Executive Summary

Greater Sudbury Sustainable Waste Strategy 2025 – 2035

Greater | Grand Sudbury

Greater Sudbury's Sustainable Waste Strategy

Why develop the Sustainable Waste Strategy?

The Sustainable Waste Strategy (SWS) is a 10-year plan for the City of Greater Sudbury's (the City's) waste management system that minimizes the quantity of waste requiring handling and disposal by maximizing waste diversion opportunities.

The SWS provides a plan for our community to continue to take progressive actions to responsibly manage our waste and preserve our assets and shared environment for future generations.

There are **18** recommended actions that together will reduce waste, extend landfill life and improve the performance of the City's current system over the next ten years.

In the short term, the SWS actions focus on building desired behaviours now in a cost-efficient way. These smaller, lower cost changes will maximize existing diversion programs and delay the need to implement higher cost actions for new disposal capacity later.

Long-term planning is important because:

About 90,000 tonnes of garbage from homes, schools, businesses and industries goes into the City's landfills each year.

If that trend continues, the **landfills will be full in about 25 years**.

A **large amount of organic waste is still being landfilled** and producing methane gas – a potent greenhouse gas.

We need to divert more organic waste to support the City's Community Energy and Emissions Plan (CEEP) and its goals of achieving net-zero emissions and **90% waste diversion by 2050**.

It can take **up to 10 years** to secure a new disposal option.

The process involves many steps including confirming the preferred option, securing a site, getting the necessary approvals and consultation, designing and constructing the facility.

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Other disposal options like a new landfill(s) or incinerator are much more expensive compared to the current way to dispose of the City's garbage.

If diversion is not increased, **funding will need to be put aside for alternative disposal by 2035**.

About the Sustainable Waste Strategy

Phase 1
Current State
Understand the current system and context in which it operates

Mid 2022 - Early 2023

Phase 2
Future State
Establish guiding principals and vision for the future state

Early 2023 - Mid 2023

Phase 3
Determine How
Identify options to achieve goals and evaluate future options

Mid 2023 - Early 2024

Phase 4
Develop Strategy
Consolidate and summarize findings into a 10-year plan (2025-2035)

Early 2024 - Late 2024

Public Consultation During Each Project Phase

3 Virtual Community Workshops with **10** attendants

Public Survey: **187** respondents

Public Survey: **280** respondents

5 Community drop-in events with **170** participants

4 Community workshops with **20** participants

Public Survey: **1537** respondents

Public Survey: **369** respondents

Internal Consultation

Technical Advisory Committee includes key City staff representing Environmental Services, Environmental Planning Initiatives, 311 and Communications and Community Engagement. Together the group provides perspectives related to operational matters, programs, projects and policies.

Solid Waste Advisory Panel acts as a public liaison committee on current solid waste management issues and includes a minimum of two Council members and six to eight citizens.

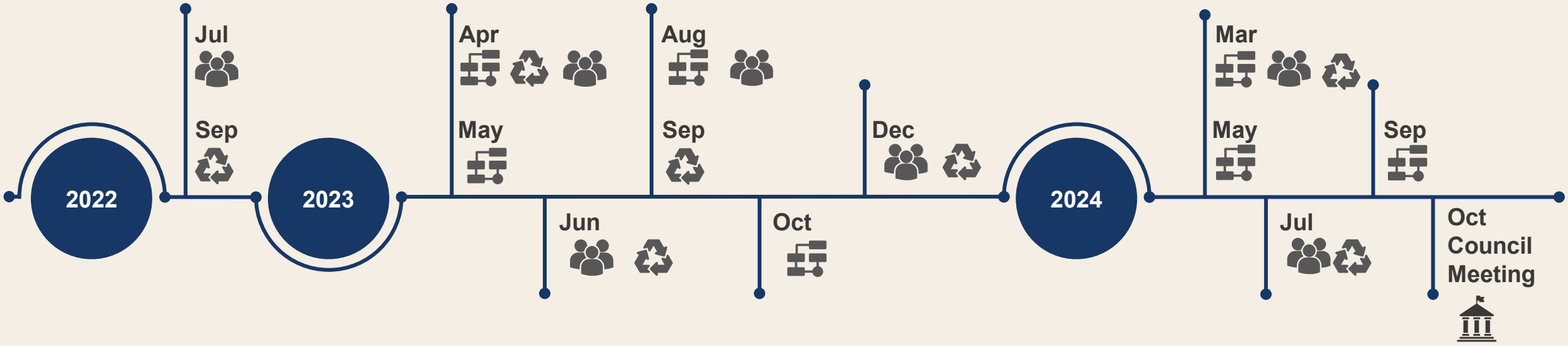
Operations Committee includes Council members who review information and proposals and make recommendations to Council on matters pertaining to the Growth and Infrastructure Department (which Environmental Services is part of).

