

City of Hamilton Solid Waste Management Master Plan 2020 Update

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JANUARY 6 TO FEBRUARY 7, 2020

Hamilton

Papers Blue Cart Recycling

What Goes In the Papers Blue Cart

- Newspapers
- Magazines
- Books
- Cardboard
- Office Paper
- Phone Books
- Directories
- Brochures
- Leaflets
- Envelopes
- Business Cards
- Signs
- Labels
- Stickers
- Posters
- Photocopies
- Printed Documents

Don't Waste Items in the Papers Blue Cart

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Executive Summary

Since September 2019, Hamilton staff have worked to develop the 2020 update to Hamilton's Solid Waste Management Master Plan (SWMMP). This update includes 11 action items that staff will carry out over the next five years (2021 to 2025) and have been selected based on public opinion, their use in other municipalities and input from staff. The planning period for this update ends at 2025 to coincide with the currently planned date for the blue box program to be fully transitioned to the responsibility of producers. This transition will have a significant impact on the waste management system in Hamilton, and Ontario as a whole, and will most likely require the City to review its SWMMP at that time.

The action items included in this update have been selected to best position the City to adapt to the transition of the blue box program and to support the guiding principles of Hamilton's current SWMMP.

Current SWMMP and Program Performance

Hamilton’s first Solid Waste Management Master Plan (SWMMP) was approved by council in 2001 and was created to establish a long-term strategy for waste in the City. This first iteration of Hamilton’s SWMMP set goals for the following 25 years and included setting a waste diversion target of 65% by 2008 and two guiding principles for the SWMMP:

- The City of Hamilton must maintain responsibility for the residual wastes generated within its boundaries. Inter-regional diversion facilities will be considered.
- The Glanbrook landfill is a valuable resource, and the City of Hamilton must optimize the use of its disposal capacity to ensure that there is a disposal site for Hamilton’s residual materials that cannot be otherwise diverted

The 2001 SWMMP was created to establish a strategy for waste in Hamilton for the following 25 years.

Starting in 2010, City staff began the process of updating the SWMMP and this update was approved by Council in 2012. This update reaffirmed the 65% waste diversion target from 2001 but revised the target date of meeting this goal to 2021. At that time, a third guiding principle was added:

- The City of Hamilton must lead and encourage the changes necessary to adopt the principle of Waste Minimization

Both the 2001 and 2012 versions of the SWMMP included multiple recommendations to assist Hamilton in reaching its waste diversion target. Some of the 2012 recommendations were:

- Undertake an operational review and needs analysis of transfer stations and community recycling centres
- Continue to use the Glanbrook landfill for disposal, and consider alternative disposal capacity in the next SWMMP review
- Undertake a feasibility study of expanding capacity at the Central Composting Facility (CCF)

Although many SWMMP recommendations have been fulfilled, the Council-endorsed waste diversion target of 65% has yet to be realized with the highest annual diversion rate to date being 44% which was achieved in 2013.

2020 SWMMP Update Process

Beginning in 2019, staff began the process to update the SWMMP. The goal of this process was to create an action plan for five years (2021 to 2025) that struck a balance between what the public thought were priorities, what has been successful in other municipalities and what staff saw as feasible and practical.

To inform staff in the development of the 2020 SWMMP, a consultant was hired to lead three data-gathering activities. These data gathering activities included public consultation (which

included focus groups and a survey), reviewing what programs other municipalities have successfully implemented and the direction of their SWMMs, and a review of technological trends throughout the waste industry. For each one of these activities, a detailed technical report was provided to staff by the consultant. The next step in the process was presenting to staff the items that received public support, saw success in other municipalities and was viewed as promising technologies so they could be evaluated for inclusion in the 2020 SWMM update. Those items that were deemed as valid options through the staff evaluation were included as action items in the 2020 SWMM update.

Public Consultation

In updating the SWMM it was vital to have feedback from Hamilton residents on what they liked and disliked about the current program and how they thought it could be improved. To accomplish this, two forms of public consultation were carried out, an online survey and focus groups.

