

6TH ANNUAL WASTE AUDIT



November 9, 2016

WHAT IS THE WASTE AUDIT?

On November 9, 2016, students in the Green Team, staff, and faculty volunteered to sort through the waste of four buildings on the WPI campus. These buildings were: The Rubin Campus Center, the Gordon Library, and Daniels Hall. Everybody who participated went through safety training beforehand. They wore Tyvek suits, rubber gloves, and safety glasses while completing the audit. The bags of waste were initially weighed and recorded then the contents were sorted into several categories: landfill, bottles/cans, cardboard, paper, liquids and food waste. As these bags were filled up, their new weights were recorded, and the process continued until each building was finished. The results and analysis can be found in the following report.



RECYCLING RATES

This year there were three different forms of recycling rates calculated. The first is the recycling rate through the weight of the recycling bins; this method provides a way for us to compare with past years. Formula A was used to calculate this rate. The second method is the true recycling rate in which the weight of only the correctly recycled materials in the recycling bin were used. This provides an estimate of how much material thrown away is really recycled. Formula B was used to calculate this rate. The final rate is the potential recycling rate; this rate shows how much waste being produced is recyclable if everything that is recyclable is correctly placed in the recycling bins. It is also important to note that the rates represent one day's worth of waste and therefore can vary depending on many conditions. The data can still be compared to previous years which used the same approach of one day's worth of trash.

Formula A

$$\frac{\text{Total weight of items initially in the recycling bins}}{\text{Total weight of all waste (trash + recycling)}} * 100\% = \text{recycling rate by weight of bins}$$

Formula B

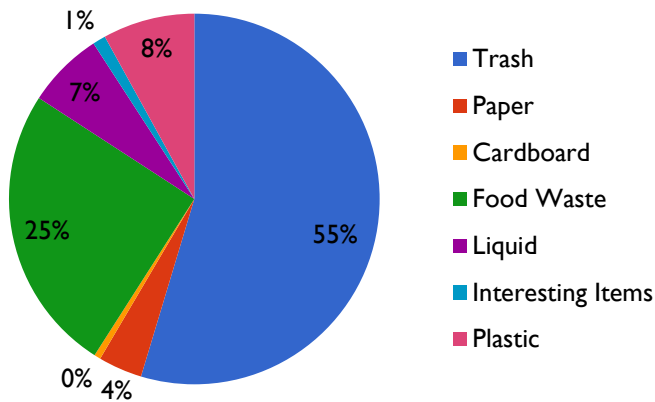
$$\frac{\text{Total weight of all items initially in recycling bin that were correctly recycled}}{\text{Total weight of all waste (trash + recycling)}} * 100\% = \text{true recycling rate}$$

Formula C

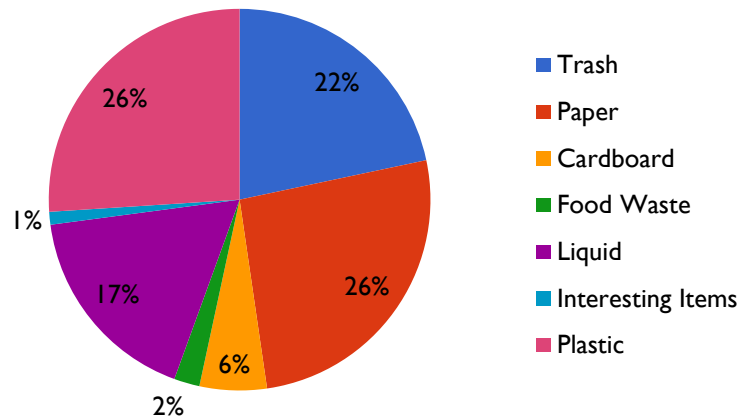
$$\frac{\text{Total weight of all recyclable items}}{\text{Total weight of all waste (trash + recycling)}} * 100\% = \text{potential recycling rate}$$

RESULTS: GORDON LIBRARY

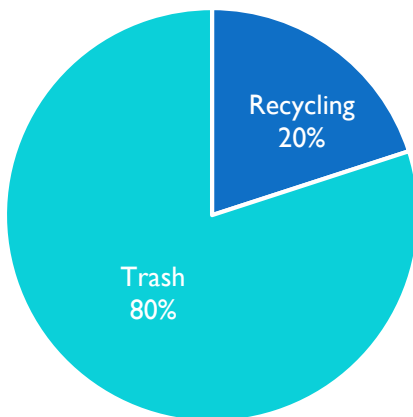
What's in Gordon's Trash?



