



WASTE REDUCTION PLAN

THE UNIVERSITY OF ILLINOIS AT CHICAGO

2009-2014

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Illinois Department of Commerce and Economic Opportunity
in accordance with
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Institution Name: University of Illinois at Chicago
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SECTION 1 — BACKGROUND

1.1 Institution Identification

1. Institution identification: The University of Illinois at Chicago
Office of Sustainability (MC 996)
1140 S Paulina St, Room 112
Chicago, IL 60612
2. Submission date of plan: February 12, 2010
3. Authorizations related to plan:

Cynthia Klein-Banai, Associate Chancellor of Sustainability

Mark Donovan, Vice Chancellor for Administrative Services

Pablo Acevedo, Associate Director of Facilities Management

4. Institution description: The University of Illinois at Chicago (UIC) is a major research university located in the heart of the city. UIC provides a first-rate education for its students and is committed to creating and disseminating new knowledge as a university of growing national and international stature. The largest university in the Chicago area, UIC has 25,000 students, 15 colleges, including the nation's largest medical school, and annual research expenditures exceeding \$332 million. It has more than 110 buildings on over 240 acres. The Chicago campus began in 1913 when Chicago-based health colleges became fully incorporated into the University of Illinois. In 1961, these colleges became the University of Illinois at the Medical Center (UIMC). Following World War II, the University of Illinois increased its presence in Chicago by creating a temporary, two-year branch campus at Navy Pier. Named the University of Illinois at Chicago Circle (UICC), the campus was relocated to its current Harrison and Halsted site in February 1965. Unlike the Navy Pier campus, Circle was a degree-granting institution, with ambitions to become a strong research university. In 1987, UICC merged with the Medical Center to become the University of Illinois at Chicago.

UIC provides the broadest access to the highest levels of intellectual excellence. UIC's mission is:

- To create knowledge that transforms our views of the world and, through sharing and application, transforms the world.
- To provide a wide range of students with the educational opportunity only a leading research university can offer.
- To address the challenges and opportunities facing not only Chicago but all Great Cities of the 21st century, as expressed by our Great Cities Commitment.
- To foster scholarship and practices that reflects and responds to the increasing diversity of the U.S. in a rapidly globalizing world.
- To train professionals in a wide range of public service disciplines, serving Illinois as the principal educator of health science professionals and as a major healthcare provider to underserved communities.

1.2 Contacts

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4. Recycling committee: At the time of our first waste reduction report in 1994, UIC had an established recycling advisory committee. In April 1999, due to increased interest in the many aspects of environmental responsibility on campus, the committee expanded and renamed itself UIC's Green Campus Council. New projects on issues such as transportation/commuting and landscaping/native planting were discussed but campus waste reduction and recycling continued to be major concerns of the Council. This committee continued to meet into the early 2000s when it became inactive due to budget cuts in the recycling program.

Over the past two years, the environmental movement on the UIC campus was renewed with the formation of the UIC Campus Sustainability Task Force in April 2007. Per the December 2007 Task Force recommendations, former Chancellor Sylvia Manning signed the American College and University

Presidents' Climate Commitment (ACUPCC) on September 14, 2007, making UIC one of the inaugural signatories. In February 2008, Interim Chancellor Eric Gislason signed on to the Illinois Sustainable University Compact, which commits UIC to a number of sustainability initiatives such as reducing energy consumption, purchasing alternate fuel vehicles and increasing recycling rates by the end of 2010. On Earth Day 2009, UIC's current chancellor Dr. Paula Allen-Meares, signed the Talloire's Declaration. An additional Task Force recommendation included establishing an Office of Sustainability staffed by a full-time sustainability professional. The commitments described above and the task force recommendations form the sustainability plan for the campus and drive the initiatives and activities of the Office of Sustainability.

Finally, the Task Force recommended establishing a Chancellor's committee to continue to address issues of sustainability on campus. In Spring 2008, the Chancellor's Committee on Sustainability and Energy (CCSE) was formed. The CCSE's charge is to set priorities, suggest new initiatives, monitor UIC's progress towards goals and actions, assist with the preparation of reports for the campus climate commitments, help with the accountability of relevant sustainability initiatives and promote environmental awareness on campus. Committee members were asked to participate in at least one of eight subcommittees.

The subcommittees were charged with reviewing the original recommendations from the UIC Campus Sustainability Task Force, reviewing the Sustainability Tracking, Assessment and Rating System (STARS) criteria applicable to each subcommittee, and monitoring progress and making recommendations for AY10. One of the subcommittees was the Recycling and Waste Management subcommittee.