Phase 1
Current State

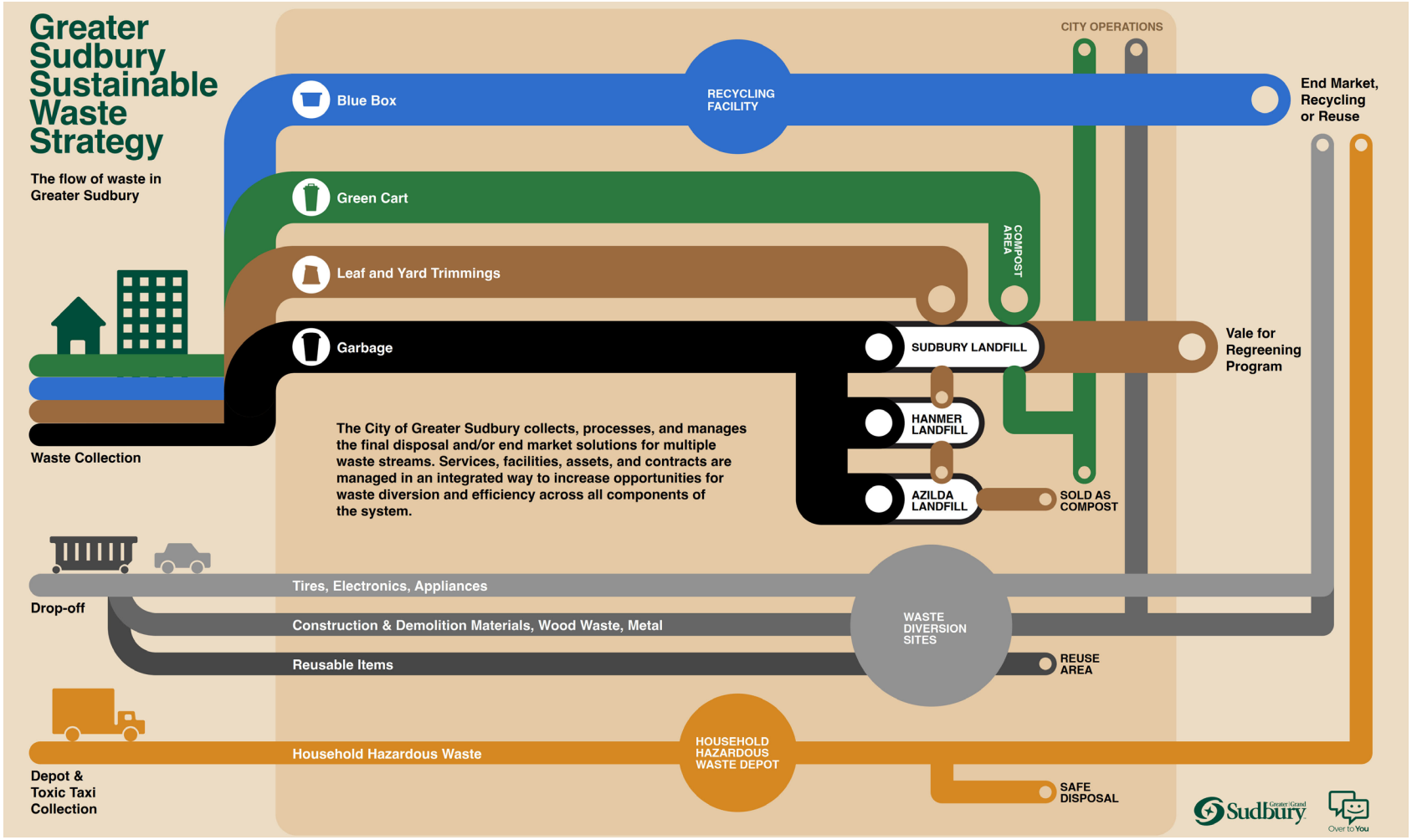
Phase 2
Future State

Phase 3
Determine How

Phase 4
Develop Strategy



How does the City manage waste today?



This flow chart shows what happens to the waste after it is left at the roadside, depot and landfill and diversion site.

The City provides waste collection services to approximately:

- **63,200** low and high density properties on roadside collection program
- **10,750** units in high density properties with bin/cart collection
- **175** non-residential customers on roadside collection (e.g., small businesses, churches)
- **87** municipal facilities (e.g., arenas, libraries)

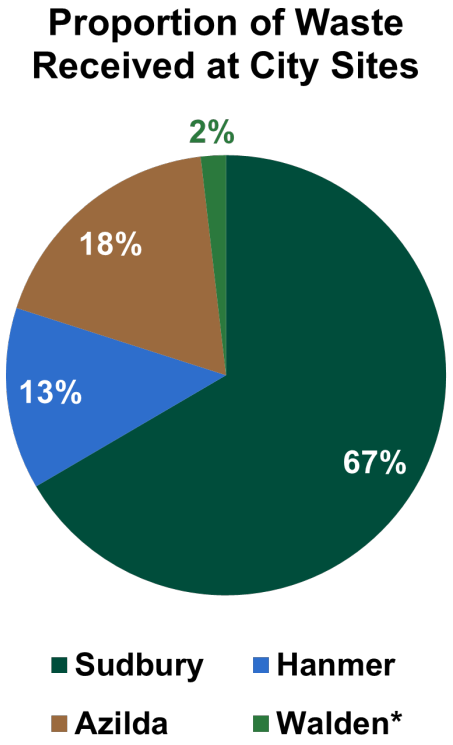
[Assessing the current state]

