



BARRIE 1041 – FPR/IPR TRANSITIONAL SUPPORT PROJECT

SYNOPSIS

UPDATED: OCTOBER 2019

Introduction

Background and context

In November 2016, the Province of Ontario proclaimed Bill 151 – the *Waste-Free Ontario Act (WFOA)*. The WFOA will result in a new waste management legislative framework for the Province where the producers pay the full cost for the recycling of printed paper packaging (**PPP**). Prior to Bill 151, producers (or analogously stewards) paid up to half the cost for recycling of PPP. This left municipalities with a financial burden of roughly \$100 million.

The proclamation of the WFOA also resulted in the repealing of the *Waste Diversion Act (WDA)* and the enactment of the *Resource Recovery and Circular Economy Act (RRCEA)* and the *Waste Diversion Transition Act (WDTA)*. The *RRCEA* moves Ontario to full producer responsibility for designated items including PPP, Municipal Hazardous and Special Waste (**MHSW**), Waste Electronic and Electronic Equipment (**WEEE**) and Tires. The Resource Productivity and Recovery Authority (**RPRA**) is responsible for the oversight of these four waste diversion programs. In a nutshell, the *RRCEA* moves financial and physical responsibility of managing obligated materials from municipalities to individual producers; following the polluter-pays principle. The *WDTA* allows for the existing programs – Blue Box, WEEE, Tires and MHSW to continue to operate under the existing approved program plans until they are wound up and designated under the *RRCEA*.

The Association of Municipalities of Ontario (**AMO**) has communicated to the Province that the transition of Ontario's municipally managed diversion programs to full producer responsibility should be rapid. As well it should include a framework that allows an open and competitive compliance market in which producers and municipalities have choices. AMO has requested the transition process begin immediately with full transition being completed by January 2019¹.

Ontario Blue Box Programs are currently operated by municipalities and co-funded by producers, these programs will be transitioned to Full Producer Responsibility (**FPR**). This places full responsibility and cost for the end of life management of PPP on producers, and is expected to alleviate the financial burden on municipalities for costs associated with these programs.

At the time that this study was initiated, the role of municipalities had not been defined within the WFOA or the strategy document released by the Ministry of the Environment, Conservation and Parks².

Stewardship Ontario (**SO**), the not for profit industry body that funds the operation of the Blue Box Programs³ developed a proposal to amend the existing Blue Box Program (**a-BBPP**), and move forward with FPR.

Purpose of study

The intent of this study is to provide the City and the Continuous Improvement Fund (**CIF**) an understanding of the a-BBPP as well as an alternative plan for transition to Individual Producer Responsibility (**IPR**) regulation. The implications of each are considered so that the City can make an informed decision going forward in regards to the delivery of its waste program.

Implicit under the a-BBPP there are several different service delivery models that the City could choose from. There is also potentially even more optionality and variation should the current BBPP be wound down and replaced by new IPR

¹ Municipal sector plays key role in blue box transition. Retrieved from <https://www.amo.on.ca/AMO-Content/Policy-Updates/2017/WasteDiversionTheBlueBoxTodayandTomorrow>

² Formerly the Ministry of Environment and Climate Change

³ They receive the fees from manufacturers and packagers whose material ends up being recycled

regulation. This study determines the feasibility of these options, both for FPR as depicted by the previously proposed a-BBPP and IPR, and their potential impacts upon implementation.

Using the data provided by the City as well as our internal resources the scenarios outlined later in the study are analyzed to determine the operational and financial impacts as they will influence the City’s decision for which scenario it should pursue.

There is still uncertainty about how FPR will be implemented. Despite the presence of several studies, modules and policy directives laying out options in regards to the implementation of FPR, many stakeholders still have little understanding about the details and specifics of how FPR will be implemented in Ontario. As a result, we have relied extensively on our team’s collective industry experience and understanding of how FPR has been implemented in other jurisdictions to enable our analysis of scenarios.

Approach

Table 4 provides an overview of the approach employed as part of this assessment.

Table 1 - Overview and approach

Phase	Activities
Phase 1 – Project Initiation	Review and summarize the draft a-BBPP in the context of the City’s waste management services highlighting any risks/gaps that may exist
	Identify the range of scenarios available to the City given what the WFOA is able to facilitate and the draft a-BBPP as laid out by SO
	Conduct a kick-off meeting (Meeting #1)
	Select and define scenarios (in addition to the status quo scenario)
	Develop a project plan outlining project timelines, interim deliverables, key dates and objectives
	Develop a draft reporting framework for the final report
Phase 2 – Data Collection	Identify early data requirements given the selected scenarios for further investigation
	Develop a data collection plan that summarizes our data requirements and collect all data from the City and other sources. Data may include but is not limited to the following: <ul style="list-style-type: none"> • Contract requirements; • Contract costs and payment structure; • Municipal administration and promotion and education costs; • Tonnage information; and • Other financial information
Phase 3 – Financial Model and Analysis	Develop a flowchart that illustrates current waste services in terms of material and financial flows

Phase	Activities
	Develop a financial model to simulate the status quo scenario until the end of existing contracts
	Assess the operational changes associated with each of the scenarios and update the status quo flowchart accordingly
	Adjust the status quo financial model for each of the scenarios and assess the financial and operational impact of each relative to the status quo
	Conduct Meeting #2 to review the financial and operational analysis
Phase 4 – Reporting	Develop a draft report based on the reporting framework established in Phase 1
	Prepare summary presentation focused on the results of the analysis
	Conduct Meeting #3 to present final results of the analysis
	Finalize report
	Transfer financial and operational model to the City

Data

The data used for this study was obtained from the City, internal and proprietary RSM Canada databases and studies and publicly available industry information and data. The table below summarizes the data sources used in this study.