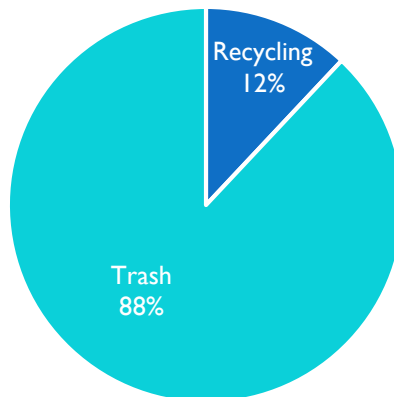
What's in Gordon's Recycling Bins?



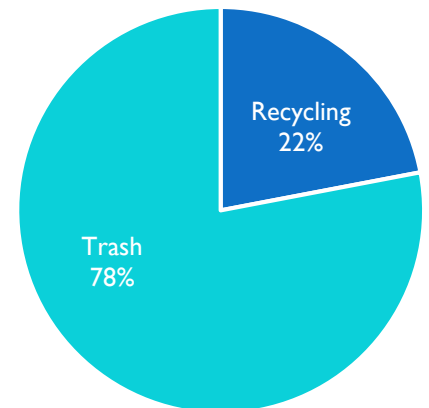
Gordon Present Rate



Gordon True Rate



Gordon Potential Rate

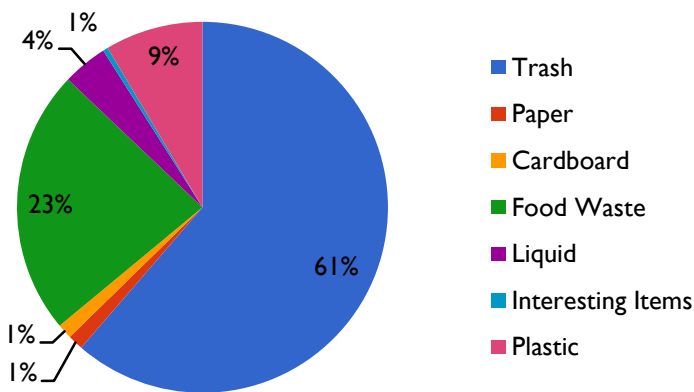


What can we learn from this?

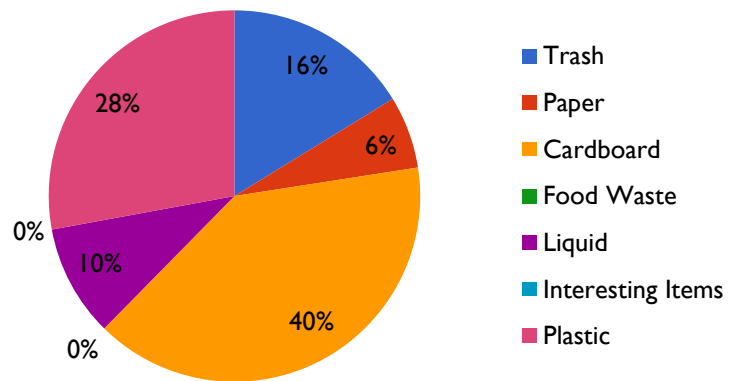
Gordon Library has a lot of work to do to improve its recycling rate. Although initial weights makes it seem that the recycling weight is 20%, in reality on 12% of the total waste was actually recycled properly. It is also interesting to see that 25% of the trash was food waste. Perhaps there are ways to divert the food waste and improve education on recycling.

RESULTS: CAMPUS CENTER

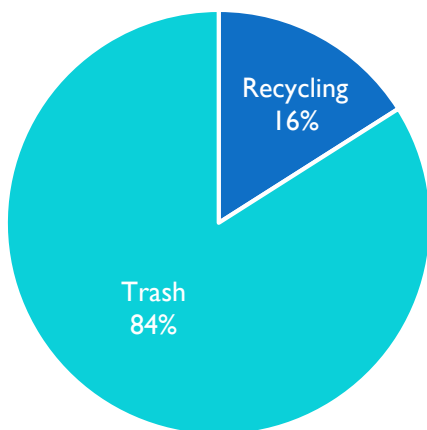
What's in CC's Trash?



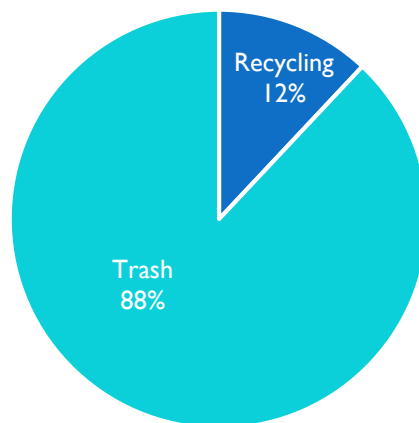
What's in CC's Recycling Bins?



