Go Green Week: Developing Community Through Sustainability Initiatives

An Interactive Qualifying Project submitted to the faculty of
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Abstract

The University of Worcester, UK, in conjunction with the Worcester City Council, requested our team organize a Go Green Week fair in April, 2018 as part of both organizations' commitment to creating a more sustainable Worcester. We expanded upon a previous WPI team's Go Green Week model to promote sustainability within the community, focusing on areas such as energy conservation, recycling, reducing plastic and food waste, and promoting the health of the local river. Throughout the event, our team collected surveys to evaluate both the sustainability knowledge and behavior of our sample and compare these results to previous University sample data. We determined that our sample has a strong background in certain areas of sustainability, but lacked knowledge in other areas. We used this information to make recommendations for future sustainability education in the community.

Executive Summary

The University of Worcester and Worcester City Council host events to educate the community about environmental sustainability and teach people how to make small changes in their daily lives to preserve the environment. The 10 Golden Rules of Living Sustainably were published by the University of Worcester and are featured at the university's annual Go Green Week. We adapted these 10 Golden Rules in Figure 1.1 for the Worcester community to reduce dependence on non-renewable resources, limit waste, and encourage public collaboration by hosting the second annual Go Green Week in the Worcester city centre.

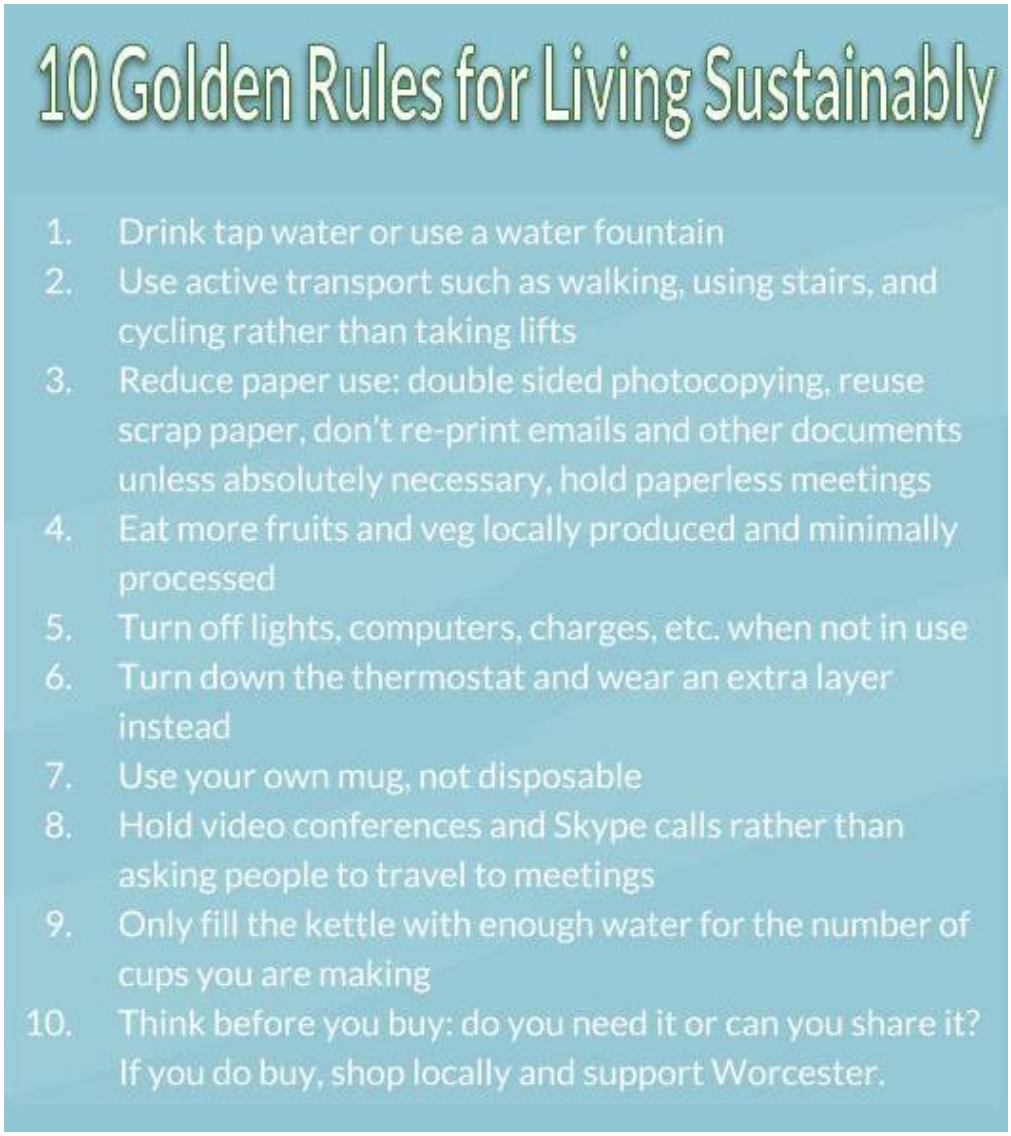

Figure 1.1: Ten Golden Rules of Living Sustainably

During the planning of this event, we formed or renewed partnerships between several Worcester organizations, including the University of Worcester, Worcester City Council, Transition Worcester, Worcester BID, and the Heart of Worcestershire College. Additionally, we formed relationships with several businesses that sponsored Go Green Week by donating resources. These companies include Marks & Spencer, Co-op Food (Bullring), Carl's Fruit Stand, Lush, Francini Cafe de Colombia, The Postal Order, The Body Shop, Wayland's Yard, Creams Cafe, Coffee#1, and Odeon Theatre Worcester. Additionally, several organizations helped with setup for Go Green Week and volunteered at the event, including Fortis, ADP Landscape Architects, Transition Worcester, West Mercia Police, Warwickshire Police, West England Gleaning Network, and the Severn Rivers Trust.

We formulated the following objectives to implement a Go Green Week model which successfully promoted the practice of sustainable behaviors within the Worcester community:

- Objective 1: Successfully plan a week of sustainability activities within Worcester
- Objective 2: Recruit multiple organizations to volunteer during Go Green Week
- Objective 3: Obtain resources and donations for raffle prizes to use as survey incentives and giveaways
- Objective 4: Advertise for Go Green Week
- Objective 5: Develop a metric to measure the sustainable practices and behaviors of Worcester residents within our sample
- Objective 6: Analyze survey data comparing general sustainable behaviors of community members in our sample to University of Worcester staff survey responses
- Objective 7: Inform the University of Worcester and Worcester City Council of survey results and make recommendations for encouraging the lesser practiced areas of sustainability within Worcester

To commence planning for Go Green Week, we attended a meeting with representatives from the University of Worcester, Worcester City Council, Heart of Worcestershire College, and Fortis to learn about the role each organization would play in the planning and implementation of Go Green Week. We maintained contact with each organization throughout the planning for Go Green Week and considered their advice for hosting a large community event. After venues were booked and activities were planned, we found difficulties in securing resources for Go Green Week participants. Many local businesses have selected charities to which they donate, so

several businesses were unable to contribute to our event. Without a budget, it was especially difficult to obtain food for the Feed the 1,000 event, as well as goods which could be given away as raffle prizes. However, we continued speaking with local businesses until the week before Go Green Week and secured a variety of vouchers and samples to be used as prizes.

Go Green Week was mainly advertised using Facebook, Instagram, and the University of Worcester's sustainability blog (susthingsout.com). We advertised using the flyer shown in Figure 1.2. Additionally, Worcester BID, Fortis, the Worcester City Council, and the University of Worcester agreed to spread awareness of Go Green Week using their social media platforms.

Figure 1.2: Go Green Week Flyer

From our experience planning and hosting Go Green Week, we have devised the following recommendations for future teams:

- We recommend reaching out to all partnerships to discuss and confirm the logistics for the Feed the 1,000 event, venue booking, and risk assessments early on in the project, since the two-week Easter holiday presented communication challenges preceding Go Green Week
- We recommend finalizing flyers and activities within the first of weeks of planning so all advertisements can be posted on social media as soon as possible and reach the widest audience
- We recommend reaching out to as many local businesses as possible and following up often, since obtaining resources from businesses was difficult. Larger chains often have selected charities to which they exclusively donate and smaller businesses may be struggling financially and thus may not be able to donate.
- From our observations, we do not suggest hosting Go Green Week events at the South Quay, since the area had a limited amount of foot traffic during the work week; however, if activities are hosted at the South Quay during warm weather, we recommend using Wi-Fi from Browns at the Quay to administer surveys during this time
- We recommend future grous avoid holding any craft activities outside, since the people we interacted with were not interested and it was often windy at the outdoor locations
- We propose holding the litter pick somewhere in the city centre or on campus rather than along the River Severn at South Quay. Trash along the river was scarce, and the primary type of litter was cigarette butts.
- We recommend offering a variety of free items to attract Go Green Week participants, since we found that offering various giveaway items such as chilli plants, poppy seeds, food portion measuring utensils, and dehydrated fruit was successful in attracting people to attend Go Green Week. Additionally, raffle tickets were used to incentivize attendees to complete our survey.

We hope that our event raised awareness of the importance of environmental conservation and that our findings will help optimize the planning schedule for future Go Green Week hosts. From the survey data collected during Go Green Week to measure the sample's behaviors toward sustainability, we hope that the city of Worcester can better gear their public outreach to increase the lesser-practiced green behaviors among residents.

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The Postal Order
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Francini Café de Colombia
Wayland's Yard
Carl's Fruit Stand
Coffee #1
Creams Cafe Worcester
Love Food Hate Waste
Bull Ring Co-op
Sainsbury's
Minor | Weir | Willis

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Chapter 1: Introduction

Global awareness of mounting environmental concerns has increasingly led individuals to recognize the impact of their actions. Society's over-dependence on fossil fuels, groundwater supplies, and natural resources causes increasingly irreversible environmental damage. Concern for environmental degradation and depleting natural resources is on the rise, resulting in a worldwide effort to promote sustainability (Solomon et al., 2008). Both private and public institutions devote research hours to mitigating the degradation of the environment. The United Nations, along with the majority of national governments, enforce multiple regulations to preserve the environment and reduce wasteful consumption of resources (United Nations, 2017). This endeavor includes large-scale efforts to reduce carbon emissions from fossil fuels and other leading causes of climate change. However, the race to slow the damage to the environment does not rely solely on scientists and other researchers, but also on individuals. One major component required to reduce contributing factors of climate change is to transfer consumer reliance on non-renewable consumables to more sustainable goods (Joshi et al., 2015). Individual consumption of fossil fuels and single-use packaging may have an impact on the environment similar to that of the practices of businesses and corporations (European Commission, 2012).

The desire to partake in "green" behavior can influence consumer habits regarding the purchase, use, and disposal of products (Joshi et al., 2015). One may use the term "green" to describe a lexicon of behaviors, including, but not limited to, buying local, fairly traded products and reducing electricity or water usage. In developed nations, researchers document a shift towards green practices resulting from increasing ethical concerns for the environment (Joshi et al., 2015). For example, communities participate in recycling drives, pro-environment protests, and other green activities in response to the environmental issues plaguing the planet (Earth Day Network, 2017). The prevalence of these habits is higher among younger generations compared to older generations, potentially due to increased access to information and education promoting sustainability (Rahman, 2015). As time moves forward and the need to address environmental concerns increases, the onus to expand the public's knowledge surrounding sustainable practices falls to national and local governments.

The United Kingdom is at "the forefront of worldwide green energy and carbon reduction measures" (DeMello et al., 2006, p. iii); however, consumer habits as they pertain to a green lifestyle are inconsistent. While a majority of the British population expresses concern for the

degradation of the environment, this does not necessarily translate into green behavior (Joshi et al., 2015). This apparent contradiction represents the attitude-behavior gap between consumers' thoughts and actions. This gap develops for a variety of reasons, including the price of green purchases and the availability of these products, but most importantly, as a result of insufficient knowledge regarding what constitutes green behavior. The gap is the focus of multiple published and ongoing studies in the UK, as both the government and smaller institutions attempt to reduce the disconnect (Joshi et al, 2015). Spreading awareness of common practices improves general accessibility and interest in sustainable practices for a community.

For nearly a decade, the University of Worcester in Worcester, England has been using engaging educational programs to increase awareness of environmental sustainability on campus (Colpritt et al., 2017). Inspired by the success of these programs, the University hopes to inspire similar changes within the greater Worcester community (Sustainable Practices, n.d.). The University paired up with the City of Worcester in 2017 to organize the inaugural city-wide Go Green Week to educate passersby on how to nurture sustainable habits for their lifestyles; the ultimate goal of the event is to promote individual efforts to reduce carbon emissions and fossil fuel dependence (Colpritt et al, 2017). The current model is based off the University's own Go Green Week held annually in February with giveaways, fun activities, and demonstrations. This effort not only serves to increase sustainable living within the city, but also to promote the Ten Golden Rules for Living Sustainably. These rules encourage students to:

1. Drink tap water
2. Use active transport such as walking, using stairs, and cycling rather than taking lifts
3. Reduce paper use: double sided photocopying, re-use scrap paper, do not unnecessarily print documents, hold paperless meetings
4. Eat locally-produced and minimally-processed fruits and vegetables
5. Turn off lights, computers, charges, etc. when not in use
6. Turn down the thermostat and wear an extra layer instead
7. Use your own reusable mug
8. Hold video conferences rather than travel to meetings
9. Only fill the kettle with enough water for the number of cups you are making

10. Think before you buy: do you need it or can you share it? (University of Worcester, n.d.).

The University tasked our team to expand upon the work of previous WPI teams on Go Green Week; this process included the organization, execution, and evaluation of the week's activities and data collection. We spoke with local businesses and organizations to collect resources for Go Green Week activities and to use in giveaways to encourage participation for our events. During Go Green Week, we used survey tools adapted from the University of Worcester's sustainability survey with necessary modifications to determine the effectiveness of the event among genders and various age groups of participants. Overall, the Go Green Week was intended to educate Worcester's citizens on sustainable practices, to provide the University with an effective and enhanced model for Go Green Week, to promote the University's 10 Golden Rules for Living Sustainably, and to strengthen the relationship between local organizations, the University of Worcester, the Worcester City Council, and the community.

Chapter 2: Background

This chapter begins by defining sustainability and exploring its place in the context of various communities in the UK, the City of Worcester, and then more specifically, the University of Worcester. The subsequent section explores both methods of engaging the community and a framework for changing attitudes and behavior. Next, we explore the current movements in place for transitioning toward a more sustainable society. We go on to explain the involvement of the City of Worcester and the goals of our project in terms of sustainability and environmental awareness. Finally, we discuss the sustainability themes selected for Go Green Week. This chapter highlights key aspects of sustainability and community outreach applicable to our project's goal of hosting the annual community-wide Go Green Week in Worcester.

2.1 Sustainability

The planet's rapidly decreasing supply of natural resources cannot continue to serve as civilization's backbone. Not only are fossil fuel reserves, fertile land, and clean water reservoirs vanishing, but society's excessive reliance on these resources leads to various adverse effects. Fossil fuel combustion and resulting carbon emissions contribute to rising global temperatures, compounding a rise in sea levels and weather extremes (Solomon et al., 2008). Unsustainable farming practices lead to a loss of fertile land and a surplus of food waste, in addition to increased carbon emissions from livestock (Lang, 2011). State and local governments continuously initiate sustainability awareness campaigns to address mounting concerns for the environment. The city of Worcester, UK has begun a Go Green Week event, which attempts to combat the environmental damage resulting from the global consumer society by engaging with the community to promote behavior change toward sustainable practices.

Sustainability requires a society to meet current needs "without compromising the ability of future generations to meet their own needs" (Brundtland Commission, 1987, p. 1). The three pillars of sustainability are the economic, environmental, and social facets. All three pillars must exist in equilibrium within a community or nation to achieve sustainability. Organizations and communities alike promote sustainability for a variety of reasons, primarily due to the threat a lack of environmental sustainability poses to social and economic sustainability (Brundtland Commission, 1987). Agriculture, forestry, energy production, and mining constitute fifty percent of many countries' gross product and account for larger percentages of employment (Brundtland

Commission, 1987). When depleting natural resources and increasing carbon emissions harm these industries, the social and economic livelihood of a society is also at risk. As a result, the need to promote environmental sustainability grows larger. Within the city of Worcester, climate change and carbon emissions increase the amount of air pollution and the frequency of local floods. To help residents slow these changes, our Go Green Week model promoted environmental sustainability awareness to encourage more sustainable behaviors amongst residents.

2.1.1 World Views on Sustainability

Views and opinions on sustainability vary across the globe and between governments, institutions, and individuals. Peter Næss, an expert on urban sustainability at the University of Norway, posits that as nations develop, regardless of their status of third-world, developing, or wealthy, their dependence on nonrenewable resources increases, whether directly or by proxy (Næss, 2006). However, expert opinions on this relationship vary; a variety of late twentieth century economists argued wealthy populations would reduce their CO_2 emissions, ostensibly by lowering fossil fuel use, through the research and development of more sustainable power and energy sources, as result of being secure (Meadows et al., 1993). These efforts have already begun, as evidenced by global agreements like the Paris Climate Accord; however, the past two decades have not seen the total shift towards sustainability these economists hypothesized. Moves towards sustainable development are "strangled" by the need to be competitive in industry, opposition to eco-development in political commonplace, and quality of life in the "world-village" (Artene et al., 2015 p. 13). Institutions and individuals may not realize rejecting environmental sustainability jeopardizes the economy and livelihood of a society. Go Green Week is one model which helps individuals to realize the importance of green behaviors and to begin living more sustainably to benefit the city in the long run.

2.1.2 Sustainable Views in Europe

Many countries in Europe have begun to address sustainability, and the European Commission has published a model promoting the complete implementation of sustainability in developed countries. The contributors to the Euromodel doubt any nation is at a point where environmental sustainability is possible without first improving upon the economic and social pillars of sustainability (European Commission, 2012). Figure 2.1 shows the results of pairing

certain pillars together, creating models which require significant improvement in one or more pillars to be truly sustainable.

Figure 2.1: The Figure above depicts the ideal relationship between social, economic, and environmental forces in Worcester that will lead to a sustainable community (Adapted from Worcester City Council, n.d.).

The authors of the Euromodel argue most developing and wealthy countries show a greater balance between economic and social sustainability than environmental sustainability, but most nations can improve all three aspects (Environment and Development, 2008). For environmental sustainability to be in balance, ethical concerns for the environment must rise over the desire for capital gain (Morelli, 2011). Reducing the impact of human activity on the environment requires either governments or businesses to invest in sustainability initiatives without the guarantee of immediate profit. Often, these actions manifest in both legislation and smaller community efforts. The Go Green Week project is just one example of a local effort implemented to increase awareness of sustainability and sustainable behaviors within the Worcester community. We used our model to introduce individuals to greener practices that will contribute to national sustainability efforts within the UK.

2.1.3 Sustainable Views at the University of Worcester

The University of Worcester currently ranks 4th greenest out of 154 universities in the UK (University of Worcester, n.d.). The University's strategic plan focuses on sustainable

development to enhance the environment. In its efforts to be environmentally sustainable, the University will manage resources effectively and educate the students, staff, and community to raise awareness of environmental sustainability (University of Worcester, 2007). Core principles of living sustainably are also integrated into curriculum, research, outreach, and operations at the University. To continue with its sustainable development, new buildings will be constructed from existing buildings when possible, and these new developments will be adaptable to future environmental needs and will include natural lighting and ventilation. Construction materials for these developments will be obtained from local, sustainable suppliers (University of Worcester, 2007).

Another one of the University's sustainability aims is to reduce carbon emissions and limit waste by maximizing the efficiency and effectiveness of resources (University of Worcester, 2013). These emissions are reduced through participation in the Higher Education Carbon Management Programme, which sets carbon reduction targets, requirements for institutional carbon management plans and targets, and funding incentives (Higher Education Funding Council for England, 2017).

To effectively maximize resource use, reduce carbon emissions, and limit waste, the 10 Golden Rules for Living Sustainably have been published by the University as guidelines for students, staff, and community members to follow. The University's sustainability efforts have earned the institution first class achievements as an HEA Green Academy participant and in the People and Planet's Green League Table. In addition, the University is the first in England to achieve EcoCampus Platinum status (University of Worcester, 2013).

2.2 Engaging the Community

A crucial aspect of improving the sustainability awareness and practices of the Worcester community was to engage its inhabitants. While many people know how to be more environmentally-friendly, their collective wealth, location, age composition, education level, and political leaning influences their motivation to live sustainably (Too & Bajracharya, 2015). The goal of the Go Green Week program was to encourage the community to participate in sustainability practices, rather than simply convince people of their importance. For green products, the attitude-behavior gap is a result of five major factors of product consumption: convenience, cost efficiency, health and safety, performance, and status. The ever-changing

market for green products depends on all of these factors; the dynamic nature of consumers' interests can cause one factor to dominate depending on the particular situation. Too and Bajracharya's '6-P community engagement framework' modifies this concept and puts it in the context of the implementation of sustainability initiatives on college campuses. The 6-P framework identifies the intrinsic and extrinsic factors for improving community involvement in sustainability programs in Figure 2.2.

