Policy Brief for Waste Diversion at the Arizona State Fair
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Introduction: Unpacking the Problem

After the Arizona State Fair’s unsuccessful attempt at creating an environmentally conscious event, the Arizona Department of Environmental Quality (ADEQ) has enlisted the assistance of the students in the School of Sustainability to help generate a plan for a successful zero waste initiative. ADEQ has identified three crucial areas that must be addressed in order to implement a strategic and fruitful initiative: education, front-end diversion, and back-end diversion. Our group has specifically been tasked with researching methods of best practice to create a strategic plan of action for engaging the public, staff, and vendors in achieving a waste conscious event. To further advance our efforts, we are going to delve deeper into our case studies, examine successful incentive programs, discuss costs and economic plans, and review our timeline and plans of action.

Arizona State Fair Recommendations

As we delve deeper into the options for the state fair, we have to look back to our case studies and determine what worked there. From what we gathered from the Delaware State Fair, they were able to successfully engage outside organizations for volunteers, by working with AmeriCorps (US EPA Archive, 2007). We contacted Kirsten Frey, the Site Director of the Notre Dame Mission AmeriCorps for Arizona and New Mexico, and she expressed interest and a willingness to assist the Arizona State Fair with a recycling program. Though their numbers are limited, 5 volunteers available this year and 8 next year, it is still a viable option. They can assist in managing the Zero Waste Stations around the fair as Zero Waste Educators.

The AmeriCorps are not the only option available. As another team had suggested, tapping into schools and offering up volunteer positions to them is also an option. Many programs, such as Key Club, honors societies, and so on, require a certain number of volunteer hours to be fulfilled to meet the criteria of maintaining membership in the group. I can even
recall having to meet volunteer requirements in order to graduate with a scholastic diploma at my high school, Maricopa High. Additionally, many college level students are required to meet volunteer hours as part of clubs and organizations they are involved with, such as the Next Generation Service Corps (NGSC) with over 400 students. This could potentially be an unlimited resource to tap into as new students will always need to fulfill their hours. This also opens up opportunities to partner with schools to advertise for all of the events that are in need of volunteers at the fairgrounds, in addition to kickstarting Zero Waste education for upcoming generations. Speaking of partnerships, the Arizona State Fair could also look into Local First Arizona businesses and partner with them to gain an even more diverse volunteer base.

The Arizona State Fair can also increase awareness and support through the use of social media. As stated in the Delaware State Fair example, they use flyers and newspaper advertisements to engage the public and let them know of their zero waste initiatives (US EPA Archive, 2007). This case study was taken from 11 years ago and, as a result, methods such as these are no longer relevant. Engaging the public through social media will be much more effective. The Arizona State Fair can appear on several platforms, such as Facebook, Instagram, Twitter, and possibly create a geofilter on Snapchat. Covering all bases will be crucial in getting out their message and will allow people to be aware of the initiatives prior to attending the fair. Creating an app that people can download on their phones also has potential to make significant headway in not only general advertising, but also zero waste initiative goals. The Arizona State Fair should also increase the accessibility of Zero Waste Stations, by including them on maps within the grounds that could also be represented in mobile app.

Our group was also able to get into contact with Garth Britzman, the creator of the Marketplace Sustainability Pavilion and EcoDome at the Nebraska State Fair (Nebraska State
Fair, 2016). He expressed interest in working with the Arizona State Fair in creating one of his installations. These installations not only act as venues but can also be educational tools. The Nebraska State Fair was successful in many ways when it came to engagement and participation in their recycling initiatives. Out of the over 350,000 attendees of the Nebraska State Fair, 88% of them believe that recycling is important (Nebraska State Fair, 2016).

Another case study that we felt was successful was the Evergreen State Fair (Dulude, 2015). Unlike the other two case studies, many of their initiatives focused on the use of technology. The state fair can increase their use of technology by installing TOMRA reverse vending machines, water refill stations, Zero Waste Stations, and energy efficient hand dryers to reduce paper towel waste. With these initiatives in place, the Evergreen State Fair was able to increase their waste diversion from 33% in 2014 to 45% in 2015 to 55% in 2016 (Dulude, 2017). This is evidence that as a program like this continues to be in place and accepted, total diversion will increase over time. The use of advanced technology, of course comes with a price, that will be addressed in our logistics section, but these options have the potential to reduce large amounts of waste. The TOMRA system engages the public by getting them involved in the recycling process first hand. Water refill stations would also reduce plastic waste substantially. Though this poses another issue. Currently the Arizona State Fair vendors sell water for $4 per bottle and give the state fair between $1 and $2 in return profit. Going Zero Waste comes with a price. It is either going to be about money or waste diversion. It is worthwhile to analyze other options. Perhaps the incentive could be applied to compostable cups versus plastic bottles that could be used at the refill stations and could then be composted before leaving the fair. Composting, of course, would be available at the Zero Waste Stations around the fair, with Zero Waste Educators to guard the bins. Lastly, the use of energy efficient hand dryers could reduce paper
towel waste, but these can be expensive. This could be resolved by supplying the restrooms with compostable paper towels, much like Wrigley Hall at Arizona State University, and have a Zero Waste Station nearby for the waste.