The online survey was open from January 6 to February 7, 2020 and was advertised through multiple mediums to the public. The results were 3,788 completed surveys and another 1,776 partially completed surveys for a total of 5,564. Out of the total number of respondents there were 3,987 confirmed residents in single-family homes with 314 confirmed residents in apartment or condominiums. Aside from residents, the survey also solicited input from business-owners in Hamilton. The average survey completion time was 16 minutes and included a total of 88 questions that required residents to select provided options and provided the option for respondents to write-in answers. The survey did include skip logic as some question were not applicable to all residents. The survey covered the following subject areas:

- Demographics
- Current waste management system
- Multi-residential waste practices
- Single-family waste practices
- Local business waste practices
- What changes respondents would like to see in the waste system (waste collection methods, processing technologies, etc.)
- How respondents receive information and is it effective

There were three focus group sessions carried out to solicit detailed feedback from three different stakeholder groups:

- Single-family dwelling residents – 7 participants
- Multi-residential dwelling residents and property managers – 6 participants
- Local business representatives and owners – 3 participants

The focus groups covered much of the same information as the survey.

Municipal Review

The 2020 SWMMP update consisted of reviewing what actions other municipalities have included in their SWMMPs as well as reviewing what they’ve done to engage and educate their residents on waste programs, what industry best practices they’ve implemented, established future policies to support waste diversion, existing waste removal programs and services and what guiding principles the municipality has established. The reviewed Ontario municipalities were:

- Toronto
- Guelph
- Niagara Region
- Oxford County
- Ottawa
- Durham Region
- Peel Region
- London
- York Region
- Waterloo Region
- Sudbury
- Halton Region
- Dufferin County

In addition to Ontario municipalities, the cities of Calgary, Edmonton, Halifax, Vancouver and Victoria were also reviewed. This review provided valuable insight into how other municipalities achieved waste diversion targets that surpassed Hamilton’s.

Technology Review

The goal of the technology review was to identify technological options for staff to consider. The drawback of the information that was provided is that a full analysis on how the investigated technologies could be applied to Hamilton was not carried out (an example of a full analysis would be a feasibility study on the technology). There were five broad technological areas that were investigated:

- Collection Technologies
- Processing Technologies
- Conversion Technologies
- Residual Waste Management Technologies (other than landfill)
- Residual Waste Management Technologies (at landfill)

19 technologies were identified in the review that Hamilton does not currently have in place and included cart collection from single-family dwellings, mixed-waste processing, anaerobic digestion, energy from waste and landfill mining.

Staff Evaluation

Upon completion of the data gathering activities, staff were presented with a short list of potential action items. To be placed on the short list, the action items had to have received public support, all of the program and policy options had to have been proven to be successful in other municipalities and all of the technologies were identified as either emerging or established. Staff then evaluated each item based on how feasible and practical they were for the City and their value in maintaining the SWMMP guiding principles. Determining how feasible and practical action items were was dependent on two main elements: external factors

on the proposed action item; and if the item was included in work currently underway by staff. Any items that would be adversely affected by external factors outside of the City’s control or are currently being worked on by staff were not included as new action items under this update. The final piece of the staff evaluation was creating a schedule of when the selected action items could be implemented.

Factors Impacting Staff Evaluation

Transition of the Blue Box Program to Producers

Through the Waste Free Ontario Act, the responsibility of the blue box program (both collections and processing) will be transitioned away from municipalities and to the producers of blue box material. This transition will have significant impacts on Hamilton’s waste system which includes collection of recyclables from single-family homes, multi-residential buildings and businesses, and the sorting of recyclables at the City-owned Material Recycling Facility (MRF). The planned timeline for transition is from January 1, 2023 to December 31, 2025 and Hamilton City Council previously endorsed a preferred transition date between April 1, 2023 and December 31, 2023. Because of this pending transition, any potential action items that required changes to Hamilton’s blue box program were eliminated by staff as potential action items for this update. An example of this would include adding new materials to the City’s blue box program which would require capital investments in the MRF.