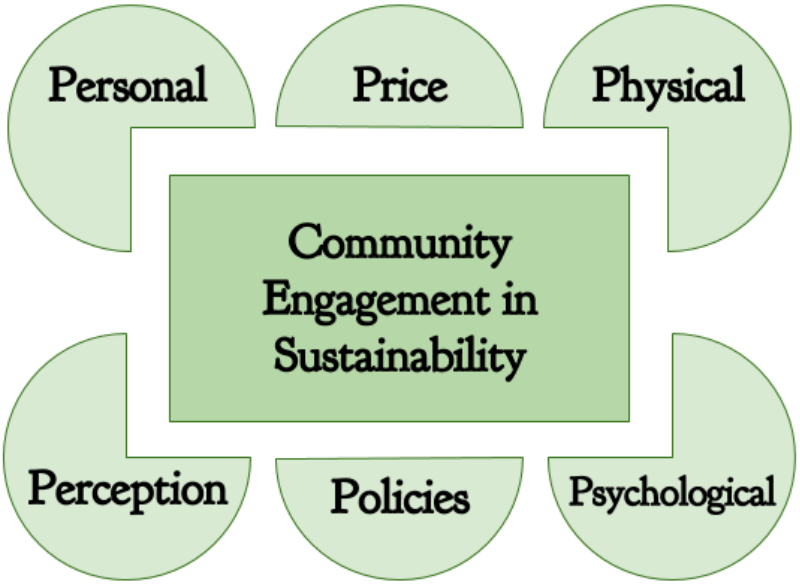


Figure 2.2: The 6-P Community Engagement Framework. Adapted from Too & Bajracharya, 2015. Retrieved from doi:10.1108/IJSHE-07-2013-0080.

Personal factors are unique to the individual and include current behavior, personal perception of the initiative, and time constraints. Psychological factors are composed of the knowledge and values of the individuals in regards to the issue addressed by the initiative. In our case, this is Worcester citizens' current knowledge of sustainable practices. Public perception is a general community's view towards the initiative. In our case, we observed Go Green Week attendees' perception towards sustainability and sustainability practices. Peer pressure is an aspect of this factor and was an effective motivator for involvement in Go Green Week. The physical presence of materials and facilities constitutes the physical aspect. For example, the number of recycling bins, green products, recreational parks, or water fountains can influence community engagement (Too & Bajracharya, 2015). Price refers to the cost of the product or service. Since price is one of the primary considerations for consumers, this factor is highly influential (Colpritt et al., 2017). In our case, Go Green Week featured solely free events, which

anyone could attend. The final aspect of the 6-P framework is policy, which include the policies that influence and support a community. For example, the UK introduced policies regarding food waste in response to the 5.3 million tonnes of food thrown away every year (Landy et al., 2011). In 2009, the UK launched the Low Carbon Transition Plan, which aims to reduce carbon emissions caused by agriculture and livestock industries by 2020. The latter example is notable as the plan sets defined quantitative goals, but there are no binding restrictions or regulations set by UK policymakers; rather, they took a voluntary approach so farmers were encouraged to lower carbon emissions on their own (Landy et al., 2011). This sort of intervention enables the community to independently close the attitude-behavior gap rather than allowing a government organization to force participation.

The 6-P framework suggests that a successful sustainability initiative involves all six factors; however, Too & Bajracharya argue that the framework is generic enough that smaller projects do not require coverage of all 6Ps (Too & Bajracharya, 2015). For example, at Monash University, the 'Monash Footprints' project is a 4-week program offered to both staff and students. The course teaches participants how to cook and shop sustainably and to lower personal usage of water, energy, and transportation. The course also includes sampling of fair trade and organic foods. The project has been commended for its "informative, practical, and most of all, fun activities" and has been given a 'Highly Commended' award by the Australian Campuses Towards Sustainability Green Gown Awards (Too & Bajracharya, 2015, p. 64). Monash Footprints addresses only the price, psychological, and personal factors of the 6-P framework, yet is a proven success. The course is free, improves sustainability awareness, and successfully engages participants. For the Go Green Week initiative, we had direct control over the price and physical factors of the event, and we were able to address the personal, psychological, and perception factors. Our goal was to ensure the sustainability practices we introduced were beneficial and engaging to the community. We planned our programs accordingly, keeping these engagement factors in mind. In addition, we extensively evaluated the wants and needs of the community to ensure our event was fully engaging (Too & Bajracharya, 2015).

2.2.1 Community, Local Government, and University Engagement

The conservation policies of the United Nations and larger institutions exist mainly to guide corporations and other massive consumers, so the responsibility to introduce and accept sustainability efforts in smaller communities falls to the communities themselves. Social

reinforcement among residents is critical to the widespread implementation of sustainable practices (Too & Bajracharya, 2015). Community engagement can break unsustainable habits, establish better practices, and permanently shift community norms to favor sustainability (Too & Bajracharya, 2015). The success of sustainability efforts in Worcester relies on three unique yet equally important pillars of the city community (Figure 2.3). Collaboration between the local government and the University is crucial for the introduction of sustainable practices, while the University and the community are responsible for the execution of these practices. Finally, the local government and the community learn from examples set by the University. All three groups must communicate and contribute equally towards the common goal of increased sustainability for maximum success. The results of the "CommUniverCity" study establish joint-interventions greatly benefit each party involved (Nixon & Salazar, 2015). The local government becomes more involved and welcomed within the community, while the students learn from the community's culture and develop critical-thinking skills from their involvement in real-world situations.

Figure 2.3: Community-University-Local Government Relation. Adapted from Nixon & Salazar, 2015. Retrieved from https://doi.org/10.1016/j.cosust.2015.06.007.

This relationship is cooperative and effective, yet just as complicated and susceptible to shortcomings as any other intervention method. Since multiple parties are involved, the Go Green Week project was careful to consider that miscommunications or idea differences could

negatively impact the project (Colpritt et al., 2017). Using case studies regarding community engagement as models, we set realistic goals for Go Green Week to address any prior shortcomings and to effectively address sustainability concerns unique to the Worcester community.

2.2.2 Enacting Behavior Change

While engaging the community, there are four major variables required to enact permanent change regarding certain behaviors. Figure 2.4 expands upon the definitions of the key elements of behavior change: threat, fear, response efficacy, and self-efficacy (CommGap, 2009).

Key Element	Definition	Strategies for Behavior Change
Threat	A danger or a harmful event of which people may or may not be aware.	Raise awareness that the threat exists, focusing on severity and susceptibility.
Fear	Emotional arousal caused by perceiving a significant and personally relevant threat.	Fear can powerfully influence behavior and, if it is channeled in the appropriate way, can motivate people to seek information, but it can also cause people to deny they are at-risk.
Response Efficacy	Perception that a recommended response will prevent the threat from happening.	Provide evidence of examples that the recommended response will avert the threat.
Self-Efficacy	An individual's perception of or confidence in their ability to perform a recommended response.	Raise individuals' confidence that they can perform response and help ensure they can avert the threat.

Figure 2.4: Variables required for long-term behavior change in order. Adapted from CommGap 2009. Retrieved from https://siteresources.worldbank.org/EXTGOVACC/Resources/BehaviorChangeweb.pdf

We adapted these elements to encourage community members to embrace green behaviors following Go Green Week. Our intent was to raise awareness of the threat unsustainable behaviors and their consequences posed to residents' ways of life in Worcester and England as a whole. This knowledge provided motivation for residents to change their behaviors through fear for the loss of England's natural resources and landscapes. The response efficacy to support this behavior change, or the proof that switching to greener practices is effective, can be seen in other nations that aggressively promote sustainability and have subsequently reduced their internal pollution and carbon emissions (CommGap, 2009). Promoting the self-efficacy response was the driving force behind our activities. We needed to convince the general population of Worcester that their small changes would add up to a "significant, positive

improvement" in their community (Manning, 2009). Following this model furthered the ultimate goal of Go Green Week: to help Worcester become a more sustainable community.

One theory of sustainable behavior argues that individual changes make sustainable behavior normal (Manning, 2009). Promoting these individual behavior changes is an effective way to enhance national sustainability initiatives as a gateway to local policy change, which would further Worcester's green journey (Manning 2009). Through educational material and interactions with locals at the event, we followed the behavior change model and promoted sustainability awareness and green behaviors that tie into the current sustainability initiatives in Worcester and the UK.

2.3 Current Sustainability Efforts

In addition to creating an engaging and effective interpersonal model, we considered the context of our model within the current needs of our stakeholders, including our sponsors, the local government, and the city's residents. We looked to current efforts around the United Kingdom to understand the larger goals of Go Green Week and incorporated these into activities for this year's city-wide event.

Worcester's own organization to raise awareness for sustainability is called Transition Worcester. This group makes use of volunteers who lead projects, talks, film screenings, and workshops to teach the community about sustainability. The organization's objectives are to promote local food production, reduce energy use, increase the availability of sustainable transportation, strengthen the local economy, and build close relationships between communities (Transition Worcester, n.d.). Worcester officials from both the University and the local government focus on engaging the community to promote sustainable practices and create a more sustainable and collaborative community. To involve the community in Transition Worcester's efforts, Go Green Week followed their work to unite and educate the community on environmental sustainability (Transition Worcester, n.d.).

The inaugural Go Green Week event in April of 2017 denoted the city's continued dedication to the Transition Movement. Last year, the Spring team interviewed several councils and businesses to learn about Worcester's major environmental concerns, and with these opinions in mind, our iteration of the event encouraged the community participation essential for Worcester's conversion to a more sustainable city. The Fall 2017 IQP team recruited businesses

to participate in the 2018 Go Green Week either through resource donation, or through direct event volunteering. Additionally, the team developed a survey to assess environmental awareness and sustainability interests of the Worcester population (Burke et al., 2017). The data collected from staff through the University of Worcester's travel survey was compared to data collected using selected questions from the same survey during our Go Green Week. The results were analyzed to measure the event's impact on our sample's knowledge and actions toward sustainability and to compare our sample's sustainable actions to those of the University of Worcester's employees.

2.3.1 Worcester City Council

According to the Worcester City Council, the major focuses for sustainability efforts are improved air quality, reduced dependence on nonrenewable resources, conservation of water, and increased practices of "reduce, reuse, and recycle" for waste (Worcester City Council, n.d.). To achieve these goals, the city plans to integrate the social, environmental, and economic forces of Worcester by "working collaboratively and helping local residents to reduce their impact on the environment" (Worcester City Council, n.d., p. 1). This integration occurs smoothly if economic development, social equity, and environmental development remain congruent with the tenets of sustainable development (Worcester City Council, n.d.). To work towards Worcester's overarching sustainability goals, the Worcester City Council is "improving...resilience to change and increasing standards long term - whilst thinking of innovative ways to cut costs in a bid to save money [in sustainability efforts]" (Worcester City Council, n.d., p. 1).

The immediate concerns are to mitigate carbon emissions, to increase community awareness of climate change, to create more local jobs, and to more effectively communicate with residents about environmental conservation and sustainability practices (Worcester City Council, n.d.). To reach their environmental goals and encourage behavioral change in the citizens of Worcester, the Worcester City Council and related organizations will conduct measures such as air quality assessments, number of 'Green Flag' status sites, annual carbon dioxide emissions per person, proportion of homes in Energy Performance Certificate Band D or better, proportion of homes in fuel poverty, and total local renewable energy generation. These measures will protect the environment, show which areas need improvement, and will allow the city to be sustainable for future generations (Worcester City Council, 2016). To encourage action

against environmental degradation, the Worcester City Council actively promoted Go Green Week. As such, Go Green Week involved education on these key topics, as our sponsors identified them as major focuses within the community.

2.3.2 University of Worcester

The University of Worcester, which ranks 4th out of 154 greenest universities in the UK, is largely involved in the city of Worcester's transition to become a more sustainable community (University of Worcester, n.d.). Through collaboration with the city of Worcester and the University of Worcester, Go Green Week promoted community education and business involvement in sustainable practices that would prevent further environmental degradation. The University of Worcester aims to enhance the lives of Worcester residents with these continued efforts. As our sponsors, University officials suggested we review previous University Go Green Week models to focus the activities for our upcoming event. The University's successful events included dehydrated fruit and chili plant giveaways and electric bicycle demonstrations, as well as informational discussions. These events served as a starting point for our brainstorms, as the University has honed them over the past 6 years to be engaging and effective for students (University of Worcester, n.d.). We expanded upon these events to target a larger audience within the city of Worcester.

2.4 Case Studies

Go Green Week aimed to push Worcester in the direction of other sustainable communities, such as Bristol, England. Big Green Week, Bristol's own sustainability festival, has been instrumental in the city's successful work toward raising awareness of environmental sustainability (Big Green Week, 2016). Big Green Week has successfully engaged the community for the past six years in sustainability initiatives similar to those of Go Green Week. Bristol's annual event in collaboration with the University of the West of England features nature tours, free bicycle repairs, electric bicycle demos, and planting workshops among other events to involve the community in their environmental efforts (Big Green Week, 2016). This festival serves as a model for other communities interested in converting to a Transition Town.

The University of Leicester successfully hosts an annual Big Green Week on their campus similar to the University of Worcester's event. Their goal is to educate students and raise awareness of global environmental concerns through alternating daily themes focusing on green

transportation, reducing energy usage, limiting waste, and reducing meat consumption (University of Leicester, 2018). Students raffle off baskets with items such as no-waste meal planners and organic laundry detergents. The University's event attracts a large audience of students from the campus (University of Leicester, 2018). The University of Leicester's Big Green Week has prompted an increase in campus sustainability including a rise in student environmental volunteering and a one million pound savings from reduced energy consumption. These successful efforts won Green Impact Awards and additional awards for the enacted recycling schemes. We used this case study as an example of an event that successfully creates behavior change in the target sample. Their methods drew students in with prizes and rewards for pledging changes to benefit the environment (University of Leicester, 2018). We can credit these incentives with initiating the long term changes towards sustainability the University observed on campus. We drafted a similar model for Go Green Week by including raffles and other prizes as rewards for participating in our activities.

Basingstoke, England successfully converted to an environmentally-conscious Transition Town, catalyzed by their annual Green Week. The city of Worcester seeks to follow suit with their own transition movement and Go Green Week event. The Basingstoke event features village markets, free bicycle rides, family tours, and information sessions regarding green practices (Basingstoke Transition Network, 2016). This annual event has inspired behavioral change among residents, which the city has observed through an increased reliance on locally produced goods and the adoption of renewable energy sources rather than fossil fuels (Basingstoke Transition Network, 2016). We saw the benefits of drawing in crowds through incentives like prizes iterated in this case study. These case studies support the use of free activities, such as raffles and free electric bicycle demonstrations, as well as commonly recognized environmental conservation themes.

2.5 Sustainability Themes

During Go Green Week, various themes of sustainability served as spotlights for our activities. We promoted these topics because climate change poses devastating lifestyle changes to citizens of the UK. Since the UK exited the European Union, the nation now requires independent environmental policies, which address the "government's ambition to leave the environment in a better state than [they] found it" (25 Year Environment Plan, 2018, p. 6). In

January of 2018, the English Prime Minister, Theresa May, announced the nation's "25 Year Environmental Plan," which aims to establish clean air, clean and plentiful water, thriving plants and wildlife, improved use of natural resources, and enhanced beauty, heritage and engagement with the environment. (25 Year Environmental Plan, 2018). We carefully selected topics for Go Green Week that further these goals for England and promote the areas of sustainability, which our sponsors emphasized as most important to the city of Worcester.

The University of Worcester published the 10 Golden Rules of Sustainability as guidelines for the students, staff, and residents of Worcester to reduce their environmental impact. These rules neatly coincided with the methods highlighted in the environmental plan to achieve the nation's larger goals, such as increasing water efficiency and increasing personal interactions with nature. The personal behavior changes were a guiding influence for our activities. In this section, the background and purpose of these themes are discussed.

2.5.1 Recycling

Individual consumers can easily limit their waste disposal and reduce greenhouse gas emissions by recycling plastic, glass, and paper products. From 2004 to 2015, there was an observed 15% decrease in the amount of trash sent to landfills in Europe (European Environmental Agency, 2017). For Go Green Week, we worked with local organizations to promote green behaviors like recycling. Currently, there are only two collection bins in Worcester, one for waste and one for commingled recycling (Worcester City Council, 2018). Since the recycling bins accept all recyclables, residents are often confused as to which goods can be recycled. We looked to other exemplary countries, like Germany, to find and adapt a method to improve the community's understanding of what can and cannot be recycled. We wanted to address recycling through interactive activities because the recycling rate in the city of Worcester is currently 13% below the 2020 goal set by the Paris Climate Accord. The goal of 50% will only be reached through collective efforts from both the government and individuals working together to reduce waste and increase recycling (Gosden, 2016).

In England, plastic pollution converts some of the country's treasured beaches and seaports into dumping grounds. Marine wildlife in the area suffers from the addition of plastic fibers to their food sources and are often found tangled in plastic waste like grocery bags (Greenpeace for Telegraph Reporters, 2017). The River Severn in Worcester is highly regulated due to the effects of human activity, which includes not only damming the river, but also high

amounts of plastic pollution and other contaminants from human recreation found along the river (Severn Rivers Trust, 2017). We used recycling activities and a community litter pick to discourage residents from disposing of their plastic waste along the riverside to keep the river and surrounding ecosystems healthy. The recycling-themed activities also taught about limiting plastic waste by reducing use of disposable plastics and switching to reusable bags. We focused on simple lifestyle changes which individuals can make; for example, residents can stop using straws since many of the eight billion used each year are not disposed of properly (Hartley-Parkinson, 2018).

2.5.2 Food Waste

Food waste constitutes a large portion of the space in landfills and releases methane gas during decomposition (European Commission, 2016). Europe alone produces over 120 million tonnes of food waste, or bio-waste, annually (Bio-Waste in Europe, 2018), and the average English family disposes of approximately 1,000 plates of food each year (Colpritt et al, 2017). In order to address this statistic, the previous IQP team incorporated a Feed the 1,000 event into their Go Green Week, which demonstrated that 1,000 people can be fed with the amount of waste the average British family throws away, and was intended to reduce food waste among Worcester residents (Colpritt et al, 2017). We made use of this event in our Go Green Week by providing 1,000 portions of donated food to passersby on the High Street. Additional efforts included educational materials on saving leftover food, not over-serving at meals, proper food storage, food donations, and composting organic food waste. We addressed these topics over the course of Go Green Week by having activities such as giveaways of dehydrated fruit, composting discussions, and portion control activities and giveaways.

2.5.3 World Fish Migration Day

The World Fish Migration Foundation (WFMF) organizes the annual World Fish Migration Day to spread awareness of migrating fish and their habitats. Smaller organizations also plan events on World Fish Migration Day to support the WFMF's vision of "connecting fish, rivers, and people" (Connecting Fish, Rivers and People, 2018). Not only are migratory fish necessary for their respective ecosystems, but fish are also crucial food sources for people around the world. Man-made constructions such as dams and weirs obstruct the natural flow of rivers and thus, the migration patterns of these varieties of fish. The WFMF hopes to increase the awareness of communities and also encourage governments and industries to commit to

protecting both rivers and fish through celebrating World Fish Migration Day (Connecting Fish, Rivers and People, 2018).

The Unlocking the Severn Project is currently working to preserve declining fish populations in the River Severn. The Severn Rivers Trust, Canal and River Trust, the Environment Agency, and Natural England are removing select weirs in the river and building fish ladders on locations where the weirs will remain. These weirs prevent river fish such as the twaite shad and salmon from reaching their critical spawning grounds upstream (Severn Rivers Trust, 2017). When these fish populations are restored, the Severn River Trust predicts there will be economic, cultural, and recreational benefits to communities along the Severn. The work to unlock the Severn began in 2017 and is expected to continue for the next five years (Severn Rivers Trust, 2017). The theme of fish was highlighted throughout Go Green Week with fish origami, river-themed artwork, and the fish parade for children, which concluded Go Green Week.

Chapter 3: Methodology

Methods of data collection, gauging community interest, engaging the community and evaluating the results are discussed in this chapter. The goal of this project was to organize, implement and analyze a Go Green Week event for the community of Worcester, UK. We hosted an engaging and educational event to promote sustainable practices while simultaneously supporting the Unlocking the Severn project to improve the state of the local river. Additionally, we aim to strengthen the relationship between the Worcester City Council, the University of Worcester, and the Worcester community. We developed the following goals to ensure the success of our project:

1. Preparing for Go Green Week
    a. Create a schedule plan of tasks for the preparation and implementation of Go Green Week
    b. Secure resources required to organize Go Green Week such as prizes and giveaways for guests from local businesses and organizations
    c. Create and publish advertisements for Go Green Week
2. Implementing Go Green Week
    a. Engage the Worcester community in our Go Green Week, which aims to increase participants' knowledge of sustainability
    b. Collect data from event-goers by administering a survey
3. Following Go Green Week
    a. Evaluate the results in a manner that will allow us to general sustainable behaviors of community members in our sample to University of Worcester staff survey responses

Figure 3.1 illustrates an overview of the methodology as a hierarchy from the overarching goal to the individual steps required to achieve the result.