Table 2 - Summary of Data Sources

Document	Data source	Description of data source	Data used
Datacall (2013 – 2017)	City of Barrie	Barrie is required to complete the RPRRA Datacall annually to report all costs incurred for providing recyclable collection and processing services. SO provides funding to the City as per the reported figures in the Datacall	Costs for: <ul style="list-style-type: none"> Contract collection (Waste Connections) Municipal collection Promotion and education Administration Public depot
Waste Connections Contract and Schedules	City of Barrie	All documentation pertaining to the agreement between the City and Waste Connections for collection, processing, and marketing services	<ul style="list-style-type: none"> Collection cost per tonne Information pertaining to contract revisions
Waste Audit	City of Barrie	Two waste audits conducted by Golder Associates - one for single family households and the other	<ul style="list-style-type: none"> Types of recyclable material generated Composition of recyclable

Document	Data source	Description of data source	Data used
		for multi residential households; a public spaces waste audit conducted by AET; and a recycling contamination study by AET.	materials per pickup <ul style="list-style-type: none"> Contamination level of public space bins
Historical Commodity Prices	RSM Canada / Reclay StewardEdge Inc		<ul style="list-style-type: none"> Commodity prices of recyclable materials for each month over the last five years
Projected Generation for Recyclable Materials	RSM Canada / Reclay StewardEdge Inc		<ul style="list-style-type: none"> Data on recyclable tonnage reported in Ontario
City of Barrie Census Data	Statistics Canada		<ul style="list-style-type: none"> Population growth rate
Costs and Demographics	City of Barrie	Contains single family and multi-residential households data and data on all waste tonnes collected by the City and the cost incurred	<ul style="list-style-type: none"> Number of single and multi-residential households Amount of waste collected and cost incurred
City of Barrie 2014-2018 Collection Contract Price Per Tonne	City of Barrie	Contains the dollar per unit collection cost from previous years and the Consumer Price Index (CPI) rate that was assumed	<ul style="list-style-type: none"> Assumed CPI

Limitations

RSM Canada relied upon the completeness, accuracy and fair presentation of all the information, data and representations obtained from various sources which were not audited or otherwise verified by RSM Canada. These sources include:

- Data provided from the City of Barrie;
- Internal databases and information developed by RSM Canada and Reclay Steward Edge Inc; and
- Other relevant publicly available studies from:
 - The CIF;
 - SO;
 - the AMO; and
 - the Ontario Waste Management Association (**OWMA**).

The findings in this report are conditional upon such completeness, accuracy and fair presentation of the Information, which has not been independently verified by RSM Canada.

RSM Canada reserves the right at its discretion to withdraw or make revisions to this report should we be made aware of facts existing at the date of the report that were not known to us when we prepared this report.

The findings are as of the date hereof and RSM Canada is under no obligation to advise any person of any change or matter brought to its attention after such date, which would affect the findings and RSM Canada reserves the right to change or withdraw this report.

This information has been prepared solely for the use and benefit of, and pursuant to a buyer relationship exclusively with the City and the CIF. RSM Canada disclaims any contractual or other responsibility to others based on its use and, accordingly, this information may not be relied upon by anyone other than the City.

Any use that a third party makes of this report or reliance thereon, or any decision made based on it, is the responsibility of such third party.

Note to reader

This report has been prepared by RSM Canada and Reclay StewardEdge Inc. based on data and information provided by the City and from other sources as referenced throughout. Our assessment is based on our professional interpretation of the information we obtained. In preparing this report, we have strived to be as transparent as possible in terms of the methodology employed and subsequent results, data sources used and any assumptions made to ensure users of the report can properly critique and assess this report's conclusions.

