



Central New Mexico Community College 2020 RecycleMania Case Study

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Focus of Case study

To determine whether the new waste and recycling educational signage has worked to divert waste from the landfill and/or to reduce contamination.

Detailed description of campaign component:

The 2020 RecycleMania campaign component is educational signage on waste and recycling best practices. The need for signage was identified through past RecycleMania data analyses. The signage is composed of two separate elements:

- 1) Educational posters on Waste— a list of **what should be** landfilled and associated images.
- 2) Educational poster on Recycling—a list of what **may be** recycled and associated images.

The text on all posters is in both English and Spanish, the predominant languages of building occupants.

Posters were framed and hung in common areas, above paired recycling and trash bins, totaling one-hundred locations across campuses.

*The signage also serves the purpose of creating more incidences of “paired” waste and recycling bins in common areas. ¹

Planning steps & timeline to implement:

- Fall 2018 and spring 2019, CNM’s CLL & Sustainability PM and custodial staff determine best locations for new educational signage.
- Spring 2019, CNM’s CLL & Sustainability PM makes contact with a College and Career High School (CHSS) instructor, Dr. Karla Bush, who is interested in enhancing her STEM class with a Campus Living Lab project that will both familiarize students with recycling best practices, as well as the campus landscape. They decide on a recycling audit project for fall, 2019, that will also serve as data component for RecycleMania 2020 case study.
- February and March 2019, Waste Management reports data to CNM’s CLL & Sustainability PM.

- February and March 2019, CNM's CLL & Sustainability PM obtains quotes from signage vendors for two-hundred permanent signs.
- March 2019, signage vendor is selected based on best value for the overall project.
- April 2019, CNM's CLL & Sustainability PM requests project approval from CNM's Executive Oversight Committee (EOC) using the small project request form.
- April 5, 2019, EOC approves project and funding.
- April 2019, the design for the signage inserts (posters) is developed, as a collaboration between CNM's CLL & Sustainability PM, Waste Management staff, and CNM's Marketing and Communications Office (MCO).
- May 2019, details are discussed with signage vendor regarding required materials and schedule to implement.
- June 2019, educational signage for waste and recycling is installed in common areas in buildings across all campuses and at select satellite locations.
- Fall 2019, after trainings given by CNM's CLL & Sustainability PM, students from Dr. Bush's CHSS STEM class conduct semester-long recycling audits in three different buildings to determine contamination rates associated with signage, and without signage. Data is recorded during the audits and delivered to CNM's CLL & Sustainability PM at the end of fall 2019 semester.
- February and March 2020, Waste Management collects waste and recycling volumes from large outdoor bins (same method as previous years for RecycleMania) and reports to CNM's CLL & Sustainability PM.
*Only weeks 1-6 are collected due to coronavirus (COVID-19) restrictions.

Resources and stakeholders involved

- Waste Management to collect waste and recycling data and to assist with educational signage design (campaign component).
- CHSS instructor and students to perform recycling audits.
- Facilities CLL & Sustainability PM to train students on recycling audit and safety precautions, to collect and analyze data, and to write case study.
- Facilities CLL & Sustainability PM to request funding for the educational signage (campaign component).
- CNM Executive Oversight Committee (EOC) to approve the project.
- \$53,000 funds from CNM's small project budget.
- CNM Marketing & Communications Office (MCO) to develop signage design.
- CNM custodial staff assist with identifying best locations for signage and to reorganize bins accordingly.
- Signage company to print graphics and install signs.

Describe the Results of this campaign component

- a. The signage, before implementation, was discussed among many executive-level staff at the college. The signage project was also noted in [2019 RecycleMania Case Study](#). The campaign component is mentioned on CNM's Sustainability website: <https://www.cnm.edu/about/sustainability/recycling>
It was shared on CNM's Sustainability Instagram @cnmsustainability.

