



DOWNTOWN SUDBURY

RIBFEST 2019

GREEN ECONOMY NORTH
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Introduction

Downtown Sudbury Ribfest has grown to be the largest festival in Greater Sudbury bringing in 50,000 people through the area in a 3-day period. To reduce the climate impact created by these events reThink Green was brought in to track and reduce the impact of the festival.

Through engaging in first tier reduction tactics and data collection procedures reThink Green has been able to not only reduce but project the potential reductions capable of this event. Already, a tremendous success has been achieved through this pilot year speaking volumes to the growth potential ahead.

Data & Results Overview

The following data and results are separated into two categories: *Ribber Operations* and *Festival & Ribber Waste*. The *Ribber Operations* data includes the amount of charcoal, wood, and propane used. Any waste generated from the ribbers was sent directly to the same waste bins used by the festival. The *Festival & Ribber Waste* is any garbage, recycling, and compost generated throughout the weekend; whether it was from the ribbers, waste sorting station, or additional waste bins.

Ribber Operations

The quantities of charcoal, wood, and propane used by the ribbers and their resulting emission can be found in Table 1. There were some issues with data collection and in turn required assumptions in order to generate an estimate of CO₂ emission for the ribbers. The ribbers told the reThink Green team *approximately* the quantity of charcoal, wood, and propane used. However, they did not say what size the bag of charcoal was or the volume of the propane tank. To estimate the amount of CO₂ emitted, assumptions about the size of charcoal bag and propane tank used had to be made. This can create discrepancies when comparing emissions between ribbers as, for example, Ribs Royal used 25 bags of charcoal; however, those bags may be smaller than the 10 bags used by the Mississippi ribber. On the other hand, Ribs Royal may have used more resources and/or sold more ribs than Mississippi. Since it cannot be determined what the scenario was, it was decided to use the same assumptions for all ribbers.

Table 1: Ribber Data & Total Emissions of CO₂

	Mississippi	Boss	Crabbys	Jacks	Smoke House	Ribs Royal
Charcoal [kg]	80	200	-	-	80	200
Wood [cord]	-	-	0.5	2	-	-
Propane [L]	227	1023	284	455	682	682
Emission [ton of CO₂]	0.51	1.95	0.43	0.68	1.2	1.4

To improve data collection with the ribbers, the first step will be to implement recommendation 2: Inclusion of sustainability efforts and expectations in vendor package. This will open up a dialogue with the vendors around sustainability and tracking procedures. Then the best method for accurate data collection can set.

Festival & Ribber Waste

The amount of garbage, recycling, and composting generated over the 3-day weekend can be seen in Table 2.

Table 2: Waste Generated & Total Emission of CO₂

Garbage [kg]	4006
Recycling [kg]	534
Composting [kg]	840
Emission [ton of CO₂]	9.36

This year's festival achieved a 25% waste diversion rate. A significant amount of garbage waste was generated by the ribbers and the disposal of this waste was unsupervised. It is undetermined if any of the ribbers sorted their waste. If the Green Team¹ capacity is increased in future years, it will be possible to assist the ribbers in diverting their waste and result in a higher waste diversion rate.

It is strongly recommended that improved data collection for the garbage, recycling, and compost be implemented. An eye observation was done to determine the volume of garbage in yards, which is not a highly accurate method. Then a volume density assumption was chosen from online research. In order to be more accurate in future years, it is recommended to ask the disposal service the weight of the garbage bin when it is brought to landfill. This number should be available as the weight of a truck is taken before and after going to the landfill.

Additionally, the weight of recyclables was determined with a bulk density of mixed recyclables. This was chosen as the recycling was not sorted and a more accurate bulk density for specific materials could not be used. It is recommended that Downtown Sudbury talk with the City of Greater Sudbury to determine if it possible to gather data on the weight of recycling bins. This would provide the most accurate data and thus emission of CO₂ estimation. If this is not possible, then a new sorting procedure should be implemented. It could be done either by weighing the bins onsite or separating the recycling in terms of plastic, paper, aluminum, etc. By separating the recycling, an appropriate bulk density for the corresponding material can be used. This would then result in a more accurate weight of recycling.

The volume of composting waste was higher than expected throughout the festival and as such, the 35 composting bins were filled at the end of the night on Friday. In order to continue diverting composting waste, a third-party was brought in to dispose of the bins and the total weight of the bins was collected from this run. As such, it was estimated that the same weight was applicable when the 35 composting bins were filled on Saturday. All composting produced on

¹Green Team is the name of the volunteer team that handles the waste sorting station, clearing waste off of the tables, and brings waste bins to the disposal site at the festival

Sunday was tracked but unfortunately had to be sent to garbage because the composting bins were full. Downtown Sudbury will have to talk with the City of Greater Sudbury to determine if more and/or bigger composting bins can be brought onsite. If enough bins are provided for future years, this would remove the need for third-party disposal midway through the festival. However, the weight of bins would not be provided. Therefore, like the recycling it should be determined if the weight of composting bins can be given when the City of Greater Sudbury disposes of the bins at the end of the festival.

