Background

Each year, the Resource Productivity and Recovery Authority (RPRA) receives reports from municipalities, recycling associations and First Nations (“municipal programs”) on the amounts of residential materials diverted under each of their waste diversion programs—the Municipal Datacall. This includes submitting tonnage and financial information for residential Blue Box material collected from local residents. In addition, RPRA requests the submission of tonnage data for all other non-Blue Box materials the municipal program operates, including hazardous or special waste, waste electrical and electronic equipment, organics, garbage, and other materials.

This report is one in a series of five reports based on data collected in the 2016 Datacall. It covers the tonnages of Blue Box materials marketed (i.e., sold to end markets) after collection and processing at a material recovery facility. The data used to generate this analysis can be found in the following two spreadsheets available on the Datacall page of RPRA’s website:

1. 2016 Blue Box Accepted Materials; and
2. 2016 Blue Box Marketed Tonnes.

Municipal Datacall Reporting

In 2016, 241 municipal programs submitted information to RPRA through the Datacall, representing over 98% of Ontario’s total population. Table 1 shows the total weight of each Blue Box material sent to market for recycling each year since 2011.

Verification of Data Reported

There are several check points to ensure that the data reported into the Datacall by municipal programs is accurate. After the Datacall reporting period ends, RPRA attempts to verify the data provided by each program in its Datacall submission form through a data verification process. Although staff assess each section of the Datacall, the municipal program remains responsible for the correctness of data submitted. The verification process can include the confirmation of any data variances from the previous year and an assessment of costs and tonnages reported.

Material[1]	2011 Tonnes Marketed	2012 Tonnes Marketed	2013 Tonnes Marketed	2014 Tonnes Marketed	2015 Tonnes Marketed	2016 Tonnes Marketed	2015- 2016 % Tonnes Change	5-year % Tonnes Change	% of Total 2016 Blue Box Tonnes
Printed [2] and Mixed Papers[3]	536,036	516,964	512,389	494,315	471,488	449,594	-4.6%	-16.1%	53.8%
Paper-Based Packaging[4]	167,689	169,413	162,746	161,973	156,951	167,951	-15.5%	0.2%	20.1%
Total Paper & Fibres	703,725	686,377	675,135	656,288	628,439	617,545	-1.7%	-12.2%	73.9%
Polycoat[5]	4,956	5,657	6,176	6,810	7,099	7,180	1.1%	44.9%	0.9%
Aluminum[6]	10,314	11,208	10,606	10,862	10,465	10,593	1.2%	2.7%	1.3%
Steel[7]	30,800	30,825	31,197	31,361	29,525	29,138	-1.3%	-5.4%	3.5%
Glass[8]	88,335	87,224	93,430	90,083	86,559	80,703	-6.8%	-8.6%	9.7%
Plastic[9]	66,720	71,634	83,591	89,101	90,351	91,069	0.8%	36.5%	10.9%
Totals	904,850	892,924	900,135	884,504	852,437	836,227	-1.9%	-7.6%	100.0%

Table 1: Blue Box Tonnes Marketed, 2011-2016

1) Stewardship Ontario's material allocation method is subject to change.
2) Includes Newspaper, Household Fine Paper, Telephone Books, and Magazines and Catalogues.
3) Includes Mixed Fibres not included in Printed Paper and Paper-Based Packaging.
4) Includes Old Corrugated Cardboard, Old Boxboard, and a portion of Residential Mixed Papers and Mixed Fibres Packaging.
5) Includes Gable Top Containers and Aseptic Cartons.
6) Includes Aluminum Food & Beverage Containers and Other Aluminum Packaging.
7) Includes Steel Food & Beverage Containers, Aerosols, and Empty Paint Cans.
8) Includes Flint Glass, Coloured Glass, and allocations of Mixed Glass.
9) Includes PET, HDPE, Plastic Film, Tubs and Lids, Polystyrene, and other Mixed Plastic Packaging.

Tonnes Reported

Figure 1 shows the individual weights of Blue Box materials marketed in Ontario as a percentage of the total weight of all Blue Box materials marketed each year since 2011. It helps illustrate an overall trend in the previous five-year period of the Blue Box Program of reduced printed paper and paper-based packaging and increased plastic packaging. Glass and metal tonnages remained quite consistent over the same period. Blue Box tonnages from Table 1 were used to create Figure 1.