It will also be crucial to engage the vendors at the location. This can be done by introducing new options, like compostable food service ware, which can be seen at the Evergreen State Fair, create incentive programs, and charge for waste that cannot be recycled or composted (Dulude, 2015).

Plan of Action

Looking at past zero waste initiatives and examining what has worked will guarantee a successful zero waste transformation at the Arizona State Fair. The first step towards waste reduction is prevention. We want to motivate attendees to bring their own water bottles and ask that vendors reduce the number of napkins, straws, and plates handed out. Prevention has proven to be a successful practice at the BALLE conference in Phoenix in 2015 by reducing overall waste (Local First Arizona, 2015). It will also be important to reuse any materials we can. The BALLE conference, they used foam core signs that were then dropped off at the Arts Resource Center in Tempe for reuse by educators and artists (Local First Arizona, 2015). These boards could also be used at the Arizona State Fair to indicate where the Zero Waste Stations are located throughout the grounds. We also need to address the vendors waste and that they are disposing of everything correctly. To make sure everything is going where it belongs, the State Fair should make a rule and enforce all concessionaires to sort their food waste. Our Zero Waste Educators will also play an important role in this. Another way to reuse what we are left with is to donate leftover food to local shelters or churches (Local First Arizona, 2015). As for the picking up the food for donation, the Tempe Community Action Agency is an organization that does just that.
If the food cannot be donated, “Recycled City” will compost any and all leftover organic material (Local First Arizona, 2015).

**Incentives**

For zero waste initiatives to be successful at the Arizona State Fair, it is very important to get the public, vendors, and stakeholders engaged and invested in the fair’s initiatives. Before diving into ways to educate the public and staff, the vendors have to be fully committed to the zero waste initiative goals. The best way to motivate all stakeholders who might not be interested at first is with incentives. For example, vendors could benefit from practicing zero waste initiatives by not getting fined, getting a cheaper rent space, or getting awarded as a zero waste/green space vendor, which denotes priority placement at the following year’s fair. Also, those vendors who still are not interested in practicing zero waste after all the incentives provided should have to pay a higher price for their waste that is not recyclable or compostable rather than those that contain recycled and compostable materials. After successfully getting vendors to engage, the public is next. The public could be an easier target if they are rewarded with incentives. Attendees could easily change their mind about wanting to contribute to a green cause. Most people like to contribute to the cause once they are informed, but they will engage more when they can benefit from the process. These benefits include: a human-processed TOMRA-like system, where if attendees collect a desired amount of material that the machine can process, they get ride tickets, food tickets, or gift cards in return. It is almost important that we have efficient Zero Waste Stations, as mentioned above. Zero Waste Stations are to be guarded by Zero Waste Educators. The way we are going to motivate them and incentive them to fulfill their duties to the best of their abilities is to reinforce the importance of their cause. Zero Waste Educators are more than volunteers sorting trash. It will be important to encourage those
participating in the event. If they do not feel that what they are doing is important, they will abandon it. This type of response will be further discussed in Public Education Outcomes.

Feedback Methods

How is the state fair going to monitor its progress from the public point of view? There are a variety of ways to obtain feedback from events. Before the event, one could conduct a pre-poll, to gauge the attendance levels (Litster, 2011). Prior to the event, the Arizona State Fair could also develop an app that the users can download. The app could contain information, not only about the general happenings at the fair, but also the zero waste initiatives, informing the user from the comfort of their own personal mobile device. This is also where the use of social media would play a role. Creating a unique hashtag that could be used for the state fair would encourage attendees to post photos and potentially comments about the event (Litster, 2011).

Another method of feedback that would engage the attendees is a feedback wall (EventMB Team, 2018). This method was used on Mill Avenue, where they had chalk boards with questions that passersby could answer and look at other answers. It was a fun and creative way to get people involved and build a sense of community. A way of receiving feedback after the event, would be a post-survey. You can also give them badges that, at the end of the event, they can dispose of in bins labeled to show whether they had a good experience or not (EventMB Team, 2018).

