

## **Becoming Carbon Neutral: Festival of Trees**



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## Abstract

The purpose of the following study was to gauge the amount of carbon emissions created by the Festival of Trees in Peterborough, Ontario, in an attempt to making it a 'greener' event. The long term goal of the festival is to become completely carbon neutral; this project acts as a stepping stone towards that goal. A three pronged methodology was used to determine the contributing factors of their carbon footprint; textual methods, surveys and participant observations. The textual methods were comprised of an academic literature review, to gain background information of the key concepts explored during this project. To collect data on general trends amongst festival goers and volunteers, a fifteen question survey was administered to a sample population each day over the course of the festival. Observations were also made by the researchers to approximate the number of participants, collect electrical usage data, as well as behavioural trends of the festival goers. Surveys were then transcribed and analyzed to provide descriptive statistics. Once these statistics were calculated, the researchers were able to establish what factors contributed most to the festival's carbon emissions. Recommendations were then made based on these trends, in an effort to minimize the negative environmental impacts of the festival in regards to its carbon footprint.

**Key words:** *Carbon neutral, ecological footprint, recreation geography, tourism geography, environmental science, resource management, human impacts, cultural and public space, festival, and festival of trees*

## **Executive Summary**

### **Purpose and Research Questions:**

The purpose of the following study was to gauge the carbon emissions of the Festival of Trees in Peterborough, Ontario, in order to make recommendations to create a 'greener' festival. The long term goal of the festival is to become carbon neutral, therefore this study serves as the first step towards that goal. This study attempts to address the following:

- 1) What does it mean to be carbon neutral?
- 2) What factors contribute to an event's ecological footprint?
- 3) Determine the general trends contributing to the ecological footprint.
- 4) Determine ways to reduce these significant trends.

### **Methods:**

In order to address the previously mentioned research questions, the study used the following three pronged approach: textual methods, surveys, and participant observations. Our textual methods, a literature review included in this study, were created to obtain background knowledge on key terms and addressed research questions 1 and 2. Surveys were administered to both the festival goers as well as the volunteers in order to obtain general trends contributing to the carbon emissions of the festival. This was comprised of fifteen voluntary questions about various topics such as: how far they drove to the festival, number of people in their car, their car type, food consumed, waste disposal methods, age, gender, etc. Participant observations consisted of reviewing previously completed waste audits, collection of electrical usage data, and behavioural trends of the festival goers.

## **Statistical Findings/General Trends:**

Based on the collection of data, statistical analysis was conducted to determine the major contributing trends to carbon emissions. It was discovered that mode of transportation and electrical usage were among the highest contributors to the emissions of the festival, while 97.5% of the people attending the festival travelled in a personal vehicle, with 2.5% walking or taking a bus. Of those who drove, 77% had fewer than three people in their cars with 34% driving without any passengers. The distance travelled to the festival was often short as can be expected with a local festival. It was found that 74.5% of the participants travelled less than 10 km to the festival. Electrical use during the festival was also found to be an average of 3810 kWh. Other notable trends include: 48% of the festival goers ate/drank at the festival, only 30% recycled all or some of their non-food waste. However, based on our observations, in actuality this number is suspect as people who stated they recycled, in some cases did not.

## **Recommendations:**

Based on the general trends stated above, the following recommendations were proposed as a way for the festival to work towards being carbon neutral:

- 1) Offer pre-sold tickets which includes Peterborough bus ticket
- 2) Diversify waste disposal (include compost, and more recycling stations)
- 3) Invest in bull-frog power or tree planting to offset carbon emissions from electricity usage
- 4) Charge for parking, and reduced rates for car pools
- 5) Use re-usable dishes and cutlery
- 6) Conduct more in-depth research, such as a total population count of festival to determine total carbon emissions
- 7) Use white-on-white LED lights on the Christmas trees rather than regular light bulbs

## **Conclusion:**

Because the Festival of Trees is a charity festival that raises money for Peterborough healthcare, a balance must be struck between amount of money raised and the desire to be a 'green' festival. Thus, these recommendations are not intended to be implemented all at once; but rather phased in over a number of years.

In addition, even if all of these recommendations are utilized, the Festival of Trees might not achieve Carbon Neutral status, as this study was unable to determine a concrete value for carbon emissions. A much more comprehensive and in depth study will be needed to calculate total carbon emissions. Only then will the festival accurately know their carbon footprint and the necessary steps to completely eliminate or offset their footprint. As previously mentioned, as a study of this magnitude is too complex to be conducted by undergraduate students in the context of a course research paper in the future, thus an outside party would need to be contracted to complete this study.

Tree Canada offers a free service to calculate events' carbon footprints, although they do require a commitment that some of the carbon emissions created by the event will be offset by planting trees through their organization. The suggestion of this further research does not devalue the recommendations made in this study as they will contribute to a 'greener' festival.



## Introduction

The Festival of Trees is an annual festival in Peterborough, Ontario, held for the purpose of raising money for Peterborough Health Care. For the past eighteen years the festival has been raising money for the following three organizations: Peterborough Regional Health Care Foundation, Hospice Peterborough, and St. Joseph's Care Foundation. Over 4.5 million dollars has been raised, to date, for these organizations. The Festival of Trees uses the Peterborough Memorial Centre as its main festival location, while maintaining an executive office in Peterborough Square. The festival is held over the course of a week, and includes many different events such as raffles, a silent auction, Gala night, a celebrity lunch, and many more.

Since 2006, the Festival of Trees has begun to work towards becoming a 'greener' event. This greening process started with two waste audits completed in 2006 and 2007. Each project has been aimed at providing useful information to allow the festival to attempt to decrease its waste. Other initiatives that the festival has implemented are using recycled paper, buying local products whenever possible, encouraging public transit and eliminating the use of plastic water bottles. The most recent ambition of the festival is its long-term goal to become a Carbon Neutral event.

The purpose of this project was to facilitate research towards the festival's long-term goal of becoming carbon neutral. This study conducted research to determine what factors contribute to an event's carbon emissions, as well as, identified the process to become a carbon neutral event. In addition, this study collected data on the festival in order to discover the underlying influences that contributed to the festival's carbon footprint. Based on these results, recommendations were made, in an effort to help the festival along the path of becoming carbon neutral.

## Literature Review

The geographic literature explores the themes and purposes of festivals, but there is often a disconnect between the literature which discusses festivals and their environmental impacts. Although the negative impacts of festivals on the environment are not fully ignored, there is very little literature that highlights the relevance and importance for festivals to reduce their impacts. Nonetheless, the environment, especially in regards to carbon emissions and other greenhouse gasses, is of growing interest amongst many disciplines including geography.

The following review of literature and research will outline the themes and geographical issues that pertain to this study. The review will begin with a brief overview of the sub-disciplines of geography that relate to this project namely recreational and tourism geography and cultural geography. After this short discussion, the review will cover the development of environmental science and the importance of resource management, with a focus on cultural and public spaces and human impacts on the surrounding environment. The review will then highlight the pertinent environmental themes by defining terms such as carbon emissions and ecological footprint. At this point the review will shift its focus to festivals and the importance of such events in communities, to promote social cohesion and in relation to charity and fundraising, as well as, outlining the basic concepts of carbon neutral events and similar community initiatives. The review will then conclude with a review of the Festival of Trees` history, purpose and future plans.

## 5.1 Recreation and Tourism Geography

Traditionally, within geography, tourism and recreation have been separately studied. Recently, however, researchers have completed studies which examine how the two interact with each other (Carr, 2002). Throughout the late 1980s tourism and recreation geography have been separately studied and the theories between them have had little exchange (Carr, 2002). Most recent attempts to link recreation and tourism geography have indicated that concepts from one field may be transferred to the other (Ryan, 1994). Although, some geographers in the past have been sceptical of the link between recreation and tourism geography as “it is not possible to conclude when and under what conditions tourist experience becomes leisure experience” (Mannell and Iso-Ahola, 1987).

Carr (2002) gives an excellent description of tourism geography as “the area visited by an individual during his/her vacation. It is geographically separate from the space these people inhabit during the rest of the year and is where tourist behaviour is exhibited”. For the purposes of this study, we will use this definition of tourism geography.

Carr (2002) notes the relationship between recreation and tourism geography by stating that “the tourist culture is particularly a creation of the sociocultural norms and values that influence behaviour in the leisure environment rather than a discrete phenomenon”. This leads us to our definition of recreation geography which is what an individual does during his/her leisure time. This is not necessarily restricted to the normal geographical areas we inhabit, which is one of the reasons recreation geography can be linked to tourism geography.

This topic is of relevance to our project specifically because “understanding how tourists behave is important ... for effective planning to meet needs with minimum negative impacts” (Carr, 2002). This explains why tourism and recreation geography are important when studying a festival and the people that go to them.

## 5.2 Environmental Science

Environmental science is mainly concerned with “how the natural world works” (Wright and Nebel, 1993). A main concern with ecosystems is the effect that humans have on the natural ecosystem around them. Wright and Nebel (1993) give a great description of ecosystems as they it is:

“defined as a grouping of various species of plants, animals and microbes interacting with each other and with their environment. The environment includes temperature, precipitation, amount of moisture, and all other chemical and physical factors to which organisms are exposed” (Wright and Nebel, 1993).

When examining festivals the section of the environment we are concerned with is the input of chemical factors into the ecosystem such as carbon emissions, and their impact on that ecosystem.

When determining the impact of humans, with respect to environmental science, humans are known as producers (Wright and Nebel, 1993). In this case study, we are examining the role we play as producers of carbon emissions and the impact it has on the consumers of the ecosystem as well as the response it provokes in the natural environment.

Along the subject of Human Impacts arrives the concept of the Precautionary Principle. The **precautionary principle** is a moral and political principle which states that if an action or policy might cause severe or irreversible harm to the public or to the environment, in the absence of a scientific consensus that harm would not ensue, the burden of proof falls on those who would advocate taking the action (Raffensperger & Tickner, 1999). This principle comes into effect when an impact for humans or the environment is clearly shown to be linked to a phenomenon. There are four main components to the principle: take preventative action, shift the burden of proof to the proponents of the activity, explore alternatives, and increase public participation (Kriebel et al. 2001).

### **5.3 Cultural and Public Space**

The process of defining cultural and public space is a difficult one. This is due to the fact that the process of defining this space is dynamic. The meanings and uses of this space are always changing (Goheen, 1998). For the purposes of this study public space is defined as “a region of social life located apart from the realm of family... [as well as the] realm of acquaintances and strangers” (Sennett, 1992).

Public and cultural spaces are important to the study of geography. We can examine the behaviour of the people within public space. Additionally, we can examine the role that politics plays in changing the geographical landscape of a city’s public space. We can also examine how events such as festivals also change the public space of a city, if only for a week or so.