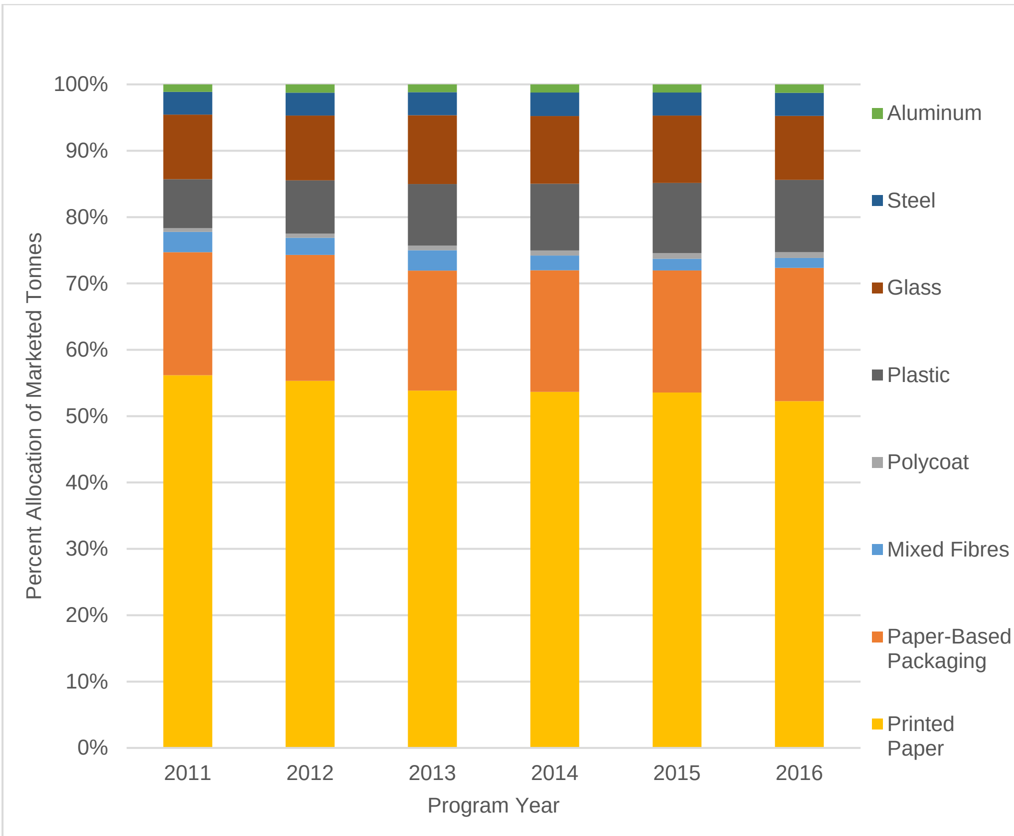

Figure 1: Percentage Allocation of Total Blue Box Tonnes Marketed by Material, 2011-2016

Trends

- The total tonnage of Blue Box materials marketed decreased by 1.9% between 2015 and 2016 (see Appendix A).
    - This is likely as a result of the lightweighting of packaging and less newspaper being supplied to the market.
- Mixed papers tonnes decreased by 4.3%.
    - This is likely a reaction to technology advances in electronic communication and an increasing shift to a paperless society.
- In 2016, paper-based packaging, printed paper and mixed papers (Total Paper & Fibres) together made up 73.8% of total Blue Box materials marketed. This is slightly above last year's total allocation of paper-based packaging.
- From 2011 to 2012, plastic tonnes continued to increase by 4,914 marketed tonnes. In total, plastic marketed tonnes increased by 24.4% from 2012 to 2014.
    - This growth is likely due to more municipal Blue Box programs accepting a wider range of plastic container types and film and a shift in packaging to plastics.
    - The trend of percentage growth lowering year to year can be attributed to light weighting of materials and the introduction of non-recyclable, light weight materials entering the market.
- Glass continues to decline. Between 2015 and 2016, there was a 6.8% decrease of marketed material.
- Between 2015 and 2016, aluminum tonnes increased by 1.2%.
- Steel tonnes remained relatively consistent between 2011 and 2014. However, since 2014, there has been a 7.1% decrease in marketed tonnes. Further research is needed to determine causes for the significant change.

Figures 2 and 3 illustrate the trends in marketed tonnes for paper and containers from 2011 to 2016. For the past three years, plastic material has been noticeably increasing, compared to the other materials. Tonnages for all other materials remain constant, or are declining.

