

Cornell Recycles: A Major University Commitment

by Teresa S. Hargett
and Robert C. Osborn

Cornell University, in the beautiful Finger Lakes region of Upstate New York, has taken a giant step toward preserving the environment. The recycling of paper on a campus-wide basis began in fall 1988 with all staff participating. Tens of thousands of pounds of office paper, previously thrown into the trash and ultimately disposed of in the county landfill, is now being recycled in an extremely effective manner. The program, entitled "Cornell Recycles," involves 9,000 employees and a large portion of Cornell's 18,000 students.

Cornell's new recycling program started shortly after Labor Day 1988. Its introduction to the campus was preceded by a summer-long study by a group of facilities staffers. Cornell's associate vice president for facilities and business operations appointed a task force of fourteen facilities professionals from a variety of disciplines.

This group researched the feasibility of introducing a recycling program for the Cornell campus. The decision to evaluate the subject was prompted by a number of issues including recent state and federal environmental legislation, a local landfill crisis, and pressure from the Cornell community to address the subject of recycling on a university level.

Local Landfill Crisis

Initial research brought the task force into early contact with local city



An aerial view of Cornell University, Ithaca, New York.

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and county government officials responsible for solid waste management. It was immediately evident that the local landfill crisis in our county would have a significant financial impact on the Cornell community, just as it has on other communities across the

country. The closing of our existing landfill and the opening of a new county landfill facility would introduce "tipping fees," something never experienced before in our community.

The task force subsequently determined that Cornell's waste stream



amounted to 8,000 tons annually and that the county was projecting tipping fees at \$40-\$64 per ton. The realization that Cornell was facing new trash disposal costs ranging from \$320,000 to \$520,000 reinforced the need for a formal recycling program at Cornell.

Initial Program Objectives

Cornell's primary reason for starting a recycling program was to preserve the environment. However, as the realities of the landfill crisis and affiliated costs became known, the issue of cost avoidance of tipping and hauling fees also became a major factor. The task force therefore established these objectives:

- Design a program that provides for the greatest amount of recyclable material to be removed from Cornell's waste stream, thus keeping new landfill costs at a minimum.
- Keep the overall mechanics of the recycling program simple and easy to use for the Cornell community to ensure immediate and long-term success.
- Maintain environmental responsibility.

Key Issues: What would be recycled? How would it be marketed?

The task force looked at a number of issues, including the make-up of Cornell's waste stream, the materials that would be targeted for recycling, how they would be collected and marketed, who would run the program, and how it would be promoted. These issues were addressed, keeping in mind that Cornell's physical plant involves more than 200 buildings and



10.7 million gross square feet.

An analysis of the annual waste stream revealed that as much as 50 percent of Cornell's 8,000 tons consisted of office paper. It was also determined that the majority of the paper types contained in the waste stream could be recycled. Consequently, office paper was the initial target of recycling.

Thirty-five vendors were contacted to determine their interest in purchasing Cornell's recyclable paper. A group of finalists was selected for interviews on campus to discuss their

Cornell's recyclable paper being compacted into bales.





potential participation in the program. All offered a variety of services. However, the majority would have required Cornell to establish an elaborate processing operation on campus to include collection, trucking, manual sorting, compacting, and baling, all at a substantial cost to the university.

One vendor, who had been operating in the Ithaca community and who had been picking up a limited amount of paper through volunteer recycling efforts on campus, offered a simple and comprehensive package that would not require Cornell to build a processing operation. This vendor offered to pick up recyclable office paper at the individual buildings across campus, providing it was bagged and placed by building loading docks for pickup.

Furthermore, this vendor was willing to collect a mixed variety of office

paper, versus separated and sorted paper as required by the majority of vendors. The local vendor stated that they would remove mixed office paper from campus, pay Cornell for the mixed paper, and handle all the sorting and baling at their warehouse. This vendor, who was backed by a national company, seemed to be best fit for Cornell's recycling program.