Additionally, we can examine the values held by the people within public and cultural space, since as Mitchell observes,

“The values which attach to public space are usually in contention (Mitchell, 1995). The meaning of public space cannot be read from the record of official actions or policies; it is not the result of civic ordinance. It will be understood only by paying attention to the often confusing or seemingly trivial contests over the use and enjoyment of public space, whether old streets or new parks and cemeteries. The process of creating value is a continuing one: few episodes are ever thought to be definitive and even these are susceptible to being reinterpreted with the advantage of long hindsight” (Goheen, 1998).

### **5.4 Resource Management**

Resource Management is closely related to the environmental science, as it deals largely with ecosystem restoration. Resource management has been directly tied to environmental science, as throughout its history environmental science “has sought to modify public policy in order to achieve efficient use and management of environmental resources” (Bromley, 1991). Resource management is a practice of reducing

the impact humans have on a certain resource until it is either negligible or it has no impact at all. Examples, of resources that are either being managed or need to be managed in recent times are oil and electricity.

As humans we have a great capacity to destroy ecosystems with our everyday practices as well as abnormal practices. However, to some extent we do have the capacity to protect or restore these ecosystems (Wright and Nebel, 1993). In some instances it is simply stopping the destruction of an ecosystem that is the solution. There are however, more complex ecosystems in which the cessation of activity is not enough to recover the resource. Carbon emissions of everyday life are a great example of this. Carbon emissions are not a simple, stop-use solution. The impact that the emissions have on the atmosphere are long-lasting and the ecosystem does not immediately repair itself (Wright and Nebel, 1993). It is important to attempt to reduce or eliminate our impact on the atmosphere as a collective effort to change will aid in the health of the ecosystems we effect (Wright and Nebel, 1993).

This issue also depends largely upon with our values towards the environment and our willingness to change our behaviour in order to protect it. Wright and Nebel (1993) propose a few questions about the issue of values:

“What are our values as we seem content to let the forces of extinction go forward? Can such values be analyzed in terms of allowing the self-interests of a few to supersede the interests of society as a whole? As members of society, do we agree that this is right, or do we have a moral right, even an obligation, to stand up for other values?” (Wright and Nebel, 1993)

These questions do not have simple answers to them, and answers often differ between people, depends upon their opinion.

## 5.5 Human Impacts on the Environment

This study is largely interested in the ways in which humans impact the environment through mediums such as travel, tourism and leisure. Participants in events, for tourism or leisure purposes, each have an impact on the environment through their travel (e.g. cars, buses, etc.) as well as by their presence at the festival (through waste generated and other means). It is up to both the the event volunteers and participants to change their behaviours, in an effort to reduce or eliminate their overall impact on the environment.

Often when we speak about human impacts on the environment, we are worried about sustainability.

“Current rates of harvesting and waste generation deplete nature faster than it can regenerate... in 1986 human activities were already “appropriating,” directly or indirectly, 40 percent of the products of terrestrial photosynthesis ... more recent work suggests that human exploitation of the continental shelves is approaching similar levels. If the human use of other natural functions of nature is included, such as waste absorption by the land and water, and the protection from harmful ultraviolet radiation, it is not hard to imagine that human activities may be using the world beyond long-term capacity” (Wackernagel and Rees, 1996).

Wackernagel and Rees (1996) explain perfectly why sustainability is an important issue and therefore so is the human impact on the environment.

Sustainability is not only a modern problem; it has historical roots as well. Since we learned how to practice agriculture and grow our own food, we have been transforming the landscape around us (Goudie and Viles, 1997). This caused an increase in human population (from and increase in food availability) and a resultant increase in the ways we would modify the landscape around us. We have not stopped our modification of landscapes since that time, we have only increased our damage (Goudie and Viles, 1997).

## 5.6 Carbon Emissions and Ecological Footprint

The concept of carbon emissions is becoming an important topic in geography, since these emissions or gases are some of those that are attributed to the root cause of global warming. Carbon emissions can be simply defined as carbon substances that, when released, pollute the atmosphere. These substances include carbon dioxide and carbon monoxide which are produced by motor vehicles, and industrial practices. The growing concern about carbon emissions is highlighted by Chichilnisky and Heal (1993) “CO<sub>2</sub> emissions are a by-product of animal life, and of economic activity which involves burning fossil fuels. The rapid increase in the concentration of CO<sub>2</sub> in the atmosphere which has occurred since the Second World War has become a matter of great concern, as it could lead to major and irreversible climate changes.” Therefore, carbon emissions has become a persistent topic of conversation amongst both geographers and environmentalists, as there is a growing concern to reduce them to have minimal environmental impact, or a reduction in our ecological footprint.

Wackernagel and Rees (1996) define ecological footprint as “as the land that would be required on this planet to support a certain group's current lifestyle forever”. They add to this definition by stating that “the United States and southern Canada consume far more energy, materials, foods, and services per capita than the rest of the world population” which demonstrates that our society’s lifestyle is not sustainable. Hence, our ecological footprint is really the rate at which we exploit natural resources, the amount of waste produced, the amount of pollutants released into the atmosphere and other factors that contribute to environmental degradation. This has led geographical research to develop methods to preserve our natural resources or address the problem of our present lifestyle, in attempts to reduce our impacts. “The first step toward reducing our ecological impact is to recognize that the ‘environmental crisis’ is less an environmental and technical problem than it is a behavioural and social one. “It can therefore be resolved only with the help of behavioural and social solutions” (Wackernagel and Rees, 1996, p.6). Hence, the ecological footprint is a



behavioural issue that can only be solved through social change, as our current practices are inefficient and unsustainable.

## 5.7 Festivals

It can be argued that festivals play a significant role in cultural identities of communities due to the underlying cultural nature of the events. Festivals are defined by Goldblatt (1997) as cited in Derrett (2004, p.33) as “a special event recognizing a unique movement in time with ceremony and ritual to satisfy specific needs.” Festivals are often designed to create local pride through the use of culturally significant music, food, or other practices. Festivals can be used as an attraction for tourists, as well as create an opportunity for investment and economic development. Even though the number of festivals worldwide has seen a rapid growth, individual events occur infrequently with the underlying motive to generate a sense of excitement (Derret, 2004).

The study of festivals by geographers has occurred for a long time to evaluate its role within the community, however, interest has been increasing since the 1980`s. Geographers have mainly focused on the relevance of festivals within the sub-discipline of cultural geography in terms of their place in strengthening social relations or social cohesion. Social cohesion has many definitions, “it is generally presumed that a strong attachment to place and the intertwining of people’s identities with that of places... contribute to social cohesion” (Kearns and Forrest, 2000, p.1001). Therefore, it is possible for festivals to create this sense of place identity within a community, as “festivals are sites where certain individuals and groups promote particular sets of values, attach specific meanings to place and attempt, with varying degrees of success, to reproduce hegemonic meanings” (Quinn, 1997, p.239). It is important to note that each festival is unique, due to the fact of varying themes or activities being celebrated, as well as the main goal, reason or purpose of the festival. Festivals promote opportunities for the general public to embrace the beliefs and values of both festival organizers and participants, creating cultural and social structures within the local community.

## 5.8 Charity Fundraisers

Charity fundraisers are functions that can take on many forms, but they all have a common goal, which is to raise money and/or awareness of a charitable cause. Webber (2003) states that charity fundraisers can “vary from sponsored bike rides to fashion shows to annual balls, but all events share one defining attribute, the participant or attendee gains some private benefit, be it a sense of personal achievement, an opportunity to show their generosity, or simply having fun. The fact that the participants are supporting the charity may be secondary to the private benefit they gain from attending the event”. Therefore, according to Webber’s research, participants in charity events do not necessarily take part for the good cause, but instead because the event’s activities appeal to them. This is an important fact, as charities can broaden their donor bases, as running such an event allows a varying of a person’s motivation for supporting the charitable cause. This is imperative, as Schmittlein and Peterson (1994) as cited in Sargeant and Kahler (1999) note that the donor pool is fatigued as it is becoming deluged with increasingly sophisticated solicitations. This makes it difficult for an individual charity to make its voice heard. Therefore, charities must understand their donor population and identify their motivations of their contributions, and then act accordingly.

Sargeant and Kahler (1999) have identified nine different methods of charity fundraising which are: direct mail, telemarketing, door-to-door distribution, direct-response press advertising, major gift fundraising, local fundraising, corporate fundraising, and trust fundraising. Direct mail is the most popular. Here the charity conducts mass mailing within an area to attract new donors, or undertakes ‘warm mailing’ to solicit a donation from a person who previously donated. Telemarketing “has grown in significance in recent years... and is used particularly by the larger charities, as a tool to support a range of fundraising initiatives” (Sargeant and Kahler, 1999, p. 8) such as recruitment, securing additional donations, or converting donors to a more committed form of giving. Door-to-door distribution is defined as household distribution through a third party such as national post. Direct-response press advertising is designed to seek immediate donation from

potential new donors (Sargeant and Kahler, 1999, p.9). Major gift fundraising is when a charity attempts to attract extremely wealthy donors that can make a significantly large one-time or recurring donation. Local fundraising or 'special event' fundraising "refers to a variety of forms of fundraising activity...typically [including] coffee morning, raffles, flag days, sponsored events, rummage sales, competitions, household collections and so on" (Sargeant and Kahler, 1999, p.11). Corporate Fundraising is when a corporation gives to a charity, and usually larger donations are given to larger charities as the corporation likes to be affiliated with top charities as a public relations benefit. The last type of fundraising is trust fundraising or foundations, which support particular causes, but through only indirect means, meaning these organizations have little interaction with recipient groups. Therefore, there are many methods that charities adopt in order to solicit donations for their causes, and charities will attempt to apply the most appropriate method that will generate the greatest financial gain.

## **5.9 Carbon Neutral and Carbon Neutral Events**

The term 'carbon neutral' is defined by Alexander (2007) as the concept of balancing carbon emission by counteracting the release of carbon, such as carbon dioxide; through activities that offset emissions (i.e. planting trees). Therefore, as discussed previously in this literature review, carbon emissions are pollutants released in the atmosphere from industrial and other human practices, and the concept of 'carbon neutral' is the act of reducing these emissions, as well as investing in other practices to offset non-eliminated emissions. This concept has also been called 'carbon capture' or 'carbon sequestration', in these cases rather than eliminated emissions, they are stored. According to Lackner (2003), "carbon capture and storage (or sequestration) is receiving increasing attention as one tool for reducing carbon dioxide concentration in the atmosphere". He advises against storage in environmentally active carbon pools such as oceans, as he perceives this may just be a trade of one environmental problem for another. Instead, Lackner prefers the option of underground injection and possible neutralization, as it may be cheaper in the short/medium term

then a full conversion to nuclear, wind or solar energy. Becoming carbon neutral is an initiative that many large corporations are attempting, mostly through offsetting, to be deemed carbon neutral industries or companies. However, this trend is now expanding past commercial businesses to social and cultural events.