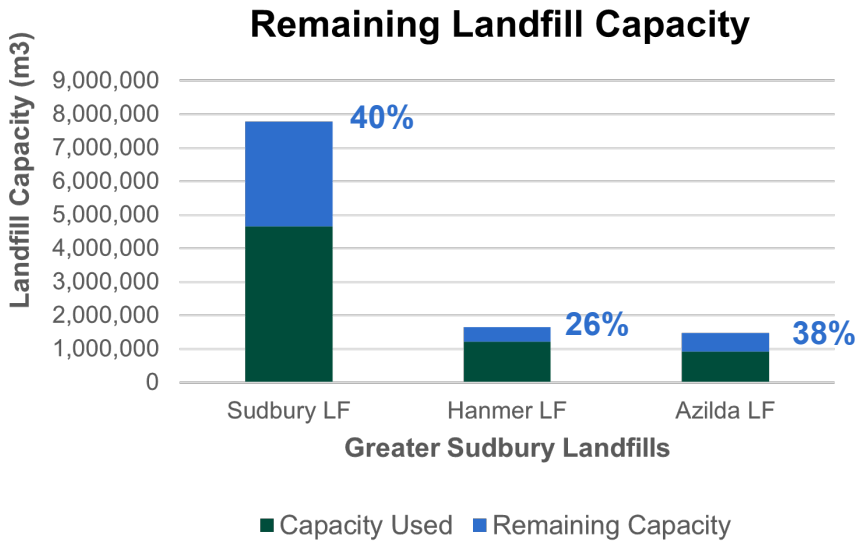
Statistics About the Current Waste Management System

The City has excellent programs to support waste diversion including:

- Household Hazardous Waste Depot and roadside Toxic Taxi Collection
- Diversion areas at the landfill sites for materials like appliances, electronics, leaf and yard trimmings and construction waste
- Reuse opportunities at four sites to donate and/or purchase gently used items
- Rebate programs for Cloth Diapers and Dog Waste Digesters
- Waste Wise app
- School programs and the Education Centre at the City's Environmental Services administration building (1805 Frobisher Street)

There are four main City sites that take in waste. The Sudbury Landfill and Waste Diversion Site is the City's largest site that receives the most amount of City-managed waste. The Sudbury Landfill has about 40% of space remaining.

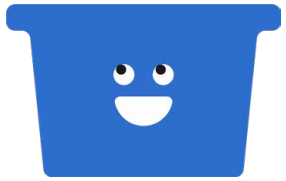




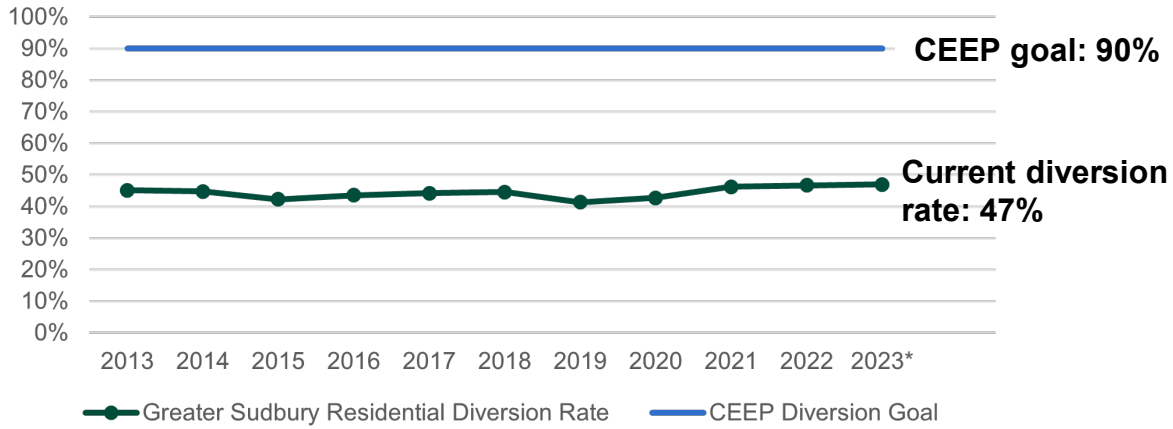
*Waste from the Walden site is disposed at the Sudbury Landfill site

Current Waste Management System Trends

Over the last 10 years, the amount of residential waste that has been diverted from landfill has been relatively stagnant averaging at 44% with the exception of an increase in 2021 which corresponds with the City's adoption of garbage collection every other week). The City's CEEP set a goal of achieving **90% diversion by 2050**.

