

Part 2: Away-from-Home Recycling

How Much is Generated Away-from-Home?

The last decade has seen a significant shift in the way that Canadians consume beverages. While the majority of beverages continue to be consumed in households, it is estimated that 30-40%⁴ of beverages are consumed and discarded away-from-home (AfH), and as the Millennial generation (as a percentage of Canada’s total population) continues to grow, this number is likely to rise. According to Coca-Cola’s 2016 Away-from-Home Beverage Landscape Study, Millennials consume twice as many beverages AfH than older generations.⁵

Table 3 Examples of Away-from-Home (AfH) Locations Where Containers are Discarded

Location Category	Examples
Public Spaces	Parks, streets, transit stops, greenways
Industrial, Commercial, and Institutional (IC&I)	Bars, restaurants, hotels, amusement parks, shopping malls, convenience stores, offices (and other workplaces), gas stations, coffee shops, some multi-residential units (with private waste service), government buildings, arenas, libraries, public daycares, community centres, colleges, universities, elementary and secondary schools
Special Events	Outdoor music festivals, sporting events, concerts, fairs, markets

Knowing how many beverage containers are discarded AfH is critical to determining accurate recycling rates and designing effective recovery programs. Despite this importance, data on AfH beverage recovery is extremely limited. There are several reasons for this, one being the lack of information available on the number of IC&I establishments in each province that participate in beverage container recycling programs. Another reason is that waste and recycling services for IC&I buildings, events, hospitals, schools, and other AfH locations are typically contracted to private companies, for which there are no regulatory requirements to track and report volumes collected at each location. Unless volumes are estimated at the point of collection by the hauler, it is difficult to know how much material was collected at a specific location since standard practice is to weigh loads at the end of a route.

Table 4 summarizes some of the research that has been conducted to assess the percentage of beverage containers consumed AfH, including a brief description of the methodologies used to arrive at those estimates. CM Consulting relies on these findings to estimate a recycling rate for containers discarded AfH.

Table 4 Estimated Away-from-Home Beverage Container Market Share

Source	Study Methodology	AfH Beverage Container Market Share (%)
<i>The Environmental and Economic Performance of Beverage Container Reuse and Recycling in British Columbia, Canada, prepared by Container Recycling Institute, August 2015</i>	Not available to the public	<i>All beverage containers: 30-40%</i>
IPSOS Study conducted in Ontario for CBCRA in 2012 ⁶	Not available to the public	<i>By container type:</i> Glass: 28% Aluminum cans: 28% PET: 28% HDPE: 20% Gable top cartons: 10% <i>All beverage containers:</i> 26% (estimated range is between 15 and 30%)
<i>Australian Beverage Packaging Consumption, Recovery and Recycling Quantification Study, prepared by Clare Davey, 2008</i>	Based on sales data. Containers purchased at grocery stores were considered to be consumed at-home. The difference between at-home sales and total sales is assumed to represent containers consumed away-from-home.	<i>By container type:</i> Glass: 25% Aluminum: 25% Plastic: 45%
Beverage Packaging Environmental Council (BPEC) study, 2006 ⁷	Not available to the public	<i>By container type:</i> Glass: 33% Aluminum: 24% Plastic: 42% <i>All beverage containers: 37%</i>
<i>Understanding Beverage Container Recycling: A Value Chain Assessment, prepared by R.W. Beck, in collaboration with Franklin Associates, Tellus Institute, Boisson & Associates, and Sound Resource Management, 2002</i>	Figures for PET and aluminum are based on carbonated soft-drink point of sale data from the Container Consulting Inc. Sales at vending machines, venues, and convenience stores are assumed to be consumed away-from home, while sales at food stores are assumed to be consumed at home. Figures for glass are R.W. Beck estimates based on an understanding of the types of beverages packaged in glass.	<i>By container type:</i> Glass: 34% Aluminum cans: 13% PET: 63%
American Beverage Association (ABA) report	Not available to the public	<i>All beverage containers: 30-34%</i>
<i>Mise en Marché et Récupération des Contenants de Boisson au Québec prepared by Francois Lafortune</i>	Based on methodology used for 2002 report by R.W. Beck (see above)	<i>By beverage type:</i> Milk containers: 5% Soft-drink containers: 17% Juice containers: 22% Wine/spirits containers: 22%

Existing Initiatives to Enhance Away-from-Home Collection

A number of Canadian jurisdictions have implemented pilot projects and long-term programs in an effort to encourage the recycling of beverage containers consumed AfH. Many of these initiatives are based on a cost-sharing model in which an industry partner or non-governmental organization sponsors a program in partnership with a community.⁸ Examples of public spaces recycling in Canada are described below.