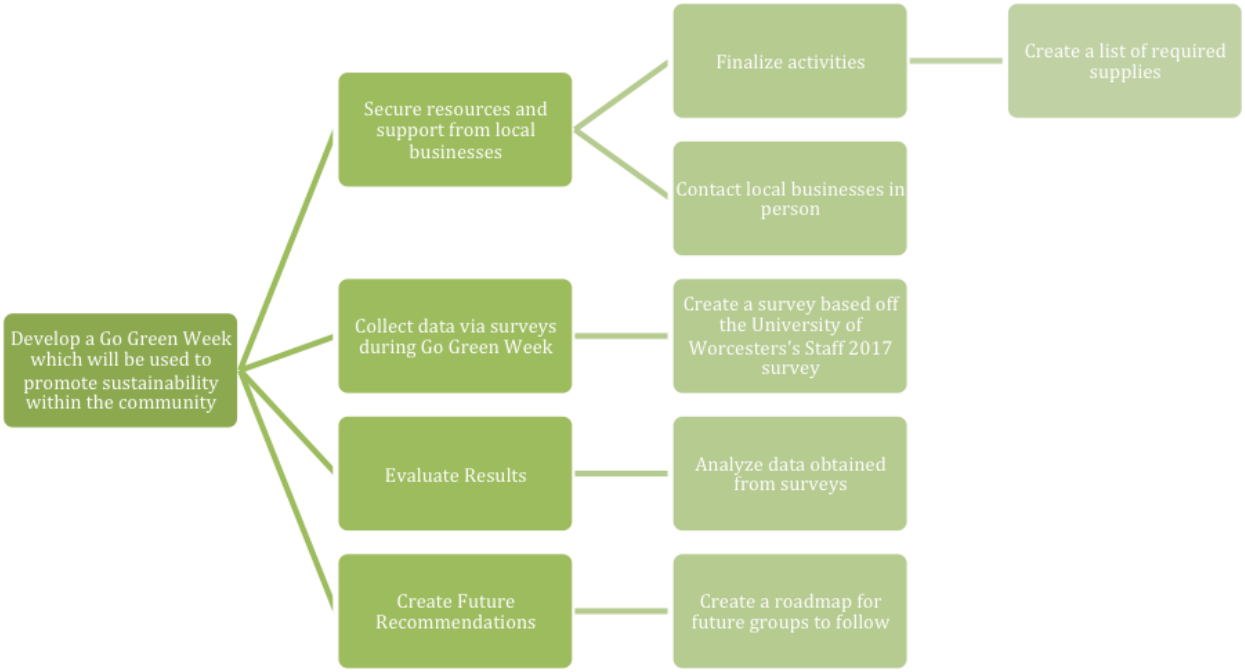


Figure 3.1: Project Overview

3.1 Preparing for Go Green Week

Hosting Go Green Week required us to complete a series of tasks prior to executing the event. As such, we prepared a careful and meticulous schedule that guided our team as we formed partnerships, secured resources, and advertised for Go Green Week.

3.1.1 IQP Timeline

The entire Go Green Week project, including the preparation, implementation, and evaluation of the project, followed the schedule in Figure 3.2.

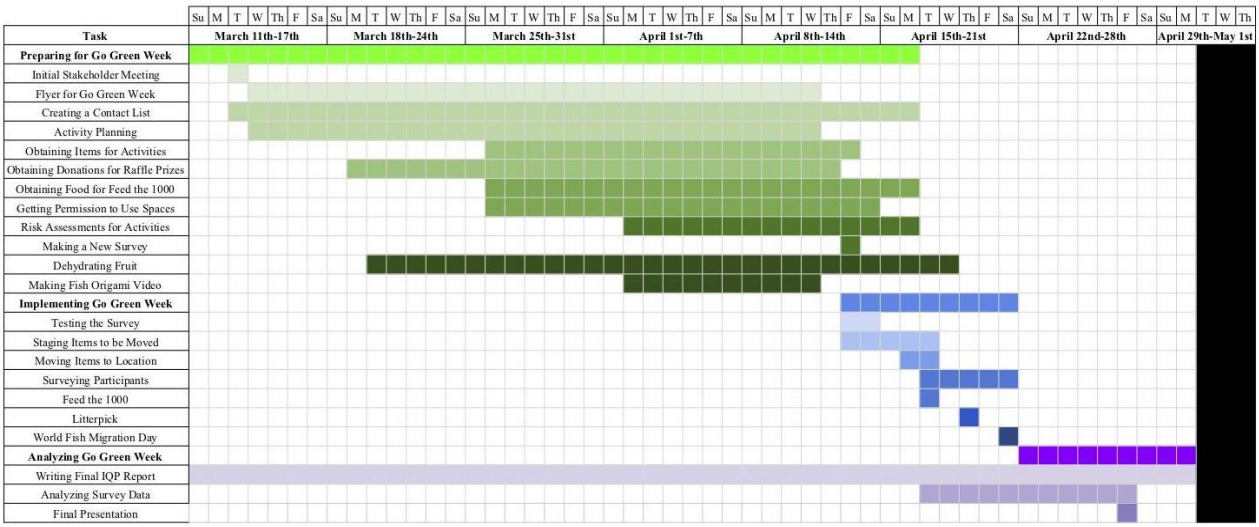


Figure 3.2: Go Green Week 2018 Schedule

3.1.2 Securing Resources

A key component to hosting Worcester's Go Green Week was acquiring the resources needed to host the events and activities. This task was completed between March 19th - April 16th. To begin, we prepared a letter, shown in Appendix A, to provide to each business we visited, which summarized our project objectives and requests. We inquired within businesses in the city centre which had been involved in last year's Go Green Week, as well as those that had expressed interest during the Fall in sponsoring this year's event. Our team then asked additional businesses for their sponsorship or participation. To secure items to use as giveaways and prizes, we spoke to managers at each location and received raffles prizes or other giveaways from Lush, Francini Cafe de Colombia, Wayland's Yard, The Body Shop, Creams Cafe, the Odeon Cinema of Worcester, Coffee#1, and The Postal Order.

Additionally, we remained in close contact with the local Marks & Spencer during the weeks leading up to project, as the company has an ongoing food waste project with our sponsor at the University of Worcester. The company donated overripe fruit at the end of the work day several days a week, which we would dehydrate to create snacks to give away during the event.

After planning activities for the week, our group compiled a list of all additional resources for specific events like Feed the 1,000, the community art project, and fish origami. We then targeted businesses that could supply specific resources for material resources like food or art supplies.

To gather food for the Feed the 1,000 event at the beginning of Go Green Week, we reached out to 10 local grocery stores and a local produce stand with the letter attached in Appendix B. Of the stores we spoke to, we received food from a Sainsbury's and the Cooperative Food in Bullring. Additionally, we were able to get in touch with a local fruit and vegetable stand, Carl's Fruit Stand, shortly before the week of the event, to receive their unsellable inventory. Finally, we received a large donation of butternut squash from Minor | Weir | Willis through an administrator at the local Heart of Worcestershire College. All of the food was dropped at the college for students and staff to prepare.

We did not receive donations for the art themed activities; instead, we relied on supplies from the previous Go Green Week stored at the University of Worcester, and purchases from the local Worcester Resource Exchange. We had paints and markers from previous years, and were able to use the University account to purchase rolls of paper, painting supplies, and scissors.

All businesses that participated or donated were offered promotion on the University blog, susthingsout.com; if desired, we displayed their logo and company name on multiple posts about Go Green Week, included in Appendix C. This business promotion allowed us to thank organizations for their involvement and encouraged them to make donations.

3.1.3 Advertising Go Green Week

We advertised for Go Green Week using Facebook to target community members of a variety of age groups, genders, and education levels. We received free advertisement up to $75.00 from Facebook, which allowed our event to reach over 2,000 people, of which 68 users engaged with the page. Visuals from the Facebook page we used to interact with residents can be seen in Appendix D. The Worcester BID, Fortis, the University of Worcester, and members of the Worcester City Council advertised Go Green Week on their respective social media platforms and circulated the flyers for Go Green Week included in Appendix E.

3.1.4 Risk Assessments and Administrative Tasks

In order to showcase our activities effectively, we booked the local Guildhall for Feed the 1,000, the South Quay by the River Severn for the electric bikes, and Crowngate Shopping Center for art activities and information booths. We completed risk assessments for each of these locations to prove that our activities provided minimal risk to the public. These assessments are included in Appendix F. We worked with the Worcester City Council to book both the South Quay and the Guildhall, and provided all of the required risk assessments to our contacts there,

as well as to the University of Worcester for their own records. The Crown Estates, owner of Crowngate, required separate risk assessments for each activity, as the venue is privately owned. We were in contact with administrators and the marketing team to obtain an additional license to operate in a shop and to file the risk assessments.

3.2 Implementing Go Green Week

The following sections discuss our methods of hosting a successful Go Green Week and assessing the surveyed community members' behaviors and knowledge regarding sustainability.

3.2.1 Engaging the Worcester Community

To encourage community members to learn about and practice sustainable behaviors, our activities and events for Go Green Week were designed to engage and gather the interest of the community. Attendees were incentivized to attend the event and fill out surveys with the offer of raffles, free chilli plants, free food, and other giveaways. Go Green Week encompassed various recognizable sustainability themes including reducing food waste, reducing pollution, reusing and recycling, buying locally, and promoting the World Fish Migration Day to draw people into the event. Several activities corresponding with each theme were held throughout the week. We offered child-friendly crafts such as fish origami and other activities to encourage families to attend the event. A community art project in Figure 3.3 was completed, and families participated in a World Fish Migration Day parade on the final day of Go Green Week. This event was organized by the Unlocking the Severn Project but was included as part of Go Green Week's activities.

Figure 3.3: Completed Community Art Project

3.2.2 Woo Bikes Promotion

From Tuesday through Friday at the South Quay, volunteers in Figure 3.4 from the electric bikes program on the University of Worcester campus offered free test rides on Woo

Bikes. This ran from 11:30-13:30 each day, in order to attract Worcester residents during their lunch hours. The purpose of this activity was not only to promote the expansion of the Woo Bikes into the city through company involvement, but also to promote alternative methods of transportation. Switching to electric bikes would reduce carbon emissions from cars and other large vehicles in the city of Worcester.

Figure 3.4: Volunteers at the Electric Bike Have-a-go Sessions at South Quay

3.2.3 Feed the 1,000

On Tuesday, we also conducted the Feed the 1,000 event on the local High Street. Feed the 1,000 was used to highlight the amount of food wasted each year by a typical UK family, which equates to approximately 1,000 meals worth. The event required us to obtain 1,000 portions of food to hand to passing pedestrians, which we obtained from local food stores and stalls. This food, primarily consisting of vegetables, was prepared as a vegetable curry and a butternut squash soup by culinary students from the local technical college, Heart of Worcestershire, as shown in Figure 3.5. The ostensible purpose of the event was to raise awareness of food waste; we supplemented this education with informative flyers and giveaways like rice and pasta portioners provided by the Worcestershire County Council and Love Food

Hate Waste. The event also served as our initial survey opportunity, where we collected the first forty of our survey responses. 

Figure 3.5: Trainee Chefs from Heart of Worcestershire College at Feed the 1,000. Retrieved from https://twitter.com/HOW_College/status/986205834630877184

3.2.4 Community Art Project

The community art project consisted of two parts this year, both taking place within our shop in the Crowngate shopping center. We printed a large A1 graphic drafted for the previous Go Green Week, which we allowed children as shown in Figure 3.6 to paint and color in throughout the week using paint and markers from the Worcester Resource Exchange. Additionally, we were provided with two apiaries from the Crown Estates to decorate, as a part of their expanding bee garden project. These art projects were designed to fit our sustainability themes and attract children into the shop. We were lucky enough to receive referrals from the adjacent craft store, which increased the traffic we had for these events.

Figure 3.6: A Child Coloring the Community Art Project

3.2.5 Litter Pick

On Thursday, we participated in a community litter pick with our peers from Worcester Polytechnic Institute and a handful of other volunteers. This event took place along the River Severn, where we cleaned up the riverside to improve the health of the river in that area, in Figure 3.7. We used this event to teach locals on the riverside about the pollution in the river, and discourage future trash dumping.

Figure 3.7: Students at the Go Green Week Litter Pick

3.2.6 Fishy Parade

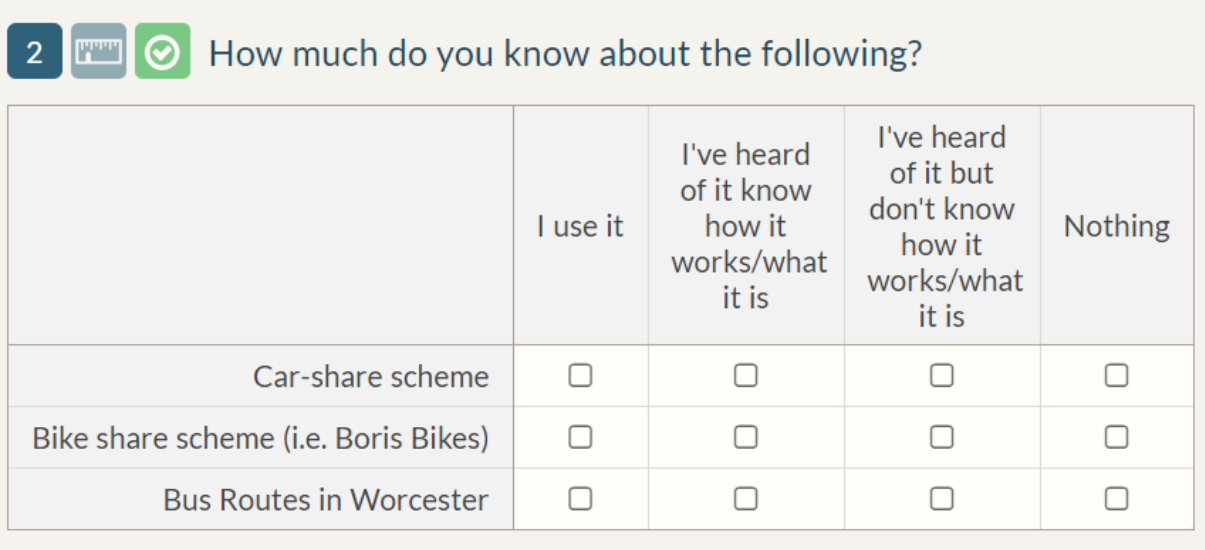
On Saturday, our group volunteered in a "Fishy Parade" organized by the local Severn Rivers Trust in Figure 3.8. This parade was the culmination of a campaign to promote the health of the river by creating fish ladders along the weirs to repopulate the shad fish (Severn Rivers Trust, 2017). We stewarded the parade from the local cathedral to the University City Campus, where the organizers hosted an hour long picnic. We used this time to collect additional survey data.

Figure 3.8: Fishy Parade on Worcester High Street

3.2.7 Surveys

We collected data through the administration of select survey questions from the University of Worcester's 2017 staff sustainability survey to the community members who attended Go Green Week, as they partook in the various activities we planned. Creating and administering a survey was an effective way to measure the sample's sustainability knowledge. Surveys are a concise way to gather quantitative data such as the frequency of activities, in our case, green behaviors (Berg, 2012). Our survey contained an informed consent passage for respondents, to fully inform them about the purposes and anonymity of our survey.

We administered our survey via the Bristol Online Survey (BOS) tool on tablets during Go Green Week events at the Guildhall and in our Crowngate shop unit. These surveys took approximately three minutes to complete from our observations, and, as an incentive, people who completed the survey were offered raffle tickets for various prizes. The survey focused on a variety of topics and included questions designed to evaluate participants' attitudes and knowledge towards sustainability, along with demographic identifiers of age, gender, education level, and postal district. Questions were formatted as shown in Figure 3.9, accounting for different scaled responses.



2 How much do you know about the following?

	I use it	I've heard of it know how it works/what it is	I've heard of it but don't know how it works/what it is	Nothing
Car-share scheme	☐	☐	☐	☐
Bike share scheme (i.e. Boris Bikes)	☐	☐	☐	☐
Bus Routes in Worcester	☐	☐	☐	☐

Figure 3.9: Sample Survey Question

We obtained 121 survey responses. Our survey is not directly comparable to either of the previous Go Green Week teams' survey data as we created a new survey based off of the University of Worcester's 2017 Staff Travel Survey on sustainability. Our responses came from a convenience sample of people attending the event who were over the age of 18. Therefore, we cannot derive statistically significant results from our sample. However, we will be able to compare results measuring sustainable behaviors within the sample between our survey and selected questions from the staff survey, using tables and charts generated by the BOS software, to formulate recommendations for sustainability education within the city of Worcester.

3.3 Following Go Green Week

The following subsections discuss the tasks we accomplished after completing Go Green Week. Methods of survey data analysis are covered, as well as the data format presentation, and methods to analyze a small sample size.

3.3.1 Evaluating Results

The results of the surveys were critical to measuring the success of Go Green Week in terms of promoting sustainability amongst local businesses and residents of Worcester. We measured 121 Go Green Week attendees' attitudes toward sustainability practices. Due to our sample size, our data did not give statistically significant results; however, the responses helped us to identify general trends in the sample.

The BOS software provided by the University displayed the results to all questions in cross tabulation tables, allowing for easier comparison. Our sub-groups generally consisted of fewer than 50 respondents, which results in a high margin of error (The Survey System, 2012). As such, we will not use them for further analysis beyond through the use cross tabulation tables. The format of these tables is shown in Figure 3.10.

Rank value	Option	Count
1	I use it	45
2	I've heard of it know how it works/what it is	34
3	I've heard of it but don't know how it works/what it is	14
4	Nothing	25

Figure 3.10: A Sample Table for Sorting Responses from Survey Questions

3.3.2 Analyzing Data

We used our sub-group data to understand who attended Go Green Week. For instance, postal codes allowed us to visualize a thematic pattern map, or a map where regions are shaded according to the frequency of responses from the area, which provided us with the scope and geographical distribution of our sample (Zip Code Demographic Analysis, 2017). We also showed what percentages of different age groups and genders attended the event. We then determined which areas and sub-groups could benefit from further efforts in sustainable

education. From this analysis, we recommend future efforts to target these demographic groups to attend Go Green Week.

The survey answers were already coded in ordinal chunks, so we analyzed them directly from the tables and pie charts. Once we did this, we sorted the data using our sub-groups. Using the BOS software, we looked for variability within our sub-groups; if there was little to no variability, the sub-group was not used for further analysis, as we did not want to maintain excessively small groups (Bernard, 2011).

Then we looked for the tendency in the data: in this case the mode attribute of the variable, or the answer occurring most frequently (Bernard, 2011); Although the sample was too small for statistically significant analysis, we were still able to learn a lot; we understood if the overall tendency within the sample following Go Green Week demonstrated a basic understanding of sustainable living, or if certain areas require significant further education regarding sustainability.

Chapter 4: Findings, Analysis, and Recommendations

In this chapter, we describe the extensive preparation that went into planning and hosting Go Green Week. We reflect on the successes and shortcomings of the event based on our recorded observations. We go on discuss the survey administered to Go Green Week participants and then analyze the survey's results to determine the level of sustainable education within members of our sample at the event.

4.1 Executing the event

Since Go Green Week was a community event intended to reach a wide audience, meticulous and extensive planning was required. The flowchart in Figure 4.1 reflects the details of this planning. Preparation for the event included venue booking, obtaining licenses, filling out risk assessments, gathering resources, planning activities and transportation, and forming partnerships with local organizations. A recommended schedule is included for the benefit of future Go Green Week teams in Appendix G. This section includes unexpected resources we needed to obtain, as well as steps to address the challenges we encountered during the planning of Go Green Week.

Go Green Week was held in front of the Guildhall, at the South Quay, and in unit F9 of Crowngate Shopping Centre. Feed the 1,000, during which we handed out one thousand portions of food to passersby in front of the Guildhall, taught attendees about the amount of food waste produced per year by the average family in the UK. Activities at the South Quay included electric bicycle demonstrations. In the shop unit, we held discussions with community members about limiting food and plastic waste, recycling, growing food, and the health of the River Severn and its aquatic life. Additionally, several local organizations joined us in the shop to promote their sustainable practices or to have discussions with passersby about sustainability within Worcester. The locations of these venues are depicted on a Google map in Appendix H.