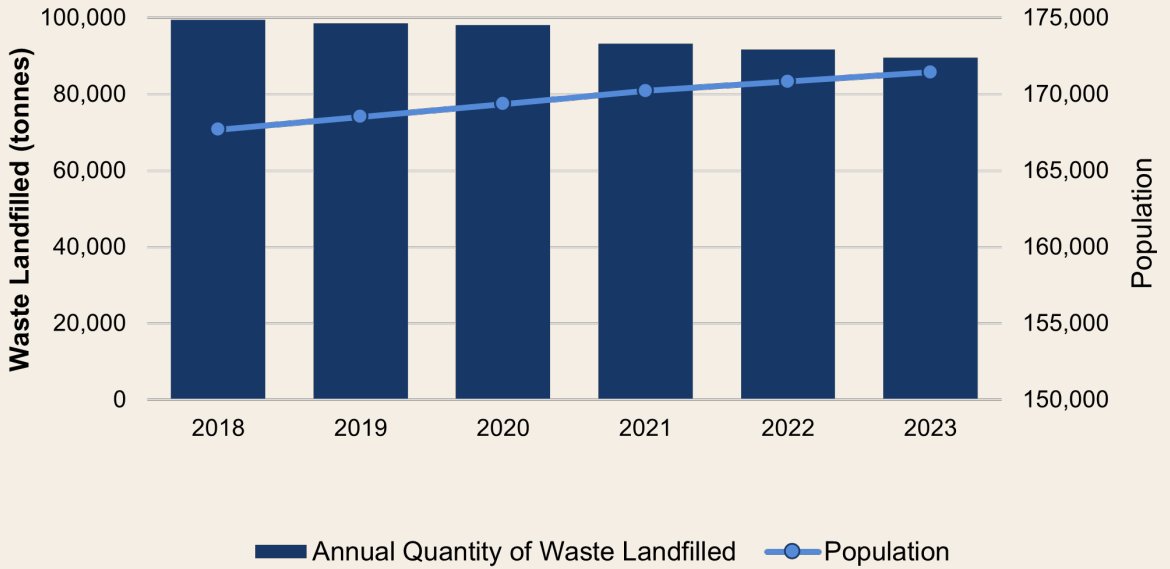


Residential Waste Diversion Rate



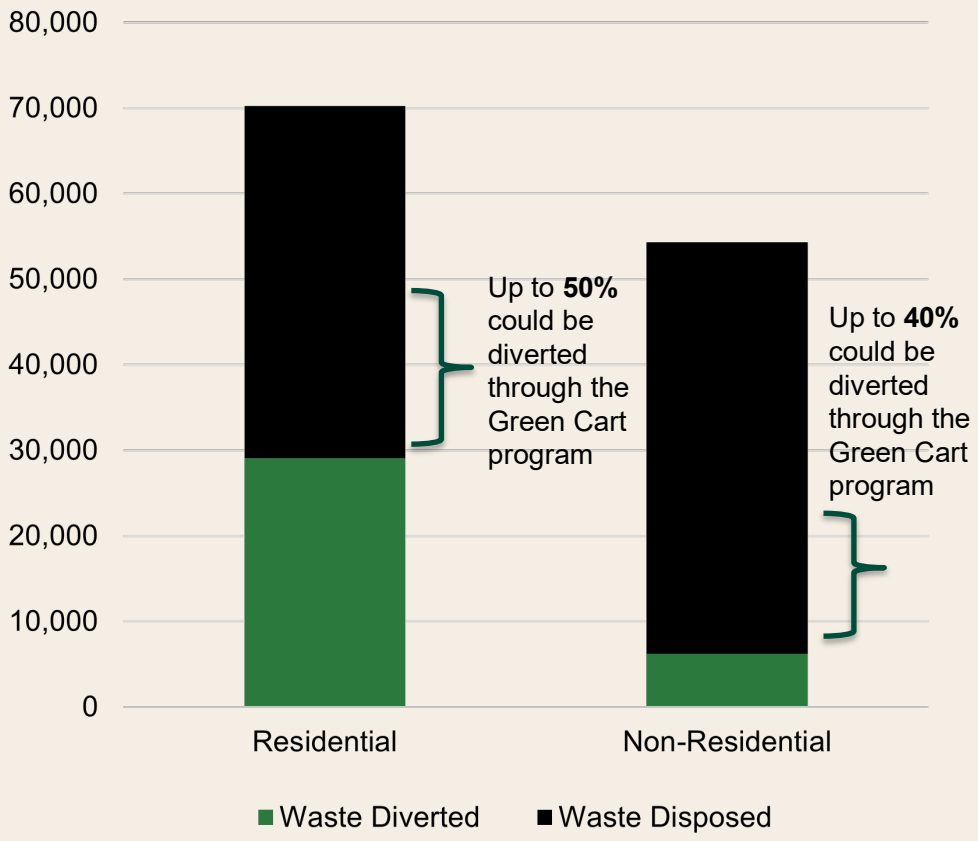
*2023 results are being verified.

Residential and Non-Residential Waste Landfilled (2018 to 2023)



Although population has increased, the amount of garbage landfilled has decreased over the last six years as a result of changes to garbage bag limits and collection frequency.

How Much Waste Does the City Manage?



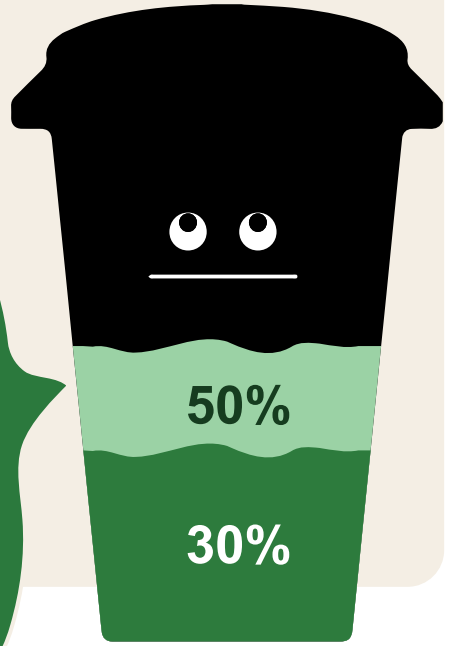
The City managed approximately 125,000 tonnes of waste in 2023 through programs like Blue Box, Green Cart, yard trimmings, garbage, etc. The waste comes from the following sources:

- **44%** comes from non-residential sources like small businesses, schools, industries and organizations;
- **66%** comes from residential sources including:
  - **34%** is residential waste collected roadside; and
  - **22%** is residential waste that is brought to the landfill and waste diversion sites.