Future of the Central Composting Facility

All of Hamilton’s green bin material is currently processed at the City’s Central Composting Facility (CCF). This facility is owned by the City but the operation of it is contracted out. In preparing the RFP for the new operating contract, Council approved a motion in June 2020 to allow as an option for the City’s green bin material to be processed off-site by a third-party processor and to not use the CCF. Because of this potential processing change, any potential action items that required changes to Hamilton’s green bin program were eliminated by staff as potential action items for this update. Examples of this would include adding materials to the green bin program or changing how the green bin material will be processed (i.e. anaerobic digestion).

Current Action Items

The action items listed below are projects currently underway by staff and as such, have not been included as new action items for this update.

New Development Design Requirements

To guide how new developments must be designed to accommodate waste collection and provide access for residents to waste diversion programs, the City has a document entitled “Solid Waste Collection Design Guidelines for Developments”. This document is currently being revised by staff to better align with the intensification of new development in Hamilton.

Multi-Residential Data Gathering

To address data gaps and gain a better understanding of the behaviours of residents in multi-residential dwellings, staff are moving forward with site inspections and waste audits on multi-residential buildings. The data collected from the initial waste audits will be used as baseline information before implementing any new programs in the audited buildings. Data from audits carried out after the implementation of new programs will then be compared against the baseline data to conclude if a program is successful and should be expanded to all multi-residential buildings in Hamilton. Information gained from site inspections will be used by staff to populate a database on multi-residential buildings to ensure staff has updated information.

Strategy to Reduce Single Use Plastics

As per Council direction, staff is currently drafting a City strategy to reduce single-use plastics. This strategy will be provided to Council for approval prior to its initiation and focusses on restricting or banning the use and distribution of single-use plastics within City owned or City managed facilities while providing guidance to residents and businesses. This strategy will be developed to be consistent with the federal ban on single-use plastics that was announced on October 7, 2020 to come into effect by the end of 2021.

Fourth Transfer Station and Community Recycling Centre

The 2012 update to the SWMMP included a recommendation for staff to carry out an operational review and needs analysis on the City's existing three transfer stations/community recycling centres (TS/CRCs). This study determined that a fourth TS/CRC is required as the Mountain TS/CRC would exceed its capacity shortly. Staff began the process of adding a fourth TS/CRC and this work will continue in the following years.

Optimizing Capacity at CCF

If the new operating contract for the CCF includes processing material on-site, staff will begin work to implement the required changes to the CCF to allow continued and improved operations. These changes will include seeking approval for the required investments in capital upgrades, seek the regulatory approvals for the site and oversee the installation of new equipment that will allow for expanded site operating and processing capacities to keep pace with City growth projections. Depending on the timing of some of the initial steps, it is anticipated that if required, the CCF could have approval to operate with an expanded capacity by no later than 2025.

Glanbrook Landfill Development

Staff have been completing development studies required to support the eventual, long-term Ministry of the Environment, Conservation and Parks approved expansion into Stage 4 of the Glanbrook Landfill. Preliminary Leaf and Yard Waste compost pad improvement work required to allow the current compost pad to meet the additional tonnage being generated and delaying a full relocation of the operation for at least ten years, is planned to be completed in 2020.

Route Optimization

Staff have commenced with a review of current collection vehicle routes to identify potential gains in efficiency. Currently, software is being pilot tested for use with bulk collection services and a consultant is studying the City’s collection routes. Changes to bulk collection routes are anticipated to be made in 2021. Should results of the analysis show significant savings to the City in the form of fuel, labour, capital and / or operating expenses, staff will report back to Council on the potential benefits of optimizing routes for other waste streams.

Blue Box Transition

The City has requested a transition date of April 1, 2023, although the actual approved date could be any time between January 1, 2023 and December 31, 2025. Discussions between the City and the Province will continue on the final date to try and get the best date possible for City taxpayers.

2021-2025 SWMMP Action Items

As mentioned above, this update includes 11 action items that staff will carry out over the next five years (2021 to 2025) and have been selected based on public opinion, their use in other municipalities and input from staff. These 11 action items are as follows:

Waste Performance Metrics and Related Policies

What does this action item include?