CURRENT STATE

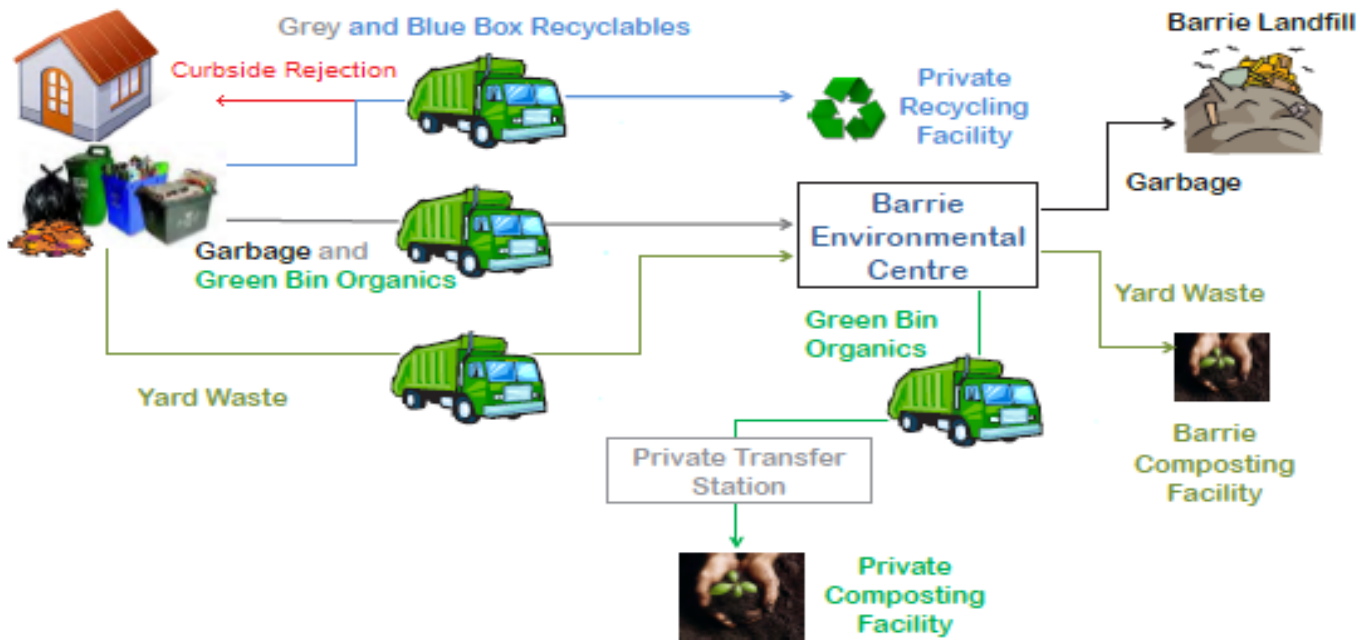
Introduction

The objective of the current state section of this report is to review the operations of the City's Waste Management Program and the financial costs for delivering these services. In particular, we review the existing Blue Box Program. Additionally, this section identifies the potential impacts to the City's current Blue Box Program as a result of the a-BBPP and transition to IPR.

Operational characteristics of the City's current waste programs

The City of Barrie is responsible for providing the collection of waste materials for single family households, multi residential households, commercial and municipal buildings, public spaces, and special events. The figure below depicts a high level operational flowchart illustrating the collection of waste for a number of these different waste streams for single families.^{4,5}

Figure 1 - City of Barrie's Waste Operations



⁴ Sustainable waste management strategy. City of Barrie

<https://www.barrie.ca/Living/GarbageAndRecycling/Documents/WasteMgmt%20StrategyOct302012.pdf>

⁵ Appendix One shows detailed operational flowcharts depicting the current state for each waste stream

The City has contracted out these services to Waste Connections. The current contract commenced in 2014 and expires April 30, 2022⁶. The collection of each of these waste streams occurs on varying schedules and frequencies as depicted in the table below and their destination varies depending on type of the waste, e.g., garbage is dropped off at the Barrie Landfill, Blue Box materials are taken to a private recycling facility.

Table 3 – Frequency of waste stream collection

Service	Frequency
Garbage Collection	Every Other Week
Recyclable Materials Collection Processing and Marketing	Weekly
Source Separated Organics Collection Processing and Marketing	Weekly
Yard Waste Collection	Variable
Collection and Disposal for a Non-Compacted Front End Garbage Container	As Required
Collection and Processing for a Non-Compacted Front End Container for Old Corrugated Cardboard	As Required

While the majority of waste material is picked up by Waste Connections, the City also receives materials directly to their landfill. At the public depot waste may be dropped off by residents and businesses and in some instances multi residential buildings will hire their own private collection services that deliver waste directly to the landfill.

The Blue Box Program the City currently operates is a dual-stream recycling program, differentiating between grey box materials which are paper-type products and blue box materials which include glass, plastic and metal containers⁷. The residents place these materials in the associated receptacle and as denoted above, these materials are collected by Waste Connections on a weekly basis in split trucks (60% grey box materials and 40% blue box materials). In some instances not all of the material put out for collection is acceptable Blue Box materials, as determined by the City. Where this occurs the “contaminated” material is rejected at the curbside (“curbside rejection”). The Waste Connections collector will leave a note or tag on the material identifying that it is not acceptable. The resident who has had material rejected may contact the City directly at this point with a complaint.

In order to combat contamination specifically for the Blue Box Program and also more broadly for all waste streams the City runs promotion and education (P&E) marketing campaigns to promote correct waste disposal and diversion to its residents.

⁶ There are options for two 1 year extensions, if exercised the contract would expire in April 30, 2024

⁷ Collectively Blue Box materials

Once the blue box and grey box materials are collected, they are transported to the Waste Connections materials recovery facility in Barrie, from here the grey box materials are sorted and the blue box materials are transferred to the Muskoka Containerized Services facility at Bracebridge for sorting and marketing. Recyclable materials are also dropped off at the public depot. The blue and grey box materials dropped off at the public depot, with the exception of old corrugated cardboard/containers (**OCC**) are then transferred by Waste Connections and processed at their facility similar to those collected at curbside. OCC is sold by the City on the spot market directly to third parties.

Potential Impact of WFOA on municipalities

There are numerous implications to the implementation of the WFOA. These impacts vary depending on which options are selected by a given municipality.

These options essentially fall into two categories, non-transition and transition. Non-transition is based around electing to maintain control and is as close to the status-quo as possible. The other – transition – provides optionality around how to transition into the new operating paradigm of FPR.

The timeframe of when the a-BBPP will be implemented is also an important factor in assessing the potential impacts of the a-BBPP. Based on the best available information at project commencement and including feedback from the CIF and the City, the anticipated implementation date for the a-BBPP is 2020⁸. The impacts have been considered in relation to this timeframe.