A carbon neutral event is simply an event that has determined the amount of generated emissions, and then has reduced these emissions as much as possible and offset the remaining emissions through investment in tree-planting projects or in bullfrog power (renewable energy, i.e. wind, hydroelectric etc.). Many events such as festivals, annual music concerts parades and so on are adopting this initiative. A major reason for this is because of the growing concern of global warming and other negative environmental impacts, thus from a public relations perspective it is beneficial to be deemed an environmental friendly or green event.

However, there are some sceptics that argue against the concept of carbon neutral, where it is not an environmentally friendly practice, but rather a shift of ownership of the problem. This view is supported by Smith (2007) who states “carbon offsetting does seem too good to be true. After all, if you can really pay a third party to offset the consequences of the fossil fuel you have burnt driving your SUV around town, then we might not have to worry about climate change instead we can continue behaving exactly as we like”. Although some people may subscribe to this viewpoint, becoming carbon neutral is still known as an environmentally friendly practice, especially if the organization or event actively attempts to reduce emissions before resorting to offsetting.

## **5.10 Festival of Trees**

The festival of trees is a local festival of the City of Peterborough, held annually at the Peterborough Memorial Centre. The Festival of Trees is described by it’s website as the “Peterborough Festival of Trees raises funds for Peterborough Health Care by hosting a series of magical events and experiences created by

volunteers and supported by the community”. Therefore, the festival is a charity fundraiser for local healthcare. On the website’s literature, it declares that the funds raised are given to Peterborough Regional Health Centre Foundation, Hospice Peterborough and St. Joseph’s Care Foundation. Therefore, according to Sargeant and Kahler, this festival is a form of local or special event fundraising.

The Festival of Trees runs for one week during the month of November every year, this year the festival took place between November 25 – 30<sup>th</sup>; with set-up days on November 23<sup>rd</sup> and 24<sup>th</sup>. The festival has involves many different events including: a formal gala, auction, live brass band, children’s choirs, family night and others. Many local businesses take part in the festival by donating decorated trees or some of their products to be auctioned or raffled off.

The Festival of Trees has also started an environmentally friendly campaign, where a few of the volunteer organizers of the festival have started the Festival’s ‘greening’ process, which began in 2006. So far it has focused its attention on waste reduction, having implemented a recycling program, and compost for the volunteer area. Also, the festival has concentrated on the use of local food, and future initiatives and goals include energy reduction as well as becoming a carbon neutral event.

## **Methodology**

The research methodology employed for this community research project is predominantly quantitative in design; however there are some elements of a qualitative nature. Quantitative methods are important to this particular project because statistics have to be collected and analyzed to determine the amount of carbon emissions created by the festival. It is imperative that these statistics are collected in a fashion that accurately represents the festival-goer population as a whole. The quantitative collection of data is essential to this project, but qualitative methods such as participant observation and analysis of various

textual documents. The use of a multi-level methods approach is necessary for this project to assess emissions, but also recognise the festival-goers needs, so that when it comes time to make suggestions to reduce carbon emissions they will reflect the most suitable choices for the festival population. This section will outline the multiple methods used during the research process, beginning with a basic review of the textual document analysis. This will be followed by the quantitative gathering of statistics through the use of surveys, and finally a review of participant observations.

## **6.1 Textual Methods**

Textual methods are used to gain insight and knowledge of particular concepts related to the research project. "Texts are inescapably political, and an engagement with them is about effecting change, perhaps through elaborating new meanings or perhaps by representing resistance to dominant narratives" (Aitken, 2005) . The textual methods portion of the research was the first to be conducted. A variety of sources were reviewed, in attempts to develop a more penetrating understanding of the research project and the research questions posed by the project. The use of organizational websites, on-line newspaper articles, published journals, and books were reviewed in order to grasp the necessary concepts, as well as address any geographical issues related to the project. The initial review of material began by examining the Festival of Trees website, in order to understand how the festival is run, the activities that take place, the running length of the festival and so on, so that the researchers could gauge how to conduct the remaining research. The next step was to analyze the websites of other organizations or events that have already become carbon neutral. This allowed the researchers to better understand what factors and steps were necessary to become a carbon neutral event. Newspaper, journal articles and books were then used to develop a further understanding of key concepts and to answer some of the research questions outlined in the research proposal.

## **6.2 Surveys**

The researchers used surveys as a means to collect quantitative data on the Festival of Trees. A fifteen question survey was developed for this portion of the research, and was submitted to the Trent Geography Department for ethics approval. Surveys were conducted each day of the festival, including the initial two step-up days. Surveys questions were comprised mostly of which multiple choices, and the length of the survey itself was kept to one page front and back (See Appendix E). This was important to ensure participant willingness to fill out the survey, as it only took on average three to five minutes to complete. Surveys were administered to a random sample of both festival volunteers as well as festival-goers, in an effort to accurately determine the carbon emissions created by all people involved. Researchers circulated at the festival, asking randomly selected people to complete the survey. The times of the survey collections were deliberate, as it occurred at various times of each day, with a focus on taking a sample around the major events of the festival to ensure that the busiest times of the festival were surveyed sufficiently.

The survey itself was divided into four sections; travel, food packaging and disposal, participation in the festival and general information. The first five questions focused on the mode of transportation to determine the overall impact on the festival's carbon footprint. The following five questions were used to determine the amount of waste created by individuals at the festival. Questions 11 through 13 were used to examine the amount the average person participated in the festival, while general information (gender, and age) were used to determine the festival's main demographic (See Appendix E for sample survey).

## **6.3 Participant Observations**

In this section of the research, the researchers used their own participation observations as one of the methods of research. Pictures were taken of the festival from a higher vantage point in order to gauge the number of people at the festival during that time period, in order to determine the number of surveys needed

to represent a sufficient sample size. Pictures were also taken of the parking lot, to record the number of vehicles, to ensure that the completed surveys correspond with the actual transportation practices of volunteers and participants. Another observation was the recording of electric usage of the facility (Peterborough Memorial Centre), to be able to calculate the amount of energy used during the entire course of the festival, as well as the amount used during individual days. This was useful for two main reasons; first, energy consumption contributed to the amount of carbon emissions created by the festival, and second, this allowed the researchers to understand how to reduce energy use.

## **6.4 Statistical Analysis**

The collected surveys were then transcribed into a Microsoft Excel spreadsheet (See Appendix B). The raw data was divided by each day of the festival, and by question. Descriptive statistics were then calculated for the multiple choice questions to determine frequencies and percentages (See Appendices C and D). The percentages were then used to create pie graphs in Microsoft Excel. Open-ended questions were examined by the researchers to determine basic trends.

## **Discussion**

### **7.1 Methodological Problems**

Over the course of the project, it was discovered that the original goals and methodology were beyond the scope of the project, as they were slightly unrealistic. At first, the ultimate goal of the project was to calculate the complete carbon footprint of the festival. However, as the study was further examined, it was realized that the initial goal was unattainable, and adjustments were needed. To accurately calculate the carbon footprint of the festival, research would have had to been done at many more levels, including counting the total population of visitors and total volunteers, which was unavailable to the researchers during the course of the festival. In addition, past waste audits were given to the researchers, however, more



inclusive data would need to be available to determine the produced waste's carbon emission contributions. Thus, to be able to calculate with a concrete number of carbon emissions, a more intricate study of the details would be required, than was actually possible in this research.

As a result, a new goal for this study emerged; to define the major trends that contribute to the carbon footprint of the festival. Hence, instead of creating a carbon neutral event, recommendations are made to make the Festival of Trees a 'greener' event. As the title of the project states, "becoming carbon neutral", this study acts as the first major step along the path of the festival's long term goal. Changing the initial goal demonstrates the project's greatest limitation. Consequently, this limitation altered the methodology first proposed. Originally, we thought it was going to be possible to use a formula to calculate the total amount of carbon emissions; however the literature review revealed that this was beyond the scope of our study. Secondly, the location where the surveys were to be administered had to be changed.

When conducting the research, it was learned that the project's main goal was unrealistic, during the literature review; the response was a revision of the research questions. This was reinforced during the festival, where it was clear that the surveys themselves presented a slight problem as well. The method in which the surveys were administered had to be altered. At first, the researchers planned to conduct surveys at the exit of the Memorial Centre, and have participants answer the questions on their way out. However, due to time constraints, and lack of willingness to respond to the survey by the participants, researchers decided to circulate throughout the festival instead. This allowed the researchers to gain a more random sample of the population at the festival, as well as increase the willingness of festival goers to participate in the research. Once the goals and methods were adjusted to better suit the research, no further limitations presented themselves, and results were able to be calculated through statistical analysis.

## 7.2 Results

Based on the collection of raw data (See Appendix B), statistical analysis of descriptive statistics (frequencies and percentages) was conducted to determine the major contributing trends to carbon emissions. These statistics allowed us to make our main recommendations based on the behaviour of the attendees of the festival. It was discovered that mode of transportation and electrical usage were among the highest contributors to the emissions of the festival. In fact, 97.5% of the people attending the festival travelled in a personal vehicle, with 2.5% walking or taking a bus (Figure 7.1). Of those who drove, 77% had fewer than three people in their cars with 34% driving without any passengers (Figure 7.2). The distance travelled to the festival was often short as can be expected with a local festival. It was found that 74.5% of the participants travelled less than 10 km to the festival (Figure 7.3).