Public Education Outcomes

We express a lot of importance in the education factor for this event. Informing the vendors and attendees and having their participation is what is going to either make or break the zero waste plan. With such public education comes a variety of outcomes. One example in particular is taken from the case study, Recycling, Composting, and Sustainability Education at Expeditors International (Sponsler, 2017). This particular example was set in an office setting
but can be scaled up to suit a fair setting. As this example reveals, there are many barriers that need to be overcome when it comes to effective implementation of sustainable initiatives, one of which being the resistance to change (Sponsler, 2017). But this can be accomplished with persistence and logic as to why this change is necessary, you can change people’s behaviors (Sponsler, 2017). For example, the Nebraska State Fair has been gradually increasing their recycling initiatives since the 1990s (SOURCE). They have been changing the behavior of their attendees and vendors for years prior to their most recent fair. This is a process that will take time and determination. Like this case study details, using “small improvements” and “occasional reminders” of the importance of sustainability, can alter behavior for the better (Sponsler, 2017). Ways in which to create sustainability education programs, like this case study, are to develop a script and record a video for the sustainability training, implement strategies to divert waste, such as hand dryers over paper towels, and by creating surveys to determine the receptiveness to the changes (Sponsler, 2017). To reinforce behavioral change, it was determined that communicating wins increase the desire to be sustainable, setting achievable future goals, and making recycling easy and accessible increase participation (Sponsler, 2017). Keeping these findings in mind, the state fair can also implement them in their strategies. But there will always be challenges. Sponsler concluded that there is a resistance to change, lack of sustainability knowledge, and negative feelings towards sustainability that have to be addressed in any sustainability education (2017).

We had also expressed the method of relaying the importance of recycling and the impacts it can have on our futures. Recycling not only superficially diverts waste from landfills. It also reduces greenhouse gas emissions, minimizes global climate change, can reduce air and soil pollution, and protect our water supplies from contamination (Asmatulu, 2011). The benefits
are not only environmental though. Recycling also saves substantial amounts of energy, improves the economy by creating over a million jobs and more than $100 billion in revenue in the United States, and recycling initiatives promote community development and social interactions (Asmatulu, 2011). Ultimately, recycling extends lifespans through a cleaner environment, produces safer working conditions, increases citizen interest, and improves activities on a global scale (Asmatulu, 2011).

**Logistics**

The plan for zero waste at the Arizona State Fair cannot be implemented without proper funding and support. The amount of money largely depends on the scope of the project. In previous case studies, this support was meant for around 300,000 people throughout the entire duration of the fair. In Arizona, this amount nearly quadruples to 1.2 million people (Arizona Exposition, 2018). Thus, planning for a budget on zero waste is like walking into uncharted territory.

**Case Study Budget Actions**

There are many ways to tackle the budget challenges that arise in carrying out such a large event. The Evergreen State Fair stands as a prime example of efficiently carrying out zero waste while continuing to grow and adapt to the everchanging cycle of events that continue to be carried out throughout the year in Snohomish County, Washington. While their fair does not compare in size to Arizona, their method was to set an emphasis on sustainability and zero waste, and to gather a small amount of support in order to get the program off of the ground. In the years that followed, the growth expanded tremendously. From year one to year three, they managed to gather 6 to 30 Zero Waste Educators, while rising from 30 Zero Waste Stations to 90 (Dulude, 2017). This information provides a great backdrop for Arizona to model their success because it lays out a plan that has potential to become completely executable. More importantly
from a budget perspective, looking at their average allowance of spending which is anywhere between 4-5 million dollars, they have given themselves room to expand their zero waste program and have done so in a systematic manner. Although the exact amount of money spent on Zero Waste Stations, which includes an educator with a ratio of 2:3, and the bins carried along have not been disclosed, logically expanding their program with incremental state budget increases have proven successful (Snohomish County, Washington, 2009).

Arizona’s Budget Action Proposal

Proven from the Evergreen State Fair, the Arizona State Fair needs to implement a gradual systematic system in order to achieve their zero waste goals. Operating on a budget of over 12 million dollars (Arizona Exposition and State Fair Board, 2018). The room for growth can come from any corner. Allocating the amount of money spent in each section such as employment, advertisement, transportation, and so on, properly leaves room for money to start the zero waste campaign. As shown above, once the groundwork is laid out, the rest will follow in place so as long as the proper steps are kept insuring the space to thrive. Costs for bins varies depending on the provider. The first step is to see if the city of Phoenix or nearby cities can, or will, provide bins for a discounted price or even for free. If not, ordering bins through outside companies could be pricier. However, the company Waste Management (WM) is offering a set of bins for recycle, trash and food waste for a low price of $43.96 per set (Waste Management, 2018). Their company will also place the bins in an order, spaced out for proper usage among fairgoers while picking up the wastes and disposing of them properly to turn into renewable energy. Next using materials such as high efficiency hand dryers rather than paper towels would cost between $400-$600 and the use of paper towels in every outlet would vanish, thus using less resources for the same result and wasting less (Sustainable Supply, 2018).
Budget Conclusion

Running and maintaining an event as massive as the Arizona State Fair will take a lot of money and people to run the day to night operations for 3 weeks during the tenure, and weeks before and after. The Evergreen State Fair and shown in the past and present that achieving goals of zero waste at the fair is not impossible. Arizona has the budget and size to take their campaign further and into new heights. The only way to properly do so is to set aside a small portion of their $12 million budget for the zero waste campaign, while gaining connections and building from the ground up. The small size will only grow through proper implementation the first year. Additional funds and support will follow in the years after.