Below the potential impacts of these options are broadly described including how they may impact municipalities both operationally and/or financially.

Stewardship Ontario funding

Funding allocation

Funding from SO under the a-BBPP will directly affect all municipalities. Even under a non-transition path it is quite possible that the municipality will see a difference in funding from their current and historical allocation. Rather than the funding allocation being undertaken on the basis of the MFAM, as it currently is, the funding under the non-transition scenario will be a flat 50%. As some municipalities receive more than 50% (as Barrie does) they will see a reduction in funding under this scenario. For those municipalities that currently receive less than 50% this will constitute an increase. Under the transition scenarios it may result in either an increase to 100% contribution for eligible costs or a decrease to 0% if responsibility for collection is handed over to SO. Another factor effecting the funding or contribution will be what is still considered eligible costs.

Eligible costs

As noted above municipal costs make up a substantial portion of the Blue Box Program costs and these costs fall broadly under the following headings⁹: municipal collection, public depot, promotion and education, interest on municipal capital and administration. Which of these costs that may still be eligible is likely to change dependent on how the municipality transitions. For instance, currently the cost of administration is an eligible cost, however in a transition scenario whereby SO provides collection this cost may no longer be considered eligible.

Marketing revenue

⁸ This was to align with the presumed implementation of the a-BBPP using the best available information at the time, however this has since changed and the a-BBPP likely will not be implemented in its current form

⁹ Varies depending on how collection, processing and marketing is undertaken

Marketing revenue will be heavily impacted if a municipality chooses to transition. Whilst municipalities will have a first right of refusal to collection services they will not likely have rights to the processing and marketing of the eligible Blue Box materials. This means that all marketing revenue will accrue to SO and they will have the contractual rights to award the processing and marketing of the materials.

Service contracts

The change to FPR may result in a need to vary contracts with existing service providers. Depending on the option chosen the City may no longer have contractual rights to either the collection and/or the processing and marketing of Blue Box materials. If the transition occurs in 2020 those municipalities (including Barrie) that have existing service contracts for either the collection and/or processing and marketing of Blue Box materials will need to amend or terminate those contracts. The service providers are likely to seek the recovery of some portion of fixed costs and/or loss of profit through the relevant provisions in their contract.

Performance targets

Contamination is a significant issue in waste management and can result in high costs for managing the contaminated material. It is difficult to reduce contamination as it is up to residents to properly place waste in the appropriate bins and to ensure recyclable materials are free from food residue. If a municipality chooses to transition, it is likely they will be required to meet a certain contamination rate. The figure currently being discussed is 3% performance target. This figure is exceedingly low compared to existing benchmarks across Ontario municipalities. For instance, the estimated contamination rate in Barrie is 11.16%¹⁰. Due to the difficulty in reducing contamination rates, the performance target of 3% may not be possible to achieve. If the municipalities are unable to achieve this benchmark rate they may receive financial penalties and/or have to put in place expense measures to remediate the contamination.

Materials collected

As part of the a-BBPP, there is a mandated list of Blue Box materials that will be accepted. If a municipality chooses to transition then this may result in a variation to their current accepted materials list. In some instances, this may mean an increase in the number of Blue Box materials accepted or, as is the case in Barrie, it is a reduction in the list of materials accepted. This means that Blue Box materials that residents previously put out to be recycled will no longer be accepted and for all intents and purposes be considered contamination. The most notable material exclusions under the a-BBPP are #7 plastics and aerosol containers. The full list of included and excluded materials as part of the a-BBPP are included in the appendix six.¹¹

Where materials that were previously acceptable are now being excluded (as in the Barrie context) there will be a reduction in the amount of Blue Box materials collected. This will have potential financial and operational implications. For instance, residents may still place these materials in recycling bins resulting in higher contamination rates, the materials could end up illegally dumped or are incorrectly placed with organics or yard waste. Even if residents adhere to the change and remove these materials from the recycling stream there will be an increase in the amount of garbage that is collected. This increase in garbage has additional impacts. If the tonnes of garbage collected increase it will result in a larger garbage contract collection cost and a reduction in the useful life of the landfill.

¹⁰ Weighted across both single and multi-residential households

¹¹ It is likely that over time the included list may be expanded and eventually cover more materials than what may currently be collected by Barrie

SCENARIO ANALYSIS

Introduction

This section of the report outlines in detail the scenarios considered in response to the implementation of the a-BBPP or implementation of IPR for the City of Barrie. We consider both the operational and financial impacts quantitatively and, in some instances, where impacts could not be estimated we have noted these qualitatively.

As part of the scenario analysis, the status quo scenario is defined and modelled so other scenarios can be compared and evaluated in reference to the current state. The status quo is based on the current operations, costs and revenues of the City's existing Blue Box Program.

As part of our scenario analysis we have specifically considered the period from 2018 to 2022¹².

Recycling program scenarios

Listed below are the scenarios that have been considered as part of this study:

- Scenario 1: Status quo
- Scenario 2: Non-transitioned community
- Scenario 3: Transitioned community – contract manager with 100% contribution for eligible Blue Box Program
- Scenario 4: Transitioned community – SO responsible for Blue Box Program
- Scenario 5a/5b: Individual producer responsibility (two sub-options)

A description of each of these scenarios as well as how they are expected to be impacted by the WFOA is provided below.

Scenario 1 – Status quo

The status quo scenario considers the current operation of the Blue Box Program the City of Barrie provides.