In 2023, the residential sector diverted about 47% of the waste from landfill while the non-residential sector diverted about 20%.

Between **30** and **50%** of the residential garbage disposed contains organics that could have been diverted through the Green Cart program.

The quantity of organics in the non-residential garbage stream varies based on the customer type, but studies have estimated between **15** and **40**% organics content.



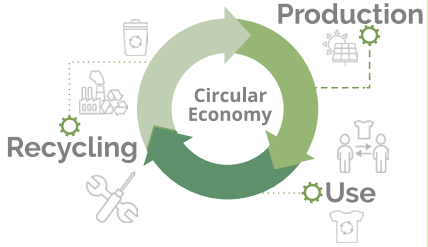
Legislative and Policy Developments

Circular Economy

The circular economy strives to move from the traditional linear economy (i.e., 'take-make-dispose' materials) to an economy that extracts the maximum value from resources and keeps materials in circulation for as long as possible.

Internationally, and in Canada, circular economy initiatives are growing and include a range of approaches to waste avoidance, reduction and reuse. Initiatives such as the Circular Cities and Regions have demonstrated the important role of municipalities. Organizations, such as the Ellen MacArthur Foundation and Global Plastics Pact, are exploring global actions toward a circular economy for various materials.

As another example, in March 2021, the European Union introduced 'Right to Repair' legislation that requires manufacturers of electrical goods such as fridges and televisions to make their products repairable for at least 10 years after first coming to market.



Canada's Proposed Recycled Content and Labelling Rules for Plastic:

To address consumer confusion resulting from improper use of labels for products marketed as recyclable or compostable, the Government of Canada is proposing to prohibit the use of mobius loop recycling arrows and other communication methods (e.g., stating "100% recyclable") on plastic products unless 80% of Canada's recycling facilities accept and have reliable end markets.

Ontario's Food and Organic Waste Policy Statement

The Framework aims to reduce food and organic waste, recover resources, support infrastructure and promote beneficial uses of recovered organic waste.

Targets are set for different sectors and the Province has indicated the potential for a ban on organic waste sent to landfill.

Ontario's Producer Responsibility Programs

Considerable change has taken place across the province to make producers operationally and financially responsible for products and packaging entering the market. Producer Responsibility regulations have been enacted and programs are in place for tires, batteries, household hazardous waste, electronics, lighting, and Blue Box materials.

What does the City need to plan for over the next 10 years?

The SWS' recommended actions have been developed to align with Federal and Provincial policy frameworks and regulations, while working towards the City of Greater Sudbury's Community Energy and Emissions Plan goals.

Blue Box Transition

On April 1, 2025, the City's responsibility to provide a Blue Box program will be transitioned as part of Ontario's implementation of the Individual Producer Responsibility (IPR) Program. Residents should expect to receive Blue Box recycling service in the same way before and after April 1, 2025 up until December 31, 2025.

By January 1, 2026 all communities across Ontario will have transitioned the Blue Box program and producers will be fully operationally and financially responsible for the Blue Box program in accordance with the regulation. Producers may make changes to how they deliver the services and what material is included in the program.

City of Greater Sudbury's Community Energy and Emissions Plan

In May 2019, Greater Sudbury City Council's climate emergency declaration committed the City to achieving net-zero emissions by 2050.

The major contribution from the City's waste management services to attain net zero will come from the diversion of organic waste. To reach the expected contribution, **the City will need to divert approximately 90% of its organic waste**.

Ontario's Food and Organic Waste Framework

Greater Sudbury is required to comply with the Framework and achieve the targets set out in the policy statement.

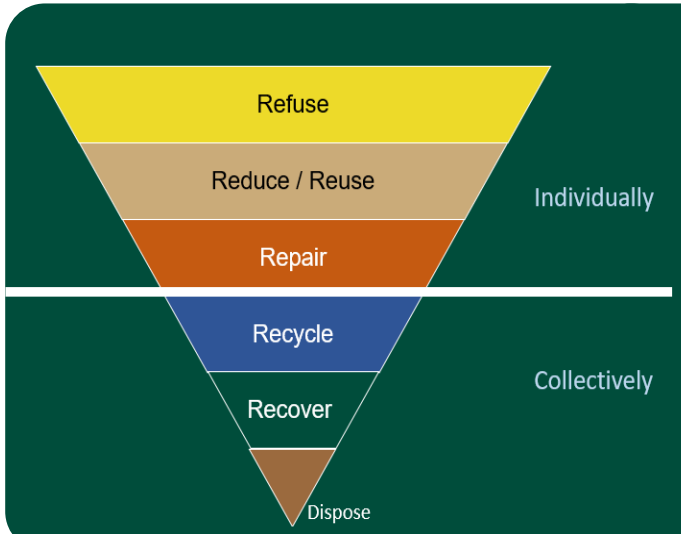
To meet the Provincial and CEEP targets, **the City needs to make an additional investment in Green Cart organics processing capacity** so that it can expand and/or support the collection program to all the sectors in the legislation.

Additional Producer Responsibility Programs

To advance waste diversion, and prolong the life of landfills across Ontario, municipalities are interested in identifying additional materials that could be managed through producer responsibility programs.

Mattresses and box springs, and construction and demolition materials provide such examples. New producer responsibility programs for these materials would support the development of recycling markets while reducing the financial burden of managing these wastes from municipalities and helping to prolong landfill life.