Comparing to 2018 Ribfest

Due to a reThink Green staff member's involvement with previous RibFest festival, they were able to recollect approximately how much volume of waste was generated at the 2018 RibFest. Table 3 shows the comparison of emissions from the 2018 & 2019 Ribfest based on the assumptions mentioned above.

Table 3: Comparison of 2018 & 2019 emissions

2018 Waste Emission [ton CO₂]	17.23
2019 Waste Emission [ton CO₂]	9.36

Based on the assumptions made, a 7.87 ton of CO₂ was reduced from 2018 to 2019. This results in a 45.6% reduction. This reduction showcases how waste diversion and sustainability efforts can have an impact.

Recommendations

Please note that the order of which these recommendations are presented does not correspond to their prioritization or timeline of implementation.

Leading up to the Event

1. Set a reduction goal

With improved data collection techniques, a carbon baseline can be set next year after RibFest 2020. This will be the basis for comparing actions taken to reduce waste and greenhouse gases. In the meantime, a waste diversion rate goal can be set for RibFest 2020. This can assist in promoting sustainability efforts and gather enthusiasm as Downtown Sudbury, any volunteers throughout the festival, and the public work toward a shared goal.

2. Inclusion of sustainability efforts and expectations in vendor package

To further behavioral change of the vendors who are coming to Ribfest, literature about the sustainability efforts and data collecting expectations should be built into the vendor packages. This mentality should be as strong as other expectations; such as set up and clean up procedures. This will allow more accurate data to be collected making more meaningful change.

Additionally, the early expectation of sustainability efforts can open a dialogue between the vendors and reThink Green. This would then improve the method for data collection and engagement with the vendors as the process would be less intrusive to their operations.

3. Online presence

There is good potential to engage with the public online about the festival's sustainability efforts ahead of the event. The following are ideas that could be used as posts:

- Showcase any changes done to the festival's operations to reduce environmental impact
- Sitemap featuring the waste sorting station location
- Feature which items at the festival are garbage, recycling, or compost

4. Purchase of push able flat cart

The path to the garbage storage behind Ribbers Row can be challenging to get through during peak hours. This density of people makes it unsafe to travel through with a motorized vehicle, therefore a flat push cart during this time should be used for safety of the customers and volunteers.

5. Setup and take-down procedure

It is suggested that Downtown Sudbury spends time thinking about the materials and waste generated during the setup and take-down of the festival as their employees were present during these timeframes. The following are some sample questions to help facilitate this process:

- What materials were used to hold this sign-up?
- Was I surprised that a certain item produced a lot of garbage during the setup and/or take-down?
- Were there any items thrown out that could have been re-used?

Some items observed by reThink Green staff were plastic zip ties and plastic tape. Once a list is generated, research can be done to determine if any recyclable or compostable alternatives are available or if a one-time purchase could be used over multiple years.

6. Reusable signage

Advertisement of the waste sorting station throughout the eating area was done by posting signs on the tables. Due to the windy weather conditions, the signs had to be taped flat onto the tables. At the end of the festival these paper signs had to be thrown out due to the plastic tape. It is recommended that reusable signs are made for future years. This could be done by simply laminating paper so that they are weatherproof and would not be damaged if tape is used on them or a more creative solution can be done (e.g. engraved wood blocks).

Furthermore, several banners were manufactured for this year's Ribfest. It was not determined if these signs will be used more than once. When making any new signs, it is recommended that the design of the banners is done in a way to ensure the longevity and usefulness of them.

Increase Diversion Rate

7. Reduce number of garbage bins onsite

During the setup on Friday morning, approximately 15 garbage bins were pulled by the reThink Green team and several more later throughout the weekend. The large quantity of garbage bins would have been detrimental to the waste diversion as there would have not been any incentive for festival goers to bring their waste to the waste sorting station.

It is recommended that in future years that garbage, recycling, and compost bins are setup where indicated by a Green Team organizer or reThink Green.

8. Increase number of waste sorting stations

The waste sorting station at this year's Ribfest was a huge success. Given the area the festival covers, it would be beneficial to have additional waste sorting stations. A second waste sorting station could be placed near the ribbers to capture waste from individual standing in line and leaving the festival premises. This would help increase the waste diversion rate and lower emissions produced. This recommendation will need to be done in conjunction with recommendation 9 discussed below.