As of April 2009, the membership of the subcommittee on Recycling and Waste Management included:

Pablo Acevedo, Associate Director of Facilities Mgmt, Physical Plant Administration
Richard Anderson, Associate Director, Environmental, Health & Safety Office
Sayaka Araki, Graduate Student, Earth and Environmental Science
Heather Hoffman, Director of Marketing & Communications, College of Business
Steve Holz, Associate Director, Labor & Employee Relations, Human Resources
Kristy Kambanis, Resource and Policy Analyst, Presidents Office
David Miller, Associate Hospital Director, Hospital Administration (Co Chair)
Ramona Pufan, Graduate Student_(Co Chair)
Rob Rouzer, Executive Associate Director of Campus Auxiliary Services, CAS Administration
Lisa Sanzenbacher, APH Coordinator of Clinical and Research Programs, Psychiatry
Annika Taylor, Graduate Student, Earth and Environmental Science
Susan Teggatz, Senior Associate Director of Housing, Campus Housing

1.3 Student/Staff Population (For Fall 2009)

<u>Full-time equivalent (FTE) enrollment:</u>	25,610
<u>Total students (headcount) enrolled:</u>	26,245
<u>Total student housing residents:</u>	3,804
<u>Number of staff, administrators, employees:</u>	11,515

1.4 Buildings/Grounds

1. Off-site facilities/satellite campuses accounted for in the plan: There are no off-site facilities/satellite campuses accounted for in the plan.
2. Off-site facilities/satellite campuses not accounted for in the plan: The College of Medicine at Peoria and the College of Medicine at Rockford, both of which are affiliated with the UIC College of Medicine, are not accounted for in this plan. This was also the case for our 2004 plan.
3. Number of buildings: There are approximately 114 buildings that are accounted for in this waste reduction plan.
4. Incineration facilities: We only have two incinerators at this time. Neither incinerator is used for energy recovery. The up-to-date information on the two incinerators is below:
 - a. College of Medicine, West Tower: This is the incinerator used by the Department of Anatomy and Cell Biology. The average amount of waste incinerated is 5000 lbs/yr
 - b. College of Medicine Research Building (COMRB): is run by the Environmental Health and Safety Office. This incinerator has not been operated for the last six years since it was relocated. They have a great deal of waste stockpiled since the unit has not been operating the last six years. The incinerator is permitted at 150 lbs/hr. We estimate at least 15,000 lbs. of waste will be incinerated in 2010.

1.5 Funding/Budget

1. Funding for recycling: The UIC Recycling Program is funded through several sources:
 - a. The salary of the Associate Chancellor for Sustainability, plus educational and promotional materials, is covered by a recurring state budget allocation under the Office of the Chancellor. Student employees and new and replacement equipment are covered by a recurring state budget allocation under Facilities Management.
 - b. Additional, significant quantities of new recycling equipment (deskside bins, central containers, 90-gallon totes, etc.) have been purchased over the past year, thanks to grants from Illinois DCEO. Historically, grants were used to purchase recycling equipment and a new recycling packer truck was purchased in 1995 with the help of an ICAP grant.
 - c. The operation of the recycling truck, including a full-time driver and driver helper, as well as the pickup of recycled bottles and cans by an outside service, is covered by:
 - i. revenue from the sale of recycled paper,
 - ii. service fees paid by the students centers and residence halls for both bottle and can and cardboard recycling, and
 - iii. funds allocated from Facilities Management to cover any residual costs.

- d. The recycling budgets are part of the solid waste collection budget, the Office of Sustainability budget, and other Transportation Department operations.
2. Cost of disposal: UIC's Facilities Management hauls its own non-recycled solid waste, using its own drivers and truck. The costs for FY09 are below:

Drivers and driver helpers:	\$172,284
Truck maintenance & replacement fund:	\$ 33,597
Tipping fees:	<u>\$229,464</u>
Total disposal costs in FY09:	\$437,345

3. Cost of recycling:

- a. Management and program expansion costs: The program is managed, promoted, and monitored by the Associate Chancellor for Sustainability, Associate Director of Facilities Management, Assistant Director of Facilities Management, Graduate Assistant(s), Recycling Coordinator and student workers. In addition to their salaries and wages, there are additional costs for new equipment and for educational/promotional materials. A recurring state allocation covers these costs.

Management, education, publicity, and OS expansion costs in FY09:	\$17,305
Student salaries from Facilities Management	\$12,030

- b. Paper recycling: UIC's Facilities Management hauls about half of its own paper for recycling, using its own drivers and truck. The remainder of the paper is collected by two outside firms, Recycling Services and Allied Waste, and is cost neutral to the university. A large amount of paper is also recycled by the paper shredding company Citadel contracted by the medical center. All shredded paper is recycled and reported to UIC by Citadel. The costs for FY09 were:

Driver, driver helper*, truck maintenance & replacement fund:	\$128,379
Tipping fees:	0.00
Minus income from recycled paper:	<u>-\$4,076</u>
Cost for paper recycling in FY09:	\$124,303

* Note: At times the driver is assigned to drive the campus commuter shuttle bus for 2-3 hours on a shift and this reduces the amount of time that he dedicates to collection of paper. The costs above account for his entire salary.

- c. Bottle and can recycling: The Resource Center picks up UIC's bottles and cans for recycling. The cost is divided between Facilities Management, Campus Housing, and the Student Centers. Income from scrap metal recycling is used to offset this cost.

