

# Waste Reduction Roadmap

## Recommendation

That Utility Committee recommend to City Council:

That the Waste Reduction Roadmap (2021 to 2024) as set out in Attachment 1 of the April 30, 2021, City Operations report CO00390, be approved.

## Executive Summary

Edmonton's 25-year Waste Strategy commits the City of Edmonton to a stronger focus on waste reduction to realize the significant environmental, economic and social benefits that are achieved when valuable resources are prevented from becoming waste in the first place.

The City's first Waste Reduction Roadmap is an action-oriented work plan that identifies programs, services and regulations that will result in less waste being produced by both the residential and non-residential sectors. It is designed to complement the transformational changes already underway in Edmonton's waste system and lay a strong foundation for future roadmaps by building capacity among waste reduction champions, accelerating the activities of waste reduction enthusiasts, and introducing concepts and opportunities to Edmontonians who are just starting to learn about waste reduction.

The Roadmap was developed over 10 months and leveraged research, engagement and analysis to identify actions that will lay a foundation for Edmonton's long-term waste reduction efforts. Whereas many jurisdictions have found that they are not able to document a direct link between municipal waste reduction actions and changes in the quantity of waste generated per person, the Roadmap outlines a performance framework that aims to build a robust basis for managing and evaluating the City's waste reduction activities into the future.

Through a combination of new, refocused or amplified existing actions, this Roadmap outlines how the City will stabilize residential waste generation rate per person over the next three years (2021 to 2024) and ultimately reduce residential waste generation per person by 20 percent over the term of the 25-year Waste Strategy.

## Report

### Corporate Context

Edmonton's 25-year Comprehensive Waste Management Strategy (Waste Strategy) sets the City on a path to transform how residents, businesses, organizations and institutions think about and handle their waste. The development and implementation of a Waste Reduction Roadmap (Attachment 1) is a commitment of the Waste Strategy, and describes programs and activities designed to reduce the quantity of waste that is both generated and disposed of in Edmonton.

The Roadmap is an action-oriented work plan that identifies programs, services and regulations that will result in less waste being produced by both the residential and non-residential sectors. This Roadmap to 2024, or 'Roadmap '24', is the first in a series of roadmaps that will build on the momentum and lessons learned from previous versions to achieve a target of 20 percent less waste generation per person over the 25-year term of the Waste Strategy.

Waste reduction is not the same as waste diversion. Waste reduction programs decrease the quantity of waste produced, while waste diversion programs take discarded materials and turn them into something new. As outlined in the Waste Strategy, reduction is prioritized over diversion because of these additional environmental, economic and social benefits. Waste reduction reduces the consumption of natural resources, cuts greenhouse gas emissions, reduces the cost of collecting and processing waste and redistributes items to preserve their beneficial use by the community. While waste diversion demonstrates the effective management of waste we currently generate, the ultimate aim of a zero waste framework is to avoid valuable resources from ever becoming waste in the first place.

### External Influences and Context

Reducing waste is an increasingly important issue that cannot be solved by municipal governments alone. The City's role is to leverage waste reduction and upcycling activities that are now being adopted by industry leaders, remove barriers and change norms. Industry is being driven to change by pressure from consumers, advocacy groups, non-governmental organizations and the regulations and policy objectives of all orders of government.

### Roadmap Development

Roadmap '24 was developed over 10 months leveraging research, engagement and analysis to identify actions that will lay a strong foundation for Edmonton's long-term waste reduction efforts. A jurisdictional scan (Attachment 2) was completed to identify trends and best practices among 22 local governments in North America. Few jurisdictions were found to have dedicated waste reduction strategies. More commonly, waste reduction initiatives are part of overall waste management strategies that also address diversion. Furthermore, very few jurisdictions monitor the direct

impact of reduction programs. Reporting is typically limited to monitoring changes in the community-level waste disposal or generation rate (in kilograms per person).

Engagement was conducted to connect with the public and stakeholders and gather input on waste reduction priorities and steps that could be taken to reduce waste in all sectors. Three rounds of engagement used different activities to advise, then refine draft actions and the performance framework. The What We Heard Report is presented in Attachment 3.

Roadmap '24 was also developed in the context of the broad changes being implemented as part of the Waste Strategy, which in turn supports Edmonton's climate commitments and is a critical element of the Big City Move to be Greener as We Grow, as defined in The City Plan. The guiding principles from ConnectEdmonton are reflected in the actions and commitments made in Roadmap '24, which demonstrate the City's dedication to making strategically consistent choices, working together as a community, choosing actions with the best impacts on social, economic, cultural, spiritual and environmental systems, and serving the needs of Edmontonians now and in the future.

### **Waste Reduction Actions**

Roadmap '24 identifies 10 actions for the City to implement over the next three years. Actions are grouped according to the City's level of influence, using the Ensure, Promote, Support structure found in ConnectEdmonton and the City Plan.

