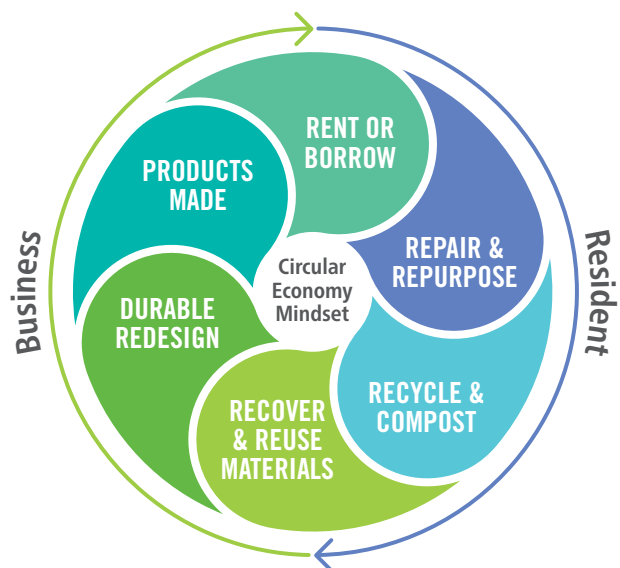
- Federal: Canada-wide Strategy on Zero Waste Plastic banning certain single-use plastics; implementing circular procurement opportunities; exploring right-to-repair legislation
- Provincial: Made-in-Ontario Environment Plan; Resource Recovery and Circular Economy Act and continuing shift to extended producer responsibility (EPR) for product packaging, electronic waste and other materials
- Municipalities: Zero waste strategies; circular procurement; community waste reduction initiatives being implemented in neighboring communities such as Cities of Toronto, Guelph and Mississauga.

<sup>3</sup>[Council of Canadian Academies, \(2021\). Turning Point.](#)

York Region is a leader in waste diversion developing innovative programs to engage the community in waste prevention. Since 2014, the Region with its local municipalities and community partners have implemented:

- Repair Cafés, Curbside Giveaway Days and the three Lendery locations offering residents an opportunity to repair and reuse items keeping them in use longer
- The Circular Economy Initiatives Fund supporting local non-profits and charities who reduce waste and accelerate the circular economy in the Region
- Textile recycling bins at municipal and multi-residential sites across the Region
- The Good Food Program encouraging residents to reduce avoidable food waste and improve their health

It's time to focus on the circular economy and lead by example, inspiring and empowering our communities to tackle climate change and biodiversity loss, address social needs such as food security and create resiliency and jobs by rethinking how we design, use and manage resources, including waste.



# ROADMAP JOURNEY

The [Ellen McArthur Foundation](#), a global leader in research and engagement on the circular economy, identified five key policy tools that municipalities can use to support a transition to the circular economy. These include:



While no single policy tool can deliver a complete circular economy transition, each is a step along the way to be used together with others.

## Vision

A roadmap or strategy

## Engagement

Consulting, convening, partnering, building awareness and capacity

## Urban Management

Urban planning, asset management and public procurement

## Economic Initiatives

Financial support or incentives, education for businesses

## Regulations

Procedures and bylaws



# ROADMAP JOURNEY

## Circular Cities and Regions Initiative

In 2021, York Region was accepted into the [Canadian Circular Cities and Regions Initiative](#) (CCRI) pilot, aimed at advancing circular economy knowledge sharing and capacity in the Canadian municipal government sector. This pilot was developed and delivered jointly by the National Zero Waste Council, The Federation of Canadian Municipalities, and two provincial recycling councils (Recycling Council of Alberta and Recyc-Quebec).

The one-year pilot brought together a national peer-to-peer network of 15 participating municipalities from across Canada, all committed to advancing the circular economy within their communities. The CCRI was supported by an Advisory Group of international and Canadian experts, who provided advice and mentorship throughout the pilot.