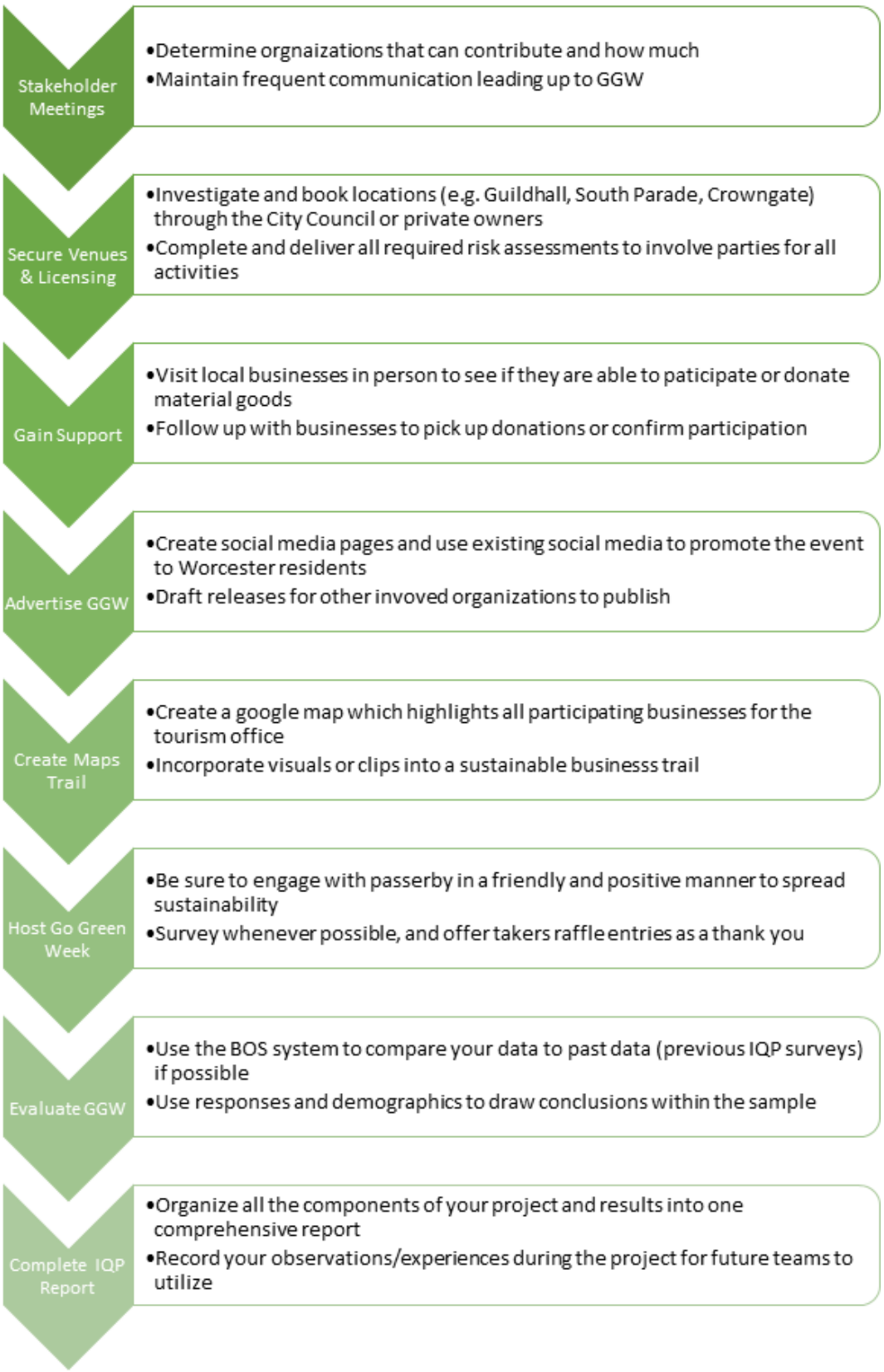


Figure 4.1: Flowchart of the planning steps for Go Green Week

4.1.1 Planning Recommendations

Our plans for Go Green Week changed and developed over the course of 5 weeks leading up to the event. We describe our recommended schedule in Figure 4.2, which is based on our own successes and challenges.

	Week						
Project Task	***1***	***2***	***3***	***4***	***5***	***6***	***7***
Meet with stakeholders to discuss project expectations							
Finalize venues, event activities and supplies, and licensing/risk assessments							
Obtain resources and gain support from local businesses and environmental organizations							
Distribute finalized flyers and advertise the event							
Create and update Google Maps trail							
Host the Go Green Week event							
Evaluate event success based on participant feedback							
Complete final IQP report							

Figure 4.2: Recommended Weekly Breakdown of Project Tasks. Format adapted from Colpritt et al., 2017.

We recommend opening contact with stakeholders and active partners upon arrival to the project center to gain an understanding of each organization's contribution to Go Green Week, in terms of concept and content planning. Figure 4.3 includes all stakeholders and organizations involved and the individuals who were most receptive to Go Green Week emails from each organization. Over the next few weeks, we recommend maintaining frequent communication between any organizations involved in the event. We found responses were delayed due to bank holidays and other time commitments, so we recommend for future groups to reach out as early and as often as possible.

Organization	Name, Title	E-mail
University of Worcester	Katy Boom, Director of Sustainability	k.boom@worc.ac.uk
	Matt Smith, Sustainability Coordinator	matt.smith@worc.ac.uk
	Steve Boffy	s.boffy@worc.ac.uk
	Alan Box, Grounds Manager	a.box@worc.ac.uk
	Eleanor York, Student Engagement Coordinator	e.york@worc.ac.uk
Heart of Worcestershire College	Charlotte Swain, Assistant Principal	cswain@howcollege.ac.uk
	Neil Tabram, Head of Catering	ntabram@howcollege.ac.uk
	Andy Price, Director	aprice@howcollege.ac.uk
Worcester City Council	Warwick Neale, Community Engagement Manager	warwick.neale@worcester.gov.uk
	Lisa Smith, Community Engagement Officer	lisa.smith@worcester.gov.uk
	Nathan Gunnell	Nathan.Gunnell@worcester.gov.uk
	Michelle Newell, Community Engagement Supervisor, Community Services	michelle.newell@worcester.gov.uk
	Helen Mole, Economic Development Officer	helen.mole@worcester.gov.uk
	Vicky Young, Economic Development Officer	vicky.young@worcester.gov.uk
	Ben Schiffman, Guildhall and MAG Supervisor	ben.schiffmann@worcester.gov.uk

Worcester BID	Shelly Simpson, Project Delivery Lead	shelly.simpson@worcesterbid.com
ADP Partnership	Dan Martyr	danmartyr.dm@gmail.com
Severn Rivers Trust	Alice Fallon, Education Officer	alice.fallon@severnriverstrust.com
West England Gleaning Network	Heather Mack, West England Gleaning Coordinator	westengland@feedbackglobal.org
Transition Worcester	Rod Howell	rodhowell69@gmail.com
G-tech	Howard Dawson	howard.dawson@gtech.co.uk
Fortis	Paul Edwards, Community Coordinator	pedwards@fortisliving.com
	Tom Piotrowski, Diversity and Inclusion Advisor	tpiotrowski@fortisliving.com
Bewonder*	Sian Brumby	sian.brumby@bewonder.co.uk
	Amy Hodges, Senior Marketing Manager	amy.hodges@bewonder.co.uk
Crowngate	Marilyn Lees, Office Administrator (Mon-Wed)	marilyn.lees@crowngate.net
	Mike Lloyd, Operations Manager	michael.lloyd@crowngate.net

Figure 4.3: List of Go Green Week stakeholders

Beginning in the second week, we recommend brainstorming potential venues before planning activities, as location can significantly impact planned activities. Some of the possible venues in the city of Worcester include the South Quay, the Guildhall, and Crowngate Shopping Center, as shown on the Google map in Appendix H. For public venues, such as the Guildhall or the South Quay, we recommend contacting the city as soon as possible to ensure that there is sufficient time to complete the required paperwork for booking. From our experience, we do not recommend using three venues. We suggest future groups stick to a maximum of two locations, to reduce having to coordinate and move equipment so frequently. When choosing locations, keep in mind that foot traffic at outdoor locations varies greatly with the weather, and private locations like Crowngate restrict your ability to interact with pedestrians.

We recommend finalizing the event activities for each location early on so that all requisite risk assessments for the activities can be filed as well. Risk assessments for each

activity are shown in Appendix F. We were in contact with Helen Mole, Vicky Young, and Michelle Newell at the Worcester City Council, but recommend using Helen Mole as the primary point of contact. For Crowngate, a private venue, we contacted Erica Burlace to lease the space; however, she is leaving her position, so we recommend contacting her replacement, Mike Lloyd, or establishing a new contact. We recommend contacting Ben Schiffmann at the Guildhall to organize logistics for the Feed the 1,000. Alice Fallon was our primary contact for obtaining information for World Fish Migration Day. For the litter pick and electric bike demos at South Quay, we liaised with Lisa Smith, Michelle Newell, and Nathan Gunnell. Mr. Gunnell also helped to organize the drop off of the litter picking supplies and the collection of trash gathered during our litter pick once we had finished.

Although we tried to plan the activities early on, we could not accurately organize activities until we identified the supplies available to us and determined what we could obtain through donations. In order to reduce the amount of supplies and planning required, we recommend conducting the same activities over multiple days. We found that we did not have the required information for all activities, and recommend beginning this process early in the fourth week to accommodate any changes and addendums. We encourage future groups to finish all of the activity planning and flyer development by the fourth week, in order to begin advertising the event with accurate information.

We encourage future teams to reach out to businesses and organizations around the city of Worcester to see how they can contribute to Go Green Week. We found that businesses often took a few weeks to respond, so we encourage teams to begin asking for items to use as prizes and incentives around the beginning of second week, after determining which specific supplies each activity will require. When reaching out to organizations, keep in mind that in addition to providing resources, they may be able to donate time by volunteering and tabling at the event. We recommend continuing this process until the actual event begins. We visited multiple stores in Worcester in person for donations and submitted the letter shown in Appendix A to the store managers. For Feed the 1,000, we created an alternate letter in Appendix B and added information about the event itself as well as the requested quantities of various groceries.

After booking venues and finalizing key activities, we recommend publicizing the event flyer, as shown in Appendix E. We encourage creating a Facebook page for the event, such as the one shown in Appendix D, as well as reaching out to local organizations and public figures

with large social media followings to promote the event, such as the Worcester City Council and Worcester BID. We also submitted a post describing Go Green Week to the University of Worcester sustainability blog, susthingsout.com, to further promote Go Green Week. This blog post is shown in Appendix C. For the Feed the 1,000 event, the University of Worcester featured a press release, in Appendix I, to provide further information.

As businesses and organizations commit to donating time and resources to the event, we recommend adding them to the previous Google Maps trail. We found the process to be difficult in terms of incorporating a large number of locations and integrating illustrations or videos at each stop, and as such, recommend creating only a trail using existing Google Maps imagery.

When hosting Go Green Week, we recommend formulating an adequate plan for setting up the workspaces before commencing activities. We recommend having each space ready approximately 10 minutes before "opening" to ensure there is adequate time to set up the surveys on the tablets. When attracting pedestrians to the event, we found an outgoing approach to be best; many passersby are not inclined to stop unless they are called over. We recommend being friendly and accommodating when gathering surveys from attendees; for instance, we read survey questions aloud and assisted in inputting responses if participants did not feel comfortable with the tablet. When interacting with event-goers, we advise actively advertising all of the giveaways and raffle entries in exchange for taking the survey; encourage them to take as many as they like to reduce wasted or unused items following the event. By interacting with community members in this manner, they may be encouraged to bring their friends or return the following year.

Following Go Green Week, we recommend analyzing the data as quickly as possible. There will be a significant amount of data points to analyze and compare; therefore we suggest gaining a mastery of the BOS software and encompassed analysis tools as soon as possible, to ensure there will be sufficient time to draft the results section of the IQP report and prepare for the presentation.

4.1.2 Challenges Encountered

This year's Go Green Week had no explicit funding. Therefore, all food, materials, and prizes were obtained via donation. Many local and large chain businesses already donate resources and profits to selected charities. Other businesses in Worcester are adapting sustainable practices and limiting their resource waste. As a result, we spoke to many businesses that were

unable to donate resources to Go Green Week. Therefore, obtaining resources and donations was a difficult task and we recommend future groups start speaking with businesses early on in their project. We recommend speaking to business managers in person rather than emailing or calling, and then stopping in several days later to remind these managers about requests. We found that smaller businesses were more likely to have the freedom to sponsor Go Green Week, and also more of an ability to participate in sustainable business practices.

Another inevitable challenge we encountered was the timing of our schedule for Go Green Week. Since many university and college employees have a two-week holiday around Easter, there were significant challenges in having all of our pressing questions, including obtaining licenses, submitting risk assessments, and event planning logistics, answered. We advise future Go Green Week hosts to begin all scheduling within the first two weeks of the project so that most questions have been answered and organization of the event has been solidified before the Easter holiday.

During Go Green Week, it was difficult to attract people to enter our unit in the Crowngate Shopping Centre. Due to restrictions from Crowngate security, we were not able to engage with passersby in the corridor outside the shop. During weekdays, it seemed as though people were in a rush to get to their next destination, so they did not stop in the shop. On Saturday afternoon, our event attracted more visitors than on previous days, since the shopping center was more crowded and people seemed to be shopping at a more leisurely pace.

Since Go Green Week was held towards the end of the program, we feel that we did not have enough time to properly analyze our data and complete the final report. Therefore, we recommend potentially hosting Go Green Week in the sixth week of the term, rather than during the seventh. The timing is dependent on a variety of factors, mainly the date of Easter and the corresponding Easter vacation for employees. Easter occured on April 1st this year, which led to planning difficulties as many of our contacts were on holiday while we were preparing for Go Green Week. However, the 2017 team held Go Green Week during the Easter holiday as it was later in April. They concluded that there were both positives and negatives to this approach, as many students had returned home for the holiday but other residents had time to go into town to attend Go Green Week. Therefore, we recommend being cognizant of the Easter holiday dates well before arriving in the UK to choose the optimal dates for Go Green Week.

4.2 Survey Analysis

We administered electronic surveys on portable tablets during Go Green Week using the Bristol Online Survey tool provided by the University of Worcester's sustainability coordinators. These surveys were administered during the activities in our shop at Crowngate Shopping Centre, at electric bike demonstrations at the South Quay, during Feed the 1,000 at the Guildhall, and then on the University City Campus picnic after the Fishy Parade. We offered raffle tickets for the various donated prizes we obtained as an incentive for taking our survey. Surveys were only filled out by individuals over 18, and they remained anonymous. Each participant gave informed consent before they filled out the survey, and the included informed consent is shown in Appendix J. The final survey administered is attached in Appendix K. After Go Green Week, we analyzed the data from 121 survey-takers to understand the demographic breakdown of our sample and gauge the overall sustainable behaviors and knowledge of Go Green Week participants.

4.2.1 Demographics

Go Green Week took place in three locations over the course of five days, therefore attracting a wide audience. We broke down our sample by age, gender, and location to better understand who attended the event, and which demographic groups future Go Green Week hosts should aim to attract to their event.

8 Age

	Your survey (121 responses)	
Option	**Raw**	**%**
Under 25	38	31.40%
25 - 34	12	9.92%
35 - 44	28	23.14%
45 - 54	16	13.22%
55 or over	27	22.31%

Figure 4.4: Age of Survey Takers by Ordinal Chunks

The largest group of survey takers at Go Green Week was between 18-25 years of age, constituting nearly ⅓ of our sample population. Our smallest age demographic were those

between 25 and 34 years of age, making up only 1/10 of our sample. Our sample does not represent total attendance at Go Green Week, as we could not survey anybody under 18 years of age and not every participant took the survey. However, the age demographics shown in Figure 4.4 are consistent with our observations regarding event attendees. Based on our event attendance, we suggest future groups do not advertise to attract specific age groups.

7 Gender

	Your survey (121 responses)	
Option	**Raw**	**%**
Male	37	30.58%
Female	84	69.42%
Other	0	0.00%
Prefer not to say	0	0.00%

Figure 4.5: Gender Breakdown of Survey Responses

Figure 4.5 shows that the majority of participants were female, which is consistent with our observations. We had 47 more women than men at the event. We hypothesize that more women may have attended the event because they were accompanying their children. Perhaps future groups should create a strategy which allows for more interactions with male participants.

10 What is your highest level of education?

Rank value	Option	Count
1	Less than Secondary	3
2	Secondary Education	25
3	Further Education	31
4	Higher Education	62

Figure 4.6: Education Level Breakdown of Survey Responses

We observed through our interactions with attendees that survey takers were confused by the options presented; as such, we question the validity of the responses reported. Many survey

takers stated that they did not understand what “Further Education” represented as opposed to “Higher Education” We recommend amending this demographic question for future surveys since the wording was unclear and many participants were not sure which answer described their education level.

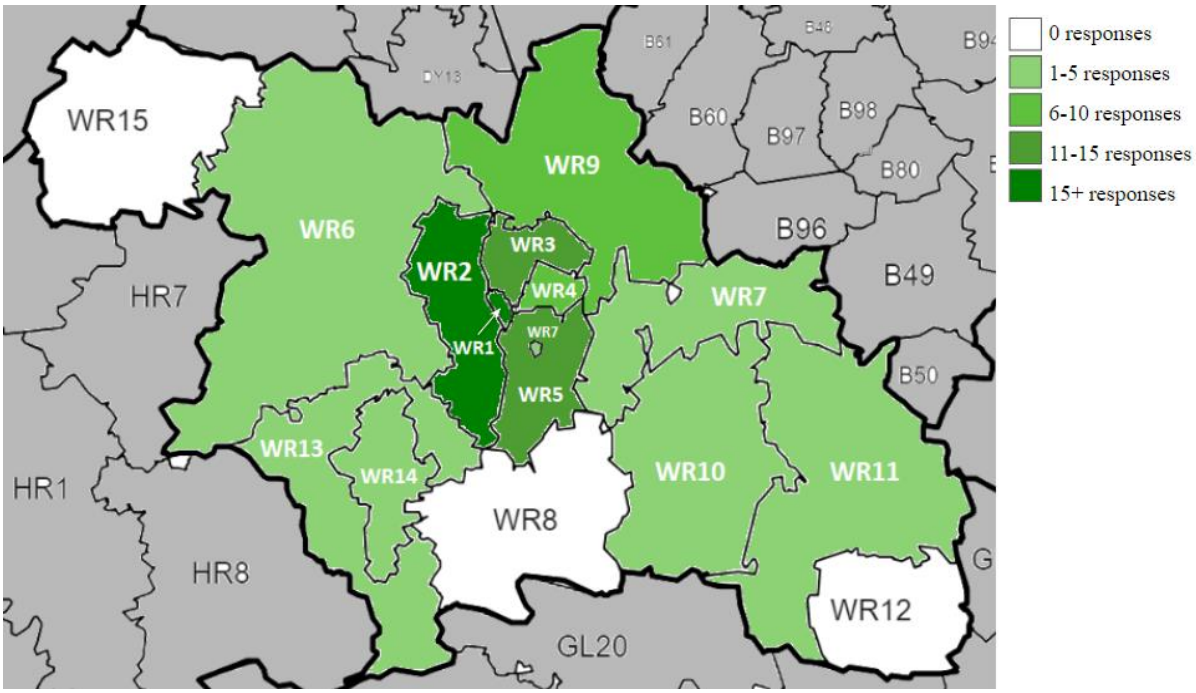


Figure 4.7: Worcester Postcode District Map

Results from Question 9 showed that we obtained survey responses from almost every district of Worcester, as well as 19 responses from areas outside of Worcester, such as Kidderminster, Leeds, and Cheltenham. Based on the number of responses, we have represented and shaded each postcode within the city of Worcester on the map shown in Figure 4.7. The map shows most of the survey takers reside either in or near the city centre; we hypothesize that we received more responses from these residents because Go Green Week was held in several city centre locations.

4.2.2 Transportation

The Worcester City Council identified air pollution as a key issue for sustainability within the city; in response, our survey included a section on transportation to evaluate if those within our sample are using sustainable transport, as travel by car releases more carbon emissions than other modes of transport. We noted that more than half of the Worcester residents surveyed use a more sustainable method of transportation to work than riding in a car alone.

Some participants elaborated that they traveled in whichever manner was most convenient to them, rather than to be sustainable; for instance, many young residents mentioned that they chose to travel on foot or by bus because they did not own a car. In spite of this, we found that knowledge of and use of transportation systems and schemed needs further education efforts and campaigns.

1 How do you mostly travel to work?

Rank value	Option	Count
1	Bus	19
2	Train	4
3	Bicycle	10
4	On Foot	37
5	Motorbike/Moped	1
6	Car on your own	40
7	Car with others	10

Figure 4.8: Selected Responses for Participants' Work Transportation

Figure 4.8 shows the various methods of transportation preferred by survey respondents. We considered the bus, bicycles, on foot, train, and carpooling to be more sustainable methods of transportation than driving a car or motorcycle alone. Results from Question 1 showed that participants mainly traveled via car alone or on foot, and 80 of 121 respondents selected sustainable methods of transportation. Car transportation takes up the vast majority of the other 41 responses; we suggest future teams incorporate more transportation education on bike and car share schemes to help residents travel more sustainably.

2.1 Car-share scheme

	Your survey (118 responses)	
Option	**Raw**	**%**
I use it	4	3.39%
I've heard of it know how it works/what it is	50	42.37%
I've heard of it but don't know how it works/what it is	36	30.51%
Nothing	28	23.73%

Figure 4.9: Selected Responses for Participant's Use of Car-Share Schemes

Car-share schemes are car pooling arrangements or ride-sharing apps. Only 4 of our respondents in Figure 4.9 claimed they use them, the majority knew of them, and the rest had not heard of them. This is inconsistent with the results of Question 1, for which 10 respondents claimed to ride in the car with others as a primary mode of transport. We believe that in the future, the term used in both questions should be consistent, to avoid confusion. The result of this question further supports the need for more transportation-based sustainability education in future Go Green Week events.