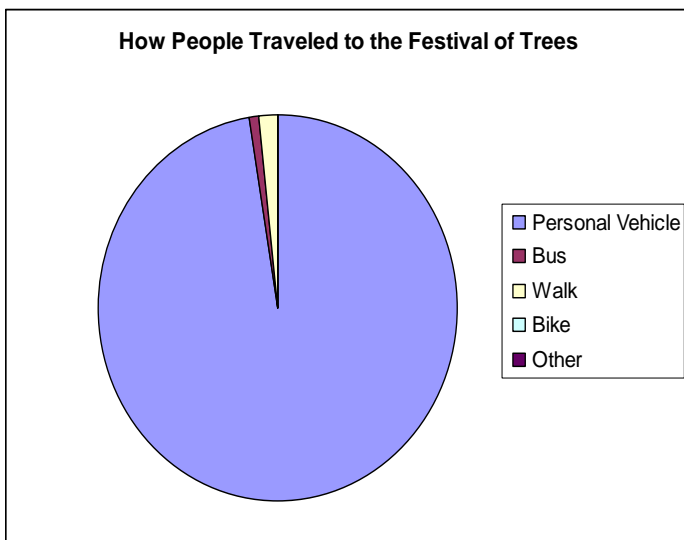


Figure 7.1

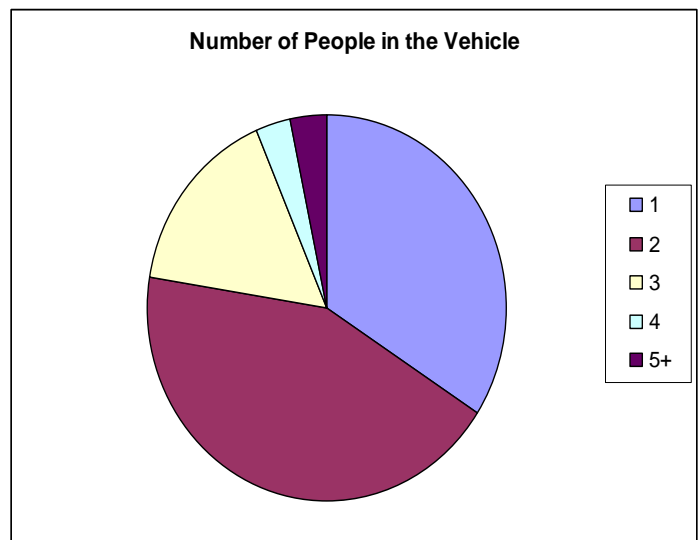


Figure 7.2

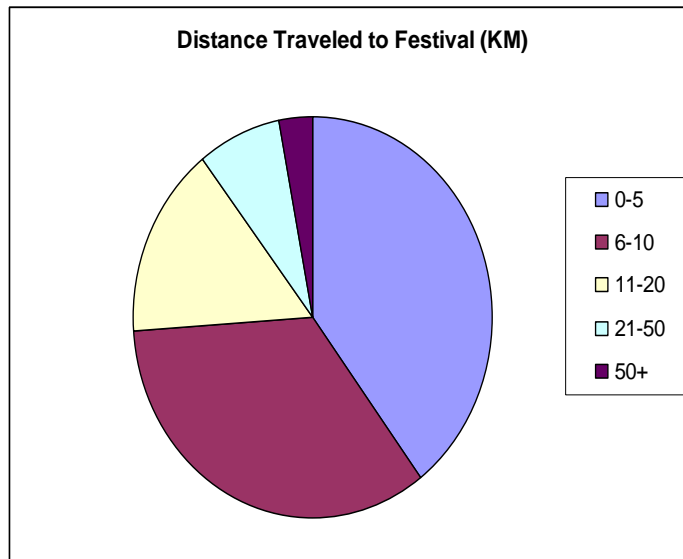


Figure 7.3

Another important factor was electrical usage. Electrical use during the festival was also found to be an average of 3810 kWh. This was discovered through participant observations by checking daily electrical readings at the Memorial Centre. Other notable trends include: 48% of the festival goers ate/drank at the festival, only 30% recycled all or some of their non-food waste. However, based on our observations in actuality this number is probably an exaggeration as people who stated they recycled in some cases, did not.

### 7.3 Recommendations

Mainly the recommendations presented here will be behavioural based and will be used as a deterrent of environmentally negative practices. Such practices include: charging for parking, giving a reduced parking rate for vehicles with three or more people, including a Peterborough bus pass with a ticket to the festival, diversify waste disposal, investing in bullfrog power or tree planting, using reusable dishes and cutlery, conduct more in-depth research, such as a total population count of festival to determine total carbon emissions, and using LED lights for the trees.

The recommendations in regards to transportation were made based on current practices. During the 2008 festival, parking at the Memorial Centre was free of charge, we, the researchers, suggested that charging for parking would act as a deterrent for people to use personal vehicles at multiple levels. First, participants within walking distance would be more likely to walk than drive. Friends will be more likely to carpool and other participants would be more likely to take public transit. Additionally, reduced parking rates for cars with multiple passengers offers an incentive program to carpool. Finally, selling advance tickets including a bus pass will highly motivate individuals to take public transit. Each of these suggestions would greatly reduce the carbon emissions of the greatest contributing factor to the festival.

Since participatory observations revealed that the collected data from surveys was inaccurate with respect to the rate of recycling, it is recommended that the festival diversifies their waste disposal system. Currently, alternative disposal methods are only available in the 'Snowflake Cafe' and volunteer areas. Offering recycling, as well as compost at all stations, would offer the convenience of allowing participants to dispose of waste in a more environmentally responsible manner. This is especially true during the Gala event. In addition, to diversifying waste disposal, encouraging minimizing waste entirely is equally valuable if not more so. The festival could accomplish this goal by serving food on reusable dishes with reusable cutlery. At this point, the Gala event is the only time where actual glasses and plates are used.

The final recommendations are in regard to electrical usage. The Festival of Trees has over 150 lit trees on the main floor of the festival, which all use incandescent light-bulbs. The festival attempted to use LED lights in the past, but at the time only blue LED lights were available, and participants were unhappy as a result. However, white LED lights are now produced, thus exchanging the regular light-bulbs of white LED light-bulbs would not ruin the festival's atmosphere, and conserve energy at the same time. Another recommendation involving electrical use is the concept of investing in bull-frog power, or tree planting. The study understands that the price of the rental of the Memorial Centre for the festival includes the cost of

electricity, thus investing in a form of green energy or tree planting, would ultimately paying for the electricity twice, however it is the only way to offset these emissions. Therefore, it is impossible to completely eliminate electrical use at the festival, meaning offsetting these emissions is the only way to become carbon neutral.

These recommendations would all be beneficial to the festival becoming a 'greener' event. Some, however, are much simpler to implement than others. Some of the suggestions offered in this discussion will have major budgetary concerns, which the organisers of the festival will need to address, and prioritize which recommendations will be economically feasible to implement in the near future.

## **Conclusion**

At the beginning of this project, four research questions were put forth, and this study was successful in answering all of them. The first research question posed by the study was to define what it means to be carbon neutral. This was addressed in the academic literature review whereby a definition of carbon neutral was identified (See Appendix A). The second research question the study addressed was what ecological factors contribute to the carbon footprint of an event. The study identified the major contributing factors during the course of the literature review, and these were kept in mind when the survey was created. Through transcription and statistical analysis of the surveys, as well as participatory observations, the researchers were able to determine the main contributing trends to the festival's carbon footprint. Finally, based on these trends, the researchers were able to decide which recommendations to make in order for the Festival of Trees to work towards being carbon neutral.

Due to the fact that the Festival of Trees is a charity festival that raises money for Peterborough healthcare, a balance must be struck between amount of money raised and the desire to be a 'green' festival.

Thus, these recommendations are not intended to be implemented all at once; instead it is more likely that these suggestions will be phased in over a number of years. In addition, even if all of these recommendations are utilized, the Festival of Trees would still not be deemed a Carbon Neutral event, as this study was unable to determine a concrete number for carbon emissions, as it was outside the scope of the project. Instead a much more in depth study would be needed to calculate total carbon emissions, only then would the festival accurately know their carbon footprint and the necessary steps to completely eliminate or offset their footprint.

As previously mentioned, a study of this magnitude is too complex to be conducted by 470 students in the future, thus an outside party would need to be contracted to complete this study. Since the festival is a charity-fundraiser, it is likely that they would like to avoid paying for this research; therefore Tree Canada is a valuable asset. Tree Canada offers a free service to calculate events' carbon footprints, although they do require a commitment that some of the carbon emissions created by the event will be offset by planting trees through their organization. The suggestion of further research does not devalue the recommendations made in this study as they will contribute to a 'greener' festival.

From the recommendations made during the discussion, the researchers suggest that the most inherent issue is the mode of transportation. Therefore, it is logical to conclude that the first recommendations to be implemented address this particular issue. Not only do the suggestions regarding transit reduce emissions from the most prominent issue, but they also have the least budgetary concerns. Charging a fee for parking, would not cost the festival money but instead offer an opportunity to raise even more funds. Additionally, selling advance tickets with a bus pass again would not hinder the profit margin of the festival. Therefore, it is the recommendation of this study that these simple suggestions be among the first to be introduced.

Although the project had to deter away from the initial goal, this study was still successful. The project's title is 'Becoming Carbon Neutral', and this research project has taken the first major step towards this goal. Overall, identifying methods which the festival can use to become a 'greener' event, as well as created a better understanding of what is involved in becoming a carbon neutral event truly demonstrates the value of the results of the project.

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## Appendix A: Key Terms

- 1) *Carbon Neutral*: The concept of balancing carbon emissions by counteracting the release of carbon, such as carbon dioxide, through activities that offset emissions (i.e. planting trees) (Alexander et al. 2007).
- 2) *Ecological Footprint*: The measure of the human impact on the ecosystem based on the human demand and the Earth's capacity to regenerate the natural resources.
- 3) *Recreation Geography*: Briefly described as the "use of land for recreation" (Mitchell, 1969).
- 4) *Tourism Geography*: Heavily related to recreation geography, tourism geography, for the sense of the study, will be defined as 'the practice of traveling to a place outside of one's normal geographic locations for the purposes of recreation'.
- 5) *Environmental Science*: Concerned with the science of the Earth's ecosystems as well as the "ethics, values, sociology and politics, law and business, motivation and responsibility. Most of all, environmental science is about life and how to sustain it on Planet Earth" (Wright, Nebel; 1993).
- 6) *Resource Management*: Monitoring one's activities with respect to a certain resource in an effort to reduce the impact imposed on the resource or to eliminate the impact on the resource until it has the ability to be managed naturally.
- 7) *Human Impacts on the Environment*: The ways in which humans can affect the environment (negatively or positively), through their actions.
- 8) *Cultural and Public Space*: Space "which the public collectively values, attributes symbolic significance and asserts claims" (Goheen, 1998).
- 9) *Festival*: A gathering of people for a single, collective purpose (e.g. listening to music, browsing for goods, public awareness of an issue, etc.).
- 10) *Festival of Trees*: A five-day festival that hosts events that are open to the public, is run almost completely by volunteers, and holds raffles and auctions for gift trees (e.g. a pre-decorated mini-tree) as well as other gifts and prizes.

## Appendix B: Raw Data

The raw data has been adapted its format from an Excel spreadsheet to fit the following pages. The raw data has been divided up by each day of the festival, and is highlighted by a solid line.