The CCRI pilot provided education, networking opportunities and consulting support to develop a roadmap for each participating municipality.

York Region waste staff engaged with internal departments across the Region in 2021, sharing an overview of the circular economy, its benefits, and opportunities for operations. Two internal workshops facilitated by CCRI brought together approximately 50 Regional decision-makers from all departments to identify potential opportunities and actions that could advance the circular economy within their department and help inform recommendations for the roadmap.

Three workshops with external partners and community stakeholders were held to gain knowledge on existing work, identify key priorities and target areas and generate interest for future circular work within the Region.

Through these discussions, stakeholders shared that a lot of great work is already happening internally and within the community. Key themes emerged to inform this roadmap.

- Sharing knowledge and circular tools will help empower staff to identify, implement and evaluate circular economy pilots and cross departmental collaborations
- Researching emerging materials, technologies and practices can inform circular design standards, pilot opportunities and best practices for infrastructure asset management
- Leveraging Regional buying power to encourage innovation is one of the biggest opportunities identified by leading municipalities
- Piloting new community programs by building on existing and successful collaborations in food and reuse sectors increases community capacity for circularity
- Showcasing innovation and leadership, and facilitating connections to spark new ideas



# STRATEGIC ALIGNMENT

The SM4RT Living plan is driving the work on the circular economy. It is the guiding document, identifying the connections between circularity, waste policy and programming and links to the broader goals of York Region's Vision and the Regional Official Plan.

York Region's Vision sets the foundation for all Regional strategies and initiatives, with four priority areas: economic vitality, healthy communities, sustainable environment, and good government. The principles of a circular economy align and support each of these priority areas and strengthen the commitment to strong, caring, safe communities.



The transition to a circular economy offers opportunities for new and existing businesses to thrive through innovation, knowledge sharing, efficiency and reduced regulatory risk. For instance, using circular economy principles to find ways to prevent waste through local food supply chains can advance the

Agriculture and Agri-Food Sector Strategy's goal to create businesses that are more competitive, innovative, and sustainable to our future food production and security. As a leader in circularity, York Region can help local businesses meet customer and regulatory expectations on sustainability, waste reduction and climate change mitigation using tools and data to help them understand new risks, requirements and opportunities.



There is a natural connection between SM4RT Living, circular economy and healthy communities. For over seven years, York Region's Good Food program has been helping residents reduce food waste through awareness and education, while building food skills,

knowledge, overall literacy and access to local food systems. Reuse programming such as Repair Cafés and Lenderies provide social connections, and skill sharing opportunities. Seniors are important contributors to the success of Repair Cafés, supporting York Region's Seniors Strategy while reducing waste. York Region's Circular Economy Initiatives Fund (CEIF) provides funding support to charities and non-profit organizations who are implementing circular projects that support vulnerable residents, building on years of leadership from the charitable reuse sector.



As humans, our impact on climate change and planetary boundaries has come to the forefront globally in the past decade, with calls for government action at all levels. Direct action to reduce emissions is not enough to mitigate impacts and reach climate targets. The

circular economy is a key tool for municipalities seeking to address climate change through internal operations and community transformation to a low carbon economy. Many of York Region's key sustainability plans align with circular principles already, including the draft Climate Change Action Plan, One Water, Greening Strategy, The Energy Conservation and Demand Management Plan, and the SM4RT Living Plan. The circular lens allows for more collaboration to implement actions in areas such as asset management, procurement, and public education.



The circular economy strengthens York Region's ability to deliver trusted and efficient services and demonstrate corporate commitment to sustainability. This roadmap will increase public confidence by showcasing York Region as a leader in the circular economy,

committed to making the same sustainable changes in operations and policy that we ask residents and business to implement through community engagement, education and bylaws. The circular economy will remove barriers to recycling and reuse of materials, and cultivate cooperation among community groups, businesses, and the Region. Circularity will enable policies that maximize the use of assets and capital, supporting a reliable, responsive, effective, efficient and fiscally responsible service delivery.