Foundational Elements – Waste Hierarchy and Guiding Principles

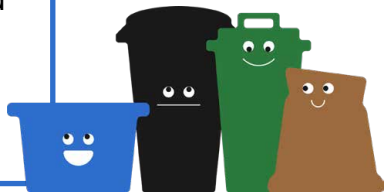


A City-specific Waste Hierarchy was created that describes the City's priorities for how materials are treated. The Hierarchy is split into two sections: elements above the white line indicate efforts that can be made by **individuals** and elements below the white line indicate efforts that can be done **collectively** with individuals and the City. The actions in this Strategy mainly focus on collective efforts.

1. **Refuse:** Make choices that prevent the generation of waste.
2. **Reduce/Reuse:** Lessen the generation of waste by reducing and reusing products or materials.
3. **Repair:** Make materials last longer, which could include fixing pieces, replacing parts, remanufacturing, refurbishing.
4. **Recycle**: Collect, sort, and sell materials to secondary markets to be incorporated into new products or packaging.
5. **Recover:** Collect, treat, and use materials from nature, such as using leaf and yard trimmings for regenerative purposes and recovering energy from landfill gas.
6. **Dispose**: Landfill or incinerate materials without opportunity for them to be repurposed.

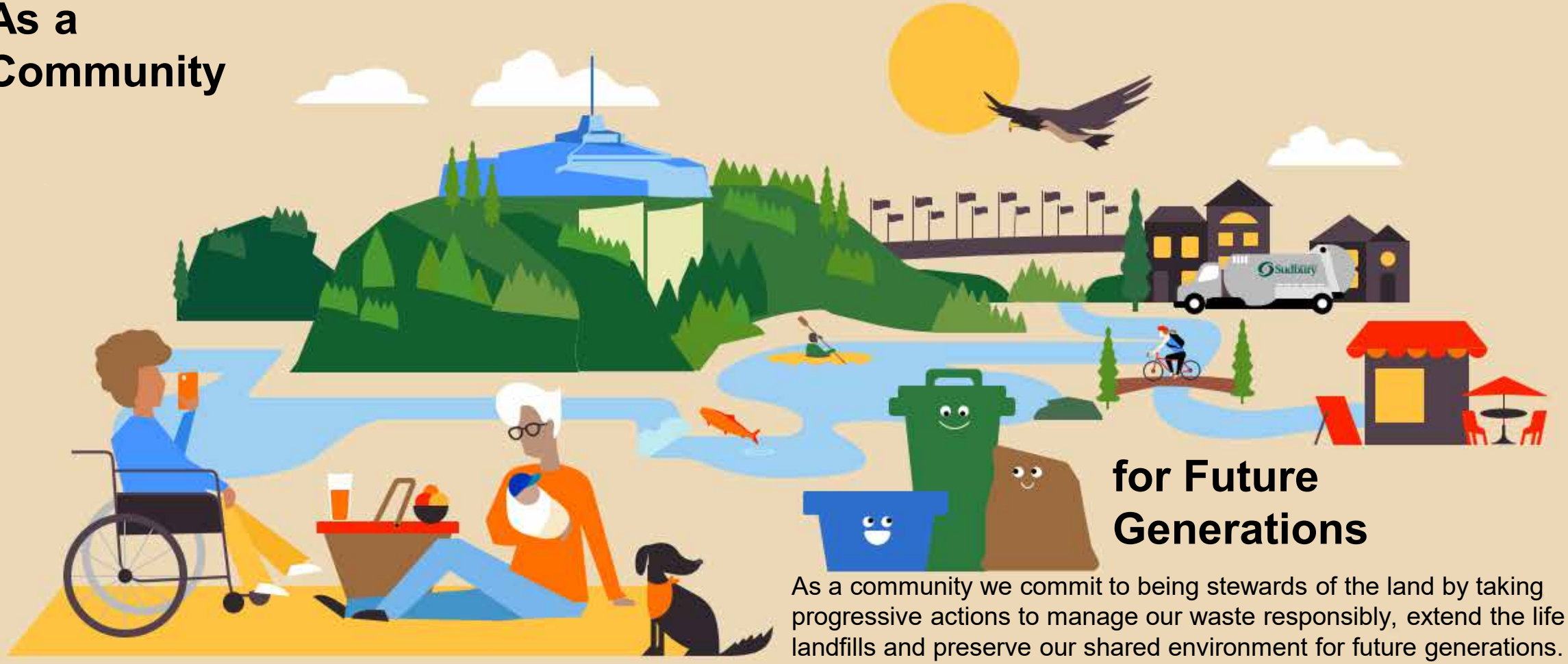
Guiding Principles were created to help with making decisions about which recommendations to put forward in the SWS. These are:

1. Apply the waste hierarchy.
2. Prolong the life of the City's landfills.
3. Improve and/or augment programs and agreements that benefit the City financially and evaluate their contribution.
4. Promote responsible behaviour through the provision of promotion and education, and by making diversion programs accessible, convenient and appropriate for a northern Ontario community and Greater Sudbury's cultural diversity.
5. Advance Individual Producer Responsibility (IPR) programs and make appropriate decisions that reflect the evolution of IPR programs.
6. Where viable markets or technologies are available, research the potential for diversion to balance environmental and financial priorities.



Sustainable Waste Strategy's Vision

As a Community



for Future Generations

As a community we commit to being stewards of the land by taking progressive actions to manage our waste responsibly, extend the life of our landfills and preserve our shared environment for future generations.