Day of Survey	Survey #	Question 1	Question 2	Question 3	Question 4	Question 5	Question 6
Sunday	1	Personal Vehicle	Compact Car	1	6-10	Y	Y
3808 kWh	2	Personal Vehicle	Compact Car	2	0-5	Y	Y
160 max	3	Personal Vehicle	Sedan	1	6-10	Y	Y
195 max	4	Personal Vehicle	Truck/Suv/Minivan	2	20-50	N: Norwood	N
	5	Personal Vehicle	Sedan	1	6-10	Y	Y
	6	Personal Vehicle	Compact Car	2	6-10	Y	N
	7	Personal Vehicle	Compact Car	1	6-10	Y	Y
	8	Personal Vehicle	Compact Car	2	0-5	Y	Y
	9	Personal Vehicle	Truck/Suv/Minivan	2	6-10	Y	N
<b>Question 7</b>		<b>Question 8</b>		<b>Question 9</b>			
Volunteer Area		Cream Cheese, Jam		Plastic, Paper/Cardboard, Styrofoam			
Volunteer Area		N/A		Plastic			
Volunteer Area		N/A		Plastic, Paper/Cardboard			
Blank		N/A		Blank			
Volunteer Area		Bagel		No Packaging			
Blank		N/A					
Volunteer Area		Cream Cheese		Plastic, Paper/Cardboard, Styrofoam			
Volunteer Area		N/A		Plastic, Styrofoam			
Volunteer Area		N/A					
<b>Question 10</b>		<b>Question 11</b>		<b>Question 12</b>	<b>Question 13</b>	<b>Question 14</b>	<b>Question 15</b>
Recycling Bin		Volunteer		3-5	1	55-64	Female
Recycling Bin		Volunteer		1-3	2	15-24	Female
Recycling Bin		Volunteer		5+	6	55-64	Female
N/A		Volunteer		1-3	2	35-44	Female
Garbage Bin, Recycling Bin		Volunteer		3-5	1	65+	Female
N/A		Volunteer		1-3	5	45-54	Female
Recycling Bin		Volunteer		3-5	1	55-64	Female
Garbage Bin, Recycling Bin		Volunteer		5+	2	65+	Female
Garbage Bin		Decorated a tree, Server in Café		3-5	2	65+	Female
<b>Day of Survey</b>	<b>Survey #</b>	<b>Question 1</b>	<b>Question 2</b>	<b>Question 3</b>	<b>Question 4</b>	<b>Question 5</b>	<b>Question 6</b>
Monday	1	Personal Vehicle	Sedan	1	6-10	Y	N
3810 kWh	2	Personal Vehicle	Truck/Suv/Minivan	4	11-20	Y	Y
160 max	3	Personal Vehicle	Truck/Suv/Minivan	2	6-10	Y	N
195 max	4	Personal Vehicle	Sedan	3	0-5	Y	Y
	5	Personal Vehicle	Sedan	1	0-5	Y	N

6	Personal Vehicle	Truck/Suv/Minivan	1	6-10	N: Cavan	N
7	Personal Vehicle	Truck/Suv/Minivan	1	6-10	Y	N
8	Personal Vehicle	Truck/Suv/Minivan	2	11-20	N: Bridgenorth	Y
9	Personal Vehicle	Truck/Suv/Minivan	1	0-5	Y	Y
10	Personal Vehicle	Truck/Suv/Minivan	2	6-10	Y	N
11	Personal Vehicle	Compact Car	2	0-5	Y	Y
12	Personal Vehicle	Compact Car	1	11-20	Y	Y
13	Personal Vehicle	Sedan	1	6-10	Y	Y
14	Personal Vehicle	Sedan	1	11-20	N: Smith Township	Y
15	Personal Vehicle	Compact Car	2	0-5	N: Ajax	Y
16	Personal Vehicle	Sedan	1	6-10	Y	Y
17	Personal Vehicle	Sedan	2	80	N: Pickering	N
18	Personal Vehicle	Sedan	2	80	N: Pickering	N
19	Personal Vehicle	Truck/Suv/Minivan	4	11-20	N: Bridgenorth	N
20	Personal Vehicle	Truck/Suv/Minivan	3	50+	N: Cavan	Y
21	Personal Vehicle	Sedan	2	6-10	Y	N
22	Personal Vehicle	Compact Car	1	20-50	N: Omemee	N
23	Personal Vehicle	Sedan	1	6-10	Y	N
24	Personal Vehicle	Truck/Suv/Minivan	2	6-10	Y	Y
25	Personal Vehicle	Truck/Suv/Minivan	2	11-20	N: Bridgenorth	N
26	Personal Vehicle	Truck/Suv/Minivan	3	6-10	Y	Y
27	Personal Vehicle	Truck/Suv/Minivan	5	11-20	N: Millbrook	Y
28	Personal Vehicle	Truck/Suv/Minivan	3	6-10	Y	N
29	Personal Vehicle	Sedan	4	6-10	N	N
30	Personal Vehicle	Truck/Suv/Minivan	2	0-5	Y	N
31	Personal Vehicle	Compact Car	1	20-50	N: Millbrook	Y
32	Personal Vehicle	Truck/Suv/Minivan	3	20-50	N: Norwood	N
33	Personal Vehicle	Truck/Suv/Minivan	3	11-20	N: Smith Township	Y
34	Walk	N/A	N/A	0-5	Y	Y
35	Personal Vehicle	Compact Car	1	0-5	Y	Y
36	Personal Vehicle	Compact Car	3	6-10	Y	Y
37	Personal Vehicle	Compact Car	3	11-20	N	Y
38	Personal Vehicle	Compact Car	2	0-5	Y	N
39	Personal Vehicle	Compact Car	2	0-5	Y	Y

**Question 7**

Blank  
Both  
Blank

**Question 8**

N/A  
Drink, Cookies  
N/A

**Question 9**

Blank  
Plastic  
Blank

Purchased at Festival	Chips, Cookies	Other: Foil
Blank	N/A	Blank
Blank	N/A	Blank
Blank	N/A	Blank
Purchased at Festival	Coffee, Sandwich, Juice, Burger, Hot Chocolate	Plastic, Paper/Cardboard, Styrofoam
Purchased at Festival	N/A	Paper/Cardboard
Blank	N/A	Paper/Cardboard
Purchased at Festival	Salad, Coffee, Pizza	Plastic, Styrofoam
Purchased at Festival	Sandwich, Coffee, Hamburger, Salad, Donuts	Plastic, Styrofoam
Blank	N/A	Plastic, Paper/Cardboard
Purchased at Festival	N/A	Paper/Cardboard
Volunteer Area	N/A	Plastic
Volunteer Area	N/A	Plastic, Paper/Cardboard
Blank	N/A	Blank
Blank	N/A	Blank
Blank	N/A	Blank
Purchased at Festival	Fudge, Chocolate, Sucker	Plastic, Paper/Cardboard
Blank	N/A	Blank
Brought food from home	N/A	Blank
Blank	N/A	Blank
Purchased at Festival	N/A	No Packaging
Blank	N/A	Blank
Brought food from home	N/A	Blank
Purchased at Festival	Hot Dogs, Chili, Pizza, Milk, Pop	No Packaging
Blank	N/A	Blank
Blank	N/A	Blank
Blank	N/A	Blank
Purchased at Festival	Tea Biscuit	No Packaging
Blank	N/A	Blank
Purchased at Festival	Tea, Apple Cider, Water, Cookies	Plastic, Styrofoam
Purchased at Festival	Pizza, Milk	Styrofoam
Purchased at Festival	Hot Dog	Paper/Cardboard
Purchased at Festival	Coffee, Water	Plastic, Styrofoam
Both	Muffin	Plastic
Blank	N/A	Blank
Purchased at Festival	Hot Dog	Paper/Cardboard

Question 10	Question 11	Question 12	Question 13	Question 14	Question 15
Recycling Bin	Working	1-3		2 45-54	Female
Garbage Bin	Visiting	1-3		1 15-24	Male
Recycling Bin	Volunteer	3-5		2 35-44	Male
Garbage Bin	Decorated a tree	1-3		2 35-44	Female
N/A					
Garbage Bin, Recycling Bin	Volunteer	1-3		3 35-44	Female
N/A	Working	1-3		3 25-34	Female
Garbage Bin, Recycling Bin	Working	5+		3 65+	Female
Recycling Bin		3-5		55-64	Male
Recycling Bin	Volunteer	5+		4 65+	Female
Recycling Bin	Volunteer	5+		8 55-64	Female
Recycling Bin	Volunteer	5+		4 55-64	Male
Recycling Bin	Volunteer	5+		3 65+	Female

Garbage Bin, Recycling Bin	Volunteer	5+	8	65+	Female
Recycling Bin	Volunteer	1-3	2	15-24	Female
Recycling Bin	Volunteer	5+	6	55-64	Female
N/A	Visiting	1-3	1	45-54	Male
N/A	Visiting	1-3	1	45-54	Female
N/A	Visiting	1-3	1	35-44	Male
Garbage Bin, Recycling Bin	Visiting	1-3	1	15-24	Female
N/A		0-1	1	15-24	Male
N/A	Working	5+	2	25-34	Male
N/A	Volunteer	1-3	2	55-64	Female
Garbage Bin		1-3	1	35-44	Male
N/A	Visiting	1-3	1	65+	Female
N/A	Good Cause	0-1	2	25-34	Female
Recycling Bin	Visiting	1-3	1	45-54	Female
N/A		1-3	1	35-44	Female
N/A	Visiting	1-3	1	45-54	Male
N/A	Volunteer	1-3	2	65+	Male
Garbage Bin	Volunteer	5+	3	55-64	Female
N/A		1-3	1	45-54	Male
Recycling Bin	Visiting	1-3	1	45-54	Female
Recycling Bin	Visiting	0-1	1	35-44	Male
Recycling Bin		0-1	2	35-44	Female
Recycling Bin	Visiting	1-3	1	35-44	Female
Recycling Bin	Visiting	1-3	2	25-34	Male
N/A	Visiting	0-1	1	45-54	Female
Garbage Bin		0-1	1	15-24	Male

Day of Survey	Survey #	Question 1	Question 2	Question 3	Question 4	Question 5	Question 6
Tuesday	1	Bus Personal	N/A	5	6-10	Y	Y
3812 kWh	2	Vehicle Personal	Truck/Suv/Minivan	1	0-5	Y	N
160 max	3	Vehicle Personal	Truck/Suv/Minivan	1	11-20	Y	Y
195 max	4	Vehicle Personal	Sedan	1	0-5	Y	N
	5	Vehicle Personal	Compact Car	3	80	N: Millbrook	N
	6	Vehicle Personal	Truck/Suv/Minivan	1	11-20	Y	Y
	7	Vehicle Personal	Truck/Suv/Minivan	1	20-50	N: Bailieboro	Y
	8	Vehicle Personal	Truck/Suv/Minivan	5	50+	N: Ajax	N
	9	Vehicle Personal	Sedan	1	11-20	Y	N
	10	Vehicle Personal	Compact Car	2	11-20	Y	N
	11	Vehicle Personal	Truck/Suv/Minivan	1	6-10	Y	N
	12	Vehicle Personal	Compact Car	2	11-20	N: Ennismore	N
	13	Vehicle	Truck/Suv/Minivan	3	0-5	N: Warsaw	N
	14	Walk Personal	N/A	N/A	0-5	Y	Y
	15	Vehicle	Truck/Suv/Minivan	4	0-5	Y	N
	16	Bus Personal	N/A	N/A	0-5	Y	Y
	17	Vehicle	Compact Car	2	0-5	Y	N