2.2 Bike share scheme (i.e. Boris Bikes)

Rank value	Option	Count
1	I use it	9
2	I've heard of it know how it works/what it is	34
3	I've heard of it but don't know how it works/what it is	31
4	Nothing	43

Figure 4.10: Selected Responses for Participant's Use of Bike-Share Schemes

Bike share schemes include temporary bike loans located throughout cities, like the Woo Bikes program the University of Worcester is promoting. Figure 4.10 shows that over ⅓ of our

sample responded that they knew nothing about electric bike schemes. This lack of awareness may be because bike-share schemes are relatively new to Worcester, and information has not yet circulated. As such, we recommend that future groups continue to promote Woo Bikes throughout their events.

2.3 Bus Routes in Worcester

Rank value	Option	Count
1	I use it	45
2	I've heard of it know how it works/what it is	34
3	I've heard of it but don't know how it works/what it is	14
4	Nothing	25

Figure 4.11: Selected Responses for Participant's Use of Bus Routes

There are multiple bus routes in Worcester which run throughout the city centre, or from the city to the surrounding neighborhoods. Over ⅓ of our sample in Figure 4.11 uses the buses. Many remarked they did not use buses because there are no routes running from the surrounding neighborhoods and around the city stops, forcing riders to change over and pay an additional fare. This concern could not be addressed during Go Green Week, so we recommend focusing on promoting bus use to those who always use a car.

3 Have you ever used an electric bike (e-bike)?

	Your survey (121 responses)	
Option	Raw	%
I own one and use it regularly	3	2.48%
Have used one through a loan scheme or test ride	11	9.09%
Had a go on a friends/family members e-bike	11	9.09%
Never used one but know of them	83	68.60%
Never heard of an electric bike	13	10.74%

Figure 4.12: Selected Responses for Participant's Use of Electric Bikes

Our results in Figure 4.12 indicate that a majority of residents within our sample knew of electric bikes, but had never used one. A potential explanation may be that electric bikes are too expensive outside of a bike share scheme, which has not been fully rolled out in Worcester.

Future Go Green Weeks should continue to promote electric bikes in their events as electric bikes become more readily available to Worcester residents.

Overall, our data demonstrates that the Worcester residents included in our sample rarely use car or bike share schemes. We hypothesize that residents in our sample may not be aware of existing schemes or these schemes may not be available for their use. Therefore, future educational efforts should continue to promote existing schemes which are available to use by all residents.

4.2.3 Understanding of Green Behavior

In our survey, we wanted to focus a portion of our questions on knowledge regarding green behavior within our sample. There was confusion on this section of the survey since the question asked "How much do you know about the following within the city of Worcester?" as 19 of the respondents did not live in the city of Worcester. Additionally, many respondents thought they were being asked if they actually performed the listed behaviors, rather than if they knew how to use these green behaviors. Despite this, the section showed that majority residents within the sample were at least somewhat knowledgeable about recycling and donating.

4.1 Recycling of glass, plastic and paper

	Your survey (120 responses)	
Option	**Raw**	**%**
A lot	53	44.17%
A fair amount	37	30.83%
A little	20	16.67%
Not much/nothing	10	8.33%

Figure 4.13: Selected Responses for Participant's Knowledge of Glass/Paper/Plastic Recycling

Figure 4.13 shows the amount of knowledge survey respondents have about recycling glass, plastic and paper in the City of Worcester. 75% of the respondents knew more than a fair amount about recycling. This knowledge could potentially be attributed to existing recycling campaigns from the Worcester City Council and other private companies. We suggest future teams are free to focus more on other topics than recycling glass, plastic, and paper specifically.

There was some confusion regarding the phrasing of the question for participants that did not live in Worcester, since the survey specified knowledge about recycling in Worcester, so we recommend removing the location quantifier in the question to avoid this confusion.

4.2 Recycling electronic waste (e.g. mobile phones)

	Your survey (119 responses)	
Option	**Raw**	**%**
A lot	28	23.53%
A fair amount	24	20.17%
A little	37	31.09%
Not much/nothing	30	25.21%

Figure 4.14: Selected Responses for Participant's Knowledge of Electronics Recycling

The outcomes for participants' knowledge about recycling electronic waste was fairly distributed between knowing a lot to knowing nothing as shown in Figure 4.14. A number of residents remarked that they knew of or used battery recycling bins around the city, but did not know of anywhere to deposit old cell phones or other electronic waste. We recommend that future efforts focus on promoting electronic waste disposal opportunities or programs.

4.3 Disposing of food waste

	Your survey (119 responses)	
Option	**Raw**	**%**
A lot	35	29.41%
A fair amount	25	21.01%
A little	39	32.77%
Not much/nothing	20	16.81%

Figure 4.15: Selected Responses for Participant's Knowledge of Food Disposal

Figure 4.15 shows the majority of survey participants knew “a little” or more about disposing of food waste. The wide distribution may result from confusion over the purpose of the question. Many survey takers were confused by the purpose of the question; they thought the survey asked if they composted, whether they knew about composting, or they did not understand what was meant by food waste disposal. We recommend clarifying the intent of the question in the future, or eliminating the question entirely.

4.4 Donating unwanted items

	Your survey (119 responses)	
Option	Raw	%
A lot	58	48.74%
A fair amount	24	20.17%
A little	22	18.49%
Not much/nothing	15	12.61%

Figure 4.16: Selected Responses for Participant’s Knowledge of Donating Old Items

Figure 4.16 shows that just over 87% of survey respondents know at least “a little” about donating their old clothing or other unwanted items. While this does not indicate that those in our sample actively donate unwanted items, they have indicated that they would know how to do so if desired. This familiarity with donating may be due to the charity bins and shops within the city of Worcester.

The overall results of our sustainable knowledge questions show that 75% of participants knew either a lot or a fair amount about recycling within Worcester, while only half of survey-takers knew either a lot or a fair amount about composting food waste. With these results in mind, we recommend for organizations within the city of Worcester to shift the focus from recycling to composting food waste. Residents of Worcester should also be encouraged to put compost bins in their homes, perhaps by providing free compost bins or other incentives.

4.2.4 Sustainable Building Blocks

In this section of the survey, we determined which items required for sustainable behaviors were common in participants’ homes. For example, having a recycling bin at home would enable a person to recycle. Some of these items were common among the survey participants, but others were either too expensive or impractical for their households. For

example, many respondents without renewable energy sources stated that these systems were too expensive to implement.

5.1 Recycling bins

	Your survey (121 responses)	
Option	**Raw**	**%**
Yes	117	96.69%
No	4	3.31%
Don't know	0	0.00%

Figure 4.17: Selected Responses for if Participants Have a Recycling Bin in their Home

Figure 4.17 shows the number of respondents with recycling bins in their homes. Since over 96% responded they have a recycling bin in their home, this shows that most of the survey takers have the ability to recycle at home. The frequency of recycling bins or sacks in our participants' homes may be attributed to the ease of access; the bins are provided through the city and delivered to homes that do not already have these items.

5.2 Compost bin

	Your survey (119 responses)	
Option	**Raw**	**%**
Yes	56	47.06%
No	63	52.94%
Don't know	0	0.00%

Figure 4.18: Selected Responses for if Participants Have a Compost Bin in their Home

Figure 4.18 reveals the number of respondents with compost bins or heaps in their homes. Fewer than half of participants had a compost bin or heap. This shows that a majority of our

sample lack means of composting their food waste. This is consistent with our data regarding knowledge about food waste.

5.3 Programmable thermostat

Rank value	Option	Count
1	Yes	81
2	No	32
3	Don't know	7

Figure 4.19: Selected Responses for if Participants Have a Programmable Thermostat in their Home

Figure 4.19 shows the number of participants with a programmable thermostat in their home. About 68% of respondents had a programmable thermostat. There was also widespread confusion among survey participants as to what a programmable thermostat was. Many only responded correctly when informed that the thermostat was used to control the boiler; however, we did not personally explain the question to every survey respondent so this confusion was not always mitigated. As a result, about 6% of respondents did not know if they had a programmable thermostat. The proportion of homes in our sample that did not have programmable thermostats may be explained the age of those homes. Old homes may not have newer technologies like programmable thermostats because they were not available at the time. We suggest that future sustainability education efforts explain how residents can install these items, if desired.

5.4 Water-saving items (e.g. low-flow shower heads, dual flush loos)

Rank value	Option	Count
1	Yes	55
2	No	54
3	Don't know	11

Figure 4.20: Selected Responses for if Participants Have Water-saving Items in their Home

Figure 4.20 shows the number of respondents with water-saving items in their homes. Approximately 46% of respondents had water saving items in their homes, 45% did not have water-saving items, and approximately 9% did not know if they had water-saving items. The lack of water-saving items may be explained due to the age of homes in Worcester. People with older homes may not replace their original shower heads and toilets, since the original items continue to function well. Since fewer than half of respondents had water-saving items, we suggest for organizations to advertise items such as dual flush loos more widely within the community.

5.5 Light motion sensors

	Your survey (119 responses)	
Option	Raw	%
Yes	29	24.37%
No	87	73.11%
Don't know	3	2.52%

Figure 4.21: Selected Responses for if Participants Have Light Motion Sensors in their Home

Figure 4.21 shows the percentage of respondents with light motion sensors in their homes. About 73% of respondents did not have light motion sensors in their home. Many respondents stated that light motion sensors are not common in homes, and expressed concern over the cost of installation. Additionally, light-motion sensors are practical options for those who frequently forget to turn off the lights in their home. Many residents in our sample

expressed they had no desire to install motion sensors as they turn off the lights themselves. We recommend that future efforts advertise installation option for light motion sensors to those who voice that they frequently forget to turn off the lights.

5.6 Energy saving light bulbs or LED light bulbs

Rank value	Option	Count
1	Yes	112
2	No	6
3	Don't know	3

Figure 4.22: Selected Responses for if Participants Have Energy Saving Light Bulbs in their Home

Figure 4.22 shows the number of respondents with energy saving or LED light bulbs in their homes. Approximately 93% of respondents had energy saving light bulbs, 5% did not, and 2% were unsure. These results show that most of the participants in our sample already have energy saving light bulbs. This positive response may result from the availability of these energy-saving light bulbs at low cost and efforts from the UK government to phase out traditional bulbs. We suggest that future groups are free to concentrate on other sustainability options in the home, as our sample demonstrated a high use of energy saving or LED bulbs.

5.7 Renewable energy systems, e.g. solar PV

Rank value	Option	Count
1	Yes	20
2	No	95
3	Don't know	4

Figure 4.23: Selected Responses for if Participants Have Renewable Energy Systems in their Home

Figure 4.23 shows how many respondents had renewable energy systems in their homes. Approximately 17% of respondents had renewable energy systems, 80% did not, and 3% were

unsure if they had renewable energy systems. Several participants were unclear with the wording of the question, so we suggest that future groups explain the question to participants. We hypothesize that participants may lack renewable energy systems because they are either unsightly or costly to install. Perhaps future groups can educate participants about existing programs to install renewable energy systems and the overall financial benefits of these systems.

The overall results of this survey section demonstrate that within of those residents within our sample, the majority had recycling bins, energy saving light bulbs, and programmable thermostats. In contrast, the majority of our sample did not have compost bins or heaps, water saving items, renewable energy systems or light motion sensors. Within our sample, the items which had the least presence in homes were renewable energy systems and light motion sensors. We recommend that Go Green Weeks and other campaigns adopt educational material to promote programs which help to install these items and potentially defray the cost of installation to attendees who are interested.

4.2.5 Frequency of Green Behaviors

This section shows the analysis of the frequency with which participants exhibited green behaviors. We asked about common green behaviors, like turning off lights or electrical appliances when not in use, setting the thermostat lower than 18 degrees, operating the wash with a full load, limiting shower time, avoiding unsustainable or disposable packaging, donating or buying used items, and repairing broken items. We selected these questions as they pertain to behaviors that are easily adopted among individuals to reduce their individual carbon footprints, and easily addressed through Go Green Week activities.

6.1 Turn of lights when leaving a room

	Your survey (120 responses)	
Option	Raw	%
Always/most of the time	92	76.67%
Sometimes	22	18.33%
Rarely	4	3.33%
Never	1	0.83%
N/A	1	0.83%

Figure 4.24: Selected Responses for Frequency with which Participants Turn off Lights

Figure 4.24 shows the frequency with which respondents turn lights off when they leave a room. Approximately 77% always turned off lights, 18% sometimes did, 3% rarely did, and less than 2% either never turned lights off, or found the question not applicable to them. Several participants commented during the survey that having young children made it more difficult to always ensure that lights were turned off when they were not being used. Based on participants' comments, we recommend future groups attract families to attend Go Green Week and educate parents on how to encourage children to turn of the lights such as a reward system or using small outlet night lights to keep hallways illuminated for their children.

6.2 Switch off electrical appliances when not in use

	Your survey (121 responses)	
Option	Raw	%
Always/most of the time	71	58.68%
Sometimes	40	33.06%
Rarely	8	6.61%
Never	2	1.65%
N/A	0	0.00%

Figure 4.25: Selected Responses for Frequency with which Participants Turn off Appliances

Figure 4.25 shows the frequency with which respondents switch off electrical appliances when not in use. Approximately 59% of respondents always turn off electrical appliances when not in use, 33% sometimes switch off appliances, 7% rarely switched off appliances, and 2% never switch off appliances when not in use. A couple of survey respondents remarked that electronics were always shut off when not in use because they had young children and switched on appliances could be dangerous. Others responded that they often left appliances like the television on for the noise. We recommend that future groups educate attendees about the cost of leaving appliances on to discourage them, or provide information about outlets with timers which would automatically turn off if they forget.

6.3 Set thermostat to 18 degrees or lower during cool or cold weather

	Your survey (120 responses)	
Option	Raw	%
Always/most of the time	57	47.50%
Sometimes	24	20.00%
Rarely	15	12.50%
Never	14	11.67%
N/A	10	8.33%

Figure 4.26: Selected Responses for Frequency with which Participants Set Home Temperatures to <18°C

Figure 4.26 shows the percentage of respondents who set their thermostats to 18°C or lower. Approximately 47.5% of respondents either always or most of the time, 20% sometimes did, 12.5% rarely did, approximately 12% never did, and this behavior was not applicable to about 8% of respondents. Several elderly individuals remarked that they rarely or never set the thermostat to lower temperatures, which may be unavoidable since elderly individuals often need higher ambient temperatures to stay comfortable. We suggest for future groups to educate the public about the energy and cost savings from keeping the thermostat below 18°C during cool weather.

6.4 Operate washing machine only when you a full load of clothes

	Your survey (120 responses)	
Option	Raw	%
Always/most of the time	89	74.17%
Sometimes	17	14.17%
Rarely	7	5.83%
Never	3	2.50%
N/A	4	3.33%

Figure 4.27: Selected Responses for Frequency that Participants Operate Laundry

Figure 4.27 shows the frequency with which respondents operate a washer with a full load of clothes. Approximately 74% of respondents always washed their clothes with a full load, 14% sometimes washed with a full load, 6% rarely, 2.5% never washed with a full load, and 3% did not do laundry. Multiple participants remarked that they often cycled less than a full load of laundry due to demand from their children; often, dirty uniforms or other items required they run the machine before a full load built up. To address these comments, we recommend that future education efforts promote easy habits like hand-washing certain items instead of running the washing machine with only one item.

6.5 Limit time spent in the shower

	Your survey (120 responses)	
Option	Raw	%
Always/most of the time	46	38.33%
Sometimes	36	30.00%
Rarely	14	11.67%
Never	13	10.83%
N/A	11	9.17%

Figure 4.28: Selected Responses for Frequency with which Participants Limit Time in Shower

Figure 4.28 shows the percentage of respondents who limited their time spent in the shower. Approximately 38% of respondents either always or most of the time limited their shower time, 30% sometimes did, approximately 12% rarely did, approximately 11% never limited shower time. An additionally 9.17% noted that the question did not apply to them. These responses may come from homeless survey takers or those without shower in the home. Since water conservation is a crucial facet of practicing sustainability, we recommend for future groups to emphasize this importance and to show how many gallons of water people can save by cutting even one minute off of their shower time. Additionally, given the number of respondents in our sample who do not have showers and rely on baths, we recommend using the providing additional education about using only the minimum amount of water needed for a bath.

6.6 Use a reusable water bottle, coffee cup, travel mug, etc.

	Your survey (121 responses)	
Option	**Raw**	**%**
Always/most of the time	64	52.89%
Sometimes	37	30.58%
Rarely	11	9.09%
Never	6	4.96%
N/A	3	2.48%

Figure 4.29: Selected Responses for Frequency with which Participants Use Reusable Bottles/Mugs

Figure 4.29 shows the percentage of respondents who used a reusable bottle, cup, or mug. Approximately 53% of respondents either always or most of the time used reusable containers for drinking, 31% sometimes did, approximately 9% rarely did, approximately 5% never used reusable containers. To encourage reusable container use, future groups may be able to gather donations of water bottles or travel mugs from companies and use these items as giveaways for Go Green Week participants. Additionally, groups may feature a list of local cafes or fast food chains which give beverage discounts to those who bring reusable mugs to fill, as done in prior Go Green Weeks.

6.7 Shop for items with minimal packaging

	Your survey (119 responses)	
Option	**Raw**	**%**
Always/most of the time	30	25.21%
Sometimes	44	36.97%
Rarely	31	26.05%
Never	11	9.24%
N/A	3	2.52%

Figure 4.30: Selected Responses for Frequency with which Participants Shop for Items with Minimal Packaging

Figure 4.30 shows the frequency with which respondents shopped for items with minimal packaging. Approximately one-quarter of participants always or most of the time bought minimally-packaged items, 37% sometimes took this into account, 26% rarely accounted for this, 9% never looked for items with minimal packaging, and approximately 3% of people found this question not applicable to them. From our observations, we noticed that most items came in some form of packaging, like the eggplants we received for Feed the 1,000, which were all individually wrapped in plastic. Purchasing excessively-packaged items in grocery stores may be inevitable, as multiple participants commented. We suggest future groups promote alternative shopping locations, such as fruit and vegetable stands, where packaging can be avoided. Additionally, future groups may promote reusable packaging, like egg cartons or glass jugs.

6.8 Donate unwanted items

Rank value	Option	Count
1	Always/most of the time	73
2	Sometimes	29
3	Rarely	8
4	Never	5
5	N/A	3

Figure 4.31: Selected Responses for Frequency with which Participants Donate Unwanted Items

Figure 4.31 shows the frequency of respondents who donated unwanted items. Approximately 62% of participants always or most of the time donated items, one-quarter sometimes donated, approximately 7% rarely donated, 4% never looked for items with minimal packaging, and approximately 2% of people found this question not applicable to them. These results show that a majority of the sample's participants sampled donated items they did not need anymore, which encompasses reusing. This is consistent with the results from the previous question regarding knowledge about donating unwanted items, where 68.17% of the sample responded that they know at least "a fair amount" about donating old clothes. Although the majority of the sample actively donates unwanted items, future groups may encourage donation by involving charity shops in Go Green Week, or by placing a charity collection bin at one of the Go Green Week locations, as was done in the previous year.

6.9 Purchased something second-hand

Rank value	Option	Count
1	Always/most of the time	54
2	Sometimes	43
3	Rarely	15
4	Never	8
5	N/A	0

Figure 4.32: Selected Responses for Frequency with which Participants Purchase Second-Hand Items

Figure 4.32 shows the frequency of respondents who purchased things second-hand. 45% of participants always or most of the time purchased used items, approximately 36% sometimes purchased used items, 12.5% rarely bought items second-hand, and approximately 6.5% of participants never purchased things from second-hand shops. Our data shows that most people who were sampled purchased items second-hand, which encompasses reusing, an important facet of sustainability. More people "always" donated items than "always" bought items second hand. We hypothesize that among our sample, people may buy things new, which they later donate, and supplement with second hand items, as over 35% of the sample "sometimes" buys second-

hand items. We recommend promoting second hand shops throughout Worcester, including clothing stores or refurbished furniture outlets.

6.10 Check recycling labels on products

Rank value	Option	Count
1	Always/most of the time	64
2	Sometimes	30
3	Rarely	12
4	Never	14
5	N/A	0

Figure 4.33: Selected Responses for Frequency with which Participants Check Recycling Labels

Figure 4.33 shows the frequency of respondents who check recycling labels on products before they recycle them. Approximately 53% of participants always or most of the time checked, 25% sometimes checked, 10% rarely checked, and approximately 12% of participants never checked labels before they recycled. These results reveal that more than half of participants sampled always check recycling labels; however, several participants remarked during the survey that they rarely or never checked recycling labels because they were familiar with how recycling worked and habitually sorted things into the correct bins. However, the recycling activity hosted by a University of Worcester student revealed that some of our participants were surprised that certain items could not be recycled, despite being composed of plastic or glass. Based on these results, we recommend for future groups to give recycling demonstrations during Go Green Week and show participants where they can find recycling labels on products.