The audit component educated dual-credit high school students from the College and Career High School on recycling best practices, familiarized them with types of contamination, and what they may do to further the spread of good recycling habits.

b. Specific measurable impact figures, if applicable

- **College-wide and local waste diversion comparisons**

2019: RecycleMania week's 1-6 average diversion rate across all collection locations = 14.3%

2020: RecycleMania week's 1-6 average diversion across all collection locations = 16.34%

Therefore, average waste diversion rates for the entire college show a 2.04% increase between 2019 and 2020, or a 2.04% reduction in materials that were landfilled. Therefore, the signage may have increased user confidence regarding what materials are suitable for recycling.

Furthermore, 16.34% is higher than the Bernalillo County annual average which is 8% (July 2018-June 2019). Bernalillo county is where 32 of 33 campus buildings are situated and from where the waste and recycling data collection for RecycleMania is collected.

- **Waste diversion comparisons by campus or by building location (in order of diversion rank)**

Workforce Training Center waste diversion rates: 2019= 15.87%; 2020= 20.4%

Diversion increased in 2020 (+ 4.53%)

Montoya Campus waste diversion rates: 2019: =13.89%; 2020= 18.3%

Diversion increased in 2020 (+ 4.41%)

Rio Rancho Campus waste diversion rates: 2019 = 13.01%; 2020= 17.01%

Diversion increased in 2020 (+ 4.0%)

Westside Campus waste diversion rates: 2019 = 12.98%; 2020=15.06%

Diversion increased in 2020 (+2.08%).

Advanced Technology Center waste diversion rates: 2019 = 11.96%; 2020=13.3%

Diversion increased in 2020 (+ 1.34%)

Main Campus waste diversion rates: 2019 = 15.25%; 2020= 16.2%.

Diversion increased in 2020 (+ .95%).

South Valley Campus waste diversion rates: 2019 = 13.59%; 2020 = 10.61%.

Diversion decreased in 2020 (- 2.98%).

- **Recycling Audit Results**

College & Career High School Students in Dr. Karla Bush's STEM class performed weekly recycling audits in three CNM buildings during fall 2019 semester. Students compared contamination rates of bins with educational signage (campaign component) and contamination of recycling bins without educational signage. The only building that had usable data was the Student Services Center (SSC). The data from other buildings was inconsistent among students or had gaps (see next section). It is clear from the results shown below, that contamination rates are higher in recycling bins that do not have educational signage (41%), to those that do have educational signage (25%). However, this is a very small sample, only a snapshot of a single building on Main Campus.

Student Services Center: CCHS Recycling Audit Fall 2019

Week	# gallons: recycling with signage	# gallons: trash with signage	# gallons: recycling without signage	# gallons: trash without signage
One	2	3	2.5	2.5
Two	4	1	4	1
Three	4	1	3	2
Four	4	1	4	1
Five	4.5	0.5	2	3
Six	3	2	3	2
Seven	4	1	3	2
Eight	4.5	0.5	2	3
GALLONS	30	10	23.5	16.5
	0.17	0.06	0.14	0.1
	25.00%		41%	

What would you do differently in the future?

- More recycling audits need to occur so that there is a larger sample of materials collected.
- Data collection sheets for recycling audits need to be developed by college staff and distributed beforehand, rather than made by students during the audit. Although it was part of the educational experience, it may have been one of the factors that resulted in unusable data.
- Survey building occupants on whether the educational signage has been useful to them and what could make it better.
- Survey custodians on whether the educational signage has been useful to them and what could make it better.

What advice would you give to another college that wanted to do a similar effort?

- Utilize existing studies on educational signage for recycling best practices.
- Involve your college waste management/recycling vendors in developing the signage, as they are the experts in local issues and recycling materials.
- Involve college custodial staff in decision making processes regarding educational signage.
- Do not discontinue past outreach efforts in lieu of educational signage. For example, custodial and employee orientation have become general practices at the college, but started as new efforts under past RecycleMania programs. They have both made measureable impacts on reducing waste to landfill.

