

**Case Western Reserve University Recycling Audit**

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**Abstract:**

On August 18, 2006, the Summer Energy interns and their superiors from Case's Facilities Services performed a Trash Audit in hopes of measuring the effectiveness of recycling on this campus. It was found that 50.0% of the measured trash could have been recycled.

**Introduction & Procedure:**

This summer, three Energy Interns were assigned the task to continually improve the sustainability program on campus. Sustainability is the principle of conserving resources in the present in order to ensure their existence in the future. A part of this is recycling, especially on Case's campus. There has been a lack of a gauge to examine the effectiveness of the recycling program. To solve this problem, the Summer Energy Interns devised a way to gauge how effective the campus's recycling program is.

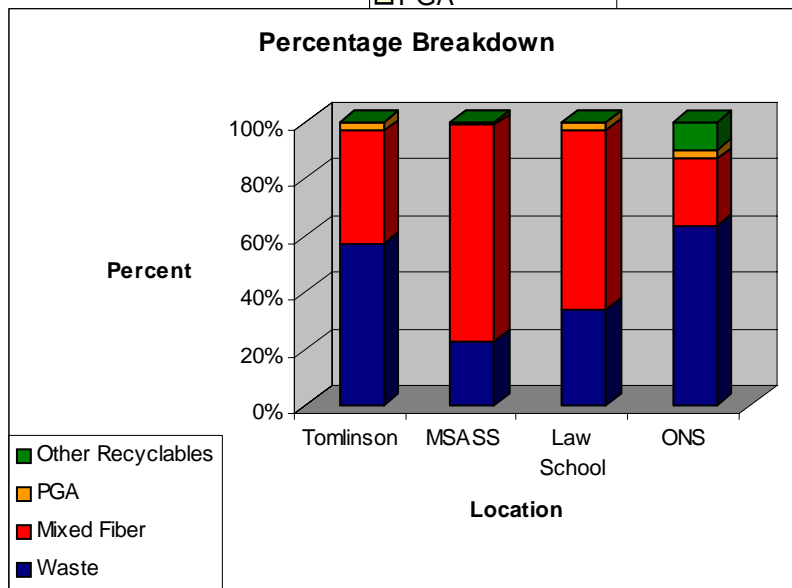
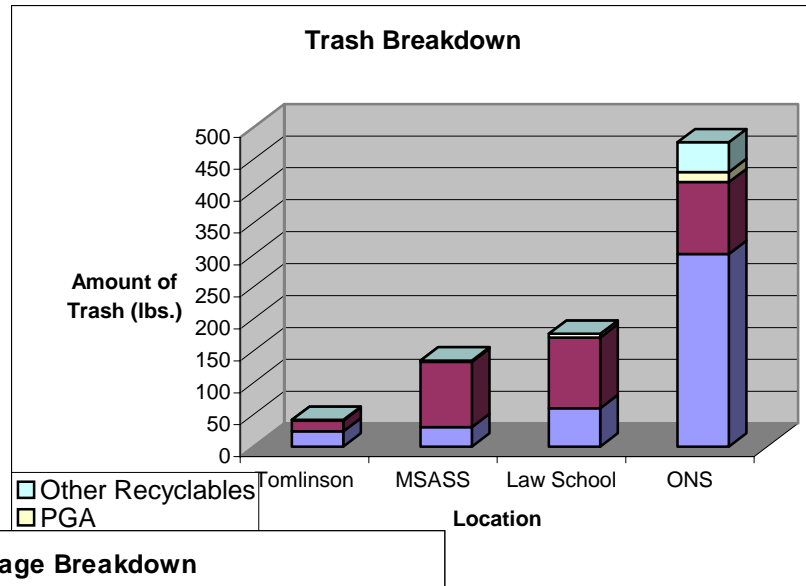
To gauge the effectiveness of the recycling program, four buildings were surveyed during the summer for effectiveness: Tomlinson; Law School; MSASS; and the combination of Olin, Nord, and Sears. These buildings had the most traffic and had a diverse population. The trash from the buildings was collected and brought to the Cedar Avenue Facilities Center where the next morning it was sorted. Each building was sorted separately. Each bag was weighed on a postal scale before it was opened and sorted. It was then sorted into four different groups: Trash, Mixed Fiber, Plastic-Glass-Aluminum, and Other. Each bag was then weighed again. Since the data processing was not computationally intensive, Microsoft Excel was used to process the data.

**Results & Conclusion:**

The four buildings had a large spread of values. The average value of recyclable material for the four buildings was 55.7% with a standard deviation of 16.5%. However, the average of all the recyclable material combined together was 50%. The Olin-Nord-Sears combination had the most trash, followed by the Law School, MSASS, and

Tomlinson. The Olin-Nord-Sears produced the least amount recyclable material in the waste stream with 36.7%, followed by Tomlinson with 42.9%, Law School with 66.0%, and MSASS produced the most recyclable waste with 77.2%. There was a difference in weight between the pre and post weighing of the waste stream; however, it only amounted for 2.5% of the total waste. This was most likely caused by liquid waste that could not be conserved.

The large standard deviation hints to some of the problems with this gauge. The data will change from day to day



depending on the various events in the buildings. For instance, the audit did not include a separate category for food, which can contribute significantly to the waste stream. Also, the amount of trash from a building

varies each day, and with it the contents of the trash. The audit was also preformed during the summer months when buildings are not operating at full capacity. How the data would change if collected during the school year could not be predicted.

Over all this gives a good gauge to the effectiveness of the recycling program on campus. It shows that the program is only 50% effective. It also shows a wide spread of

effectiveness, 40.5%, between buildings. This points out some specific target areas. At best, though, the program is only 64% effective.