Designing a Program on Cornell's Large Campus - Pilots Established

Designing a recycling program that would involve 9,000 employees across Cornell's large campus was a major feat. The challenge at hand was to design a program in which everyone would participate and which would not involve a lot of effort on their part. At the same time, another process had to be instituted to pick up and collect the recyclables in each

building, including bagging and preparation, for Cornell's vendor to pick up. These processes were determined to be two separate operations that would be handled in separate steps. After a great deal of study, it was determined that individual employees should separate their paper from other trash at their desks and that the custodial staff would pick up the separated entities.

During the summer of 1988, the task force instituted two unique pilot programs designed to evaluate the processes of separation and collection of recyclable paper. The programs were also designed to take a close look at the "human element," the willingness of faculty and staff to participate in the different steps involved in separation, collection, and handling. In both test programs, faculty and staff were provided with an extra wastebas-

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ket or container for the collection of recyclable mixed office paper. The two wastebaskets were labeled with color-coded labels, white for "Recyclable Paper" and red for "Non-Recyclables." The white label included the definition of recyclable paper. Faculty and staff were asked to place all appropriate office paper in one basket and trash in the other.

In one pilot, faculty and staff were asked to carry their collected paper to a central collection location in their office area or building. The custodial staff continued to pick up the trash daily, as was routine. In the second pilot, the custodial staff was asked to pick up both separated entities at each employee's desk. Custodians who were accustomed to using one 32-gallon barrel on a dolly for trash pickup, were provided with a second 32-gallon barrel on a dolly for picking up recyclable paper. Custodians then placed the bagged recyclable paper in a new tilt-truck dumpster labeled "Cornell Recyclables." Trash continued to be placed in the regular garbage dumpster.

The pilots were monitored closely over the summer with conclusions drawn after twelve weeks. Both pilots were determined to have been successful from the standpoint of employee participation; faculty and staff enthusiastically separated their paper from trash in the two containers at each work station. The contrast in the pilots occurred, however, in the process of moving the paper from individual desks to collection points.

In the first pilot, where staff were asked to "carry their paper" to large centrally located containers, participation began to fall after a number of weeks, and good recyclable office pa-

Recyclable P

*all paper except:

magazines & books window envelopes carbon paper
paper wrappings food wrappers blue prints



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Non

*garbage and

per began to appear in the trash.

In the second pilot, where custodians picked up both separated entities at individual work stations, participation was excellent over the entire test period. In addition to the positive response from faculty and staff, Cornell's custodians were cooperative and positive about the process. They did not feel that the separate collection operation added a significant burden to their workload.

(It should be noted that the union representing Cornell service workers was involved with the recycling task force from the outset, with a union leader actively participating as a member of the committee.)

Recycling Program Recommendations Accepted by Administration

Recommendations were made to Cornell's senior administration outlining plans for a formal recycling program targeting the collection of mixed office paper in the university's academic/administrative buildings. The collection method preferred by the task force was, not surprisingly, that in which the custodians picked up both trash and recyclable paper at employee work stations or desks. This method was determined to be most successful in meeting original objectives. It provided for the removal of the greatest amount of recyclable material from Cornell's waste stream, was

per*

used paper tissues
paper cups paper

Recyclables*

recyclable paper

the easiest to use for employees, and was projected to ensure immediate and long-term success of the program. Because this operation would involve 275 university custodians, it was furthermore determined that the custodial services administration would play a key part in monitoring and managing the program.

Facilities on campus, including the student dormitories, dining halls, and student activity centers, were recommended to have separate recycling programs of a similar type. Activity centers and dining halls would focus primarily on paper collection in individual offices, utilizing their custodial staff for paper collection. Residence halls would be set up differently with collection bins for recyclable paper on each floor. Students would carry recyclable paper from their rooms to the collection points. Containers already in student rooms would be labeled in the same manner as in the academic buildings.