**“Circularity will enable policies that maximize the use of assets and capital, supporting a reliable, responsive, effective, efficient and fiscally responsible service delivery.”**

# CIRCULARITY IN ACTION

Circularity is already taking shape at York Region, as people consider how they can use resources more wisely and look for more sustainable ways to live and operate. However, action is happening independently resulting in duplication of effort and missed opportunities to learn and expand. This roadmap presents an opportunity to bring those interested and involved together to discuss and share ideas, focus efforts and strategically ignite further action. The following represent key examples of circularity currently in action at York Region.

## Making Old Asphalt New Again

York Region Road Operations together with Transportation Capital Planning and Delivery began an asphalt recycling program in 2016. Road contractors collect and grind up old asphalt for reuse in future road operation projects such as levelling shoulders, wash-out repairs, and backfilling. This program has expanded over time and since 2016 has diverted over 112,000 tonnes of asphalt from landfill saving approximately \$1.8 million.

## 17150 Yonge Street – New Facility Built to LEED Gold Sustainability Standards

In 2021 construction was completed on York Region's new facility at 17150 Yonge Street. This building was designed to a high standard of energy efficiency, sustainability and circularity, being awarded a LEED® Gold Certification. Environmental benefit was a key driver in the design, construction and functionality of the building, matching York Region's ongoing commitment to environmental stewardship. Green construction practices enabled over 86% of construction waste to be diverted from landfill or reused on other projects. Construction materials were sourced locally with over 37% coming from within 800 meters of the building, while 20% of the materials have recycled content. Other key environmental features include low-flow water fixtures contributing to water savings of 2.7 million litres, 25% green roof coverage providing habitat for wildlife such as butterflies, bees and birds, with the remaining roof designed to be reflective, minimizing the heat island effect (reducing heat loss in the winter and heat gain in the summer).

## Reuse and Repair Programming

York Region provides many opportunities for residents to participate in the circular economy through reuse and repair programs. Three Lendery locations, in partnership with local libraries across the Region, allows residents to borrow items rather than purchase. Curbside Giveaway Days, in partnership with local cities and towns, encourages residents to give away gently used items rather than throwing them away as garbage. Repair Cafés, in partnership with community organizations throughout the Region, encourage and provide a space for residents to repair broken items for free, keeping items in use longer.

## York Region Food Network – Food Gleaning Program

Working with local farms since 2013, York Region Food Network offers a seasonal food gleaning program which enables participants to visit fields after harvest and gather any remaining vegetables and fruits free-of-charge that would otherwise be wasted and plowed after harvest. This grassroots program is geared to low and moderate-income residents to increase access to healthy and nutritious food and reduce food waste. In 2021, this program distributed over 14 tonnes. of healthy and nutritious gleaned produce to 2,638 people.



# ACTION AREAS

This roadmap builds on work already happening in York Region, identifying areas of focus that have the greatest potential impact to bring together different departments, and external partners to collaborate on projects and accelerate the circular economy.

Five cross-cutting action areas were identified to leverage circularity within the Region.

1. Sustainable Food Systems
2. Reuse and Sharing
3. Community Capacity and Connections
4. Circular Procurement
5. Asset Management and Built Environment

The first three action areas have a strong community component, where York Region will influence, facilitate, and contribute to circular integration alongside our community partners and local municipalities. The last two action areas, Circular Procurement and Asset Management & Built Environment, represent opportunities for York Region to take action internally, create resilience through circularity and lead by example.

These action areas use existing structures both internally, through regional plans and strategies and externally through existing partnerships and programming. They encourage innovation and identify promising practices to explore and develop, data and research gaps, and knowledge sharing and engagement opportunities.