<b>Question 7</b>		<b>Question 8</b>		<b>Question 9</b>			
Both		Fudge		Paper/Cardboard			
Purchased at Festival		Fudge/Coffee		Plastic, Paper/Cardboard			
Purchased at Festival		Chicken Stew		Styrofoam			
Blank		N/A					
Blank		N/A					
Purchased at Festival		Drink		Plastic			
Purchased at Festival		Pizza, Coffee		Styrofoam			
Both		Gingerbread Cookies		Plastic			
Blank		N/A					
Blank		N/A					
Blank		N/A					
Blank		N/A					
Blank		N/A					
Purchased at Festival		Hot Chocolate		Styrofoam			
Both		Hot Dog, Coffee		No Packaging			
Purchased at Festival		Pizza, Tea, Cookies, Fudge		Styrofoam			
		N/A					
<b>Question 10</b>		<b>Question 11</b>		<b>Question 12</b>	<b>Question 13</b>	<b>Question 14</b>	<b>Question 15</b>
Garbage Bin, Recycling Bin		Class Trip		1-3	1	45-54	Female
Garbage Bin, Recycling Bin		Child Singing		1-3	1	35-44	
Recycling Bin		Child Singing		0-1	1	35-44	Male
N/A		Child Singing		1-3	1	35-44	Female
N/A		Class Trip		1-3	1	35-44	Female
Recycling Bin		Visiting		1-3	1	35-44	Male
Garbage Bin		Visiting		1-3	2	15-24	Female
Garbage Bin		Good Cause		1-3	1	45-54	Female
N/A		Revisiting		1-3	1	55-64	Male
N/A		Revisiting		0-1	1	15-24	Female
N/A		Good cause, Friends, Giving		1-3	1	55-64	Female
N/A		Visiting		0-1	1	65+	Male
N/A		Child Singing		1-3	1	35-44	Female
Recycling Bin				1-3	1	35-44	Male
Recycling Bin		Volunteer		5+	7	55-64	Female
Recycling Bin		Volunteer		1-3	2	45-54	Female
N/A				1-3	2	65+	Female

<b>Day of Survey</b>	<b>Survey #</b>	<b>Question 1</b>	<b>Question 2</b>	<b>Question 3</b>	<b>Question 4</b>	<b>Question 5</b>	<b>Question 6</b>
Wednesday	1	Personal Vehicle	Compact Car	1	11-20	N	Y
3814 kWh	2	Personal Vehicle	Compact Car	2	0-5	Y	Y
160 max	3	Personal Vehicle	Sedan	2	11-20	Y	N
195 max	4	Personal Vehicle	Compact Car	4	20-50	N: Lakefield	Y
	5	Personal Vehicle	Truck/Suv/Minivan	3	6-10	Y	Y
	6	Personal Vehicle	Compact Car	2	0-5	Y	Y
	7	Personal Vehicle	Truck/Suv/Minivan	2	11-20	N: Bridgenorth	Y
	8	Personal Vehicle	Truck/Suv/Minivan	2	6-10	N: Ennismore	N

9	Personal Vehicle	Hybrid	2	50+	N: Cobourg	Y
10	Personal Vehicle	Sedan	1	6-10	Y	Y
11	Personal Vehicle	Truck/Suv/Minivan	2	6-10	Y	Y
12	Personal Vehicle	Truck/Suv/Minivan	2	0-5	Y	Y
13	Personal Vehicle	Truck/Suv/Minivan	2	6-10	Y	Y
14	Personal Vehicle	Truck/Suv/Minivan	2	20-50	N: Norwood	N
15	Personal Vehicle	Compact Car	1	0-5	Y	N
16	Personal Vehicle	Compact Car	1	0-5	Y	N
17	Personal Vehicle	Compact Car	2	20-50	N: Kawartha Lakes	N
18	Personal Vehicle	Compact Car	2	6-10	N: Newmarket	N
19	Personal Vehicle	Compact Car	1	6-10	Y	N
20	Personal Vehicle	Compact Car	2	6-10	N: Newmarket	N
21	Personal Walk	N/A	N/A	6-10	Y	Y
22	Personal Vehicle	Truck/Suv/Minivan	1	11-20	N: Lakefield	Y
23	Personal Vehicle	Compact Car	2	0-5	N	Y
24	Personal Vehicle	Truck/Suv/Minivan	1	0-5	Y	Y
25	Personal Vehicle	Truck/Suv/Minivan	2	0-5	N: Keeal	N
26	Personal Vehicle	Truck/Suv/Minivan	2	0-5	Y	Y
27	Personal Vehicle	Compact Car	2	0-5	Y	N
28	Personal Vehicle	Sedan	1	20-50	N: Ennismore	N
29	Personal Vehicle	Truck/Suv/Minivan	1	0-5	Y	Y
30	Personal Vehicle	Compact Car	1	0-5	Y	N
31	Personal Vehicle	Compact Car	3	11-20	Y	N

**Question 7**

Blank  
Purchased at Festival  
Blank  
Blank  
Purchased at Festival  
Purchased at Festival  
Blank  
Blank  
Blank  
Purchased at Festival  
Purchased at Festival  
Blank  
Blank  
Blank  
Blank  
Blank  
Blank  
Blank

**Question 8**

N/A  
N/A  
N/A  
N/A  
Pizza, Chili, Pop, Milk  
N/A  
N/A  
N/A  
N/A  
Fudge  
Drink  
N/A  
N/A  
N/A  
N/A  
N/A  
N/A  
N/A  
N/A

**Question 9**

Paper/Cardboard  
Blank  
Blank  
Paper/Cardboard  
Styrofoam  
Paper/Cardboard  
Paper/Cardboard  
Blank  
Blank  
Plastic  
Other: Glass  
No Packaging  
No Packaging  
Blank  
Blank  
Blank  
Blank  
Blank  
Blank

Blank	N/A	Blank
Purchased at Festival	Chocolate	Paper/Cardboard
Both	Coffee	Other: Unsure
Brought food from home	N/A	Plastic, Styrofoam
Purchased at Festival	N/A	Paper/Cardboard
Blank	N/A	Blank
Purchased at Festival	N/A	Styrofoam
Blank	N/A	Blank
Blank	N/A	Blank
Purchased at Festival	Sandwich, Pizza, Donuts, Water, Coffee, Muffin	Plastic, Paper/Cardboard, Styrofoam
Blank	N/A	Blank
Blank	N/A	Blank

<b>Question 10</b>	<b>Question 11</b>	<b>Question 12</b>	<b>Question 13</b>	<b>Question 14</b>	<b>Question 15</b>
N/A	Visiting	1-3	1	45-54	Female
N/A	Working	1-3	1	25-34	Female
N/A	Good Cause	1-3	2	65+	Female
Garbage Bin	Visiting	3-5	1	45-54	Male
Garbage Bin	Good Cause, Fundraising, Volunteer	5+	5	15-24	Female
Garbage Bin	Gala	3-5	2	45-54	Male
Garbage Bin	Gala, Sponsor	1-3	1	35-44	Female
N/A	Good Cause	0-1	2	55-64	Female
Garbage Bin	Gala	1-3	1	45-54	Male
Garbage Bin	Gala	1-3	1	45-54	Male
Recycling Bin	Visiting	1-3	2	45-54	Female
Garbage Bin	Working	1-3	1	35-44	Female
Garbage Bin, Recycling Bin	Visiting	1-3	1	45-54	Male
N/A	Volunteer	1-3	2	35-44	Female
N/A	Working	3-5	3	45-54	Male
N/A	Working	3-5	3	45-54	Male
N/A	Working	5+	6	25-34	Female
Garbage Bin, Recycling Bin	Working	3-5	2	15-24	Female
Recycling Bin	Volunteer	3-5	1	15-24	Female
N/A	Volunteer	3-5	5	15-24	Female
Recycling Bin		5+	3	45-54	Male
Garbage Bin, Recycling Bin	Visiting	5+	8	15-24	Male
All	Volunteer	5+	7	35-44	Female
Garbage Bin	Volunteer	1-3	1	45-54	Female
N/A	Gala	1-3	1	25-34	Female
Garbage Bin		1-3	1	35-44	Male
N/A	Volunteer	3-5	3	25-34	Female
N/A	Volunteer	0-1	1	15-24	Female
Garbage Bin, Recycling Bin	Volunteer	5+	8	55-64	Male
N/A	Volunteer	5+	2	45-54	Female
N/A	Decorated a tree	1-3	2	15-24	Female

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<b>Day of Survey</b>	<b>Survey #</b>	<b>Question 1</b>	<b>Question 2</b>	<b>Question 3</b>	<b>Question 4</b>	<b>Question 5</b>	<b>Question 6</b>
Thursday	1	Personal Vehicle	Truck/Suv/Minivan	1	0-5	Y	Y



3816 kWh	2	Personal Vehicle	Sedan	2	20-50	N: Toronto	Y
160 max	3	Personal Vehicle	Compact Car	3	6-10	Y	N
195 max	4	Personal Vehicle	Truck/Suv/Minivan	1	0-5	Y	N
	5	Personal Vehicle	Compact Car	2	0-5	Y	Y
	6	Personal Vehicle	Compact Car	1	6-10	Y	Y
	7	Personal Vehicle	Sedan	1	6-10	Y	Y
	8	Personal Vehicle	Compact Car	1	6-10	Y	Y
	9	Personal Vehicle	Truck/Suv/Minivan	1	11-20	N: Ennismore	Y
	10	Personal Vehicle	Sedan	2	0-5	Y	Y
	11	Personal Vehicle	Sedan	2	11-20	N: S Monaghan	Y
	12	Personal Vehicle	Truck/Suv/Minivan	1	0-5	Y	Y
	13	Personal Vehicle	Sedan	2	20-50	N: Toronto	Y
	14	Personal Vehicle	Compact Car	2	6-10	Y	Y
	15	Personal Vehicle	Truck/Suv/Minivan	3	0-5	Y	N
	16	Personal Vehicle	Compact Car	2	0-5	Y	Y
	17	Personal Vehicle	Truck/Suv/Minivan	1	11-20	Y	Y
	18	Personal Vehicle	Truck/Suv/Minivan	2	6-10	Y	Y
	19	Personal Vehicle	Truck/Suv/Minivan	2	6-10	Y	Y
	20	Personal Vehicle	Compact Car	2	6-10	Y	Y
	21	Personal Vehicle	Sedan	4	6-10	Y	Y
	22	Personal Vehicle	Sedan	1	20-50	N	N
	23	Personal Vehicle	Truck/Suv/Minivan	2	0-5	Y	N
	24	Personal Vehicle	Truck/Suv/Minivan	2	11-20	N: Ennismore	N
	25	Personal Vehicle	Sedan	2	11-20	N: Lakefield	Y
	26	Personal Vehicle	Truck/Suv/Minivan	2	6-10	Y	Y
	27	Personal Vehicle	Truck/Suv/Minivan	2	0-5	Y	Y
	28	Personal Vehicle	Truck/Suv/Minivan	2	0-5	Y	N
	29	Personal Vehicle	Sedan	2	11-20	Y	Y
	30	Personal Vehicle	Truck/Suv/Minivan	5	6-10	Y	Y
	31	Personal Vehicle	Truck/Suv/Minivan	5	0-5	Y	Y
	32	Personal Vehicle	Sedan	2	0-5	Y	Y
	33	Personal Vehicle	Truck/Suv/Minivan	5	6-10	N: Sarnia	N
	34	Personal Vehicle	Sedan	1	20-50	N: Ennismore	Y