The facilities task force recommendations for a formal recycling program at Cornell were unanimously accepted by the senior administration. The decision was made to place responsibility for the program with the Division of Facilities and Business Operations and to administer the new recycling program with existing facilities staff. The associate vice president selected the authors to administer the program rather than recruit and hire a recycling director from outside the university.

"Cornell Recycles" Is Born - Implementation Steps

The planning for implementation of the new recycling program led to the development of a number of basic steps that codirectors considered to be crucial. The steps followed are listed below. It should be noted that the actual implementation of the program took place in phases, given the immense size of the campus and the large number of buildings to be

Bob Falada labeled 12,000 trash cans.



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The authors standing in front of Cornell's mountain of recyclable paper.

brought on line. With the exception of the first step, the other steps did not necessarily occur in the order listed and often happened simultaneously.

1. *Announced by Senior Administration*—A letter of introduction of the new recycling program was sent to all of Cornell's employees by the provost and senior vice president. The announcement introduced "Cornell Recycles" to the university and asked employees to be prepared for the introduction of the program in their individual buildings. The letter also outlined how the program would operate, what would be expected of employees, and solicited their cooperation.

2. *Purchasing Equipment*—Equipment was needed for an initial 130 buildings and 9,000 staff. A plan was established to purchase this equipment in installments. Bids were obtained for the total quantity of each item, and purchase contracts were awarded based on total quantities required. The items listed below were purchased over the course of eight

months during the main implementation of the program.

- 12,000 small trash containers
- 500 32-gallon trash containers with dollies
- 130 1-1/2 yard tilt-truck dumpsters with lids
- 50,000 33-gallon clear trash can liners (initial order)
- 15,000 small container liners
- 30,000 labels: "Recyclable Paper" and "Non-Recyclables"
- 250 large dumpster labels: "Cornell Recycles"

3. *Contract Established with Vendor*—Cornell entered into a limited-term contract with the vendor for its services. The contract included terms and conditions regarding the pickup and payment to the university for all campus mixed recyclable paper.

4. *Orientation of Custodial Managers*—Early in the planning process, meetings were held with custodial management staff. These important sessions were of particular assistance in reviewing and fine tuning the actual collection mechanics for the program.



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Jean J. Rogers, Director, Custodial Services, separating paper at her desk.

Decisions were made about which buildings would be brought on line first and served as examples for all other buildings. Equipment planning was performed for each building on an individual basis. Cornell's 275 custodial personnel are divided into nine supervisory complexes across campus. The manager for each custodial complex was responsible for the priority of setup planning. An active dialogue was maintained with the custodial managers throughout the nine month period.

