

# Grand Valley Cigarette Butt Recycling Initiative

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**Abstract**

What is Grand Valley State University planning to do with all of the cigarette butts that have now resurfaced due to the melting of the snow and those that fill up the collection containers? The problem of cigarette butts littering the ground is common and several different universities and cities have already taken steps to make sure that this problem ceases from happening time after time. Cities, universities and individuals have started to work with TerraCycle to recycle the cigarette butts. In the following document you will find information about the issue surrounding cigarette butts as a form of litter, past campus initiatives, as well as how working with TerraCycle is both a sustainable and cost effective option. We will look at how to implement this program on Grand Valley State University's campus and how to maintain the program once it is initially launched.

## **Cigarette Butt Problem**

### Litter Reduction

Cigarette butts are one of the world's most littered items. However, few people know that they can be recycled. Education and convenience of cigarette butt receptacles are the two main factors behind litter reduction (Byrne 2014). For the most part, the trash locations on campus are very convenient. It is the lack of education that we will need to focus on if we want to actually make a change on campus surrounding the topic cigarette butts. We believe that this change can be brought about by spending a week raising awareness during the spring cleanup. When we researched the topic of cigarette butt recycling we found that there are several compounds and chemicals located in cigarette butt waste that in turn can impact the surrounding environment as well as the wildlife (Lee 2015). It was mentioned in the article titled *Birth of butt-cycling* that it takes cigarette waste 1 to 12 years to decomposed and break down (Pathberiya 2013). By recycling the toxic cigarette waste it is no longer harming our environment.

### Past Initiatives

After talking to Lindsey DesArmo, we got a better idea of what has already happened on-campus surrounding the smoking policy and prior attempts to educate and inform the students on Grand Valley's Allendale campus. DesArmo mentioned that a Respect the Distance campaign was done a while ago and that last fall the Respect the Campus campaign occurred. While it was mentioned that there were mixed results it is apparent that the initiative needs to continue to occur or that there needs to be a change. As DesArmo mentioned, the current population of Grand Valley doesn't know that the first campaign occurred since it was so long ago. There needs to be something consistent that the student population knows about other than the 25 foot rule for smoking that makes students want to respect their campus more when it comes to discarding cigarette butts.

It was also mentioned that there has been talk during the recent years about the current smoking policy on-campus and whether or not it should be banned. Despite the efforts from some to ban smoking, the current policy of maintaining a 25 foot distance from buildings was retained.

## **Location**

### Critical Areas

When we met with Lindsey DesArmo she mentioned that there are trends present in the student population here at Grand valley. Her realizations and conclusions line up correctly with the trends that can be observed on a daily basis. Majority of the cigarette butt littering that happens on-campus occurs around Makinac, the bus stops and near the resident halls. If we can first focus on those three areas and branch out from there we think it would be beneficial



in order to fix the current problem surrounding cigarette butt disposal by students, staff and visitors to campus. Not only are cigarette butts being littered in only those locations but in areas with high traffic. The picture to the left shows cigarette butts that were disposed of in a flower pot outside of Niemeyer, the Honors College.

## Goals and Desired Outcomes

### Sustainability

Sustainability is an area that Grand Valley excels in and it is also an area that we feel can also be expanded to include cigarette butts. Currently Grand Valley already participates in recycling, composting and we think it would not only be beneficial to help make campus cleaner, but it would add to Grand Valley's current initiative educates students to shape their lives, their professions, and their societies. After doing some research to see what other cities and universities had done we found that cigarette butts can be recycled through TerraCycle.

## Proposed Implementation

### Terracycle

In order to help make campus cleaner and more environmentally friendly and further educate and help students to become better students we believe that Grand Valley State University should partner with TerraCycle. TerraCycle is a company that works to eliminate waste and instead upcycle and recycle different materials that consumers are done with. Some of TerraCycle's other initiatives include sending in E-waste, writing instruments, Scotch tape dispensers, as well as snack bags including potato chip bags. While those are just some of the other initiatives TerraCycle works with we think it would be beneficial to start with one concentration: cigarette butts.