Table 4: Scenario 1 key assumptions

Key assumption	Description
Stewardship Ontario funding/contribution	No change
Funding/contribution allocation	
Eligible costs	

¹² This was to align with the presumed implementation of the a-BBPP using the best available information at the time. Alternate timeframes of 2020-2022, 2018-2027 and 2023-2027 were also considered. The model developed has the capacity to analyze alternate timeframes if the program is not implemented in 2020

Marketing revenue	
Service contracts	
Contamination rate	
Public bins	
Materials collected	

Scenario 2 – Non-transitioned community

This scenario represents a non-transitioned community under the a-BBPP. This scenario is the same as Scenario 1 with the exception of a reduction in the funding currently being received.

Table 5: Scenario 2 key assumptions

Key assumption	Description
Stewardship Ontario funding/contribution	
Funding/contribution allocation	The City of Barrie has historically received 55% of its reported Blue Box Program costs through the MFAM. As part of this scenario instead of performance-based funding it is assumed SO will provide a flat 50% of Blue Box Program costs.
Eligible costs	No change
Marketing revenue	No change
Service contracts	No change
Contamination rate	No change
Public bins	No change
Materials collected	No change

Scenario 3 – Transitioned community - contract manager with 100% contribution eligible for Blue Box Program

In Scenario 3, Barrie acts as a contract manager for SO under the a-BBPP. Barrie is responsible for the collection of eligible Blue Box materials and meeting performance standards, including contamination thresholds. SO has responsibility for the processing and marketing of these materials.

Table 6: Scenario 3 key assumptions

Key assumption	Description
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Stewardship Ontario funding/contribution	
Funding/contribution allocation	Barrie will receive 100% contribution from SO for eligible collection costs.
Eligible costs	Eligible costs under this scenario are limited to those applicable to the collection of Blue Box materials. Costs related to the processing and marketing are ineligible.
<i>Municipal costs</i>	<p>Municipal collection costs</p> <p>Costs for public space bins will be incurred by Barrie and they will likely not be covered by SO.</p>
Marketing revenue	Barrie will not receive any revenues for curbside collected Blue Box materials as processing and marketing will be managed by SO.
Service contracts	The Waste Connections contract will be revised as the processing and marketing of Blue Box materials will no longer be contracted by Barrie. The contract allows changes to the contract via Clause 10 – Change Management or Clause 11 – Legislative Change Risk and provides a guideline for how changes are to be negotiated including consideration for any loss of revenue and change in costs. The impact to Waste Connections will be a reduction in revenue as they will no longer receive their 80% share of revenue from Blue Box materials. Also, they will incur fixed costs for the processing and marketing of the materials regardless of whether they are providing the services. As such, it is assumed that Barrie will incur a contract penalty associated with this change through to the end of the base contract ¹³ .
Performance target	<p>SO have indicated they intend to target a contamination rate of 3% for collected materials under the a-BBPP. Municipalities that are not able to meet these targets will incur financial penalties.</p> <p>In order to achieve a reduction in the contamination rate, the City will need to increase curbside rejection, currently estimated as 6.07% of curbside recyclables. We have estimated the new curbside rejection rate will need to be 10.4% in order to achieve a 3% contamination rate.</p> <p>The materials that will now be rejected will need alternate disposal. It is assumed that the majority of these materials will end up in the garbage, which will increase the cost of garbage collection and incur additional landfill costs.</p> <p>It is also assumed that a smaller amount of these materials will be included in the organics collection, illegally dumped or included in yard waste (minimal given the existing collection schedule of yard waste).</p>

¹³ The calculation is ranged based on inclusion of a 40% fixed contract cost and an average profit margin ranging between 0-15%

<p>Public space bins</p>	<p>Currently, select public space bins used for recycling are collected on the residential recycling route. These recyclables, have been estimated to have a contamination rate ranging from 44-73%¹⁴. As these materials are not rejected at curbside and are likely to be collected regardless of contamination, they will have a negative impact on achieving a 3% contamination rate.</p> <p>In order to factor out the likely occurrence of contamination, these materials are proposed to be collected separately as part of an alternate collection.</p>
<p>Materials collected</p>	<p>The revised list of materials under the a-BBPP excludes materials that are currently acceptable. This results in a decrease in recyclable materials. To estimate the impact of the alterations made, using the waste audits provided, we have identified the percentage of materials no longer acceptable. These materials, rather than being recycled will now be considered as part of the garbage waste stream incurring the cost of collection and additional landfill costs.</p>

Scenario 4 – Transitioned community – Stewardship Ontario responsible for Blue Box Program

In Scenario 4, Barrie opts to handover responsibility to SO for the entire Blue Box Program including collection, processing and marketing. While Barrie receives no contribution from SO they will no longer incur all the costs of the Blue Box Program.