Manitoba

Canada's first province-wide AfH beverage container recycling program was Recycle Everywhere. Created and administered by the Canadian Beverage Container Recycling Association (CBCRA)—a not-for-profit, industry-funded organization whose members include beverage brand owners and distributors—Recycle Everywhere distributes recycling bins free of charge to public spaces to encourage recycling outside of the home. In 2016, around 7,000 Recycle Everywhere bins were distributed to 774 locations, including 68 municipal sites, 498 IC&I sites, 6 parks, 178 schools, 16 government buildings, and 8 First Nation communities.⁹ According to CBCRA's 2016 annual report, the cumulative total of bins distributed since the program began in 2010 had reached 52,000 by the end of 2016.

Québec

Québec's AfH recovery program ended on December 31, 2016. Co-founded by Éco Entreprises Québec (ÉEQ) and the Ministère du Développement durable, de l'Environnement et de la Lutte contre les changements climatiques (MDDELCC), the program provided funding to municipalities to install recycling equipment in indoor and outdoor public spaces, such as libraries, arenas, commercial arteries and parks. In total, 70% of the purchase price was reimbursed, up to a maximum of \$840 per unit. In its eight years of operation, over 800 municipalities benefited from the program, receiving over \$8 million in funding to install close to 20,000 recycling installations.¹⁰ This equipment helped to collect 2,000 tonnes of materials per year.¹¹ According to ÉEQ's website, an analysis is currently underway to set out next steps and extend the program.

British Columbia

B.C.'s first public spaces recycling program "Go Recycle!" started off as a pilot project in 2011. Launched in the City of Richmond by the Canadian beverage industry, the pilot included over 80 strategically placed bins, and specially designed instructional and promotional signage.¹² To measure the program's effectiveness, the city conducted pre- and post-implementation waste audits of the pilot area and found that the number of recyclable beverage containers placed in trash bins decreased by 27%.¹³ The study also found a 29% reduction of recyclable non-beverage containers in the garbage, and a 35% overall reduction in the amount of waste generated.

Encorp also runs an outdoor public spaces recycling program. Since 2009, the organization has been supplying municipalities and B.C. parks with dedicated beverage container recycling bins free of charge. These bins are placed in high pedestrian traffic areas where beverages are consumed on-the-go. The bins are non-locking and are accessible to anyone that wants to collect the containers and return them for a refund of the deposit. Based on audits conducted by local municipalities, up to 99% of the beverage containers are diverted from the trash.¹⁴

More recently, in August 2016, Recycle BC in partnership with the City of Vancouver launched a nine-month pilot project aimed at reducing litter and the amount of waste sent to landfill. The program, which has been extended to the end of 2017, has seen 31 new recycling bins installed in public spaces around Vancouver's West End. The majority of the recycling bins have three adjoined receptacles: one for mixed paper recycling, one for containers recycling, and one for garbage. With the pilot project now complete, an audit was done to evaluate the waste collected and how much the bins were used. The results showed contamination rates of up to 30% "suggesting that streetscape packaging and paper collection may not be recoverable under current market conditions."¹⁵ This information will be presented to council, who will then decide on whether to expand the program to other locations around the municipality.¹⁶