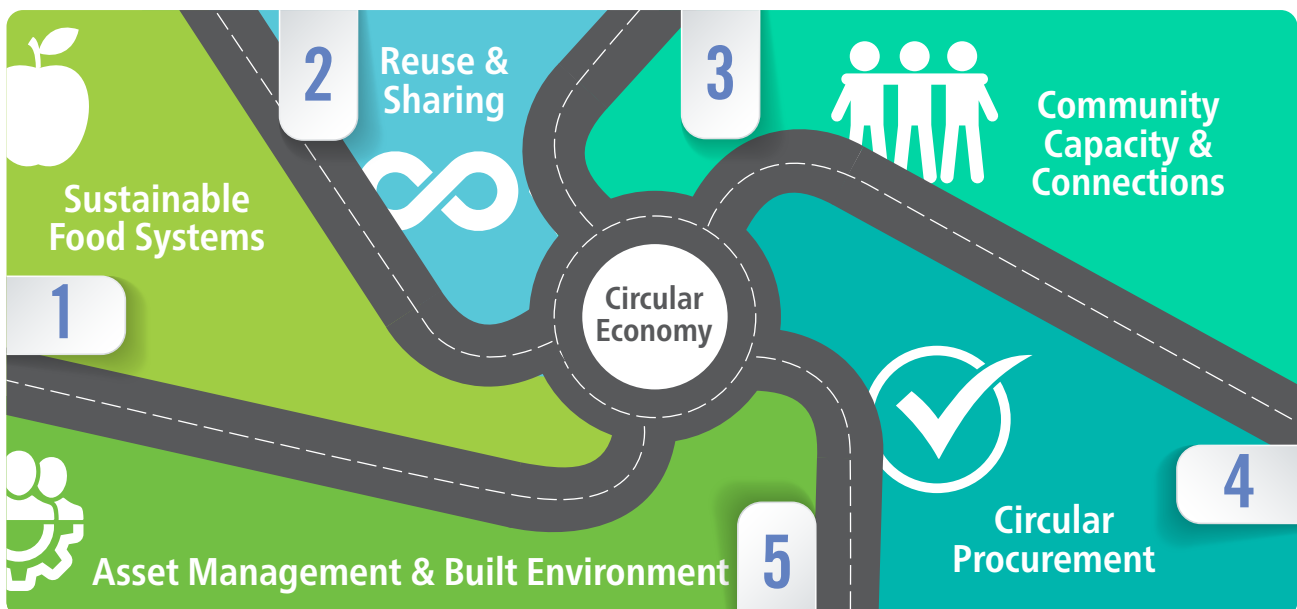


## Sustainable Food Systems

*Reduce food and packaging waste, improve food literacy and support a sustainable local system.*

York Region is a leader in providing programming that enhances food literacy and food waste reduction efforts. The Region's focus to strengthen community partnerships, support local agriculture and agri-food sector, and enhance programming will reach a wider and more diverse audience. This focus will reduce demand and high costs of food waste processing and promote equitable access to healthy, sustainable food systems.

Action Items	
A)	<i>Food literacy and food waste reduction programming</i>
B)	<i>Advocacy on legislation, regulation and policy related to food circularity</i>
C)	<i>Supporting a circular food economy in York Region</i>





# ACTION AREAS



## Reuse and Sharing

**Increase community resilience and reduce waste generation through the development of vibrant sharing and reuse networks and initiatives.**

Enabling equal opportunity for residents and businesses to participate in the circular economy through reuse, repair and sharing initiatives, strengthens both the social and environmental resilience of our community. A focus to grow existing and implement new and more accessible programming for the community and implement reuse practices at the Region can reduce waste significantly.

Action Items	
A)	<i>Reuse, repair and sharing programming</i>
B)	<i>Internal waste reduction efforts</i>



## Community Capacity and Connections

**Build community capacity to adopt the circular economy through engagement, education and networking.**

Businesses and community organizations will play an essential role in integrating circularity into the lives of York Region residents. Building circular economy capacity through awareness, education and investment will help community leaders recognize how this circular transition can benefit their work. Creating a Circular Economy Working Group composed of champions who can advise, support and facilitate opportunities in their own sectors locally will strengthen community capacity and create widespread, diverse connections.