Photos and Graphics

Please include photos and other visuals below, examples could include social media posts, posters or other graphics related to the project. Include captions where necessary. Please include credit information for all photos.

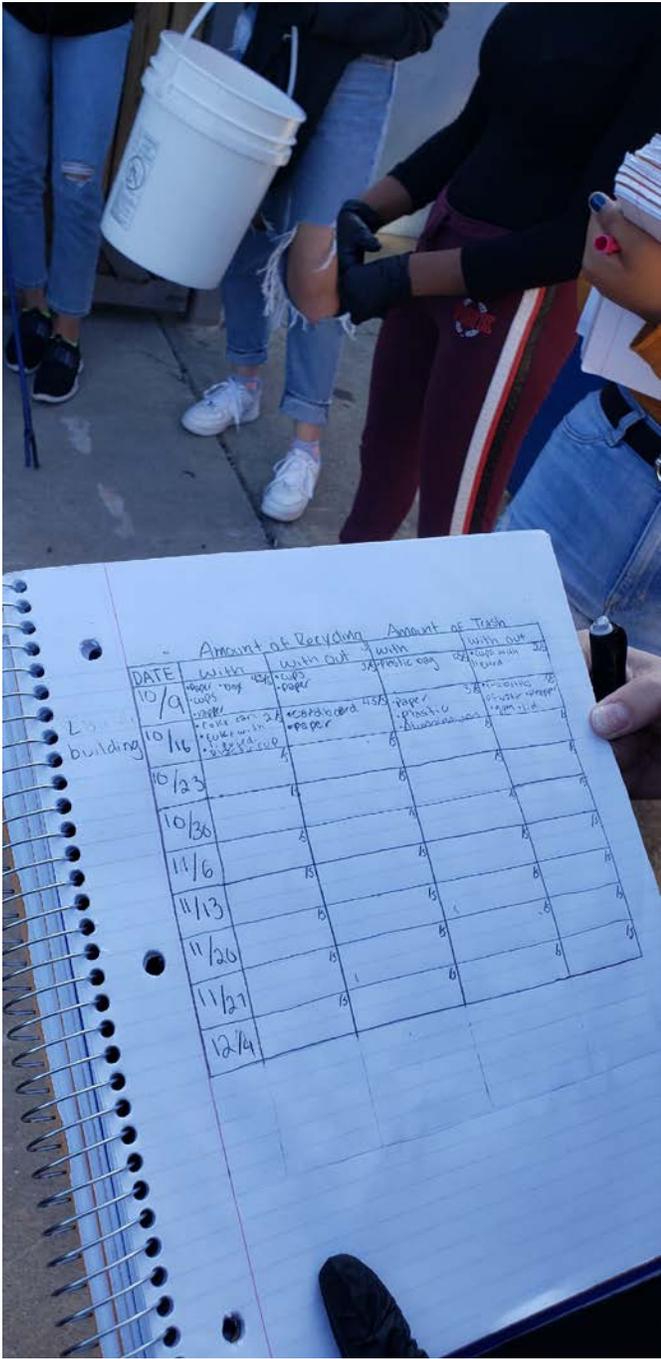


EDUCATIONAL SIGANGE-CAMPAIGN COMPONENT



RECYCLING AUDIT CCHS STUDENTS

5-gallon buckets (marked with lines to represent gallons) to measure items that they have pulled from the recycling bins, after separating out the trash (contaminants).





PAIRED BINS UNDER NEW RECYCLING SIGNAGE

¹ The signage project is meant to encourage recycling best practices, but also to create a situation in which all bins in common areas are “paired.” Studies show, including data collected during RecycleMania in 2019 at CNM, that the pairing of bins both reduces contamination of recyclables as well as burden on custodial staff (vs. many locations of unpaired bins). Bins were paired as a part of RecycleMania 2019 campaign, but without anything to fix them to a location, they continued to move about.