Other Initiatives

- In 2010, the city of Sarnia, ON launched the first phase of its pilot public spaces program in three park locations, achieving an average collection rate of 75% for beverage containers—a 73.5% increase over the previous result. The second phase of the same program took place in 3 Sarnia arenas and 8 convenience stores/gas bars and achieved beverage container collection rates of 73% and 84%, respectively.
- Niagara's public spaces recycling pilot, dubbed "Niagara Recycles on the go!" achieved similar results. This program was launched in March 2010, when about 24 recycling bins were installed at two arenas in St. Catherine's. Follow-up waste and visual audits showed collection rates to be an average of 65% -- a 35% increase over baseline levels.
- A pilot project conducted on the Halifax Waterfront generated even more promising results. After just three months of placing bins and signage along the Halifax Harbourwalk, the pilot project collected approximately 95% of all containers discarded in the area. Another highly successful public spaces pilot project took place in the city of Calgary in 2012. The program, which saw a total of 48 recycling bins installed in 3 different areas of the city, resulted in a significant increase in the diversion rate of recyclables—including beverage containers. In one pilot neighborhood, the number of beverage containers found in the garbage decreased by 89%.¹⁷
- In November 2016, the city of Airdrie approved phase 2 of an enhanced recycling program which will see bins for organics, mixed recycling, and beverage containers installed in Airdrie's public spaces and facilities. Waste audits from phase 1 of the project showed that there was 33% contamination in the beverage container bin and 21% contamination in the recyclable paper bin.¹⁸
- In September 2017, the city of Regina announced that it would install blue recycling bottle baskets—attached to existing garbage cans—in the downtown core and along 13th Avenue in the Cathedral neighborhood. The project is being sponsored by SARCAN Recycling through a public space recycling grant.¹⁹

Share of Beverage Containers Discarded Away-From-Home in Deposit Vs. Non-Deposit Jurisdictions

While each of the pilots showed that recycling of beverage containers in AfH locations was enhanced by the addition of bins and signage, it is important to point out the difference in the findings between Richmond, B.C. where all beverage containers bear a deposit, and Sarnia and Niagara, ON, where most beverage containers are collected at curbside.

In Sarnia and Niagara, audits revealed that recyclable beverage containers made up over 15.7% and 16.2% (by weight), respectively, of the materials deposited in the waste bins. (PET beverage containers alone represented over 8% of the waste stream in each of the pilots). These numbers are significantly higher than those reported in the Richmond study, where recyclable beverage containers were found to make up only 1.8% of the total waste stream (Figure 18).

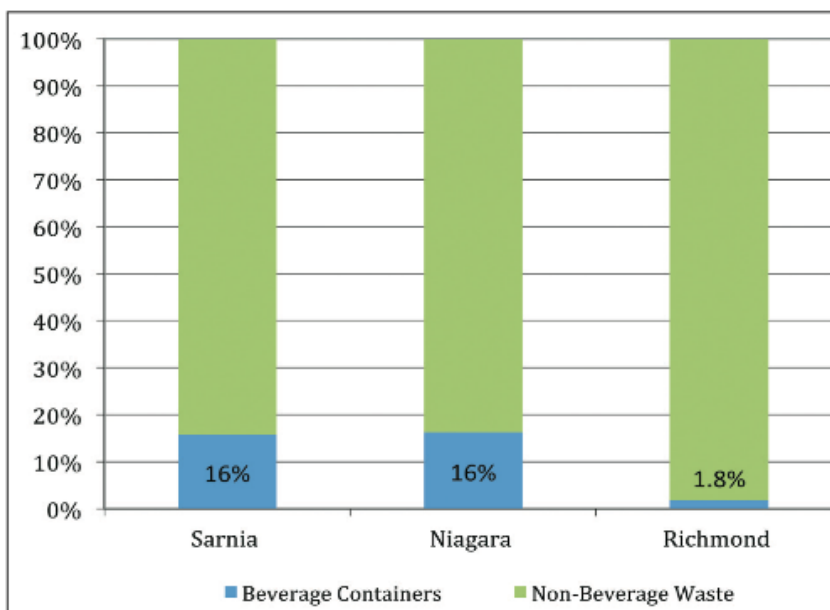


Figure 18 PET & Aluminum Beverage Containers as a Percentage (by Weight) of Waste and Recycling Streams in Away-from-Home Locations – Non-Deposit Jurisdictions (Sarnia and Niagara, Ontario) vs. Deposit Jurisdictions (Richmond, BC)

When viewed in terms of volume, the results are even more striking. In Sarnia and Niagara, beverage containers make up 34% and 38%, respectively, of the AfH combined waste and recycling streams, whereas in Richmond they make up only 3% (Figure 19). This data demonstrates that where deposit programs exist, beverage containers make up a smaller portion of the AfH waste and recycling stream.