TerraCycle is a company that started to collect cigarette butts in 2012, and since that initiative began more and more cigarette waste has been recycled. In the program's first year TerraCycle managed to collect more than five million cigarette filters and that number continues to increase both in Canada and the United States (*Solid Waste & Recycling Magazine* 2013).

### The Process

In order to implement cigarette butt recycling on Grand Valley's campus very few changes need to occur since the university already has several cigarette butt collection locations in place. The problem arises due to the



use of the current locations; they are either packed full with cigarettes or pose difficult to collect the cigarettes from them. The first step that Grand Valley will need to do in order to start recycling cigarettes includes setting up an account with TerraCycle since we can then send the waste to them for free. After initially setting up Grand Valley's partnership with TerraCycle we would then need to work with the company to advertise that cigarette butts placed in the cigarette containers are now being recycled. The easiest way to make that would be to create a sticker or label to place on the current collection containers.

In order to send the cigarette waste to TerraCycle Grand Valley would need to put the cigarettes, ashes, and waste into a trash bag or plastic liner and then into a shipping box. Before shipping the cigarette waste make sure that the cigarettes are extinguished. In order to send the waste print off the packing label from the account Grand Valley has with TerraCycle and ship the waste through UPS. Note that TerraCycle accepts the following waste generated by cigarettes: extinguished cigarettes, cigarette filters, loose tobacco pouches, outer plastic packaging, inner foil packaging, rolling paper, ash.

After the cigarette waste is sent to TerraCycle it is hit with gamma radiation to eliminate any harmful chemicals. The waste is then shredded and separate into organic waste and inorganic waste. The organic waste then goes into the industrial compost, while the inorganic waste (cellulose acetate) is then melted down and made into pellets for other uses. The plastic pellets that are created can then be used to make a wide variety of plastic products such as outdoor lawn furniture.

### Cost to Campus

After speaking with a grounds crew employee on the matter of cigarette butt litter, it can be determined that there is an excess of time spent cleaning up cigarette butts on campus during the warmer months. According to the employee, the crew spends about 40 hours per week cleaning up cigarette butts on campus; this includes litter and designated butt receptacles. If there were roughly 15 employees on the crew, then each person would spend almost 3 hours per week cleaning up cigarette butts. The cost, at a wage of \$8.50 an hour, would total close to \$340 per week on cleaning up cigarette butts alone. With the implementation of this program and increased number of butt receptacles, this cost and waste of time can be greatly reduced.

### **Success Story**

After contacting the Partnerships Manager at Terracycle, Stephanie Tsang, we have learned that many other universities have had great success with implementing these types of programs. The free program is very beneficial to many universities and municipalities nationwide. Along with the ease of

implementation, Tsang stated that the programs have been successful and well received by the users.

One city that benefited from partnering with TerraCycle was Vancouver, Canada. In the beginning Vancouver struggled with a way to make residents realize that cigarette butts were a big problem and that the streets needed to be cleaner. In order to test the idea of a buyback program the city paid citizens who returned a pound of cigarettes that had been littered. The program went over extremely well and then in 2013 the city chose to implement the cigarette butt recycling bins that are fireproof. As Mr. Zakes, the Vice President of TerraCycle mentioned in the article:

“[cigarette butts are] one of the most pervasive waste streams on the entire planet,” with an estimated 3.5 trillion butts thrown out globally each year, generating about 768 million kilograms of toxic cigarette waste.” (Bailey 2013)

### **Other Ways to Reduce Cigarette Waste**

Based on the research that we found there are also several other ways to deal with cigarette waste including: banning cigarettes, instituting fines for littering, changing social norms, or having a return /deposit program in place. While some of those are not viable options at the current time for Grand Valley working with TerraCycle, educating students, and continuing to enforce the current smoking policy are initiatives that can be continued.

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