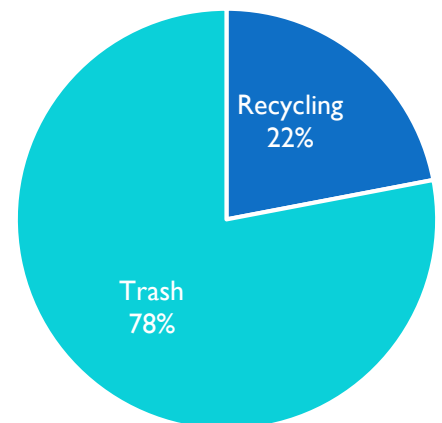
CC Present Rate



CC True Rate



CC Potential Rate

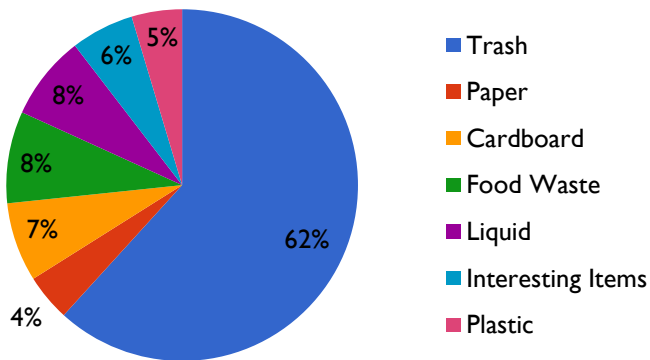


What can we learn from this?

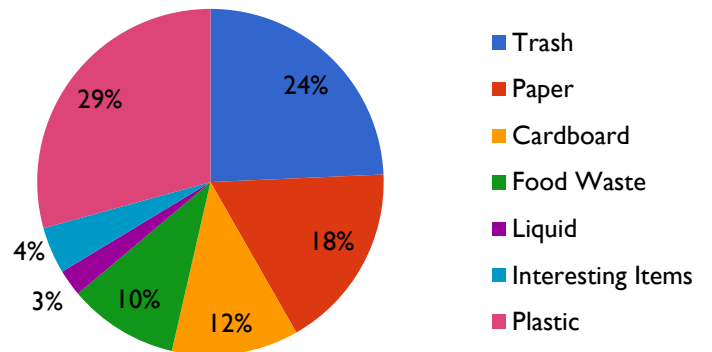
The Campus Center can increase its recycling rate to 22% and could also reduce its overall waste by using less cardboard (which can be most likely attributed to packaging and dining services). There is also a large portion of food waste, 23%, that could be diverted.

RESULTS: DANIELS HALL

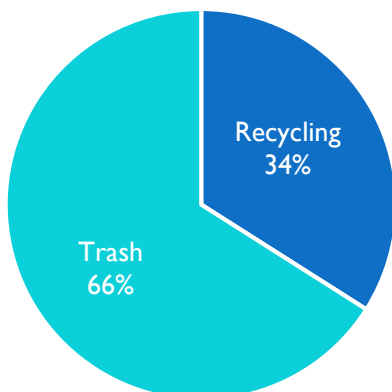
What's in Daniels Hall's Trash?



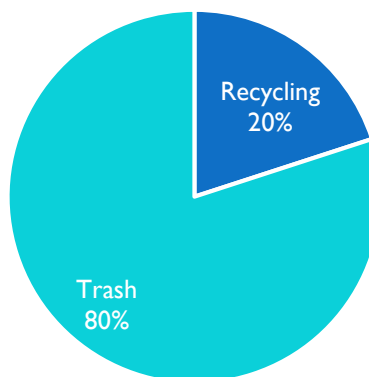
What's in Daniels Hall's Recycling Bins?



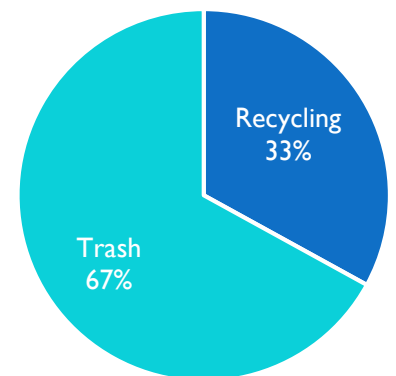
Daniels Present Rate



Daniels True Rate



Daniels Potential Rate



What can we learn from this?

The most interesting thing to note from the audit at this building is that the presort recycling rate is greater than the potential recycling rate. This shows that there is a large attempt at recycling in Daniels but there are a lot of mistakes made. There was a lot of trash and food waste in the recycling bins that is contaminating the recycling stream. Education programs on proper recycling are really needed in this building.

SPECIAL THANKS

- **Facilities**, for helping us collect and distribute the trash and recycling
- The **staff and students** who volunteered their time
- **Liz Tomaszewski** for coordinating the event with members of the Green Team