With pending legislation to transition the responsibility of the Blue Box Program to producers, over the coming years Hamilton will need to establish new measurements to track the status and performance of the waste management program. The City will also need to establish new targets to define what “success” is. Staff will need to review what the removal of the blue box means to the system and review potential metrics such as measuring the carbon footprint of waste. This will most likely include a detailed review of what metrics other municipalities have implemented and how these metrics would be applicable to Hamilton. Staff will also review potential high-level policies that will support the guiding principles and any new waste metrics that are established. A potential policy could be to ban certain items from entering the garbage stream and eventually being disposed at the Glanbrook Landfill. If an item is banned and this is communicated effectively to the public, there is the potential that this could result in positive program performance. New waste metrics would most likely have less of an impact on program performance depending on how these are communicated to residents but will provide staff and Council with greater understanding of the systems performance.

Implementation Schedule

New metrics and targets should be in place prior to the City’s requested transition date of April 1, 2023. This will require staff studies to take place throughout 2021 and early 2022 with new metrics and targets provided to Council for approval by the end of 2022. Bans on materials

should happen by the end of 2025 and potentially earlier if combined with other waste by-law updates.

Supporting Community Reduce and Reuse Programs

What does this action item include?

To support efforts to reduce and reuse waste, staff are proposing to create and enact a policy (or policies) that will provide greater support for these programs led by community groups and non-profit organizations. These policies will clearly define what types of programs can be supported and how, which could include the promotion of programs through City communications. Policy development would include input from multiple divisions within the City to reduce the risk of future policy changes unintentionally negatively impacting other groups. Clearly defining the role of staff in supporting these programs will be important to provide consistent support.

Implementation Schedule

Policy should be in place by the end of 2021.

Update to Single-Family Waste Audit Methodology

What does this action item include?

Waste audits on single-family homes is currently carried out in Hamilton as coordinated by Stewardship Ontario. These waste audits are used to generate data specifically on the blue box program and materials included in the blue box program found in the garbage stream. This action item proposes to update the waste audit methodology for single-family homes so that the audits are more in line with the goals of the SWMMP and to provide more usable and reliable data. This will involve carrying out a study to review the audit methodology and determine appropriate audit sample size, timing of audits, sample areas etc. The goal of the waste audits will also be more clearly defined to include how the data will be used (for example to target resident behaviour) and align with any new waste metrics that are developed.

Implementation Schedule

The development of new single-family waste auditing methodology should be complete by the end of 2023.

Existing Program Improvements

What does this action item include?

This action item will focus on the review of three active Hamilton programs to determine how to most effectively improve them: business recognition, waste diversion at special events and school education on waste programs. All three of these programs will be reviewed to determine how to improve each of them.

Revising the business recognition program may require staff to revisit how commercial properties are serviced by the City, what would define a top performing business and how businesses could be recognized. Staff may also look at how to increase the popularity of the program so that the program has more recognition with restaurant patrons.

For the special event program, staff will review the Special Events Advisory Team (SEAT) process and policies to determine improvements such as expanding the program to smaller events and how to hold event organizers more accountable when required waste management practices are not met.

The current school education program centers around presentations being made to school groups mainly in the grade 5 age range. Staff will investigate more online education tools to be available to a wider range of students and how to improve the reach of this program.

Some of the work involved in improving these programs will be carried out in conjunction with the implementation of the Hamilton Strategy to Reduce Single-Use Plastics which includes action items under each of these programs.

Implementation Schedule

Focus on improving these programs will continue throughout this planning period to the end of 2025.

Trash Tag Program

What does this action item include?

Staff will review the current trash tag program to identify any opportunities to better align this program with the SWMMP guiding principles. The first piece will include data gathering (that most likely will occur at the same time as single-family audits) and then analyzing what program changes make the most sense for consideration. These changes could include the sale of bag tags, decreasing the number of tags provided to residents or having different a different number of available trash tags for different types of properties.

Implementation Schedule

Data gathering is planned to occur between 2022 and 2023 with implementation as early as 2024.

Construction and Demolition Waste

What does this action item include?

This action item will focus on completing a feasibility study to review expanding the type and quantity of C&D materials that are managed by the City and how this would support the SWMMP guiding principles. The feasibility study will specifically look at comparing the costs of increasing the scope of a City program for C&D materials against diversion rates and material disposed at Glanbrook Landfill. The feasibility study will also review how the City could

influence the management of C&D material without actually increasing the City's role including through education and potential partnerships with local commercial operations.