Proposed Timeline: Final Recommendations

Educating the public and the vendors, hiring Zero Waste Educators, and crafting a Zero Waste event is no easy or small task. It requires staffing, funding, public awareness, education of vendors and the public, and a comprehensive waste management program. After reviewing the logistics of public engagement, costs of zero waste, and vendor engagement above, we propose the following timeline to act as a guideline for a long term, repeatable zero waste event.

Year One Changes:

Changes that occur in the first year must focus primarily on educating the public, encouraging the vendors to participate, and installing new zero waste stations complete with Zero Waste Educators. The Zero Waste Event guidelines from South Australia suggest starting out by exploring and knowing your waste. This includes recognizing what waste can be avoided, what greener options are available, and what can be recycled, reused, or composted (Government of South Australia, 2010). After these steps are complete, it is important for the fair to create a set time sensitive, simple, measurable, and achievable of goals. With goals and knowledge of the waste at the fair in place, the AZ State Fair can take on the following year changes, which are based on the Evergreen State Fair timeline (Snohomish County, Washington, 2017).
1. Educate the vendors, the public, and the staff through processes outlined in other fairgrounds groups
   a. Include interactive water bottle installation to encourage recycling of water bottles
2. Determine most cost-effective plan to recycle, compost, and reduce waste
   a. We have reached out to WM of Phoenix and they are interested in partnering with the AZ State Fair
3. Install new Zero Waste Stations
   a. Ensure easy to understand recycling/landfill/compost signage is provided at each waste station
   b. Stations much be frequent, large, and supervised
4. Train new staff as Zero Waste Educators
5. Cardboard and manure can be recycled immediately
6. Obtain feedback from all stakeholders as a means to improve efforts for Year Two

Year Two Changes:
Changes that occur in the second year are representative of greater transitional changes. Rather than encouraging vendors to compost/recycle, there will be a price put per bag of products. As per Dan Vermeer, former Area VP of Waste Management, “he suggests that there be a $5 per bag of landfill trash/contaminated waste and a $2 per bag of non-contaminated recycled/composted bags in order to encourage vendors to place their waste in the appropriate bins.” (Vermeer, 2018). Alternatively, vendors who recycle or compost could be awarded with a green sticker and first choice placement at next year’s fair based on research from another Fairgrounds group. These prices can offset the high costs of achieving a zero waste event. Additionally, based on the timeline of action provided by the Evergreen State Fair, the “implementation of technological installations, such as hand dryers” (Dulude, 2015) to be paid
for by all of the groups that use the Fairgrounds would occur in year two as per recommendation from attendees of our in-class presentation.

1. Update education strategies based on feedback and goal achievement
2. Craft new goals for this year’s fair
3. Increase number of Zero Waste Educators and Zero Waste Stations
4. Implement preferred incentivization and/or decentivization action plan for vendors
5. Install high efficiency hand dryers, interactive sustainability installation, and ticketing incentive system for fair attendees to participate in zero waste efforts
6. Obtain feedback from all stakeholders as a means to improve efforts for Year Three

Year Three Changes:
Year two will act as a trial and error scenario for the fair. After receiving feedback from year two of the event, year three changes will focus on stability. This includes defining what has and what has not worked well in the past, in addition to increasing the total number of zero waste stations and Zero Waste Educators to a standard number most appropriate for the fair. Keep in mind that this number should be based on the design of the fair. For example, at Disney World, “the waste bins are 30 feet away from each other because that is how long it took Walt Disney to eat a hot dog” (Wallis, 2013). While 30 feet may not be the appropriate distance for the AZ State Fair, we recommend that the Fair take the research approach of Disney World and count the average number of steps it takes attendees to eat food, so that attendees can hold onto their waste for as little as possible.

1. Acquire the appropriate number of zero waste bins based on research
2. Request vendors to only use sustainable products for administering food
   a. Require vendors to only use sustainable products in future years
3. Create a standard education program for vendors, staff, and the public based on feedback from previous years

4. Obtain feedback from all stakeholders
   a. Remember there is always room for improvement and adaptability for the future

Conclusion: Key Takeaways

In conclusion, the work we have done here has the potential to completely reform the state fair experience. By further analyzing our recommendations, incentives, feedback methods, education tactics, logistics, and our proposed timeline, the Arizona State Fair has the potential for success.
References