6.11 Repair a broken item or visit a local Repair Cafe

	Your survey (120 responses)	
Option	Raw	%
Always/most of the time	30	25.00%
Sometimes	28	23.33%
Rarely	18	15.00%
Never	36	30.00%
N/A	8	6.67%

Figure 4.34: Selected Responses for Frequency with which Participants Repair Broken Items

Our survey results from Question 6.11, seen in Figure 4.34, show that one-quarter of participants always repaired their broken items and nearly another quarter sometimes repaired broken items; however, while taking the survey, many participants stated that they were unfamiliar with local repair cafes held by organizations such as Transition Worcester. Perhaps more prominent advertising of repair cafes would encourage people to learn to repair broken items rather than throw them away. Nearly one-third of surveyed participants never fix broken items; however, several people remarked during the survey that the frequency with which they repair items depends on the items which have broken.

Overall, Worcester we determined that the majority of participant in our sample turn off lights and electrical appliances "always/most of the time," actively practiced water saving practices like not running the wash as frequently or limiting time in the shower "sometimes," and practiced reuse like donating, buying second hand, and repairing items more than "rarely." Within the sample, the areas of least concern for practicing green behaviors include energy saving habits like switching off lights or appliances, and areas of high concern include reusing old item by repairing them or saving water by limiting time in the shower. The low frequency of these habits may stem from issues of convenience, like having to pay for repairs or having to rus in the shower. Our recommendations to further education in these areas aim to increase the frequency of these habits. If the frequency of these behaviors can be increased throughout Worcester, then non-renewable resource use will be reduced and items will be reused rather than purchased new each time something breaks.

4.3 Our Sample vs. the University Staff Sample

The results from our survey were comparable to several portions of the results from the University of Worcester Staff Survey 2017, as the questions were identical. Using the BOS software, we were able to compare the results of the two surveys side by side and compare. We used the comparison to determine whether the staff sample was notably more or less knowledgeable about living sustainably than our Go Green Week sample.

4.3.1 Transportation Data Comparison

To begin, we looked how the university staff sample traveled compared to our sample. As shown in Figure 4.35, the University sample opted to travel by car alone more so than those in our sample; over 55% of University Staff drive alone to work, as opposed to 33.1% of the Go Green Week Sample.

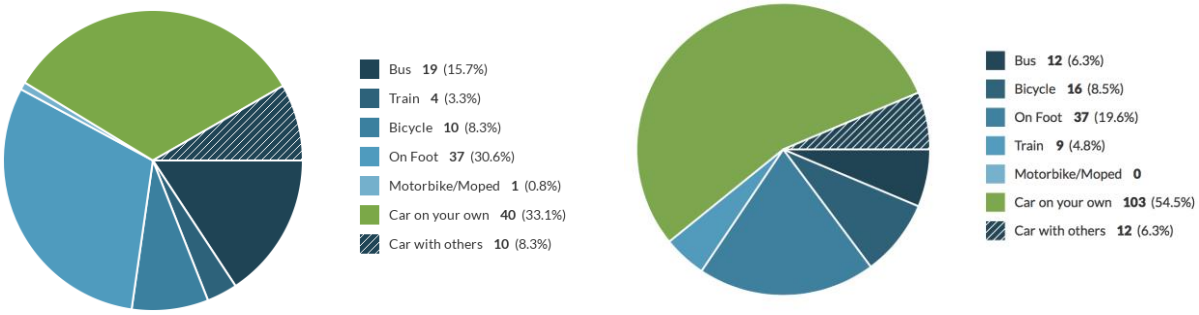


Figure 4.35: Go Green Week Transportation Responses (Left) vs. University Staff Transportation Responses (Right)

However, the University sample was more informed about car and bike schemes than our sample. Over 90% of the University sample knew about car share schemes, which is approximately 18% more than the Go Green Week sample. We noted a similar pattern for knowledge regarding bike share schemes. Despite this, a higher percentage of respondents in our sample reported that they use these services. The University Staff may have more knowledge about bike schemes since the University has an electric bike scheme and a regular bike scheme, whereas some of the Go Green Week survey respondents claimed that the city did not have schemes like this. This information reinforces our recommendation to future groups to include more education material and promotions for these schemes in the future.

4.3.2 Understanding of Green Behavior Comparison

The next section in our survey focused on knowledge of green behaviors. Comparing our sample to the University's Staff sample showed that over 75% of respondents to the surveys knew a fair amount to a lot about recycling, as shown in Figure 4.36. The major difference in the responses

was with regard to how they quantified their knowledge of these green behaviors. For example, most University respondents chose “a fair amount,” while most Go Green Week attendees chose “a lot.”

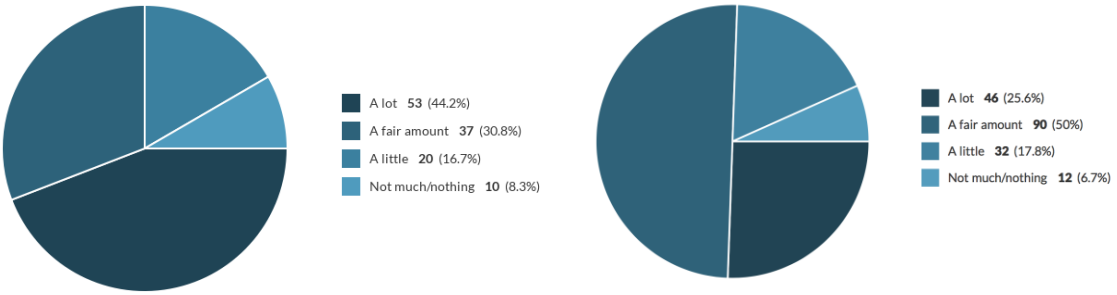


Figure 4.36: Knowledge about Recycling. Go Green Week Participants (Left) vs. University of Worcester Staff (Right)

Another popular green behavior in both samples was knowledge about unwanted item donation, as shown in Figure 4.37. In this question, the attendees for Go Green Week knew more about donating unwanted items than the University Staff. This deviance in behavior could potentially be explained by the appearance of charity shops and donation bins within the city, which are more frequent and in more visible locations than the donation bins on campus.

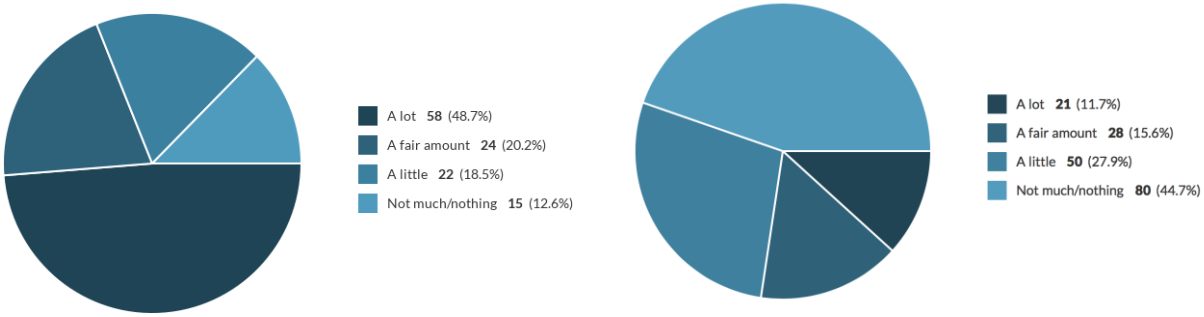


Figure 4.37: Knowledge about Donating Unwanted Items. Go Green Week Participants (Left) vs. University of Worcester Staff (Right)

Overall, the understanding of recycling was similar between Go Green Week participants and University staff; however, Go Green Week participants knew more about donating unwanted items than University staff. Based on these results, we recommend for the University to raise their staff’s awareness of donation bins and charity shops.

4.3.3 Sustainable Behavior Comparison

This section of the survey measured participants’ sustainable behaviors and the frequency with which these behaviors were practiced. Sustainable behavior practice was generally similar between the university’s survey participants and Go Green Week’s participants. One deviance,

however, was between the amount of participants in each sample who repaired broken items. Within the Go Green Week sample of participants, approximately 48% of people either always or sometimes repaired broken items; however, only 34.5% of participants within the University's sample sometimes or always repaired broken items. Since repairing and reusing are important facets of sustainability, these data provide valuable information to the University. We encourage the University to host repair cafes on campus to attract staff and students to learn how to repair some of their broken items.

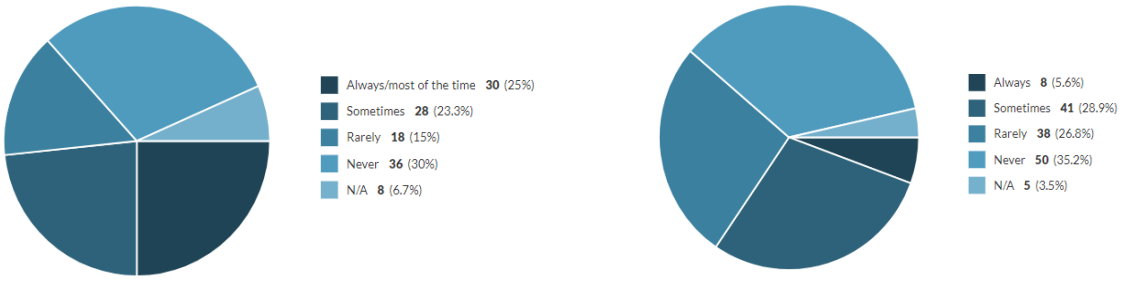


Figure 4.38: Go Green Week Participants who Sometimes or Always Repair Broken Items (Left) vs. University Staff Who Sometimes or Always Repair Broken Items (Right)

4.3.4 Frequency of Green Behavior Comparison

When comparing the frequency with which respondents reported they practiced selected green behaviors, we found that the university staff demonstrated sustainable behaviors more frequently than those in our sample by a slight margin. For instance, Figure 4.40 below represents the use of reusable water bottles or travel mugs by both samples. The university staff sample reported a higher frequency use of reusable drink containers by only 4%, and only 1% fewer of the sample never used reusable drink containers.

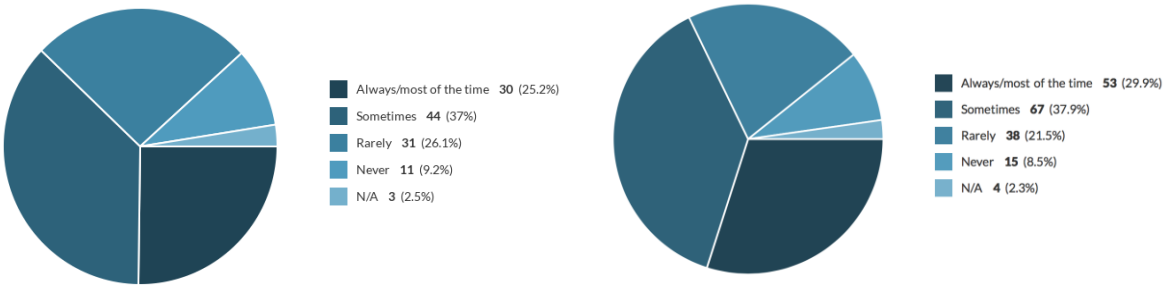


Figure 4.39: Go Green Week Use of Reusable Bottle Responses (Left) vs. University Staff Use of Reusable Bottle Responses (Right)

Overall, of the eleven green behaviors that we included on the survey, our sample practiced them on average 50.79% of the time, whereas the staff sample practiced them 51.3% of the time. The difference between the two samples was 0.51%, with the university staff as the slightly more sustainable group. The only notable differences between the two samples were the frequency with which each donated old items or switched off electrical appliances not in use. In the first case, the Go Green Week sample donated "a lot" with a frequency 18% higher than the University sample. In the second instance, the staff sample switched off lights "a lot" 10.4% more frequently than the Go Green Week sample. Between the two, we would recommend further educational efforts in shopping for items with minimal packaging, making use of repair cafes or repairing old items, and purchasing second-hand items.

4.4 Sustainable Business Trail

The Worcester businesses that donated resources to Go Green Week were added to the Google Maps Sustainable Businesses Trail, which was published on susthingsout.com, the University of Worcester's sustainability blog. An electronic copy of this map was also provided to the tourism office in Worcester, in the hopes that they will distribute the map to visitors and locals. A major component of the Go Green Week project, in addition to creating partnerships between the city, University, and community and promoting sustainable habits, was to promote sustainable businesses by creating this sustainable business trail. A majority of these businesses are also becoming increasingly involved in sustainable business practices: for instance, Coffee#1 recently committed to sustainable and biodegradable packaging and containers in their shop and LUSH collects plastic bottle caps for recycling. If this map is adopted and regularly updated by the tourism office, our project and the resulting publicity or exposure from the map will continue to support sustainable businesses and sustainable business practices throughout Worcester.

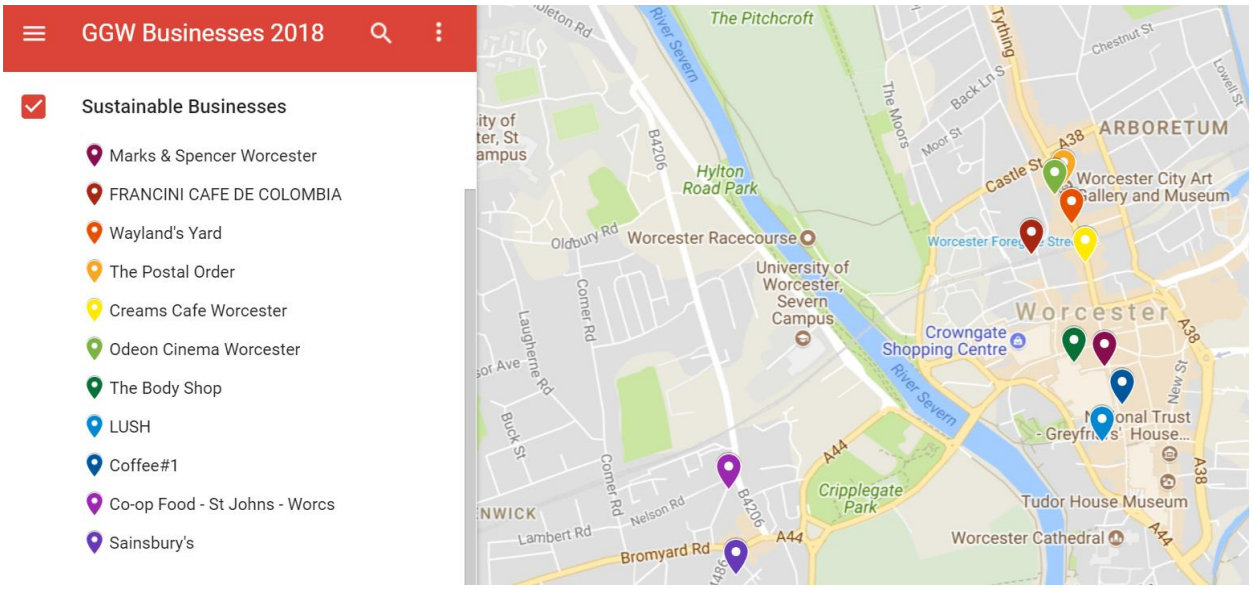


Figure 4.40: Sustainability Trail of Local Business Sponsors in Worcester

Chapter 5: Conclusion and Reflections

Our project expanded upon last year's community Go Green Week in Worcester and culminated in a successful event which educated the public about limiting food waste, recycling, sustainable transportation, growing food and plants, and the long-term health of the River Severn. The event gained community interest and effectively promoted the University of Worcester's 10 Golden Rules of Living Sustainably.

There was extensive planning in the months before Go Green Week was held. This planning involved forming partnerships with several local organizations so they could circulate advertisements for Go Green Week, donate raffle prizes, or volunteer in person for the event. The University of Worcester and Worcester City Council were instrumental in our planning efforts, and Go Green Week furthered these organizations' interests in promoting sustainable practices within the community. The existing partnerships we expanded upon and new partnerships we formed will benefit the public in preserving Worcester and helping future Go Green Week hosts with their event planning. Although we faced challenges both with communications during the two-week Easter holiday just prior to Go Green Week and with the lack of a budget for food to be used in the Feed the 1,000 event, the events ran smoothly in the end. Go Green Week gained a high amount of public interest at the Guildhall, a moderate amount of interest in the shop in Crowngate Shopping Centre, and relatively low interest with the electric bike demonstrations at the South Quay despite the weather throughout the week being sunny and warm. The community litter pick was unsuccessful, since only two community members participated and the amount of trash along the River Severn was scarce compared to other parts of the city centre. In general, from those who participated in Go Green Week events, members of the Worcester community seemed open to learning about sustainability, and raffle tickets were an effective incentive to gather attendees' survey responses.

At the end of Go Green Week, we compared attendees' answers to the survey in Appendix K to survey responses from the University of Worcester's staff to determine which sustainable practices are most prominent in Worcester and which practices are lacking, so community officials can further encourage these behaviors. We reported these results to the University of Worcester and Worcester City Council so they may develop events to incentivize these environmentally-friendly practices in the future. From our evaluation of the survey data, we recommend the city of Worcester encourages residents to obtain compost bins for their

homes, to encourage the proper disposal of food waste, to conserve water by limiting time spent in the shower, and to encourage car-share schemes or the use of public transportation. Additionally, many survey-takers who had young children remarked that their children sometimes made it difficult to only operate laundry when there was a full load of clothes, to turn off lights in unoccupied rooms, or to turn off all electrical appliances when not in use. Therefore, future hosts of Go Green Week or other Worcester organizations may more effectively gear their educational events toward families of the community.

Additionally, our observations from Go Green Week events such as the litter pick (Appendix L) led to recommendations for Worcester organizations to encourage sustainable behaviors by adding more cigarette disposal containers on public footpaths, or installing recycling bins next to rubbish disposal bins throughout Worcester. Since many community participants had heard of electric bikes but had not used or owned one, we recommend future Go Green Week hosts continue to offer electric bicycle demonstrations. Perhaps in the future, teams can think of ways to advertise these demonstrations to local employers so they may purchase the bikes for employees to use as means of sustainable transportation.

Overall, Go Green Week strengthened the relationship between community members and the various community organizations that were heavily involved in the event. Sustainable practices were promoted through educational activities which promoted the 10 Golden Rules of Living Sustainably and were centered around limiting food waste, recycling, reusing materials, growing food at home, and protecting river water and fish. The video included in Appendix M highlight the week's activities and community involvement. By organizing, hosting, and evaluating Go Green Week, our group offered tangible suggestions to the city of Worcester to encourage more residents to practice sustainable behaviors.

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Appendix A: Sample Letter to Businesses

Katy Boom, Director of Sustainability
University of Worcester
St. John's Campus, Henwick Grove
WR2 6AJ Tel: 01905 855243

Dear Store Manager:

Thank you for your support on the Go Green Week fair in the Spring of 2017. We are a group of American Students and we are working with the local University of Worcester to put on a second Go Green Week in the city from 17th-21st April, 2018. Activities will be held on the Crowngate in Friary Walk, the South Quay on the River, and Guildhall. We are requesting for your business to sponsor the event in some manner.

If your business would like to become involved with Go Green Week, please tell us which of the following are the most preferable option(s) for you.

1. Provide a material item or gift card that could be given away as a prize for participants.
2. Assist in running an activity during the week.

Potential Benefits to You

- Advertising of your logo in all promotional materials
- Increased exposure of your business via the loyalty card program
- Potential solutions to sustainability problems you face

We have included the link to a youtube video of last years Go Green Week Events: https://www.youtube.com/watch?v=rWPWtQtdZTk

Here is a link to the University of Worcester's blog post on the event: http://susthingsout.com/index.php/go-green-week-18th-to-22nd-april/

Sincerely,

The Go Green Week Team
Katherine, Sam, Kate, and Sarah
Worcester Polytechnic Institute Class of 2019
D18-GGW@wpi.edu

Appendix B: Sample Letter to Grocery Stores for Feed the 1,000

Katy Boom, Director of Sustainability
University of Worcester
St. John's Campus, Henwick Grove
WR2 6AJ Tel: 01905 855243

Dear Store Manager:

We are a group of American Students and we are working with the local University of Worcester to put on a second Go Green Week in the city from 17th-21st April, 2018. Activities will be held on the Crowngate in Friary Walk, the South Quay on the River, and Guildhall. One such activity is a "Feed the 1,000" event, for which our volunteers will hand out 1,000 "meals" to demonstrate the amount of food waste the average family in England generates per year. Our group relies completely on donated food to put on the event, and we are asking your organization to sponsor the event through a food donation.