Summary of Recommendations

The SWS recommends 18 actions which are aligned with the waste hierarchy and are anticipated to have the following outcomes:

Reduce/ Reuse/ Repair

1 recommended action involves collaborating to create local circular economy opportunities and markets.

- ✓ Minimize the total quantity of waste the City handles.
- ✓ Researches the viability of local opportunities for reuse and repair.
- ✓ Move towards achieving the City's climate change goals by reducing and reusing.

Recycle

9 recommended actions work towards increased diversion for both residential and non-residential customers.

- ✓ Reduce the quantity of garbage disposed in the landfill.
- ✓ Delay the need for new disposal capacity.
- ✓ Increase customer service satisfaction.
- ✓ Move towards achieving the City's climate change goals.

Recover

4 recommended actions work towards improving and enhancing both household organics and leaf and yard trimming programs.

- ✓ Reduce food waste in landfills.
- ✓ Delay the need for new disposal capacity.
- ✓ Create compost.
- ✓ Move towards achieving the City's climate change goals by increasing diversion and reducing emissions.

Dispose

4 recommended actions provide opportunities to improve landfill equipment and operations and enhance public space waste management.

- ✓ Increase efficiencies.
- ✓ Reduce litter and illegal dumping of waste.
- ✓ Conserve landfill space.
- ✓ Increase customer service satisfaction.
- ✓ Move towards achieving the City's climate change goals by reducing emissions.

What are the recommendations that could impact me at home and at work?

Ten of the recommended actions are community-based actions that make changes to how waste is managed in the home, public spaces, schools, businesses, organizations and industries. The remainder of the options relate to changes in the City's operating facilities.

Create local circular economy opportunities

Start roadside collection of batteries and textiles

Improve existing waste diversion programs at municipal facilities

Implement a clear garbage bag program

Pilot separate dog waste collection

Review the leaf and yard trimming collection program

Plan for how waste will be collected in the future

Expand the Green Cart program to more apartment and condo buildings and businesses

Create toolkits for apartments, condos, businesses and institutions

When will the 18 recommended actions be implemented?

Planning, implementation and monitoring of the 18 recommended SWS actions will take place over the next ten years.

In 2028, the City's collection contract will expire. Many actions are being taken before then to be prepared for the next collection contract which will likely cover a 10-year period.

There is a potential to expand the Green Cart program earlier to apartment buildings, businesses, industries, etc. if the City is able to find a new approach to processing Green Cart organics earlier.

A SWS review and update is recommended in five years (2030).

Symbol	Activity
P	Planning
I	Implementation
P&I	Planning & Implementation
M	Monitor and Maintain

Implementation Timeline of SWS Actions	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Reduce											
Create local circular economy opportunities		P	I	M							
Recycle											
Recovery of waste management costs	P&I	M			I	M					
Clear garbage bag program	P&I	M									
Enhance roadside collection		P	I	M							
Bulky waste collection program review	P	I	M								
Preferred future collection system	P	I	M								
Enhance existing diversion program at municipal facilities		P&I	M								
Conduct waste composition studies	P&I	M									
Enhance customer service delivery through technology			P	I	M						
Create diversion tool kits for apartments, condos and the non-residential sector		P&I	M								
Recover											
Review leaf and yard trimming collection program	P	I	M								
Organic waste processing and funding	P		I	M							
Increase organics collection from non-residential sector				P		I	M				
Increase organics collection from apartment buildings				P		I	M				
Dispose											
Pilot separate dog waste collection				P	I	M					
Litter and illegal dumping strategy			P&I	M							
Landfill operations enhancements:											
Compaction equipment	P	I	M								
Scale software		P	I	M							
Traffic flow			P&I	I	M						
Pilot biosystem at landfill to reduce GHG emissions				P		I	M				

What are the potential impacts from the recommendations?

The SWS actions are estimated to cost $2 million over the 10-year planning period.

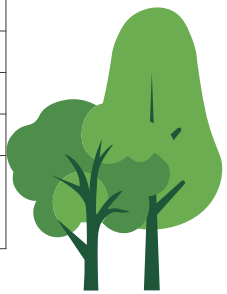
The City of Greater Sudbury has implemented proven practices to optimize and prolong the lifespan of its current landfills, and to make progress towards climate change goals.

Costs for each option were estimated and ranked as low, medium or high. The SWS recommends continuing to bring in low-cost policy changes and best practices that modestly increase the waste diversion rate, support progress to meet CEEP goals and enable the City to continue to use its current landfill assets to the extent possible.

The potential impacts to waste diversion and GHG emission reductions were estimated and ranked as low, medium and high. The clear garbage bag program (for residential and non-residential customers) and the implementation and expansion of the Green Cart program (to apartment and condominium buildings and to the non-residential sector) are expected to achieve the highest impacts. The recommended actions impact different customer types including low-density residential (LDR), high-density residential buildings like apartments and condos (HDR), non-residential (NR) and/or municipal facilities (MF).

The City of Greater Sudbury already provides waste diversion programs like Green Cart and Blue Box which create the biggest impact to metrics like reducing GHG emissions and the amount of waste disposed in landfills. New programs targeting specific waste streams (e.g., batteries, clothing) or enhancements to existing programs will create incremental improvements to those already achieved by the City.