**Question 7**

Purchased at Festival  
Purchased at Festival  
Blank

**Question 8**

Muffin, Coffee  
Chili, Chicken Stew, Cheese  
N/A

**Question 9**

Styrofoam  
Styrofoam

Blank	N/A	
Volunteer Area	N/A	Plastic, Styrofoam
Purchased at Festival	Hot Dog, Carrot Cake, Cider	Styrofoam
Volunteer Area	Bagel	No Packaging
Brought food from home	Bagel	Styrofoam
Volunteer Area	Bagel	Styrofoam
Purchased at Festival	Pizza	Styrofoam
Purchased at Festival	Chili, Chicken Stew, Coffee, Cookies	Styrofoam
Purchased at Festival	Cake	Styrofoam
Purchased at Festival	Chili, Stew, Buns	Styrofoam
Purchased at Festival	Meat Balls, Pork	Paper/Cardboard
Blank	N/A	
Purchased at Festival	Drink	Other: Glass
Blank	N/A	Paper/Cardboard
Blank	N/A	Paper/Cardboard
Blank	N/A	Paper/Cardboard
Blank	N/A	No Packaging
Blank	N/A	
Blank	N/A	
Blank	N/A	
Blank	N/A	
Purchased at Festival	Shrimp	Paper/Cardboard
Purchased at Festival	N/A	Paper/Cardboard
Blank	N/A	
Blank	N/A	Other: Glass
Both	N/A	Styrofoam
Purchased at Festival	Pizza	No Packaging
Purchased at Festival	N/A	Plastic, Paper/Cardboard
Purchased at Festival	Candy	Plastic
Blank	N/A	No Packaging
Purchased at Festival	Drink	No Packaging

Question 10	Question 11	Question 12	Question 13	Question 14	Question 15
Garbage Bin	Child Performing	1-3	1	55-64	Female
Garbage Bin		1-3	1	55-64	Female
N/A	Visiting	1-3	1	55-64	Female
N/A	Child Singing	1-3	1	35-44	Male
Garbage Bin, Recycling Bin	Volunteer	5+	2	65+	Female
Garbage Bin	Visiting	1-3	1	55-64	Male
Garbage Bin, Recycling Bin	Volunteer	3-5	1	65+	Female
Recycling Bin	Volunteer	3-5	1	65+	Female
Recycling Bin	Volunteer	5+	8	45-54	Female
Recycling Bin	Visiting	0-1	1	65+	Male
Garbage Bin	Visiting	1-3	1	65+	Female
Recycling Bin	Child Singing	1-3	1	45-54	Male
Garbage Bin	Child Singing	1-3	1	55-64	Male
Garbage Bin	Good Cause	1-3	2	35-44	Male
N/A	Good Cause	3-5	2	45-54	Male
Garbage Bin	Sponsor of Festival	1-3	2	35-44	Female
Garbage Bin		1-3	2	45-54	Female
Garbage Bin, Recycling Bin	Visiting	1-3	2	55-64	Male

Garbage Bin, Recycling Bin	Visiting	1-3	3	65+	Female
Garbage Bin	Visiting	1-3	2	65+	Female
Garbage Bin	Fundraising	3-5	1	55-64	Female
N/A	Visiting	1-3	1	35-44	Female
N/A	Visiting	5+	5	35-44	Female
N/A	Buying a Tree, Networking	1-3	2	35-44	Male
Garbage Bin	Visiting	1-3	2	15-24	Female
Recycling Bin	Good Cause	1-3	3		Female
N/A	Fundraising	3-5	1	45-54	Female
Garbage Bin	Volunteer	3-5	1	55-64	Female
Garbage Bin, Recycling Bin	Visiting	3-5	2	15-24	Female
Garbage Bin	Volunteer	1-3	1	15-24	Male
Garbage Bin, Recycling Bin	Volunteer	3-5	1	15-24	Male
Garbage Bin	Sponsor of Festival	1-3	1	25-34	Male
N/A	Volunteer	1-3	1	25-34	Male
N/A	Visiting	3-5	2	45-54	Female

Day of Survey	Survey #	Question 1	Question 2	Question 3	Question 4	Question 5	Question 6
Friday	1	Personal Vehicle	Other	2	6-10	Y	Y
	2	Personal Vehicle	Truck/Suv/Minivan	2	0-5	Y	Y
3819 kWh	3	Personal Vehicle	Sedan	3	6-10	Y	N
160 max	4	Personal Vehicle	Compact Car	2	6-10	Y	N
195 max	5	Personal Vehicle	Compact Car	2	6-10	Y	N
	6	Personal Vehicle	Truck/Suv/Minivan	2	6-10	Y	N
	7	Personal Vehicle	Compact Car	2	0-5	Y	N
	8	Personal Vehicle	Sedan	1	0-5	Y	N
	9	Personal Vehicle	Compact Car	1	0-5	Y	Y
	10	Personal Vehicle	Compact Car	1	0-5	Y	Y
	11	Personal Vehicle	Truck/Suv/Minivan	1	0-5	Y	N
200	12	Personal Vehicle	Truck/Suv/Minivan	2	6-10	Y	Y
	13	Personal Vehicle	Compact Car	1	6-10	Y	Y
	14	Personal Vehicle	Sedan	1	20-50	N: Omemee	Y
	15	Personal Vehicle	Sedan	1	0-5	Y	N
	16	Personal Vehicle	Sedan	1	0-5	Y	Y
	17	Personal Vehicle	Compact Car	1	6-10	Y	Y
	18	Personal Vehicle	Sedan	2	0-5	Y	N
	19	Personal Vehicle	Sedan	3	0-5	Y	Y

Question 7	Question 8	Question 9
Purchased at Festival	N/A	No Packaging
Purchased at Festival	N/A	Styrofoam

Blank	N/A	
Blank	N/A	
Blank	N/A	
Volunteer Area	N/A	
Blank	N/A	
Blank	N/A	
Volunteer Area	N/A	No Packaging
Both	Cider, Cookie	Paper/Cardboard, Styrofoam
Blank	N/A	
Purchased at Festival	Soup, Dessert	No Packaging Plastic, Paper/Cardboard, Styrofoam
Volunteer Area	Cream Cheese, Jam	
Purchased at Festival	Pizza	Paper/Cardboard
Blank	N/A	
Volunteer Area	N/A	
Volunteer Area	N/A	Paper/Cardboard
Blank	N/A	
Purchased at Festival	Soup, Chicken	Other: Glass Plate

Question 10	Question 11	Question 12	Question 13	Question 14	Question 15
N/A	Fun Times	3-5	1	25-34	Male
Recycling Bin	Gala, Trees, Music, Buy Trees	1-3	3	65+	Female
N/A	Visiting	1-3	2	65+	Female
N/A	Visiting	1-3	1	55-64	Female
N/A	Look around	1-3	1	55-64	Male
Garbage Bin	Decorated a tree, Server in Café	3-5	2	65+	Female
N/A	Working	1-3	3	65+	Male
N/A	Revisit, Sightseeing, Volunteer	1-3	1	65+	Female
Garbage Bin	Volunteer	5+	2	65+	Female
Recycling Bin	Centre Stage Entertainment Co-ordinator	5+	5	55-64	Female
N/A	Volunteer	3-5	2	55-64	Male
N/A	Good times, great cause, networking	1-3	1	35-44	Male
Recycling Bin	Volunteer	3-5	1	55-64	Female
Recycling Bin	Volunteer	1-3	4	15-24	Male
N/A	Volunteer	1-3	8	15-24	Male
Recycling Bin	Volunteer	5+	4	45-54	Female
Garbage Bin, Recycling Bin	I enjoy it	3-5	6	65+	Female
N/A	Volunteer	1-3	8	15-24	Male
N/A	Celebrity Lunch	1-3	1	25-34	Male

Day of Survey	Survey #	Question 1	Question 2	Question 3	Question 4	Question 5	Question 6
Saturday	1	Personal Vehicle	Sedan	1	0-5	Y	N
	2	Personal Vehicle	Truck/Suv/Minivan	2	0-5	Y	N
3821 kWh	3	Personal Vehicle	Sedan	3	6-10	Y	N
160 max	4	Personal Vehicle	Compact Car	2	6-10	Y	N
195 max	5	Personal Vehicle	Truck/Suv/Minivan	2	6-10	Y	N
	6	Personal Vehicle	Compact Car	2	0-5	Y	N

7	Personal Vehicle	Sedan	1	0-5	Y	N
8	Personal Vehicle	Compact Car	1	0-5	Y	Y
9	Personal Vehicle	Compact Car	1	0-5	Y	N
10	Personal Vehicle	Truck/Suv/Minivan	1	0-5	Y	N
11	Personal Vehicle	Truck/Suv/Minivan	2	6-10	Y	Y
12	Personal Vehicle	Compact Car	3	6-10	Y	N
13	Personal Vehicle	Truck/Suv/Minivan	3	0-5	Y	N
14	Personal Vehicle	Truck/Suv/Minivan	2	0-5	Y	N
15	Personal Vehicle	Compact Car	1	6-10	Y	Y
16	Personal Vehicle	Sedan	1	20-50	N: Omemee	N
17	Personal Vehicle	Sedan	1	0-5	Y	N
18	Personal Vehicle	Compact Car	2	11-20	N: Cavan	N
19	Personal Vehicle	Compact Car	1	6-10	Y	Y
20	Personal Vehicle	Sedan	2	0-5	Y	N
21	Personal Vehicle	Sedan	3	0-5	Y	Y
22	Personal Vehicle	Truck/Suv/Minivan	1	0-5	Y	N
23	Personal Vehicle	Compact Car	2	6-10	Y	N
24	Personal Vehicle	Sedan	3	6-10	Y	N
25	Personal Vehicle	Sedan	1	0-5	Y	N
26	Personal Vehicle	Compact Car	2	6-10	Y	Y