#### **Ensure (Direct Influence)**

1. Develop a single-use item reduction strategy and bylaw that builds on leading federal and provincial regulations.
2. Work with internal and external partners to establish reuse opportunities at big bin events.
3. Consistently apply existing internal waste reduction directives in the City's day-to-day operations.
4. Ensure Edmontonians have easy access to waste reduction information and programs that deliver clear and consistent messaging.
5. Enhance the existing Reuse Directory to include information for residential and non-residential sectors.
6. Expand the scope of the Reuse Fair Grant program to include other waste reduction activities.

#### **Promote (Moderate Influence)**

7. Establish a waste reduction working group representing the diversity of Edmonton's non-residential sector to identify priority actions and how the City can reduce barriers to waste reduction for the sector.

8. Continue to advocate for Extended Producer Responsibility legislation and implementation.

### **Support (Indirect Influence)**

9. Support local innovation by piloting a grant or rebate program for single-use item reduction.
10. Support non-governmental organizations that deliver waste reduction messaging and programming by sharing content and working together to identify priority topics.

In addition to these actions, the City continues to apply a waste reduction lens to City policy and day-to-day decisions. Waste reduction is integrated into the operations of Waste Services in ways that are not explicitly described in Roadmap '24, including work that will be undertaken to improve the City's understanding of baseline conditions and the impact of municipal waste reduction actions, and to refine targets and adjust actions in response to additional data through ongoing performance management.

### **Existing Activities of the City's Waste Services Branch**

The actions included in Roadmap '24 include new ones, those that refocus existing work to be more strategic and consistent, and those that amplify work already underway to increase the reach and/or impact of the City's ongoing waste reduction efforts.

Not included in Roadmap '24 is the ongoing operation of the Reuse Centre, as the majority of the items accepted by the Reuse Centre do not end up redistributed for their original intended use as is the commonly accepted standard for 'reuse' within the context of the waste management hierarchy. Although some items accepted and redistributed by the Reuse Centre do end up back in use for an extended period of time, many others – like those used for crafts – are only temporarily diverted before ending up back in the waste stream.

Recognizing that the Reuse Centre has grown to fill a niche role in the habits and hearts of its customers, Waste Services continues to explore the most effective and efficient way to manage the materials accepted by the Reuse Centre. This includes an analysis of how existing charitable organizations and social agencies have evolved to provide alternative donation opportunities for some accepted items, and how burgeoning community-led activities like Buy Nothing groups (which have become more active at the same time as the Reuse Centre has been temporarily closed as a result of the COVID-19 Pandemic) are helping to redistribute a wider range of products and materials through direct exchanges between residents.

### Waste Reduction Performance Management and Reporting Framework

The Waste Reduction Roadmap is aligned with the City Plan outcome 1.4: *Edmontonians demonstrate shared leadership as stewards of the environment*. Intention 1.4.1 of the CityPlan is to *support Edmontonians' transition to a low carbon future in their daily lives* and direction 1.4.1.4 is to *avoid waste at its source, improve diversion rates, and reuse and recover resources*.

The Waste Reduction Roadmap is also a commitment of the upcoming Revised Community Energy Transition Strategy presented to Executive Committee on April 12, 2021. The Revised Community Energy Transition Strategy includes pathways, goals, strategies and actions. Goal C of Pathway 1 is *Edmonton uses waste as a resource*. Strategy C1 is to *Minimize emissions and maximize the production of zero emissions energy and resources from waste*, and potential actions include to *develop a waste reduction and materials recovery roadmap to support markets and business opportunities*.

The ultimate goal of Roadmap '24, and subsequent roadmaps that will follow, is to reduce the quantity of waste generated per person in Edmonton. The target for the full duration of the 25-year Waste Strategy is a 20 percent reduction in the residential waste generation rate per person, compared to 2019. Roadmap '24 has a target of stabilizing the residential waste generation rate per person from 2021 to 2024.

At its most fundamental, waste reduction is measured by changes in the quantity of waste generated per person. Waste generation is made up of the sum of garbage, recycling and organics collected and dropped off. Waste generation rates are highly variable and are influenced by factors outside local government control, such as the health of the economy and the introduction of new products to the marketplace.

The performance framework developed for this plan aims to build a robust basis for managing and evaluating the City's waste reduction activities. This approach is unique among the other plans reviewed during the development of the Roadmap. A more comprehensive approach to measuring progress will provide a better understanding of where progress is being made and where more effort may be required.

Current data limitations impact the ability to set meaningful targets at the outcome level. The period of Roadmap '24 will be used to gather data to establish baseline conditions and trends so that more specific targets can be set in subsequent roadmaps. In particular, since waste from the commercial sector is not managed by the City, the City does not have data on the quantity of waste generated by that sector. Once the City has implemented mandatory waste sorting for the commercial sector, as committed in the Waste Strategy and outlined in the February 5, 2021 City Operations

Report CO00231, additional data may be available and will also feed into overall waste reduction reporting.

The framework links actions to areas of focus with associated outcomes (impacts), with each action contributing to one or more outcomes. These outcomes contribute to the achievement of the overall goal of reduced waste generation per person, and will provide continuity by persisting into future roadmaps.