Potential Impact	Cost Range	Diversion Impact	GHG Impact (as landfill emissions in CO_2e)
Low	$50,000 or less	1% or less	Little to no reductions
Medium	$50,000 to $300,000	2-4%	Some reductions
High	More than $300,000	More than 4%	Large reductions
Not applicable	Little to no impact or difficult to measure		
TBD	These recommendations are studies and pilot projects. The potential impacts will be determined following the completion of the studies and pilot projects.		



What are the potential impacts from the recommendations?

SWS Actions	Targeted Sector	Cost Range	Diversion Impact	GHG Reduction Impact
Reduce				
Create local circular economy opportunities	LDR, HDR, NR	Low	Low	Low
Recycle				
Recovery of waste management costs	LDR, HDR, NR	Low	TBD	TBD
Clear garbage bag program	**LDR, HDR, NR**	**Medium**	**High**	**High**
Enhance roadside collection	LDR, HDR	Medium	Low	Low
Bulky waste collection program review	LDR, HDR	Low	TBD	TBD
Preferred future collection system	LDR, HDR, NR	Medium	TBD	TBD
Enhance existing diversion program at municipal facilities	MF	High	Low	Low
Conduct waste composition studies	LDR, HDR, NR, MF	Low	Not applicable	Not applicable
Enhance customer service delivery through technology	LDR, HDR, NR	Medium	Low	Low
Create diversion tool kits for apartments, condos and the non-residential sector	HDR, NR	Low	Low	Low
Recover				
Review leaf and yard trimming collection program	LDR	Low	TBD	TBD
Organic waste processing and funding	LDR, HDR, NR, MF	Medium	Not applicable	Not applicable
Increase organics collection from non-residential sector	**NR**	**Low**	**Medium**	**Medium**
Increase organics collection from apartment buildings	**HDR**	**High**	**Medium**	**Medium**
Dispose				
Pilot separate dog waste collection	LDR, HDR	Medium	Not applicable	Low
Litter and illegal dumping strategy	LDR, HDR, NR	Medium	Not applicable	Low
Landfill operations enhancements	LDR, HDR, NR, MF	Medium	Not applicable	TBD
Pilot biosystem at landfill to reduce greenhouse gas emissions	LDR, HDR, NR, MF	Medium	Not applicable	TBD

What is the impact of the actions?

By implementing the SWS actions:

- Each individual resident is estimated to reduce the amount of garbage they create by **16%.**
- Collectively, the total amount of residential and non-residential waste landfilled is estimated to be reduced by **22%.**

By increasing participation in the Green Cart program (through the SWS actions) the City can support the CEEP goals and reduce the quantity of organics landfilled.

This is estimated to reduce greenhouse gas emissions at the landfill by 12%.

Many of the options are studies and pilot projects (noted below) that upon completion, will provide better information to the City to advance decision-making.

It is anticipated that **additional benefits will be achieved** through the implementation of the study and pilot recommended actions.

- Recovery of waste management costs
- Bulky collection program service review
- Preferred future collection system
- Conduct waste quantity and composition studies
- Review leaf and yard trimming collection program
- Organic waste processing and funding
- Pilot separate dog waste collection
- Litter and illegal dumping strategy
- Pilot biosystem at the landfill to reduce greenhouse gas emissions

The Need for the SWS Actions

There is limited disposal capacity in Ontario.

In 2023, the Office of the Auditor General of Ontario reported that there is approximately **10 to 13** years of landfill disposal capacity in Ontario, assuming current levels of waste generation, diversion and waste export to the USA.

What about other technological solutions?

Other municipalities have used technologies like energy from waste (e.g., incineration) to reduce the volume of waste landfilled and/or using anaerobic digestion to manage more materials in the Green Cart program (e.g., pet waste, litter, diapers and sanitary products). While effective, these technologies have high costs.

For example, the City of Ottawa recently estimated the cost of a new Energy from Waste facility at $450 to $500 million and the cost for a new anaerobic digestion facility at $140 million.

Delaying the need for a new landfill(s) is a cost-effective approach and was top of mind in developing the SWS. If the landfills capacity is reached, establishing alternative disposal facilities will increase costs significantly. For example:

- A replacement landfill similar to the Sudbury landfill is estimated to cost **$100 million.**
- A replacement landfill similar to Hanmer or Azilda is estimated to cost **$50 million** each.

Conclusion

1

The City is currently managing its waste at its three landfills and has achieved a relatively consistent diversion rate over the last 10 years. Assuming the City continues its flat line trajectory, landfill capacity will decrease steadily. **Extending the life of the landfills delays the need for new disposal capacity.**

Due to the planning time and capital investments required to secure alternative disposal options, the City will need to start the process long before its disposal capacity is exhausted. The planning and approval process can take up to 10 years.

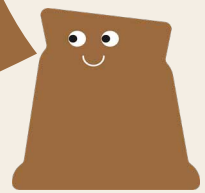
2

If there is no action or a delay in taking the recommended actions, the City will need to start planning for the implementation and funding of new disposal capacity at the expiry of this plan (2035).

The opportunity to take action for the future is now.

3

The SWS' approach is grounded on **proven** waste management practices that are currently available, **aligned** with Greater Sudbury's existing waste management system and are within the City's jurisdictional control.



4

Some of the recommended actions include conducting studies that, once complete, will give better information to the City to advance decision-making.

The City will monitor new technologies and approaches over the next 10 years and consider additional programs as they develop.