**Question 7**

Blank  
Blank  
Blank  
Blank  
Blank  
Blank  
Blank  
Volunteer Area  
Blank  
Blank  
Purchased at Festival  
Blank  
Blank  
Blank  
Volunteer Area  
Blank  
Blank  
Blank  
Volunteer Area  
Blank  
Purchased at Festival  
Blank

**Question 8**

N/A  
N/A  
N/A  
N/A  
N/A  
N/A  
N/A  
N/A  
N/A  
Soup  
N/A  
N/A  
N/A  
Cream Cheese  
N/A  
N/A  
N/A  
N/A  
N/A  
Pizza  
N/A

**Question 9**

No Packaging  
  
No Packaging  
  
Plastic, Paper/Cardboard, Styrofoam  
  
Paper/Cardboard  
  
Paper/Cardboard

Blank	N/A	
Blank	N/A	
Blank	N/A	
Purchased at Festival	Soup	Styrofoam

Question 10	Question 11	Question 12	Question 13	Question 14	Question 15
N/A	Volunteer	1-3	8	15-24	Male
N/A	Gala, Cloggers	1-3	3	65+	Male
N/A	Visiting	1-3	2	65+	Female
N/A	Volunteer	1-3	5	45-54	Female
N/A	Gave a tree	3-5	2	55-64	Male
N/A	Volunteer	1-3	3	65+	Male
N/A	Revisit, Sightseeing	1-3	1	65+	Female
Garbage Bin	Volunteer	5+	2	65+	Female
N/A	Entertainment	5+	5	55-64	Male
N/A	Volunteer	3-5	2	55-64	Male
Other: Taken by friend	Networking	1-3	1	35-44	Male
N/A	Visiting	3-5	4	35-44	Male
N/A		1-3	2	35-44	Female
N/A	Gave a tree	1-3	3	25-34	Female
Recycling Bin	Volunteer	3-5	1	55-64	Female
N/A	Security	1-3	4	25-34	Male
N/A	Volunteer	1-3	8	15-24	Male
N/A	Volunteer	5+	4	35-44	Female
Garbage Bin, Recycling Bin	Fun	3-5	6	35-44	Male
N/A	Helping out	1-3	8	15-24	Male
Recycling Bin	Help	1-3	1	25-34	Male
N/A	Entertainment	1-3	1	35-44	Male
N/A		1-3	2	45-54	Female
N/A	Tree Raffle	1-3	3	35-44	Male
N/A	Look around, buy gifts	3-5	2	25-34	Male
Garbage Bin, Recycling Bin	Gifts	3-5	4	35-44	Male

Day of Survey	Survey #	Question 1	Question 2	Question 3	Question 4	Question 5	Question 6
Sunday	1	Personal Vehicle	Sedan	2	0-5	Y	N
	2	Personal Vehicle	Compact Car	3	6-10	Y	Y
3823 kWh	3	Personal Vehicle	Truck/Suv/Minivan	2	11-20	Y	N
160 max	4	Personal Vehicle	Compact Car	1	0-5	Y	N
195 max	5	Personal Vehicle	Truck/Suv/Minivan	3	6-10	Y	N
	6	Personal Vehicle	Sedan	2	6-10	Y	Y
	7	Personal Vehicle	Sedan	2	0-5	Y	N
	8	Personal Vehicle	Sedan	1	0-5	Y	N
	9	Personal Vehicle	Truck/Suv/Minivan	2	0-5	Y	N

10	Personal Vehicle	Compact Car	3	6-10	Y	N
11	Personal Vehicle	Compact Car	3	0-5	Y	N
12	Personal Vehicle	Sedan	3	6-10	Y	N
13	Personal Vehicle	Compact Car	2	6-10	Y	N
14	Personal Vehicle	Truck/Suv/Minivan	3	11-20	N: Lakefield	N
15	Personal Vehicle	Truck/Suv/Minivan	3	11-20	N: Lakefield	N
16	Personal Vehicle	Truck/Suv/Minivan	3	11-20	N: Cavan	N
17	Personal Vehicle	Compact Car	2	0-5	Y	N
18	Personal Vehicle	Truck/Suv/Minivan	2	6-10	Y	N
19	Personal Vehicle	Compact Car	2	0-5	Y	N
20	Personal Vehicle	Sedan	3	0-5	Y	Y
21	Personal Vehicle	Compact Car	2	0-5	Y	N
22	Personal Vehicle	Sedan	2	6-10	Y	N
23	Personal Vehicle	Compact Car	1	6-10	Y	N
24	Personal Vehicle	Compact Car	2	6-10	Y	N
25	Personal Vehicle	Sedan	1	0-5	Y	Y

**Question 7**

Blank  
Purchased at Festival  
Blank  
Blank  
Blank  
Brought food from home  
Blank  
Blank  
Blank  
Blank  
Blank  
Blank  
Blank  
Blank  
Blank  
Blank  
Blank  
Blank  
Blank  
Blank  
Purchased at Festival  
Blank  
Blank  
Blank  
Blank  
Brought food from home

**Question 8**

N/A  
Pizza  
N/A  
N/A  
N/A  
N/A  
N/A  
N/A  
N/A  
N/A  
N/A  
N/A  
N/A  
N/A  
N/A  
N/A  
N/A  
N/A  
N/A  
N/A  
N/A  
N/A  
N/A  
N/A

**Question 9**

Paper/Cardboard  
  
Plastic  
  
Plastic, Paper/Cardboard  
  
Plastic

Question 10	Question 11	Question 12	Question 13	Question 14	Question 15
N/A	Visiting	1-3		1 15-24	Male
Garbage Bin, Recycling Bin	Something to do	3-5		2 65+	Female
N/A	Raffle	1-3		2 55-64	Female
N/A	Visiting	1-3		3 35-44	Male
N/A	Raffle	1-3		1 35-44	Male
Garbage Bin	Performer, Visiting	1-3		3 45-54	Male
N/A	Volunteer	1-3		8 15-24	Male
N/A	Volunteer	3-5		3 35-44	Female
N/A	Entertainment	1-3		3 15-24	Male
N/A	Entertainment	1-3		4 25-34	Male
N/A	Revisiting	1-3		3 65+	Female
N/A	Visiting	1-3		2 65+	Female
N/A	Volunteer	1-3		5 45-54	Female
N/A	Revisiting	1-3		1 65+	Female
N/A	Revisiting	1-3		1 15-24	Female
N/A	Revisiting	1-3		1 15-24	Male
N/A	Entertainment	1-3		1 55-64	Male
N/A	Working	3-5		2 55-64	Male
N/A	Entertainment	1-3		2 65+	Female
Recycling Bin	Entertainment	3-5		1 65+	Female
N/A	Volunteer	1-3		1 55-64	Female
N/A	Entertainment	1-3		2 55-64	Male
N/A	Raffle	1-3		1 35-44	Male
N/A	Volunteer, Music	1-3		6 45-54	Female
Recycling Bin	Visiting	1-3		1 55-64	Female

### Appendix C: Frequency Table

<b>FQ1</b>	<b>Personal Vehicle</b>	<b>Bus</b>	<b>Walk</b>	<b>Bike</b>	<b>Other</b>				
200		195	2	3	0				
<b>FQ2</b>	<b>Compact Car</b>	<b>Sedan</b>	<b>Truck/SUV/Mini-Van</b>	<b>Hybrid</b>	<b>Smart Car</b>	<b>Other</b>	<b>N/A</b>		
200		67	53	73	1	0	1	5	
<b>FQ3</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5+</b>	<b>N/A</b>			
200		68	86	30	6	6	4		
<b>FQ4</b>	<b>0-5</b>	<b>6-10</b>	<b>11-20</b>	<b>21-50</b>	<b>50+</b>				
200		78	71	30	15	6			
<b>FQ5</b>	<b>Yes</b>	<b>No</b>							
191		150	41						
<b>FQ6</b>	<b>Yes</b>	<b>No</b>							
200		96	104						
<b>FQ7</b>	<b>Purchased At Festival</b>	<b>Brought From Home</b>	<b>Both</b>	<b>Blank</b>	<b>Volunteer</b>				
200		56	6	8	110	20			
<b>FQ12</b>	<b>0-1</b>	<b>1-3</b>	<b>3-5</b>	<b>5+</b>	<b>Blank</b>				
200		12	120	39	28	1			
<b>FQ13</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>Blank</b>
200		87	53	22	9	8	6	2	11
<b>FQ14</b>	<b>15-24</b>	<b>25-34</b>	<b>35-44</b>	<b>45-54</b>	<b>55-64</b>	<b>65+</b>	<b>Blank</b>		
200		30	17	41	36	37	37	2	
<b>FQ15</b>	<b>Male</b>	<b>Female</b>	<b>Blank</b>						
200		82	116	2					



## Appendix D: Percentages

Q1	<b>Personal Vehicle</b>	<b>Bus</b>	<b>Walk</b>	<b>Bike</b>	<b>Other</b>					
	97.50		1.00	1.50	0.00	0.00				
Q2	<b>Compact Car</b>	<b>Sedan</b>	<b>Truck/SUV/Mini-Van</b>	<b>Hybrid</b>	<b>Smart Car</b>	<b>Other</b>	<b>N/A</b>			
	33.50	26.50	36.50	0.50	0.00	0.50	2.50			
Q3	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5+</b>					
	34.00	43.00	15.00	3.00	3.00					
Q4	<b>0-5</b>	<b>6-10</b>	<b>11-20</b>	<b>21-50</b>	<b>50+</b>					
	39.00	35.50	15.00	7.50	3.00					
Q5	<b>Yes</b>	<b>No</b>								
	75.00	25.00								
Q6	<b>Yes</b>	<b>No</b>								
	48.00	52.00								
Q7	<b>Purchased At Festival</b>	<b>Brought From Home</b>	<b>Both</b>	<b>Blank</b>	<b>Volunteer</b>					
	28.00	3.00	4.00	55.00	10.00					
Q12	<b>0-1</b>	<b>1-3</b>	<b>3-5</b>	<b>5+</b>	<b>Blank</b>					
	6.00	60.00	19.50	14.00	0.50					
Q13	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>Blank</b>	
	43.50	26.50	11.00	4.50	4.00	3.00	1.00	5.50	1.00	
Q14	<b>15-24</b>	<b>25-34</b>	<b>35-44</b>	<b>45-54</b>	<b>55-64</b>	<b>65+</b>	<b>Blank</b>			
	15.00	8.50	20.50	18.00	18.50	18.50	1.00			
Q15	<b>Male</b>	<b>Female</b>	<b>Blank</b>							
	41.00	59.00	1.00							