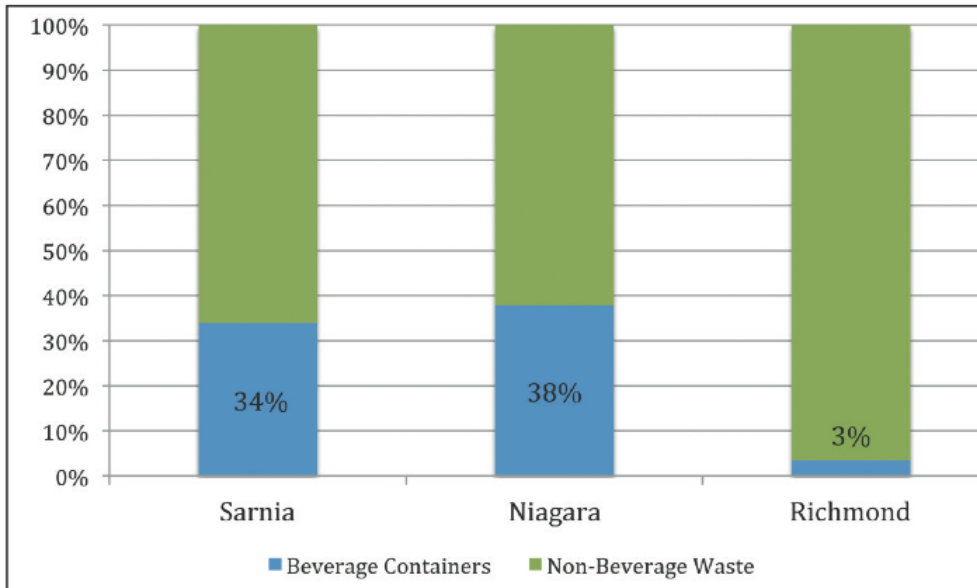


Figure 19 PET & Aluminum Beverage Containers as a Percentage (by Volume) of Total Combined Waste and Recycling Streams in Away-from-Home Locations – Non-Deposit Jurisdictions (Sarnia and Niagara, Ontario) vs. Deposit Jurisdictions (Richmond, BC)

Who Pays For Away-From-Home Recycling?

The primary cost drivers associated with starting and operating a public spaces recycling program are the same as residential collection, and include the purchase of recycling bins and signage, new collection vehicles and/or modifications to existing vehicles, hauler fees, program monitoring and management, labour, costs to sort and process materials, and ongoing promotion and education.

In general, the costs of AfH recycling are borne by the entity (public or private) responsible for waste management at the location in question. For example, recycling in an office building is the responsibility of the property manager or owner. Similarly, recycling initiatives undertaken by a school are the responsibility of the school board or principal. When it comes to publicly owned and serviced areas, like parks, arenas, and municipal buildings, recycling is financed directly by the municipality. Only in Manitoba, Ontario and Québec does industry bear a share of AfH recycling costs.

Unlike municipal curbside recycling or deposit systems, the costs associated with AfH collection are rarely studied or discussed. It is therefore difficult – if not impossible – to determine how much of taxpayers' money goes towards these programs. That being said, collection of recyclables from public spaces is much more expensive, ton for ton, than at-home collection. Collecting recyclables from parks containers, for example, requires staff to exit their vehicles and walk from container to container, emptying each one as they go. Compared to residential automated collection where one driver can service hundreds of homes in one day, this is extremely time-consuming.²⁰ Another factor to consider is collection frequency. Public space receptacles are typically emptied 5 to 7 times per week, whereas residential trash and recycling bins are usually only picked up once a week. Lastly, the cost to purchase public space recycling bins is also more expensive.

According to a 2014 report by the Massachusetts Sierra Club²¹, the total average minimum cost to municipalities for public recycling bins is estimated at USD\$216,829 per year. For the City of Boston, it is estimated that adding public recycling bins adjacent to waste bins would add \$7 to \$12 million to the city's collection costs. Cities such as Lowell and Worcester would see added costs of up to \$2 million and \$3.4 million, respectively.