

Waste Generation from Road Running Races in Canada

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INTRODUCTION

Road running races generate large amounts of waste. Prior to a typical race, each participant receives a “race kit”, a single-use plastic bag which contains a shirt, bib, timing chip, safety pins, flyers, and samples. During a race, participants pass “aid stations”, which distribute water and other sports drinks in single-use cups, as well as nutrition gels in single-use packaging. After a race, each participant receives a participatory medal, a single-use plastic water bottle, a banana, and snacks in single-use packaging.

RESEARCH QUESTIONS

1. How much waste is generated at road running races in Canada each year?
2. What is the level of action currently taken to manage waste by race directors, and how much waste is saved as a result ?
3. How much waste can be saved annually if race directors take impactful actions to reduce waste?
4. What drivers and barriers do race directors face for managing waste?

METHODS

1. Collected data from each race website for all 289 road running events held in Canada in 2019, including items distributed and actions taken to manage waste. Used this data and supported estimates to calculate the total baseline weight of waste generated at road running events in Canada annually and total actual weight of waste generated in 2019, as well as disaggregated totals on a per item and type of waste basis (garbage, recyclable, or compostable, and single-use or reusable).
2. Divided the total actual weight of waste generated from road running races in Canada in 2019 by the total annual baseline weight of waste to determine the percentage of waste saved from waste management actions taken in 2019. To understand this result, used a scoring system to rate each individual running event based on their level of action taken.
3. Multiplied the percentage of waste saved if all impactful waste reduction actions are taken, by the total annual baseline weight of waste to determine the total weight of waste that can be saved annually.
4. Conducted and analyzed the results of interviews with three race directors that take significant action to manage waste and three race directors that take minimal action to reduce waste to understand the key drivers and barriers behind waste management decisions.

RESULTS & DISCUSSION

The estimated total annual baseline weight of waste from road running events in Canada is 219,362kg, while the estimated total actual weight of waste from road running events in Canada in 2019 taking into account waste reduction actions was 205,074kg. This waste was 70% garbage, 15% compostable, 11% recyclable, and 4% unknown, and 69% reusable and 31% single-use.

The top two items in terms of weight of waste created were medals and shirts (Figure 1). However, these items are reusable or kept as a souvenir. In terms of single-use waste only, aside from banana peels which are compostable, the top four items in terms of weight of waste created were cups, flyers/samples, plastic water bottles, and race kit bags (Figure 1).

An estimated 7% (14,288kg) of waste was reduced in 2019 due to waste reduction actions taken by race directors (Figure 2). This percentage is very low, and is due to the fact that the majority of events took no waste reduction actions at all, and many of the actions taken by events were not impactful. When assigned ratings, 169 running events (58%) in 2019 earned a waste management rating of zero, meaning they took no action whatsoever to manage waste at their races, and only 30 running events (10%) earned a waste management rating of five, the top rating (Figure 3). If all identified impactful actions were taken by all running events in 2019, this would have resulted in a reduction of 77% (168,909kg) of waste, and would have left only 50,453kg of waste (Figure 4).

Figure 1

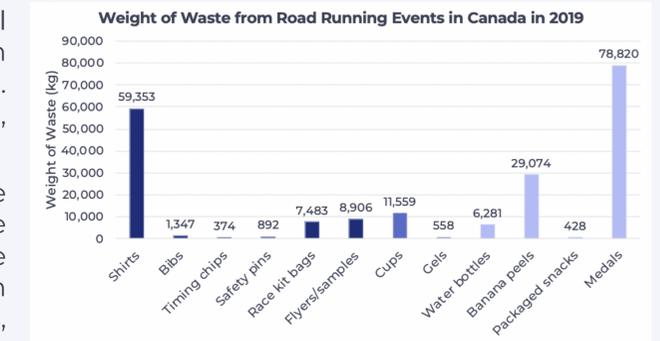


Figure 2



Figure 3



Figure 4



The key drivers of waste management action are having an internal sustainability champion, the presence of a financial incentive, and community expectations or mandates. The key barriers to waste management action are negative impacts on event profitability, limited time available, and a perceived lack of participant interest in sustainability at races.

CONCLUSIONS & KEY TAKEAWAYS

The annual waste generated from road running events in Canada is significant. There is an opportunity for very large reductions in waste, but race directors must take more impactful waste reduction actions in order for this to happen. Race directors should focus on reducing the number of cups, flyers/samples, plastic water bottles, and race kit bags, and if possible, shirts and medals. Race directors should educate themselves on the importance of sustainability or bring on a sustainability champion, take actions to reduce or divert waste that also decrease costs, and seek out sustainability-specific sponsorships. These actions will help race directors overcome the significant barriers which exist to waste management action at road running events in Canada.