Implementation Schedule

The earliest a feasibility study will be initiated is the end of 2022.

Options for MRF After Transition and CCF if Processing is Done Off-Site

What does this action item include?

Due to the transition of the blue box program and the potential for Hamilton's organic waste to be processed at a third-party location, there is uncertainty over the use of the property that currently houses both the MRF and CCF. The goal of this action item will be to determine the most effective use of this property if one, or both of these facilities no longer function in their current capacity. This will involve staff commissioning studies on design options to maximize the space of the facility and what options exist to support the overall waste management system within the City of Hamilton. Options could range from leasing the existing MRF property to private operators for use as a MRF or as a transfer station, or transitioning the property to a City-operated transfer station and/or community recycling centre. Staff will also look at the feasibility of using the property for a more innovative waste processing option. A recommended approach could then be provided to Council for approval and staff would work towards implementing the approved approach.

Implementation Schedule

Studies are planned to commence in 2021 with the goal of implementation to begin once Hamilton transitions its blue box program. Hamilton has requested a transition date between April 1 and December 31, 2023 however this transition date is not guaranteed at this time.

Inter-Municipal Policies on Inter-Municipal Partnerships

What does this action item include?

To allow staff to investigate and potentially pursue partnerships with other municipalities that support the SWMMP's guiding principles, a policy (or policies) must be created that sets the parameters for such partnerships. Partnerships could result in financial and environmental benefits to Hamilton. The policy should clarify the degree to which any exploratory inter-municipal working groups can progress before obtaining approval from the Waste Management Advisory Committee and / or Public Works Committee to proceed further. Creation of a policy document will provide guidance to staff in determining what they can investigate and improve response times to outreach from other municipalities.

Implementation Schedule

Creation of a new policy for approval is planned for the end of 2021.

Preparation for Next Waste Collection Contract

What does this action item include?

A new Council approved waste collection contract will be in place in 2021 and will remain in effect until 2028. Although 2028 is after the planning period of this SWMMP update, to include any major changes to the way waste is collected, investigation of new collection methods and having approvals for new collection methods must happen with enough lead time to incorporate these changes in the next waste collection contract.

The most apparent collection option is the use of carts for waste collection from single-family homes. Before implementing such a drastic change, greater investigation into resident opinion of this technology must be carried out as well as studies on the different options for implementation, associated costs and savings for both City forces and the next contract and developing a roll-out plan. Testing of carts in different neighbourhoods will also need to be included.

Aside from looking into new collection methods, staff will also complete a study on the potential benefits of alterations to the current collections schedule. This could include a realignment of collection days or number of collection days.

Implementation Schedule

Preliminary investigation activities must be complete by the end of 2024 with the implementation of any testing beginning in 2025 for a one-year period. This will allow for approvals of any proposed changes and RFP preparation to occur in 2026 and 2027.

Increased Curbside Enforcement

What does this action item include?

This action item will look at the feasibility of different enforcement options to reject garbage set out at the curb based on what is included in the container. To be effective, this would need to be supported by updated waste policies that include banning certain materials in the garbage stream from single-family homes (such as organic waste). An example of an effective method of enforcing the contents of the garbage stream at the curb is to require material to be set out in clear bags. Staff will also investigate the standardization of curbside monitoring between City and contracted collection staff. This could be done through auditing as well as education and training. A shift to using clear bags may impact the 2028 waste collection contract and as such, this work should be considered in combination with the action item for preparation of that contract.

Implementation Schedule

Standardization of enforcement and investigation of different enforcement methods, such as the required use of clear bags, is planned to be complete by the end of 2022.

Green Procurement

What does this action item include?

Staff will contribute to the development of internal policies that support the recognition of what qualifies as a "green" product and recommend preference be provided to those products. This may be coupled with the implementation of the single-use plastics strategy.

Staff can continue to develop modifications to the scoring of competitive bid proposals that recognize best practices from businesses and institutions meeting set environmental standards, including waste management.

Implementation Schedule

Completion is expected by the end of the 2025 planning period.