5. Orientation of Custodial Staff—

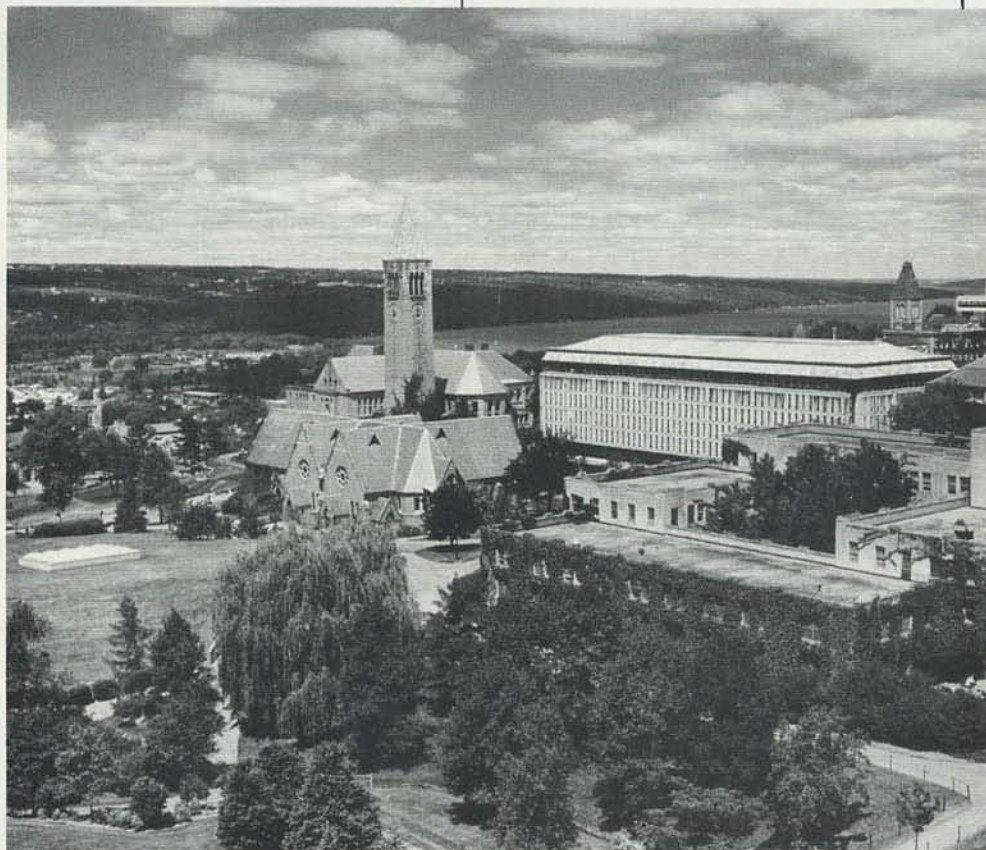
Meetings were held with all custodial staff in each building as it was brought on line. Considerable emphasis was placed on these sessions to thoroughly familiarize the staff with the mechanics of the process. The importance of the recycling program and the role that they individually and collectively would play in the process were discussed. These sessions proved to be extremely productive in that many practical ideas were generated regarding the actual engineering of the collection process. For example, the suggestion that recyclable paper would be collected in clear plastic bags versus black bags utilized for ordinary trash came out of one of these sessions.

6. *Initial Building Contact, Promotion, and Setup*—Building coordinators for each facility were contacted in advance of each planned setup. The recycling program was reviewed in detail and promotional material provided for distribution to all building employees. This material included an introductory letter and list of the most frequently asked questions about the program. Immediately following its distribution, the buildings were set up for recycling by the custodial staff. Setups usually were performed on Saturday, and the buildings were ready for recycling on the following Monday morning. Close contact was maintained with building coordinators and custodial staff as each individual setup was performed.

7. *Monitoring the Program*—The program co-directors view the process of monitoring and follow-up to be essential to the success of the program. An active dialogue continues with building coordinators and the custodial staff throughout the campus. Continued feedback has aided the program with excellent suggestions for improvements in the program design and actual hands-on operation.

Conclusion

The program implementation occurred in four main phases over eight months. Eleven thousand five hundred containers were distributed across campus in 130



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buildings. Two hundred seventy-five custodians were given program orientation in thirty-five separate sessions across campus. Tremendous cooperation was received from hundreds of staff at all levels who were directly involved in inaugurating this mammoth process.

Early estimates that Cornell's waste stream was composed of 50 percent paper led to speculation that, if we had a 50 percent participation rate, 25 percent of the total waste stream could be recycled. To date, all expectations have been exceeded as the majority of buildings are demonstrating paper recycling in excess of 50 percent. Some buildings are recycling paper at the rate of 70 percent! Our custodial staff campus-wide have been astounded to find the "trash" component of the

waste stream now in the minority.

"Trash in the minority" and "recycled paper in the majority" is especially good news for Cornell; in fact, it's great news! As tipping fees are put into effect in the near future, Cornell University will be ahead of the game. The recycling of each piece of paper multiplied by the thousands will add up to saving the university a significant amount of money.

Cornell Recycles is working thanks to all employees and thousands of students who believe in the preservation of the environment. It is extremely interesting and gratifying to know that in a university community as great and as diverse as Cornell, one thing that almost everyone agrees on is that "recycling is a good thing!" ■