Action Items	
A)	<i>Engaging and educating community leaders</i>
B)	<i>Facilitating circular collaborations</i>
C)	<i>Gathering and sharing data on state of circular economy</i>
D)	<i>Developing business tools, education and financial support</i>



## Circular Procurement

**Accelerate the circular economy through sustainable procurement policies and practices.**

One of the key tools available to governments is to use their buying power to stimulate circular supply chains and promote new business models based on innovative, resource efficient solutions. Developing policy and guidance for the evaluation of the lifecycle cost of goods and services purchased (including the environmental, economic and social impact) will lead to investments that support the Region's broader vision for our communities.

Action Items	
A)	<i>Developing/updating sustainable procurement policy and tools</i>
B)	<i>Engaging and training staff and vendors on circular economy</i>



## Asset Management and Built Environment

**Increase the lifespan of assets, infrastructure and built environment through innovative design, reuse, repair and donation.**

York Region is committed to maintaining equipment, infrastructure, components and their materials at their most useful purpose for as long as possible to maximize return-on-investment and reduce waste. This can be supported by sharing expertise and lessons learned from existing innovations. Facilitating collaborations, and updating policies and guidance to enable reuse, sharing, donation and recycling of assets will further our financial resilience and leadership towards sustainable growth.

Action Items	
A)	<i>Researching emerging materials, practices and technologies</i>
B)	<i>Scaling up and tracking impacts of current circular practices</i>
C)	<i>Integrating circular principles into asset management policies</i>
D)	<i>Sharing circular success stories</i>

# IMPLEMENTATION

The circular economy requires a culture of continuous learning, where successful practices are celebrated, achievements and shortfalls are shared openly, and collaboration drives innovation.

The following guiding principles support implementation of a circular economy with the understanding that change will be ongoing, and actions will evolve over time as we learn, innovate, and build capacity.

## 1 Learn, Build Knowledge, Gather Data to Support Action

- Engage and develop tools and resources to increase understanding of the benefits of the circular economy with internal teams and the community
- Identify stakeholders and showcase existing circular projects that inspire others to think circular
- Gather baseline data on circularity, material flow, replacement and disposal processes and policies across the Region to help identify priority opportunities for circular economy implementation

## 2 Inspire, Collaborate and Innovate

- Identify Regional cross-departmental collaborations for pilot projects in areas such as asset management, reuse and donation
- Establish or leverage existing working groups to research, plan and implement projects and share outcomes
- Facilitate and encourage collaborations that problem-solve, create efficiencies, and ensure appropriate human and financial resources are available

## 3 Mobilize and Monitor

- Pilot circular programs and solutions. Implement, monitor, adapt and refine solutions to maximize impact



## 4 Evolve and Evaluate

- Evaluate impact of pilot projects, and opportunities for expansion
- Share case studies, results and lesson learned with stakeholders
- Identify successful practices that can be expanded and those which require improvements
- Evolve practices to meet changing social, economic and environmental conditions and growing knowledge and willingness for the circular economy

This roadmap will be guided by a three-year workplan which includes specific actions that have been identified including key departments and partners involved. The workplan will be updated annually to reflect departmental priorities, outcomes and new opportunities as they arise. Implementation of the circular economy is a collaborative initiative, with implementation lead by York Region departments and teams delivering relevant programs or services.

# ACKNOWLEDGEMENTS

The project team would like to acknowledge and send our sincere gratitude to the Circular Cities and Regions Initiative (CCRI) pilot team in supporting the learnings and development that helped form this Roadmap.

[CCRI Team](#)

[National Zero Waste Council](#)

[Federation of Canadian Municipalities](#)

[Recycling Council of Alberta](#)

[Recyc-Quebec](#)

[Advisory Group](#)