If your business would like to become involved with Go Green Week, please tell us whether you can commit to donating the following, or some portion of that, prior to the 17th of April:

- 20 onions
- 20 potatoes
- 10 eggplants
- 10 green peppers
- 10 red peppers
- 10 medium carrots
- 30 cherry tomatoes
- 100 skewers
- 100 plastic spoons

Potential Benefits to You

- Advertising of your logo in all promotional materials
- Potential solutions to sustainability problems you face

We have included the link to a youtube video of last years Go Green Week Events: https://www.youtube.com/watch?v=rWPWtQtdZTk

Here is a link to the University of Worcester's blog post on the event: http://susthingsout.com/index.php/go-green-week-18th-to-22nd-april/

Sincerely,

The Go Green Week Team
Katherine, Sam, Kate, and Sarah
Worcester Polytechnic Institute Class of 2019
D18-GGW@wpi.edu

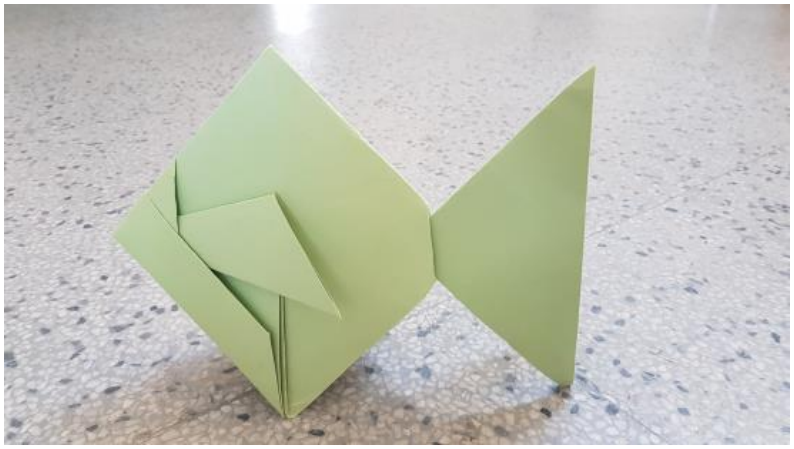
Appendix C: Blog Posts on susthingsout.com

Appendix C.1: Blog Post on susthingsout.com Before Go Green Week

Go Green Week in Worcester – 17 to 21 April 2018

POSTED BY KATY BOOM ON APRIL 6, 2018 IN CAMPAIGNS, EVENTS, GO GREEN WEEK | 44 VIEWS | LEAVE A RESPONSE

Welcome to Go Green Week 2018



It's that time of year again. No, not for discounted Easter candy. It's time for **Go Green Week in Worcester**.

This year's **Go Green Week** is scheduled for April 17th-21st. We have fun craft projects. Learn how to make an origami fish from repurposed paper collected from Worcester Resource Exchange and other activities to help you

save money and be more sustainable. Simple changes easy to do. Have fun finding out.

Free have-a-go sessions on an **electric bike** – South Quay by the fountains 11.30am -1.30pm 17th, 18th, 19th, & 20th April

Free food on Tuesday 17 April for Feed the 1,000 from outside the Guildhall. Come to the Crowngate shopping centre opposite New Look to take part in other exciting activities daily 2.00pm-4.00pm 17th-21st. You can also enter your nature photos from Worcester for a chance to win a £20 gift card to The Postal Order. Submit the photos to fb.me/GGW2018.

Enter the free raffle, we just need a moment of your time to answer a couple of questions. Prizes include: A 4 person pamper evening from Lush, 4 movie tickets from Odeon Theatre, a £10 gift voucher to Creams Cafe, a £5 gift card to Coffee#1, and a voucher from Francini's Cafe de Colombia.

We will also be giving out chilli plants, poppy seeds, dehydrated fruit, and free samples from The Body Shop.

We look forward to seeing you during Go Green Week.

The 2018 Go Green Week Team

Katherine Baker, Samantha Lindberg, Kate Romero & Sarah Sanchez

POSTED IN CAMPAIGNS, EVENTS, GO GREEN WEEK

Appendix C.2: Blog Post on susthingsout.com After Go Green Week

Hello everyone! We are happy to announce that the second annual Go Green Week in Worcester City Centre was a success! From 17 to 21 April 2018, our student group from Worcester Polytechnic Institute worked with the University of Worcester to hold activities in front of the Guildhall, South Quay, and in the Crowngate Plaza to promote the 10 Golden Rules of Living Sustainably and environmental awareness to the community of Worcester.

This 5-day event was held in collaboration with several local organizations such as the Worcester City Council and University of Worcester, volunteers, and local businesses to show members of the Worcester community that they can make small changes in their daily lives to help the environment by reducing water and energy usage, using sustainable methods of transportation, recycling, and reducing food and plastic waste.

We kicked off the week with Feed the 1,000 in front of the Guildhall on 17 April. Trainee chefs from the Heart of Worcestershire College prepared delicious vegetable curry and butternut squash soup to give away as people passed by. This event was held to raise awareness of the 1,000 plates of food that the average UK family wastes each year. It's important to only shop for food you will use throughout the week, to measure portion sizes and only cook as much food as you will eat, and to use leftover food for meals the next day.

For the first four days, we offered for members of the public to try out electric bikes from Gtech at the South Quay to showcase a sustainable transportation method to the public. These bikes make pedaling easy and they are a great alternative to using cars, since bikes do not release fossil fuels into the environment. We had an average of 3 people try out the bikes per hour throughout the week!

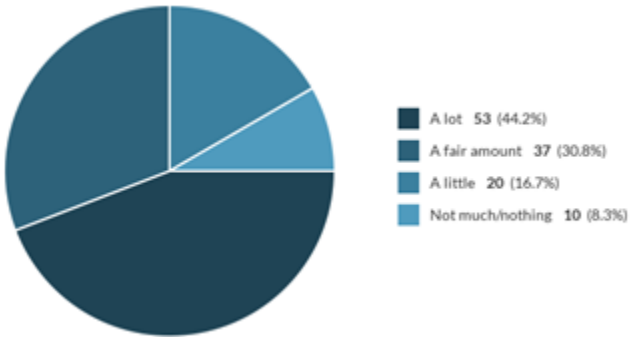
On Thursday 19 April, we held a community litter pick along the River Severn at South Quay. Over 20 volunteers took litter-pickers and picked up lots of cigarette butts, aluminium cans, and other trash that was littering the path.

On Saturday 21 April, we participated in the Fishy Parade that walked through Worcester to celebrate World Fish Migration Day. Kids had a lot of fun walking with the fish they decorated in school and learning about the health of the River Severn and its fish, as well as the Unlocking the Severn project headed by the Canal & River Trust, Severn Rivers Trust, and the Environment Agency and Natural England.

Throughout the week, community members visited us in our Crowngate Plaza shop to learn about recycling, growing chilli plants, and reducing food waste. Kids had a lot of fun coloring the nature picture shown below and painting wooden beehives (these will be placed in the bee garden in front of Crowngate). Transition Worcester, Zero Waste Worcester & No Plastic Worcestershire, Andrew Davis Partnership, Fortis, Warwickshire Police, and West Mercia Police had tables in our shop to teach and hear public concerns about bike security, the city of Worcester, eliminating waste, and recycling.

During the week, we were able to collect 121 surveys from Go Green Week attendees and volunteers. Using this data, we were able to see how sustainable the Worcester residents within our sample are. We focused on 4 general categories in our questions: transportation, sustainability knowledge, sustainability tools, and sustainable behavior. The general trends show us that while a majority of our sample chose more sustainable methods of transportation to driving alone, less than one tenth of the sample utilizes bike or car share schemes. Additionally, ¾ of the sample selected “a lot” or “a fair amount” for knowledge about recycling glass, plastic, and paper items, while only half knew the same amount about disposing of food waste.

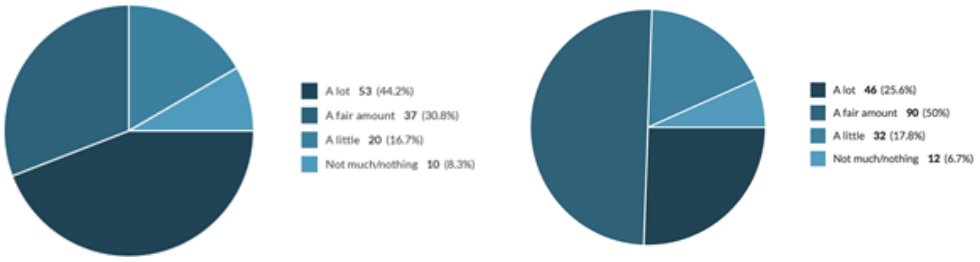
Twice as many people knew nothing or a little about disposing of food waste compared to recycling, as shown below.



We were also interested in which "sustainable tools" residents in our sample had in their homes; in other words, if they had the basic necessities required for green behavior, including recycling/compost bins, programmable thermostats, light motion sensors, or solar PV. We found that while most had recycling bins, programmable thermostats, and LED bulbs, very few had light motion sensors or renewable energy systems. Many of our participants voiced concerns over the cost of installation. Finally, we looked at the frequency with which our sample practiced green behaviors. Within our sample we found the majority responded they always switch off lights or appliances, but fewer limit time in the shower or shop for items with minimal packaging. Based on this we have identified a few key areas for future Go Green Weeks to focus on:

- Promoting bike/car share schemes like UberPOOL or Woo Bikes
- Increasing educational materials regarding food waste disposal
- Promoting programs which defray the cost of installing energy saving items or systems in the home
- Promoting easy ways for residents to adapt their behavior to be more green, like purchasing reusable water bottles

We also took the opportunity to compare our results to University of Worcester staff survey results from 2017. We identified common tendencies within both sets of data, but overall found the University staff sample to be only slightly more sustainable than our sample of Go Green Week participants. Generally, the University sample was more informed about car and bike schemes. Both samples were fairly knowledgeable about recycling/donating, although the staff sample was more likely to select "a fair amount," while our sample selected "a lot" more frequently. The pie charts below show that in general, ¾ of both samples knew a fair amount or more about recycling glass/paper/plastic. We saw consistent results regarding recycling bins and other sustainable necessities, and university staff had a slightly higher response rate for "always" practicing green behaviors.



GGW Sample results (left) vs. University staff sample results (right)

Although our survey does not establish a basis for measuring behavior change within our sample, when interacting with our participants, we were able to host valuable discussions which identified areas of concern for residents and how they could adjust their behaviors to address these. For instance, when we gave out our dried fruit samples, we were able to teach people how easily they can dehydrate their own fruit at home. Many shop visitors in our Crowngate shop did not know where to or how to shop for items with minimal packaging, and with the help of Zero-Waste Worcestershire, we were able to provide them with tips, tricks, and local businesses which could help. Additionally, many of our respondents did not know anything about repair cafes, which are hosted monthly by Transition Worcester. Thankfully, the organization was right there in the shop to teach people about what repair cafes are and how they can get involved. Overall, we feel confident that we enacted a positive change on those attendees who interacted with us throughout the week.

We'd like to thank all of the organizations and businesses listed below for their contributions to Go Green Week, from helping with setup, table sitting at Crowngate, to donating food and material resources. We couldn't have hosted such a successful and educational week if we didn't have their help!

Marks & Spencer
The Postal Order
The Body Shop
LUSH
Odeon Cinema Worcester
Creams
Francini Café de Colombia
Wayland's Yard
Carl's Fruit & Veg Stand
Coffee #1
Love Food Hate Waste

Bull Ring Co-op
Sainsbury's
Minor Weir and Willis, Ltd.
Warwickshire Police & West Mercia Police
ADP Partnership
West England Gleaning Network
Fortis
Severn Rivers Trust
Transition Worcester
Zero Waste Worcester & No Plastic Worcestershire
Worcester BID

Thanks for participating in our event!

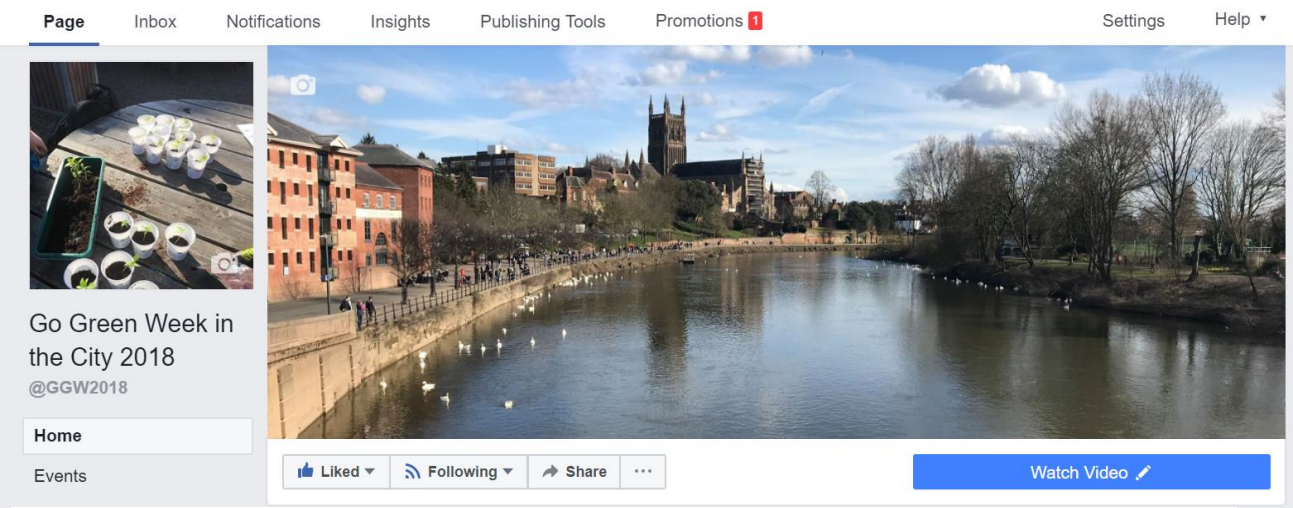
The 2018 Go Green Week Team

Katherine Baker, Samantha Lindberg, Kate Romero & Sarah Sanchez

Thank You to Those Who Participated

Thank You to Those Who Donated Items

Appendix D: Facebook Page



Appendix E: Flyers for Go Green Week

10 Golden Rules for Living Sustainably

1. Drink tap water or use a water fountain
2. Use active transport such as walking, using stairs, and cycling rather than taking lifts
3. Reduce paper use: double sided photocopying, reuse scrap paper, don't re-print emails and other documents unless absolutely necessary, hold paperless meetings
4. Eat more fruits and veg locally produced and minimally processed
5. Turn off lights, computers, charges, etc. when not in use
6. Turn down the thermostat and wear an extra layer instead
7. Use your own mug, not disposable
8. Hold video conferences and Skype calls rather than asking people to travel to meetings
9. Only fill the kettle with enough water for the number of cups you are making
10. Think before you buy: do you need it or can you share it? If you do buy, shop locally and support Worcester.

Growing Chilli Plants

- These plants are the offspring of "Audrey," a mature chilli plant located at the University of Worcester

How to make the best of your chilli plant:

- Preserve chilli peppers by drying or freezing
- Add chilli peppers, rather than salt, to salads, burgers, pasta dishes, or soup for a spicy twist
- Use gloves when you chop chilli peppers to avoid skin irritation
- Chilli peppers contain seven times the vitamin C level of an orange
- Chillis also contain vitamin A (important for bone repair, immune system, and vision), and vitamin B (keeps us energized)
- Chillis can help aid digestion, relieve pain from muscles, joints, nerves, and migraines
- Basil, bay leaves, rosemary, oregano, and chives can also be grown on a windowsill

Fishy Facts

From the Severn River Trust

- People have fished from the river Severn since 1247
- The river Severn is able to support nearly all species of freshwater fish
- The Severn Rivers Trust, Canal & River Trust, Environment Agency, and Natural England are re-opening the River Severn so migrating fish will not be stopped by weirs put in place during the 1800's
- This project will result in 7 fish passages formed within 5 years
- Unlocking the Severn will allow its fish to reach breeding grounds needed for the species to survive
- World Fish Migration Day is celebrated 21 April each year to promote the well-being of migratory fish
- The Bristol Channel at the end of the Severn has the only breeding population of twaite shad in the UK

Food Waste

- The average family in the UK generates 1,000 meals worth of food waste in 1 year
- You can help to reduce food waste by…
  - Saving leftover food: Don't bin it! Eat it for lunch the next day.
  - Don't over-serve at meals: Make only as much as your family will eat!
  - Proper food storage: Airtight containers will make your food last longer
  - Try to shop for just the amount of food you need! Avoid multi-buys
  - Menu plan to decide what you will eat in the next week
  - Cook from scratch: make and grow your own food to save money, eat healthier, and reduce waste
  - Composting organic food waste: learn how at www.recyclenow.com/reduce-waste
  - Food donations: If you will not eat your non-perishables, you can help out your local food bank!
    - Visit the following website to learn where donation points for the Worcester Food Bank are: www.worcester.foodbank.org.uk/give-help/donate-food/

Appendix F: Completed Risk Assessments

Appendix F.1: Transportation Risk Assessment

University of Worcester		Date of Risk Assessment:	11/04/18		
What are the hazards?	**Who might be harmed and how?**	**What are you already doing?**	**Do you need to do anything else to try to reduce this risk?**	**Action by who?**	**Action by when?**
Motor vehicle accident	Riders	Seatbelt	Wear a seatbelt	Driver, GGW team, any volunteers	If there is an accident
Heavy lifting	GGW/volunteers doing lifting	Knowing how to properly lift with the knees	Properly lift	GGW team or any volunteers	For lifting all materials

Appendix F.2: Guildhall Risk Assessment

Location: Guildhall	University of Worcester		Date of Risk Assessment:	09/04/2018	
What are the hazards?	**Who might be harmed and how?**	**What are you already doing?**	**Do you need to do anything else to try to reduce this risk?**	**Action by who?**	**Action by when?**
Tripping	Event attendees	placing objects carefully and out of walking paths	No	GGW Team	throughout
Allergic reaction to food	Anyone who might have a food allergy	Vegetables will be washed prior to cooking	We need to make sure to list ALL ingredients used in preparing the food and if the food was prepared near other possible allergens	Heart of Worcestershire College and University of Worcester	Once the food has started to be prepared: Food will be collected by University students on 13 April
Choking	Anyone who eats food	N/A	No	Anyone trained in Heimlich Maneuver/abdominal thrusts	If choking occurs
Fire	Event attendees/volunteers/chefs	Familiarizing ourselves with where the fire extinguisher is in Guildhall, understanding proper fire procedures, monitoring heat sources/electrical outlets	No	GGW team and other volunteers	If fire occurs

Appendix F.3: South Quay Risk Assessment

Location: South Quay	University of Worcester	Date of Risk Assessment:	09/04/18		
What are the hazards?	**Who might be harmed and how?**	**What are you already doing?**	**Do you need to do anything else to try to reduce this risk?**	**Action by who?**	**Action by when?**
Paper cut	People making origami	We will be monitoring the activity	Explain to children to be careful	GGW team	throughout
Scissor cut	people making origami	Monitoring the activity	Explain to children to be careful and not run with scissors	GGW team	throughout
Tripping	Event attendees	Placing objects carefully and out of walking paths	No	GGW team	throughout
Heavy lifting-related injury	people moving large items around, like a gazebo	we will follow all proper lifting procedures	No	GGW team	throughout

Appendix F.4: Electric Bike Risk Assessment

Activity: E-bikes	University of Worcester	Date of Risk Assessment:	09/04/18		
What are the hazards?	**Who might be harmed and how?**	**What are you already doing?**	**Do you need to do anything else to try to reduce this risk?**	**Action by who?**	**Action by when?**
Falling off	Riders	Instruction on riding safely, requiring helmets	Emphasize safety	Anyone trained in first aid	If someone falls off
Crashing	Riders	Instruction on riding safely, requiring helmets	N/A	Volunteers	If a bike crashes
Theft	E-bike owners	Liability Form will be signed	Check IDs to match with name on form	Have-a-go administrators	If a bike is stolen
Battery problems	Riders	N/A	Monitor the batteries	Volunteers	If battery problem occurs
Trips/Slips/Falls	Event attendees	Placing objects carefully and out of walking paths, encouraging safe walking	Warn people if grass is wet/slippery	Volunteers	If someone falls

Appendix F.5: Crowngate Risk Assessment

Risk Assessment: Tabling and Giving Out Information

University of Worcester

Date of Risk Assessment: 12/04/18

PART A:

Hazards identified:	Tabling and giving out information; • Attendees may trip or run into the table • Papercuts • Information may be distressing	Risk Rating (tick) (without controls in place) HIGH MEDIUM LOW X

PART B:

Who is at risk (tick)	Employees	x	Students	x	Visitors/Public	x
	Contractors		Others (specify)			

PART C:

Control measures required to manage health and safety:	

1.	Training in interacting with attendees and distributing information i. Training only to be undertaken by a person competent in the operation of the equipment ii. Instructor to work from a copy of operating procedure. iii. Training is to be carried out. iv. Training to include advice on proper interpersonal communication v. Qualified First Aider, with first aid kit, to be present during all training. vi. Training to include actions to be taken in event of injury Information, instruction, training and appropriate supervision.
2.	**Distribution of Information at Tables** Correct training and practice. Inspect pamphlets/materials for accuracy to giving away i. Ensure that plants are kept on the tables, and not spread to the floor where they could be hazards ii. Only to be given out 1 to age appropriate receivers
4.	**Packing materials away on completion.** • Ensure all pamphlets/giveaways are properly stowed for transport on vehicle • Proper lifting techniques are installed

PART D:

Risk rating with controls in place (tick):	**Are any control measures in Part C not implemented? (tick):**	**If yes, state below:**	**Actioned by:**
HIGH MEDIUM LOW X	Y NO X		

PART E:

Date	12/04/2018
Signature of assessor:	Katherine Baker, Sam Lindberg, Kate Romero, and Sarah Sanchez

Risk Assessment: Plant Giveaways/Plant Decorations
University of Worcester
Date of Risk Assessment: 12/04/18
PART A:

Hazards identified:	Use of plants for decoration and handouts; • Allergic Reaction • Accidental Consumption	Risk Rating (tick) (without controls in place) HIGH MEDIUM X LOW

PART B:

Who is at risk (tick)	Employees	x	Students	x	Visitors/Public	x
	Contractors		Others (specify)			

PART C:

Control measures required to manage health and safety:	

1.	Training in distribution of plants for giveaway i. Training only to be undertaken by a person competent in the operation of the equipment ii. Instructor to work from a copy of operating procedure. iii. Training is to be carried out. iv. Training to include advice on proper plant use, harvesting, transportation v. Qualified First Aider, with first aid kit, to be present during all training. vi. Training to include actions to be taken in event of injury/allergic reaction. Information, instruction, training and appropriate supervision.	
2.	**Distribution of Plants as Giveaways** Correct training and practice. Inspect plant and pot prior to giving away Provide plant taker with promotional material on use and care of plants Display plants that are not high pollinators/do not spawn by pollination i. Ensure that plants are kept on a table in crates, out of reach of children and other attendees i. Only to be given out 1 at a time by trained team member ii. Ensure that all plant takers have listened to and received pamphlet on the instructions for use and care of plants	
4.	**Packing plants away on completion.** • Ensure all plants are properly stowed for transport on vehicle • Proper lifting techniques are installed	

PART D:

Risk rating with controls in place (tick):	**Are any control measures in Part C not implemented? (tick):**	**If yes, state below:**	**Actioned by:**

HIGH MEDIUM LOW X	Y NO		

PART E:

Date	12/04/2018
Signature of assessor:	Katherine Baker Samantha Lindberg Kate Romero Sarah Sanchez

Risk Assessment: Fish Origami

University of Worcester

Date of Risk Assessment: 12/04/18

PART A:

Hazards identified:	Folding paper origami; • Paper cut • Scissor Injury	Risk Rating (tick) (without controls in place) HIGH MEDIUM LOW X

PART B:

Who is at risk (tick)	Employees		Students	x	Visitors/Public	x
	Contractors		Others (specify)			

PART C:

Control measures required to manage health and safety:	

1.	Training in use of scissors I. Anyone who participates in this activity will be supervised by event volunteers and will have the appropriate information, instruction, training with scissors..
2.	**Distribution of origami paper and scissors** i. Ensure that all materials are contained in the shop ii. Only children's scissors will be used
3.	**Packing paint away on completion.** I. Ensure all origami paper and scissors are properly stored and packed for transportation

PART D:

Risk rating with controls in place (tick):	**Are any control measures in Part C not implemented? (tick):**	**If yes, state below:**	**Actioned by:**
HIGH MEDIUM LOW X	Y NO X		

PART E:

Date	12/04/2018
Signature of assessor:	Katherine Baker, Samantha Lindberg, Kate Romero & Sarah Sanchez

Risk Assessment: Community Art Project

University of Worcester

Date of Risk Assessment: 12/04/18

PART A:

Hazards identified:	Community Art Project; • Papercut • Stained Clothing • Paint Spill • Accidental Consumption • Trips and slips	Risk Rating (tick) (without controls in place) HIGH MEDIUM LOW X

PART B:

Who is at risk (tick)	Employees	x	Students	x	Visitors/Public	x
	Contractors		Others (specify)			

PART C:

Control measures required to manage health and safety:	
1.	**Training in Overseeing the Community Art Project** i. Training only to be undertaken by a person competent in the use of paint ii. Instructor to work from a copy of operating procedure. iii. Training is to be carried out. iv. Training to include advice on proper painting techniques v. Qualified First Aider, with first aid kit, to be present during all training. vi. Training to include actions to be taken in event of consumption or injury Information, instruction, training and appropriate supervision.
2.	**Overseeing the Community Art Project** i. Supervision of the Community Art Project will be performed by a member of the Go Green Week Team, which will help prevent accidental consumption of the art supplies. ii. All paint spills will be cleaned up as soon as possible to avoid slips that may occur. iii. We will be providing washable paint and markers for attendees to use, so clothing should not be permanently stained.

	All training advice and procedures will be followed.	
3.	**Packing Away the Community Art Project** i. The community art project will be moved from the floor to a table at the end of the day.	

PART D:

Risk rating with controls in place (tick):	**Are any control measures in Part C not implemented? (tick):**	**If yes, state below:**	**Actioned by:**
HIGH MEDIUM LOW X	Y NO X		

PART E:

Date	12/04/2018
Signature of assessor:	Katherine Baker, Sam Lindberg, Kate Romero, and Sarah Sanchez

Risk Assessment: Surveying Attendees

University of Worcester

Date of Risk Assessment: 12/04/18

PART A:

Hazards identified:	Surveying of event attendees; • Damage to/Loss of survey device (iPad) • Collection of attendees information	Risk Rating (tick) (without controls in place) HIGH MEDIUM LOW X

PART B:

Who is at risk (tick)	Employees	x	Students	x	Visitors/Public	x
	Contractors		Others (specify)			

PART C:

Control measures required to manage health and safety:	
1.	Training in administration of surveys i. Training only to be undertaken by a person competent in the operation of the equipment ii. Instructor to work from a copy of operating procedure. iii. Training is to be carried out. iv. Training to include advice on proper communication/interaction with public, proper handling of device Information, instruction, training and appropriate supervision.

2.	**Administration of Surveys** Correct training and practice. Ensure proper internet access and clear all prior responses Require results to be anonymized and hidden from surveyors i. Ensure that surveys are administered out of earshot from other event attendees i. Only survey one individual at a time ii. Ensure that all survey takers are shown informed consent and are aware that results are anonymous	

PART D:

Risk rating with controls in place (tick):	**Are any control measures in Part C not implemented? (tick):**	**If yes, state below:**	**Actioned by:**
HIGH MEDIUM LOW X	Y NO X		

PART E:

Date	12/04/2018
Signature of assessor:	Katherine Baker, Sam Lindberg, Kate Romero, and Sarah Sanchez

Risk Assessment: Painting Various Objects

University of Worcester

Date of Risk Assessment: 12/04/18

PART A:

Hazards identified:	• Clothing stains • Accidental consumption • Paint on skin	Risk Rating (tick) (without controls in place) HIGH MEDIUM LOW X

PART B:

Who is at risk (tick)	Employees		Students		Visitors/Public	x
	Contractors		Others (specify)			

PART C:

Control measures required to manage health and safety:	
1.	Training in painting to avoid accidental consumption i. Training only to be undertaken by a person competent in the use of paint ii. Instructor to work from a copy of operating procedure. iii. Training is to be carried out. iv. Training to include advice on proper painting techniques v. Qualified First Aider, with first aid kit, to be present during all training. vi. Training to include actions to be taken in event of consumption or injury Information, instruction, training and appropriate supervision.

2.	**Distribution of paint** Correct training and practice. i. Ensure that paint is contained in the shop ii. Only washable, nontoxic paint will be used
3.	**Packing paint away on completion.** I. Ensure all paint containers are closed and properly stored

PART D:

Risk rating with controls in place (tick):	**Are any control measures in Part C not implemented? (tick):**	**If yes, state below:**	**Actioned by:**
HIGH MEDIUM LOW X	Y NO X		

PART E:

Date	12/04/2018
Signature of assessor:	Katherine Baker, Samantha Lindberg, Kate Romero & Sarah Sanchez

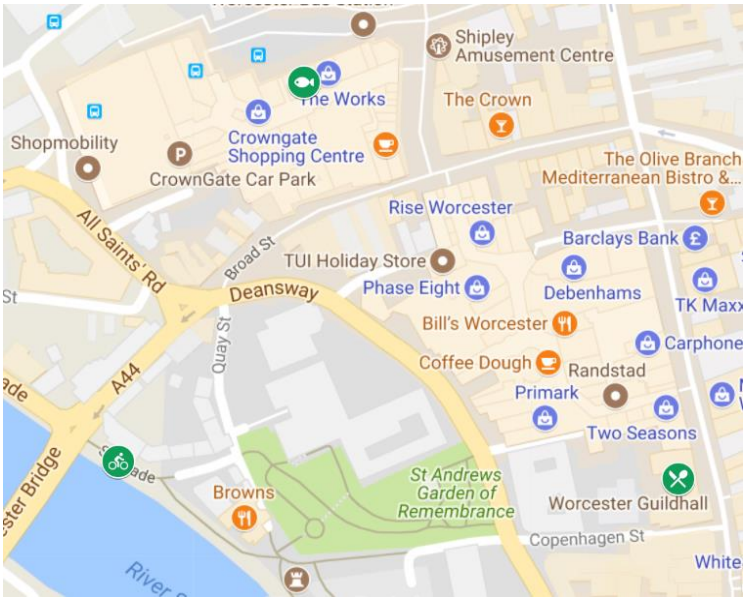
Appendix G: Deadline Breakdown of Project Tasks

Preparing for Go Green Week	Date to be Completed By
Describe objectives for final event	January 25th, 2018
Clearly describe how Go Green Week will tie in with Sustainability	January 25th, 2018
Develop metrics to measure GGW's impact	February 8th, 2018
Brainstorm activities for event	February 15th, 2018
Submit IRB form and finalize informed consent paperwork	February 19th, 2018
Interview/meet with sponsors for GGW improvements	March 13th, 2018
Identify times for event	March 13th, 2018
Arrange parking logistics for GGW	March 13th, 2018
Design advertisements and display publicly	March 13th, 2018
Identify costs and resources needed	March 14th, 2018
Finalize, book, and confirm venues	March 14th, 2018
Identify who will be involved in delivering the event	March 16th, 2018
Brainstorm how to attract our target audience	March 18th, 2018
Brainstorm publicity/advertising	March 22nd, 2018
Select and book equipment needed for GGW (tables, chairs, cameras, etc)	April 1st, 2018
Arrange venues for businesses	April 6th, 2018
Confirm arrangements with volunteers and other GGW participants	April 10th, 2018
Recruit volunteers for GGW	April 13th, 2018
During Go Green Week	
Collect needed equipment	April 16th, 2018
Arrange event cleanup	April 16th, 2018
Decide who will photograph the event	April 16th, 2018
Greet businesses and arrange venues	April 17th-21st, 2018
Collect data from participant surveys	April 17th-21st, 2018
Following Go Green Week	
Complete post-event paperwork	April 23rd, 2018
Remove advertisements	April 23rd, 2018

Send thank-you notes to those involved	April 24th, 2018
Write up summary of Go Green Week	April 24th, 2018
Publish photographs and videos of event	April 25th, 2018

Adapted from Colpritt et al., 2017.

Appendix H: Locations and Venues for Go Green Week



Google Maps Trail Link:

https://www.google.com/maps/d/edit?hl=en&mid=1kwiDuwRykx4DdZGImkqg88ssaJTf74MQ&ll=52.19059779994821%2C-2.2276685556030316&z=16

Appendix I: University of Worcester Press Release

Attempt to Feed 1,000 People will Use Unwanted Food

A special event, led by the University of Worcester, will highlight the scale of food waste in the UK.

The Feed the 1,000 event will see unwanted supermarket food that would otherwise end up discarded, turned into meals for up to 1,000 members of the public in Worcester City Centre, on Tuesday (APRIL 17). It is one of a number of activities taking place as part of a 'Go Green Week' for the City, running from April 17 to April 21, which gives the public a chance to find out what actions they could take to be more sustainable.

Following on from last year's successful Feed the 1,000 event, the organisers have taken it a step further. They will again attempt to give away 1,000 meals, equivalent to the average amount of food a UK family wastes in a year. But this time a number of local supermarkets will provide the ingredients, having donated produce that would otherwise have to be thrown away, such as wrongly shaped vegetables. Catering students at the Heart of Worcestershire College will use these to cook up soup and kebabs to be given away outside the Guildhall, on Tuesday, April 17, between 12pm and 2pm.

This is one of a number of events, activities and giveaways at three different venues throughout the week; outside the Guildhall, at South Parade, close to Worcester Bridge, and at an empty shop in the Crowngate Shopping Centre, open throughout the week between 2pm and 4pm.

As part of week, members of the public will have their first chance to try out new electric bikes, which are part of the Woo Bikes scheme that the University is

piloting. They will be available at South Parade from Tuesday, April 17 to Friday, April 20, from 11.30am to 1.30pm.

Other events include bike security marking by the police, a community litter pick (starting from South Parade on Thursday at 10.30am), a raffle, a nature photograph contest, free chilli plants, poppy seeds and dehydrated fruit, and samples from The Body Shop. To mark World Fish
Migration Day, there will be a chance to make fish from origami and learn more about the plastics polluting our rivers and oceans.

The university-led event follows on from the annual Go Green Week initiative on campus. This is the second year this initiative, led by University of Worcester students alongside students from Worcester Polytechnic Institute Massachusetts, has been run in the City for the public. It sees the University working with a number of local partners, including the Heart of Worcestershire College, Crowngate Shopping Centre, Marks and Spencer, Worcester City Council and Worcester BID.

It is hoped that, from this, a model for behaviour change can be developed that could then see similar events applied in other cities.

Katy Boom, the University's Director of Sustainability, said: "It's about giving people a little bit of information about what they can do and maybe getting then to change one behaviour; something they'd never thought of before.
"It's letting people know that doing a small thing will actually make a big difference."
For information on courses at University of Worcester visit www.worcester.ac.uk or for application enquiries telephone 01905 855111 or email admissions@worc.ac.uk

Appendix J: Informed Consent for Surveys

You are invited to participate in this research study by filling out a five-minute virtual survey. Taking part is completely voluntary. The purpose of this study is to measure how Go Green Week impacted the community and changed participants' behaviors toward sustainable practices. There are no risks or discomforts involved in this study. Although you will not directly benefit from this study, we hope that this study will benefit the community by telling us how we can improve Go Green Week to promote citizens' sustainable behaviors.

Your responses to this survey are completely confidential. It is important to know that we will assess aggregated data and your identity will in no way be associated with your responses. We will only look at data in groups rather than individual data.

Taking part in this research is voluntary and you may stop at any time without any consequences.

Whilst your data is anonymous it will be managed and processed in accordance with applicable legislation including the Data Protection Act 1998 (DPA) and the General Data Protection Regulations (GDPR). Data will be held for up to 15 years. For the purposes of data protection legislation the University of Worcester is the Data Controller. The University's Data Protection Officer is the Head of Information Assurance infoassurance@worc.ac.uk.

Appendix K: Go Green Week Survey

1. How do you mostly travel to work? If you use more than one type of transport i.e. walk then train, please answer with the longest part of your journey, so if you walk to the station then catch a train, choose train.

Bus Train Bicycle On Foot Motorbike/Moped Car on your own Car with others

2. How much do you know about the following:

2.1 Car-share scheme:

I use it I've heard of it and know what it is/how it works I've heard of it but don't know how it works/what it is Nothing

2.2 Bike share scheme (i.e. Boris Bikes):

I use it I've heard of it and know what it is/how it works I've heard of it but don't know how it works/what it is Nothing

2.3 Bus routes in Worcester:

I use it I've heard of it and know what it is/how it works I've heard of it but don't know how it works/what it is Nothing

3. Have you ever used an electric bike (e-bike)?

I own one and use it regularly Have used one through a loan scheme or test ride Had a go on a friends/family members e-bike Never used one but know of them Never heard of an electric bike

4. How much do you know about the following within the City of Worcester?

4.1 Recycling of glass, plastic and paper:

A lot A fair amount A little Nothing

4.2 Recycling electronic waste (e.g. mobile phones:

A lot A fair amount A little Nothing

4.3 Disposing of food waste:

A lot A fair amount A little Nothing

4.4 Donating unwanted items:

A lot A fair amount A little Nothing

5. Do you have any of the following at your home?

5.1 Recycling bins:

Yes No Don't know

5.2 Compost bin:

Yes No Don't know

5.3 Programmable thermostat (e.g. timer and temp setting for your boiler):

Yes No Don't know

5.4 Water-saving items (e.g. low-flow shower heads, dual flush loos)

Yes No Don't know

5.5 Light motion sensors

Yes No Don't know

5.6 Energy saving light bulbs or LED light bulbs

Yes No Don't know

5.7 Renewable energy systems, e.g. solar PV

Yes No Don't know

6. During the last year, how often did you:

6.1 Turn off lights when leaving a room

Always/most of the time Sometimes Rarely Never N/A

6.2 Switch off electrical appliances when not in use

Always/most of the time Sometimes Rarely Never N/A

6.3 Set thermostat to 18 degrees or lower during cool or cold weather

Always/most of the time Sometimes Rarely Never N/A

6.4 Operate washing machine only when you a full load of clothes

Always/most of the time Sometimes Rarely Never N/A

6.5 Limit time spent in the shower

Always/most of the time Sometimes Rarely Never N/A

6.6 Use a reusable water bottle, coffee cup, travel mug, etc.

Always/most of the time Sometimes Rarely Never N/A

6.7 Shop for items with minimal packaging

Always/most of the time Sometimes Rarely Never N/A

6.8 Donate unwanted items, e.g. using the British Heart Foundation donation banks on campus

Always/most of the time Sometimes Rarely Never N/A

6.9 Purchased something second-hand from a charity shop or from an online site such eBay or Gumtree

Always/most of the time Sometimes Rarely Never N/A

6.10 Check recycling labels on products before deciding which bins they should be disposed in

Always/most of the time Sometimes Rarely Never N/A

6.11 Repair a broken item or visit a local Repair Cafe

Always/most of the time Sometimes Rarely Never N/A

7. Gender

Male Female Other Prefer not to say

8. Age

Under 25 25-34 35-44 45-54 55-64 65 or older

9. What is your postcode district? (The district is the first three characters e.g. "WR2")

10. What is your highest level of education?

Less than Secondary Secondary Education Further Education Higher Education

Appendix L: Diary of Observations during Go Green Week

The first day of Go Green Week was on Tuesday, April 17th outside of the Guildhall, located in the City Centre. The theme for this day was food waste, and the Heart of Worcestershire College ran an event named "Feed the 1,000". The goal of this event was to educate attendees about the importance of monitoring and reducing personal food waste. The amount of food that was passed out during the event represents the average amount of food a family in the UK wastes annually. We observed that it was easy to engage people as they passed the event tent on the street. Having event volunteers stand with trays of food samples was effective in drawing people in to learn more about the event and participate in filling out surveys. We observed that people became more engaged as the survey questions were read aloud, as this allowed them to respond as they wanted and communicate freely with our team. Citizens of Worcester seemed moderately aware of environmental issues and exemplified green behaviors. We observed that the busiest time period was from 1200-1300, when many people were on their lunch breaks. Feed the 1,000 was an educational and engaging event for kicking off Go Green Week, and it allowed us to further advertise for the next few days. Since this day was cool and windy, there were no participants for the electric bike demonstrations at the Quay.

On Wednesday, April 18, we hosted Go Green Week at the South Parade and the Crowngate shop unit F9. We observed that the electric bike demonstrations at the Quay were not very popular, as the path is isolated and was populated mainly by mothers with strollers, the elderly, families with small children, bikers, and joggers. In Crowngate, we observed that it was difficult to get people to come inside the shop. Most of our attendees on this day were friends and coworkers who already had knowledge of the event. Fortis Living had a representative to inform attendees on recycling and how to sort recyclables. ADP Partnership had a representative collecting information on the city of Worcester regarding which qualities of the city residents liked, disliked, or wanted to improve within the city.

On Thursday, April 19, we hosted a community litter pick at the South Quay. Equipment including gloves, litter pickers, trash bags, and high-visibility vests were provided by the Worcester City Council. The vast majority of the participants were fellow WPI students. We observed that there was not much litter in this area besides cigarette butts. We also observed litter and other trash floating in the river. Following the litter pick, we hosted another electric

bike demo. Since it was sunny and warm, we noticed that more people were willing to stop and try out an electric bike. At the shop, we observed that people were very unwilling to come inside the shop. The mall itself was not as crowded due to the nice weather.

On Friday, April 20, we received Wi-Fi access from Browns at the Quay to administer surveys during the Woo Bike tablesitting. Due to the nice weather, we were successful in getting responses since many people were sitting on benches outside. At Crowngate, the mall was not very busy again due to the weather. We observed that more people started coming when the shop was set to close (around 16:00).

On Saturday, April 21, the Severn Rivers Trust hosted a parade through central Worcester to celebrate World Fish Migration Day. The parade began at Cathedral Square and ended on the lawns of the University's city campus for a picnic. Our team volunteered as stewards during the parade and we were able to collect surveys during the picnic. Representatives from Transition Worcester had information on reducing plastic waste. This day was much more successful than the others, perhaps since it was the beginning of the weekend. Overall, we believe that Go Green Week was successful and we observed that people were interested in learning more about our project and our objectives when they took the time to interact with us.

Appendix M: Video Clips from Go Green Week

Short videos highlighting Go Green Week events. Link:

https://www.youtube.com/watch?v=a5_UIfb-NO0