Table 7: Scenario 4 key assumptions

Key assumption	Description
<p>Stewardship Ontario funding/contribution</p>	
<p>Funding/contribution allocation</p>	<p>Barrie will no longer receive contributions toward the Blue Box Program however they will no longer be responsible for the collection, processing and marketing of recyclable materials; these costs will be the responsibility of SO.</p>
<p>Eligible costs</p>	
<p><i>Municipal costs</i></p>	<p>Although Barrie is no longer responsible for providing the Blue Box Program to its residents there are still many costs reported in the Datacall which Barrie will still be accountable for.</p> <p>Municipal collection costs</p> <p>Municipal collection costs such as, blue boxes, waste audits for single and multi-family recycling and curbside collection capital cost for carts are assumed to be the responsibility of SO and thus Barrie will no longer incur these costs (conversely, they will not receive a contribution for these costs either).</p>

¹⁴ Barrie public spaces rationalization study (waste audit) draft report. AET. Provided by City of Barrie

Key assumption	Description
	<p>Costs for public space bins will be incurred by Barrie and they will likely not be covered by SO.</p> <p>Residential depot/transfer costs</p> <p>These costs may be covered by SO going forward. As these costs are calculated as an allocation of total depot costs it is also likely that the full cost will still be incurred in the short-term. This is also supported by the need for Barrie to continue to cater, in part, to some residential demand to drop-off materials at the depot.</p> <p>Promotion and education costs</p> <p>P&E of the Blue Box Program will be the responsibility of SO. However, while SO will bear the responsibility for this, it is assumed that Barrie will undertake P&E in line with responsibility for other waste streams.</p> <p>Administration costs</p> <p>These costs will likely be embedded in the SO fee going forward. These costs are currently apportioned across a number of staff and as such the full cost will likely still be incurred in the short-term.</p>
Marketing revenue	<p>As per Scenario 3, Barrie will not receive any revenues for Blue Box materials as processing and marketing will be managed by SO.</p>
Service contracts	<p>Under this scenario, Barrie does not provide the collection, processing or marketing of the Blue Box materials. As such, Waste Connections contract would need to be revised to exclude services for the Blue Box Program.</p> <p>The Waste Connections contract revision will remove the collection processing and marketing of Blue Box materials as they will no longer be contracted by Barrie. The contract allows changes to the contract via Clause 10 – Change Management or Clause 11 – Legislative Change Risk and provides a guideline for how changes are to be negotiated including consideration for any loss of revenue and change in costs. The impact to Waste Connections will be a reduction in revenue as they will no longer receive their 80% share of revenue from Blue Box materials or the payments received for collection services. Also, they will incur fixed costs for the collection, processing and marketing of the materials regardless of whether they are providing the services. As such, it is assumed that Barrie will incur a contract penalty associated with this change through to the end of the base contract¹⁵.</p>
Performance target	<p>While Barrie will no longer be responsible to meet a performance target of 3% it is assumed they will likely see the effects of an increased curbside rejection rate by the Blue Box material collector. It is assumed that the majority of these rejected</p>

¹⁵ The calculation is ranged based on inclusion of a 40% fixed contract cost and an average profit margin ranging between 0-15%

Key assumption	Description
	materials will end up in the garbage, which will increase the cost of garbage collection and incur additional landfill costs. It is also assumed that a smaller amount of these materials will be included in the organics collection, illegally dumped or included in yard waste (minimal given the existing collection schedule of yard waste).
Public bins	As per Scenario 3, in order to factor out the likely occurrence of contamination from the public bins, these materials are proposed to be collected separately as part of an alternate program.
Materials collected	As per Scenario 3, Blue Box materials previously being accepted as part of Barrie's Blue Box Program will no longer be accepted and will be added to the garbage waste stream. The assumed cost of adding these materials to garbage will be the garbage collection cost and an additional increase in landfill costs.

Scenario 5a/5b: Individual producer responsibility (two sub-options)

Scenario 5 considers the implementation of IPR. Under IPR, producers can either join the existing compliance scheme, or join a new compliance scheme to deliver the collection, processing and marketing their recyclables. The likely effect of this is that third party compliance schemes will be setup to compete for providing these services. Any revenue generated from the marketing of materials will be held by the compliance schemes or their service providers.

While it is difficult to determine the direct impacts to the City of Barrie, it is likely that this scenario will be very similar to either Scenario 3 or Scenario 4, depending on the resulting regulation and how collaborative compliance schemes may be with municipalities.

As such we have modelled a 5a Scenario, more in line with the assumptions under Scenario 3, and a 5b Scenario, more in line with the assumptions under Scenario 4.

The one notable item we expect to be different is the list of acceptable materials. We have assumed that the materials that are accepted under the City of Barrie's existing Blue Box Program will, under an IPR paradigm, be accepted.

Table 8: Scenario 5a key assumptions

Key assumption	Description
Stewardship Ontario funding/contribution	
Funding/contribution allocation	As per Scenario 3
Eligible costs	As per Scenario 3
<i>Municipal costs</i>	As per Scenario 3
Marketing revenue	As per Scenario 3

Service contracts	As per Scenario 3
Performance target	As per Scenario 3
Public bins	As per Scenario 3
Materials collected	Materials accepted under the existing Blue Box Program will also be accepted under this scenario.

Table 9: 5b key assumptions

Key assumption	Description
Stewardship Ontario funding	
Funding allocation	As per Scenario 4
Eligible costs	As per Scenario 4
<i>Municipal costs</i>	As per Scenario 4
Marketing revenue	As per Scenario 4
Service contracts	As per Scenario 4
Performance target	As per Scenario 4
Public bins	As per Scenario 4
Materials collected	Materials accepted under the existing Blue Box Program will also be accepted under this scenario.

