Put Waste In It's Place - The Zero Waste Station Challenge

LFS 350 002 - Group 17
Yanika Hu
Chloe Lin
Joanna Luu
Charlotte Nieuwenhuis
Janela Sanqui
Francesca Tse

Faculty of Land and Food Systems
University of British Columbia

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Dr. Will Valley

PUT WASTE IN ITS PLACE ZERO WASTE STATION

Introduction

The purpose of this project is to design and place a set of themed decals on the lids of select waste bins at Hillcrest Community Centre (HCC). Our main goal is to evaluate the effectiveness of the waste diversion system with decals, using observations from two main locations within the community center.

Background + Context

"Put Waste In Its Place Zero Waste Station" is an ongoing Vancouver-based project with the City of Vancouver and CityStudio aiming to increase waste diversion, the amount of waste being diverted away from landfills (Gagnon, P., personal communication, January 23, 2017).

Over the past five years, the demographics around HCC have changed significantly. Once an area mainly populated with 'at-risk youth' and low-income families, the community is now home to more upper-middle class families (Riley Park Hillcrest Community Association, 2014). Thus, HCC is a hub for both, which for our projects means that we have to appeal to various demographics.

Today, waste disposal is vital to the sustainability of the City of Vancouver, as the city is striving towards being the Greenest City by 2020. In 2015, the city reported that residents, businesses, and institutions disposed approximately 600 kg of garbage per person (City of Vancouver (COV), 2017). Countless valuable resources are either buried in landfills or burned in incinerators, taking away their ability to be reused and as a result, their value (COV, 2017). The City of Vancouver's main target is to decrease the amount of solid waste going to the landfill or incinerator by 50% from 2008 levels (COV, 2012). Through the addition of decals, we hope to more adequately educate patrons about how waste can become a resource through being recycled, meanwhile reducing waste going to the landfill.

Significance

Our research will not only contribute to the "Zero Waste Project", but will also allow community center patrons to think about waste differently, ultimately addressing the current global issue on waste management. The initiative implements the reduce, reuse and recycle (3R's) environmental trifecta (Government of Canada, 2014). Valuable, recoverable and recyclable materials such as glass, metal, paper and plastics are often improperly disposed (COV, 2017). Hence, the city wants to minimize waste going into the landfill through instead reusing materials (Gagnon, P., personal communication, January 23, 2017).

Figure 1: Decals on UBC's waste diversion bins (personal photo).

A variety of research has been done regarding the efficiency of waste management techniques. At UBC, well-established color-coded carts are used to collect recyclable materials (UBC, 2014). A 2016 status report proves that UBC's waste diversion system has been positively impacting their waste

diversions rates. The overall campus waste diversion rate was 67% for the year of 2016 which is a four percent increase from the previous year (Fraser, 2016). Although the increase was 3% short of their goal, it proved that adding visuals to differentiate compost, recyclables, and garbage has a positive effect on sorting waste. Another study found that convenience is more effective in attracting people to recycle, rather than penalizing improperly disposed products (Mueller, 2013). Thus, through analyzing the effectiveness of the decals on waste sorting at HCC, we will provide data for the City of Vancouver and CityStudio to construct environmental and practical strategies for a more effective waste disposal system that will garner community support in fulfilling one of the 2020 Greenest City Action Plan goals.

Furthermore, this is the first time that decals will be placed on the lids of bins in zero waste stations at HCC. Moreover, our project will serve as one of the founding steps in the continuation of future Zero Waste projects in Vancouver. Through this initiative, we want patrons to see "zero waste" as not only a concept, but as an obtainable habit for all people.

Objectives

Our objective is to design decals to place on the lids of zero waste bins and subsequently gather data that will assist the City of Vancouver and CityStudio in making effective decals of their own to further guide patrons in sorting their waste correctly. In order to evaluate effectiveness, we will observe the accuracy of the waste objects sorted. During observations we will gather demographic information on patrons that use the waste stations, and conduct short interviews to fully understand their decisions. Through this experiment, we will be able to evaluate the effectiveness of our decals placed on the lids of zero waste bins.

Inquiry Questions

1. Will having newly designed decals displayed on the bins have an impact on the accuracy of waste sorting?
2. What kind of waste is being correctly sorted the most? The least?
3. Do demographics (gender, age, ethnicity) or social settings affect the way people sort waste?

Methods

Data Collection

During our first visit to HCC we will make naturalistic observations of patrons using waste bins. Specifically, we will be looking at the type of waste they are disposing, if it ends up in the correct bin, and the time it takes individuals to make their decisions of which bin(s) to use. The latter being important in addressing how effective the signage is. Additionally, we may engage in short, informal interviews with patrons to further analyze the thought processes behind their disposal decisions, and see if demographics have an influence. For our initial visit, our group will separate into pairs for observations at specific waste stations within the community center. This visit will take place on Sunday February 12th, 2017 from 1-2pm.

On our subsequent visit, we will place decals on the lids of each of the bins and again make naturalistic observations and do some informal interviews to fully understand the thought processes behind the behavior at waste stations. This visit will also take place on a Sunday from 1-2pm in order for the results to be comparable.

Data Analysis

Through analyzing the frequency of items thrown in the bins during our first visit, we can identify whether specific items are prone to improper sorting. We can then apply this knowledge when creating decals to promote accurate sorting.

Through an elaborate spreadsheet consisting of all our research observations, we will note the demographics of people using the waste system. Gathering this data will help us determine if certain demographics have an effect on whether people sort waste correctly.

By graphing and comparing the data from our two visits, we will be able to identify whether the placement of decals on lids has an impact on waste sorting.

Ethical Considerations

Every project member will have completed the TCPS 2 Tutorial Course on Research Ethics before visiting HCC. When putting together our final report, we will synthesize any data obtained and make generalizations from any noticeable trends so that identifying information is eliminated. Although, it may seem as though there is no direct connection between our zero waste initiative and food security and food justice, this is an area we are looking forward to gaining more insights on.

References

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