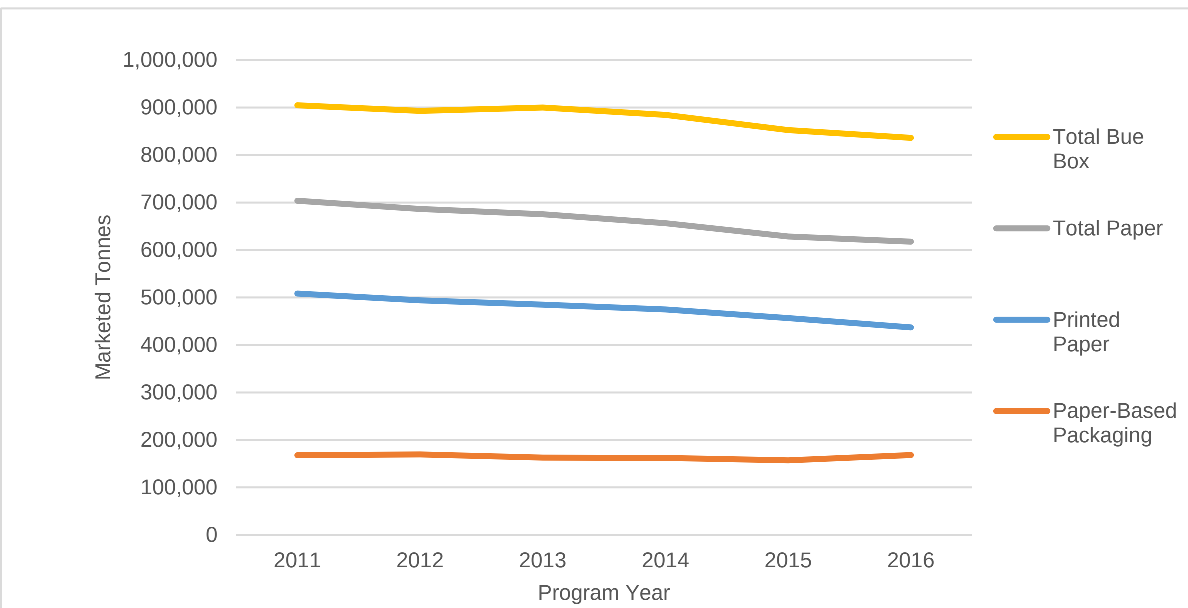

Figure 2: Marketed Tonnage Trends for Paper-Based Packaging, Printed Paper, Total Paper, and Total Blue Box, 2011-2016

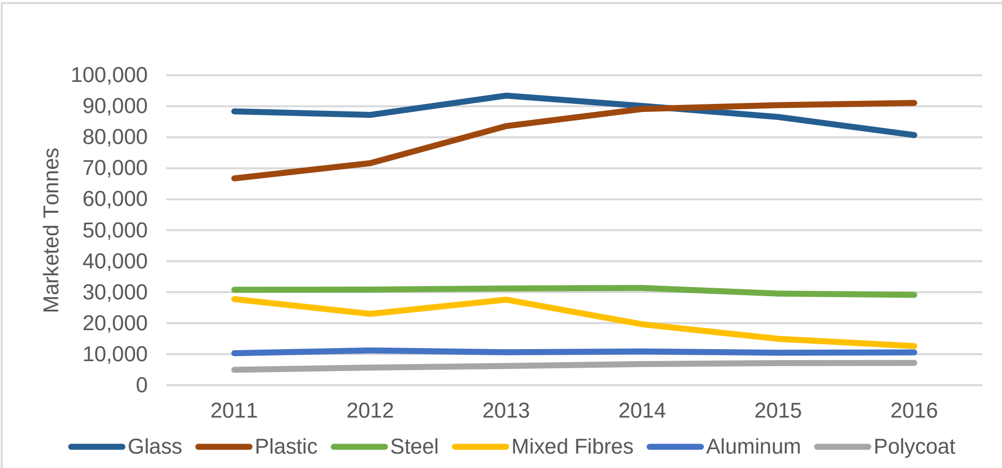

Figure 3: 2011-2016 Trends for Blue Box Materials under 100,000 Marketed Tonnes

The number of households with access to curbside and/or depot collection programs is shown in Table 2. The number of households includes both single-family and multi-family households. A multi-family household is a household in a building with at least six units.

Type of Service	2011	2012	2013	2014	2015	2016	2011-2016 % Change
Curbside[1]	4,808,387	4,816,618	4,846,457	4,874,210	4,939,602	4,959,657	3.2%
Depot Only	204,794	229,464	225,737	208,948	225,552	215,273	5.1%
Total	5,013,181	5,046,082	5,072,194	5,083,158	5,165,154	5,174,930	3.2%

1) May also have access to depot service for Blue Box materials, in addition to curbside service.