The table below summarizes the anticipated operational, financial and non-financial/other (qualitative) impacts to the City of Barrie under each scenario.¹⁶

¹⁶ Appendix Three provides operational flowcharts and relationship diagrams for all scenarios excluding Scenario 1 which was provided as part of Appendices One and Two

Table 10 – Operational, financial and non-financial impacts to the City for each scenario

Scenario	Operational	Financial	Non-financial / Other
Scenario 1: Status quo	Status-quo (the Current State)		
Scenario 2: Non-transitioned community	<ul style="list-style-type: none"> No change 	<ul style="list-style-type: none"> Receive reduced funding from SO - for recycling related costs 	<ul style="list-style-type: none"> No change
Scenario 3: Transitioned community - contract manager with 100% contribution for eligible Blue Box Program	<ul style="list-style-type: none"> Responsible for providing collection services but no longer responsible for the processing and marketing of materials <hr/> <ul style="list-style-type: none"> Change in materials collected – resulting in less materials recycled Increase in curbside rejection rate to meet performance standards will result in increased materials sent to landfill Separate collection of public space bins from residential routes, as these bins tend to be 	<ul style="list-style-type: none"> Responsible for 100% of the eligible Blue Box recycling related costs associated with collection Excludes processing and marketing costs which are no longer undertaken by the City Cost associated with revising Waste Connections contract to remove processing and marketing of materials No longer receive revenue from the marketing of materials <hr/> <ul style="list-style-type: none"> Increase in garbage collection costs Decrease in landfill life Decrease in recycling collection costs 	<ul style="list-style-type: none"> As part of being a contract manager, existing staff resources to be utilized for performance management, reporting/documenting, negotiating damages, illegal dumping, contamination and complaints etc. <hr/> <ul style="list-style-type: none"> Increase in contamination of other waste streams – organic, yard, resulting in potential increased costs Potential increase in resident/business owner complaints/enquiries due to increased curbside rejection and/or change in materials accepted

	heavily contaminated		<ul style="list-style-type: none"> • Increase in illegal dumping, resulting in potential increased costs
Scenario 4: Transitioned community – SO responsible for Blue Box Program	<ul style="list-style-type: none"> • No longer responsible for the collection, processing and marketing of materials • Existing staff allocations to Blue Box Program delivery to undertake enforcement duties associated with illegal dumping, contamination and complaints 	<ul style="list-style-type: none"> • No contribution for recycling related costs, but collection, processing and marketing are no longer the City's responsibility • Cost associated with revising Waste Connections contract to remove collection, processing and marketing of recyclable materials • No longer receive revenue for marketing of materials • Increased staff costs associated with reduction in funding from SO 	
	<ul style="list-style-type: none"> • Change in materials collected – resulting in less materials recycled • Increase in curbside rejection rate to meet performance standards will result in increased materials sent to landfill • Separate collection of public space bins from residential routes, as these bins tend to be heavily contaminated • 	<ul style="list-style-type: none"> • Increase in garbage collection costs • Decrease in landfill life • Decrease in recycling collection costs 	<ul style="list-style-type: none"> • Increase in contamination of other waste streams – organic, yard, resulting in potential increased costs • Potential increase in resident/business owner complaints/enquiries due to increased curbside rejection • Increase in illegal dumping, resulting in potential increased costs
Scenario 5a: Individual producer responsibility (IPR)	<ul style="list-style-type: none"> • Responsible for providing collection services but no longer responsible for the processing and marketing of materials 	<ul style="list-style-type: none"> • Responsible for 100% of the eligible Blue Box recycling related costs associated with collection • Excludes processing and 	<ul style="list-style-type: none"> • As part of being a contract manager, existing staff resources to be utilized for performance management,

		<p>marketing costs which are no longer undertaken by the City</p> <ul style="list-style-type: none"> • Cost associated with revising Waste Connections contract to remove processing and marketing of materials • No longer receive revenue from the marketing of materials 	<p>reporting/documenting, negotiating damages, illegal dumping, contamination and complaints etc.</p>
	<ul style="list-style-type: none"> • No change in materials collected • Increase in curbside rejection rate to meet performance standards will result in increased materials sent to landfill • Separate collection of public space bins from residential routes, as these bins tend to be heavily contaminated 	<ul style="list-style-type: none"> • Increase in garbage collection costs • Decrease in landfill life • Decrease in recycling collection costs 	<ul style="list-style-type: none"> • Increase in contamination of other waste streams – organic, yard, resulting in potential increased costs • Potential increase in resident/business owner complaints/enquiries due to increased curbside rejection and/or change in materials accepted • Increase in illegal dumping, resulting in potential increased costs
<p>Scenario 5b: Individual producer responsibility (IPR)</p>	<ul style="list-style-type: none"> • No longer responsible for the collection, processing and marketing of materials • Existing staff allocations to Blue Box Program delivery to undertake enforcement duties associated with illegal dumping, contamination and complaints 	<ul style="list-style-type: none"> • No contribution for recycling related costs, but collection, processing and marketing are no longer the City's responsibility • Cost associated with revising Waste Connections contract to remove collection, processing and marketing of recyclable materials • No longer receive revenue for 	

marketing of materials
Increased staff costs associated
with reduction in funding

- No change in materials collected
- Increase in curbside rejection rate to meet performance standards will result in increased materials sent to landfill
- Separate collection of public space bins from residential routes, as these bins tend to be heavily contaminated
- Increase in garbage collection costs
- Decrease in landfill life
- Decrease in recycling collection costs
- Increase in contamination of other waste streams – organic, yard, resulting in potential increased costs
- Potential increase in resident/business owner complaints/enquiries due to increased curbside rejection
- Increase in illegal dumping, resulting in potential increased costs

Appendix Four contains further information about the general assumptions used as part of this analysis.