9. Volunteer capacity

The volunteer base for the Green Team is crucial to the success of this initiative. To continue improving on this year's effort, more volunteers would be needed in future years. Increased capacity in volunteers would enable the festival to have more than one waste sorting stations, assist the ribbers with their waste diversion, and better track specific metrics. More than anything else the Green Team cannot be a team for volunteer overflow and must be built with intent in mind.

10. Green Team t-shirt

Identifying the Green Team volunteers using t-shirts has been a large success to quickly notice team members. In future years when purchasing shirts, we recommend the shirt say "Bring Us Your Waste" as team members when roaming can then take the waste and sort it properly.

As well giving the roaming Green Team members paper towel during this year's event attracted customers to them to trade their waste for paper towel and will be encouraged again next year.

11. Plated portions at the VIP Night

Throughout the VIP Night it was observed that the amount of food waste brought per plate per person at the waste sorting station was quite high. Individuals associate buffets with eating a big quantity of food and as a result, tend to put more food than they can eat on their plate.

Switching the evening from buffet style to plated portions would help minimize the amount of food waste generated. Plated portions can be implemented in two ways:

- Cafeteria style: The food items are individually plated, which can then be picked up and put on a tray. In this method, the individual can pick which foods they would like to eat.
- Sit-down dinner: The menu has been pre-selected and individuals are served a pre-portioned plate.

Once the guest is sitting at their table, this will allow them to rethink if they really need to make an extra trip for additional food. Thereby helping reduce the food waste brought to the waste sorting station.

Reduce at the Source

12. Station to fill-up water bottles

The addition of a water station on-site would easily reduce plastic water bottle waste. At the moment there are two available options in Sudbury. The first one being the water buggy from the City of Greater Sudbury at a price of \$500 (rate may change upon inquiry). It comes with two city staff and is filled up once; thus, this option has a maximum capacity that would likely be reached within the first day.

The second option is to rent a water station from the Northern Lights Festival (NFL) at a rate of \$50/day (estimate given by NFL staff). The water station must be attached to a water source. Thus, it does not have a maximum capacity as it is continually filled. Ribfest organizers would need to communicate with the arena to determine where a water source for the station would be. reThink Green recommends that the second option be implemented.

13. Alcohol sales through a deposit of reusable cups

A reusable souvenir cup branding with Ribfest and reThink Green's logo was available for purchase at a cost of \$2 at the alcohol ticket tent. Unfortunately, these cups were not as much of a hit as expected and this was due to a couple of factors. The advertisement of the cups throughout the festival was lacking and overall awareness of it through festival staff and volunteers was not known. As well, a souvenir cup was not received as a novelty item by the public.

For future events it is recommended that reusable cups are offered through a deposit. This can be implemented in either of two ways:

- The individual purchasing a drink has the chose to either use a plastic cup or put a deposit on a reusable cup. If they choose the reusable cup, they can either keep the cup or bring it to a certain location, and then retrieve their deposit.
- The individual purchasing a drink must pay a deposit on a reusable cup as this is the only way of purchasing a drink. When they are done their drink, they can either keep the cup or bring it back to a certain location, and then retrieve their deposit.

The implementation of this recommendation would require the need for a washing station, which will be discussed in greater detail in recommendation 14 below. In whatever capacity

reusable cups are used in future years, awareness of them throughout the festival must be increased.

14. Reusable cutlery & plates/containers

Reusable cutlery and plates would partially or fully eliminate the need for one-time use cutlery and take-out containers from the vendors, which were some of the most frequently brought items to the waste sorting station. The following is an example to give an idea of how implementing this recommendation could look like:

- Sourcing for the purchase or rental of reusable cutlery and plates would be conducted.
- Each vendor would have reusable cutlery and plates available at their location with the option to carry their own containers for individuals leaving the festival or in case they run out of reusable cutlery or plates.
- A washing station would be needed. This station would require an increase in the Green Team capacity and it would need access to fresh water. Some individuals would be washing items brought to the station, some would be drying, and others would be redistributing these items to the vendors.
- Like previously done, some members of the Green Team roam around the tables to pick-up any waste left behind. With the addition of reusable cutlery and plates, they would bring back these items to the washing station.

Conclusion

In conclusion, RibFest has made the groundwork to become a more sustainable festival and to have continual improvement of their efforts. Many recommendations were made in order to improve upon waste collection, reduce waste, and increase waste diversion rate. It is suggested that Downtown Sudbury goes through every item and identifies which items can be implemented for RibFest 2020.

It is highly recommended that a commitment to stronger data collection occurs. This will showcase RibFest's commitment to reducing their environmental footprint when setting up expectations with waste disposal carriers, ribbers, and any staff involved in the planning of RibFest. With a stronger data collection system, a carbon baseline can be set after RibFest 2020 and then a carbon reduction goal.