Outcomes	Key Performance Indicators	3-year Targets
Edmonton residents and the non-residential sector make the behavioral and operational shifts necessary to reduce waste	1. % of curbside collection customers choosing small (120L) garbage cart	1. % increase from 2021 baseline to be defined in 2022
	2. Avoidable food waste, yard waste, single-use items, textiles as percent of all waste streams	2. Downward trends
	3. Self-reported changes in waste generation habits	3. Increase in waste reduction efforts
Barriers to zero waste innovation and circular economy initiatives are reduced	1. % of available City funding distributed to zero waste innovation and circular economy initiatives	1. Year over year increase
	2. % of bin events held with reuse partners	2. Reuse partner at >= 50% of community bin events
Awareness of and participation in waste reduction programs increases.	1. Number of web visits/downloads of waste reduction content	1. % increase from 2021 baseline to be defined in 2022
	2. Number of participants in City programs that teach zero waste/waste reduction concepts	2. Year over year increase
	3. Variety of waste reduction programs supported by the City	3. Increased number of ways to participate

In addition to key performance indicators for each outcome, measurements have been established to evaluate the efficacy of each action as outlined in Attachment 1. Progress on the implementation of Roadmap '24, including results for the key

performance indicators outlined above, will be reported every year. Measures for actions will be monitored internally to support ongoing performance management, with a summary report to be prepared at the end of the Roadmap '24 cycle as part of delivering the City's next Waste Reduction Roadmap.

### **Budget/Financial**

Roadmap '24 will be funded within the approved utility budget and the utility rate forecasts presented in the Waste Services Utility 2021 Utility Rate Filing (December 4, 2020, City Operations report CR\_8448). Non-utility funding may be leveraged where actions are integrated with the strategic priorities, work plans and approved budgets of City business areas that are funded by the tax levy.

### **Public Engagement**

Three rounds of engagement used various activities to enable the public and key stakeholders to advise on and refine the actions and performance framework. Public engagement included participation that reflects Edmonton's diverse population by starting with a comprehensive stakeholder mapping exercise that used a GBA+ lens to identify diverse groups that have an interest in and could be impacted by waste reduction efforts. These stakeholder groups were invited to participate directly in the engagement and were asked to share the public engagement opportunity (survey) with their networks.

The main themes of input heard included:

- An affirmation of the role the City already plays in educating and conducting outreach related to waste reduction and encouragement to expand that role to address commercial waste reduction.
- The identification of a role for the City to play in creating a waste reduction community of practice, for commercial waste generators to share information and best practices and to help create connections between people working on waste reduction.
- Interest in grants to encourage waste reduction initiatives, start ups and/or projects, particularly for durable goods, electronics and textiles. Some stakeholders suggested the City could also support the development of a repair and swap economy by providing facilities for organizations to host events related to repair, exchange, reuse, sharing and renting.
- Survey responses indicate that most respondents are committed to making lifestyle changes to reduce waste, although convenience is still a factor when it comes to buying behaviours and habits.



The results of the engagement were used to inform the options analysis, together with input received through internal and external stakeholder engagement, and research on the options. The options analysis drove the selection of draft actions for the roadmap, and the results of a virtual workshop were used to refine the actions and roadmap.

### Corporate Outcomes and Performance Management

Corporate Outcome(s): Edmonton is an environmentally sustainable and resilient city			
Outcome(s)	Measure(s)	Result(s)	Target(s)
Edmonton is an environmentally sustainable and resilient city	Residential Waste Generation Per Person	362 kg/capita (2019) 386 kg/capita (2020)	0% growth (2021-2024)  20% reduction from 2019 baseline (2044)

### Risk Assessment

Risk Element	Risk Description	Likelihood	Impact	Risk Score (with current mitigations)	Current Mitigations	Potential Future Mitigations
Customers / Citizens	Resident engagement in waste reduction programs lower than anticipated	4 - likely	2 - moderate	8 - medium	Public engagement to determine public readiness and support of change.	Comprehensive education and communications plan to address barriers.
Environmental	Outside factors negatively impact ability to stabilize the waste generation rate.	4 - likely	3 - major	12 - medium	Educate residents and businesses on the importance of waste reduction.	Comprehensive education and communications plan to address barriers.
Political Influence	Government policies on various programs such as EPR, single-use plastics, etc.	3 - possible	2 - moderate	6 - low	Advocate to various levels of government in support of waste reduction programs and policies.	Continue to advocate various levels of government in support of waste reduction programs and policies.
Public Perception	Changing resident expectations.	4 - likely	2 - moderate	8 - medium	Address waste reduction barriers with education.	Comprehensive education and communications plan to address barriers.



### **Attachments**

1. Waste Reduction Roadmap
2. Jurisdictional Scan for Waste Reduction
3. What We Heard Report

### **Others Reviewing this Report**

- M. Persson, Chief Financial Officer and Deputy City Manager, Financial and Corporate Services
- C. Owen, Deputy City Manager, Communications and Engagement
- S. McCabe, Deputy City Manager, Urban Form and Corporate Strategic Development
- K. Fallis-Howell, Acting City Solicitor