GLOSSARY OF TERMS

Table 11 - Glossary of Terms

Term	Abbreviation	Description
Administration costs		For the purposes of the study this refers to the administration costs as determined in the Datacall (5% of municipal costs and 3% of contract costs) and/or additional administration costs that are currently not included as part of the Datacall
Amended Blue Box Program Plan	a-BBPP	Is a plan developed by Stewardship Ontario to amend the existing Blue Box Program and move toward Full Producer Responsibility
Association of Municipalities Ontario	AMO	Is an association of municipal governments within Ontario that advocates on their behalf
Blue Box Program		The existing recycling program for Ontario's residential Printed Paper and Packaging
Blue Box materials		Accepted materials under the Blue Box Program, the amended-Blue Box Program Plan or under Individual Producer Responsibility
blue box materials		Consists of glass, plastic and metal containers
City of Barrie	City, Barrie	Municipality of the City of Barrie
Contaminated materials		Consists of materials in the waste stream that are either placed in the wrong waste stream or are soiled (potentially due to food residue)
Contribution		Refers to payments received through a fee for service
Continuous Improvement Fund	CIF	The Continuous Improvement Fund is a partnership between the Association of Municipalities of Ontario, the City of Toronto, Stewardship Ontario and the Resource Productivity and Recovery Authority. The Continuous Improvement Fund's mandate is to improve the effectiveness and efficiency of Ontario's Blue Box Program
Curbside rejection		A task performed by Waste Connections drivers whereby contaminated materials are rejected at the curb.
Datacall		The Datacall is the source of data for determining the net Blue Box Program system cost and for allocating funding under the Blue Box Program. Each Ontario municipal program (municipality, recycling association or First Nation) providing recycling services must complete the Datacall to be eligible for Blue Box Program funding
Eligible costs		Costs for providing services that can be attributed to the Blue Box Program. Eligible costs will receive compensation from Stewardship

		Ontario
Full Producer Responsibility	FPR	For the purposes of this study this refers to a system of recycling that places full responsibility and cost for the end of life management of Printed Paper and Packaging on producers as managed by Stewardship Ontario
Funding		Represents payments municipalities received through Datacall reporting
Grey box materials		Consists of paper-type products
Industrial, Commercial and Institutional	IC&I	For the purposes of this study recycling waste generated by businesses and institutes that is not a part of the residential Blue Box Program
Ineligible costs		Costs that do not receive compensation from Stewardship Ontario
Individual Producer Responsibility	IPR	For the purposes of this study this refers to a system of recycling that places full responsibility and cost for the end of life management of Printed Paper and Packaging on producers as managed by individual producers
Landfill		The City of Barrie's landfill including both the Landfill Cell and Public Depot
Landfill cell		Refers to the part of the Barrie Landfill for the drop-off of waste by commercial haulers
Marketed material		Blue Box Materials collected that are sold to the market
Municipal costs		For the purposes of the study municipal costs are defined as the reported figures in the Datacall. Municipal costs consists of; municipal collection costs, P&E, public depot/transfer costs, interest on municipal capital and Administration Costs
Municipal Funding Allocation Model	MFAM	Method used to determine how much funding municipalities receive for the existing Blue Box Program. The model is based on three criteria: tonnes received, total cost of Blue Box Program and best practices
Municipal Hazardous and Special Waste	MHSW	Household products that require special handling, such as single-use batteries and propane tanks
Non – Transitioned Community		Municipalities that choose to maintain current operations upon implementation of the a-BBPP
Old Corrugated Cardboard/Containers	OCC	These – Old Corrugated Cardboard/Containers - type materials
Options		Refers to the range of strategic Options the City may choose in response to the implementation of a-BBPP and/or IPR

Ontario Waste Management Association	OWMA	Is an environmental services association representing the waste management and recycling sector
Performance rate		Percentage of Contaminated Materials at curbside
Promotion and Education	P&E	For the purposes of this study is defined as marketing campaigns designed to promote correct waste disposal and recycling by municipal residents
Printed Paper and Packaging	PPP	These – Printed Paper and Packaging – type materials
Public depot		Refers to the part of the Barrie landfill where residents and businesses can drop off waste and recyclables
Resource Productivity and Recovery Authority	RPRA	The entity responsible for oversight of waste diversion programs in Ontario
Resource Recovery and Circular Economy Act	RRCEA	N/A
Stewardship Ontario	SO	The not for profit industry body that funds and aids in operating the Blue Box Program
Scenarios		Refers to the specific set of parameters developed as part of this analysis to model the range of strategic Options available to the City in response to the implementation of a-BBPP and/or IPR.
Transitioned Community		Municipalities that transition operations under the a-BBPP
Waste Connections		The City of Barrie's service provider for waste services
Waste Diversion Act	WDA	N/A
Waste Diversion Transition Act	WDTA	N/A
Waste Electronic and Electronic Equipment	WEEE	End-of-life electronics, from smartphones and tablets to photocopiers and desktop computers
Waste Free Ontario Act	WFOA	N/A
Container Composite Index		Calculated using residential Blue Box sold and includes Polycoat containers.
Fibre Composite Index		The Fibre Composite Index is calculated using ONP#8 / SRP#56, Mixed Paper #54 / ONP#6, Corrugated (OCC), Hardpack (OBB/OCC), and Boxboard (OBB).



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