Table 2: Number of Households Receiving Municipal Blue Box Service (2011-2016)

- From 2015 to 2016, the total number of households receiving municipal Blue Box service by either curbside or depot increased by 9,776, an increase of 1.3%. In the 5-year period from 2011 to 2016, the increase in households with Blue Box service rose by 3.2%.
- In 2016, 94.6% of households in municipal programs reporting to the Authority had access to municipally-provided Blue Box services, decreasing from 95.3% in 2015.
    - Of the non-municipally-serviced households in the City of Toronto, 100% are from the multi-family household category due to the option for private buildings in Toronto to utilize private contracting services for waste management. If City of Toronto household data is excluded, the provincial average of municipally-serviced Blue Box services rises to 99.8%
- From 2015 to 2016, the household recovery rate (tonnage recycled per household of Blue Box material) decreased to 161.6 kilograms per household. This change is likely a result of a change to the number of households in the updated census data recently released (see Appendix B).
- Of the 241 reporting programs, a total of 159 programs have implemented utility-based systems for garbage collection (e.g. user pay waste collection, pay as you throw, partial user pay, full user pay and/or bag limit program) .

In accordance with O. Reg 101/94, 100% of municipalities with Blue Box programs collect the following materials[1]:

1. Aluminum food or beverage cans (including cans made primarily of aluminum).
2. Glass bottles and jars for food or beverages.
3. Newsprint.
4. Polyethylene terephthalate bottles for food or beverages (including bottles made primarily of polyethylene terephthalate).
5. Steel food or beverage cans (including cans made primarily of steel).

The percentage of households in Ontario from which these materials may be collected is at least 90%.

Table 3 presents the expansion of Blue Box materials collected (either at curbside and/or depot) beyond the five basic Blue Box materials. Participating programs must also collect *at least* two other items from a list of 12 supplementary Blue Box materials, some of which are listed with an asterisk in Table 3.

Blue Box Material	2015 HHlds Served	2016 HHlds Served	% Change in HHlds	2016 Households Served as % of Total Households Reported
Paper-Based Packaging				
Corrugated Containers	5,164,846	5,174,930	0.20%	100.00%
Boxboard	5,159,204	5,163,773	0.09%	99.78%
Polycoat				
Gable Top Containers	5,086,247	5,088,051	0.04%	98.32%
Aseptic Cartons	5,007,066	4,992,345	-0.29%	96.47%
Metals				
Aluminum Foil Packaging	5,115,776	5,130,176	0.28%	99.14%
Empty Aerosol Cans	4,488,662	4,588,587	2.23%	88.67%
Empty Paint Cans	4,801,305	4,824,692	0.49%	93.23%
Plastics				
HDPE Containers	5,133,918	5,155,812	0.43%	99.63%
Other Containers (#3,4,5,7)	5,082,015	5,099,265	0.34%	98.54%
HDPE/LDPE Film (#2,4)	3,480,621	3,913,183	12.43%	75.62%
Polystyrene Crystal	4,235,572	3,309,886	-21.86%	63.96%
Polystyrene Foam	3,362,275	4,293,174	27.69%	82.96%

Table 3: Number of Households with Blue Box Service beyond the Five Basic Materials

For further information, please contact datacall@rpra.ca.

[1]Provided they are required to do so under Ontario Regulation 101/94, “(1) A local municipality that has a population of at least 5,000 shall establish, operate and maintain a blue box waste management system if the municipality is served by a waste management system owned by or operated by or for the municipality that collects municipal waste or accepts such waste from the public at a waste disposal site.”

Appendices

Appendix A – Annual Percentage Changes in Blue Box Marketed Tonnes, 2011-2016

Year-over-Year Change %	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016
Printed Paper	-2.8%	-1.9%	-2.1%	-3.8%	-4.3%
Mixed Fibres	-17.2%	20.0%	-28.8%	-24.1%	-15.5%
Paper-Based Packaging	1.0%	-3.9%	-0.5%	-3.1%	7.0%
Total Paper	-2.5%	-1.6%	-2.8%	-4.2%	-1.7%
Polycoat	14.1%	9.2%	10.3%	4.2%	1.1%
Aluminum	8.7%	-5.4%	2.4%	-3.7%	1.2%
Steel	0.1%	1.2%	0.5%	-5.9%	-1.3%
Glass	-1.3%	7.1%	-3.6%	-3.9%	-6.8%
Plastic	7.4%	16.7%	6.6%	1.4%	0.8%
Total Blue Box	-1.3%	0.8%	-1.7%	-3.6%	-1.9%

Appendix B –Blue Box Marketed Tonnes, 2011-2016 (Kgs per household)