Cost for bottle and can recycling in FY09:	\$27,718
Minus income from scrap metal:	-\$9,798
Cost for bottle and can recycling	<u>\$17,920</u>
The total of the above costs for FY09 was:	\$171,558

By recycling we did not incur \$112,837 in tipping fees bringing the **net cost** of the program to: **\$58,721.**

4. Budget for recycling: The budget for recycling at UIC in FY09 was \$171,558. As previously noted, funding comes from Facilities Management, the Office of Sustainability, Campus Housing, Student Centers, and the sale of recycled paper and scrap metal. As grants are not won every year, we do not include them in our annual working budget. As for the next three years, we are assuming the following:
 - a. The recurring state budget will likely not increase.
 - b. The cost of hauling the recyclables will increase based on union negotiated salary increases. Last year, the price paid for paper decreased dramatically, which significantly decreased our revenue from recycling. However, we increased the capture of scrap metal and have increased that revenue. Due to market-driven prices, we cannot make a firm prediction as to our total costs in future years. However, we will seek the best prices we can by capitalizing on the markets available to us in the Chicago area.

SECTION 2 — EXISTING RECYCLING AND COMPOSTING ACTIVITIES

2.1 Survey of Recycling/Composting Activities

See completed form provided in Appendix V.

2.2.a Current Recycling Methods – Mixed Paper

1. Material(s) in question: Mixed paper and OCC (Old Corrugated Cardboard).
2. Start date of method: UIC began the recycling of paper in November, 1989. Cardboard collection began when the current central-collection recycling method (formerly UICycle Program currently UIC Recycling Program) was started in November 1994. Cardboard and paper were collected as separate materials starting in 1999, however, funding issues resulted in the combined collection of paper and cardboard starting in 2002. In 2008, we began hauling our waste to Recycling System Inc. (RSI) which is a construction and demolition debris (C&D) processing site. This process results in recyclable materials being pulled out of the waste stream and sorted into various recycling categories.
3. Collection process:
 - a. In 22 campus buildings, we collect paper and cardboard directly in 90-gallon green totes – this method that was initiated back in 1989. These totes are located in the halls and copy rooms of the buildings, and faculty, staff, and students carry their recyclable paper and cardboard directly to them. Cardboard is flattened and placed within the totes. Once a week, our UIC Recycling driver and helper empty the totes into the program's recycling truck.
 - b. Since November 1994, 45 buildings have been installed with new recycling and waste bins to encourage greater waste reduction and recycling. In Fall 2009, new recycling and waste bins were installed in four buildings that were previously only served with green totes. The Science and Engineering Offices, the School of Public Health and Psychiatric Institute, the Disability, Health, and Social Policy building, and the University of Illinois Medical Center all received new recycling containers. These materials include a desk-set. A desk-set, a small 4-gallon paper recycling container along with an even smaller 7-quart hook-on waste bin, is placed at each desk. It is the responsibility of each person to carry their mixed paper – *and* all their other waste -- to the nearest appropriate 23-gallon central containers. The building services workers empty these larger, 23-gallon bins (but not the desk sets) into 90-gallon totes, which are stored in basements, closets, and docks,

or into 6-yard containers located in the loading dock area. About twice a week, the recycling truck driver and helper empty the totes into the UIC recycling truck. Two outside contractors, Allied and RSI, collect paper and fiber from the dumpsters about once a week. The number of buildings serviced by these two contractors is approximately 29. As of November 30, 2009, Allied no longer collects the paper from the 16 buildings they were assigned to. Those buildings and the remaining buildings are serviced by the UIC recycling truck. Any special request pick-ups are serviced by the UIC recycling truck.

- c. The remaining buildings are either parking structures where no recycling is offered or Campus Auxiliary buildings (residence halls and student centers). They provide their own bins for collection but the materials are collected from the buildings under the overall campus program.
 - d. Confidential documents, primarily generated at our healthcare facilities, are collected by Citadel, a document shredding company. All paper that they collect is recycled after shredding.
 - e. UIC trucks haul refuse from the campus, excluding the hospital, to Recycling System Inc.'s Construction and Demolition Material Recovery Facility (RSI's C&D). At the site, this material is sorted for recycling to the extent possible and a report is generated at the time of dumping. That information is tracked by UIC's transportation department and it is incorporated into our recycling rates. Cardboard is one of the most significant components of this waste streams. So if the material is not recycled at the front end, it is captured at the back end and diverted from the landfill.
4. Self-processing of materials: UIC does not process its own materials.
 5. Transportation of materials: As mentioned previously, UIC owns its own recycling truck for transporting recycled paper. It is a rear-loading packer with the capacity of 20,000 pounds and was purchased thanks in part to funding from our DCCA I-CAP grant. The truck fills up and carries the paper about a mile south of campus to Loop Paper Recycling (Loop). There the paper is sorted and baled. Allied also takes the material they collect to Loop. Recycling Services takes their materials to their own transfer station.
 6. Markets for materials: Included in the mix is white and colored paper, envelopes, newspaper, magazines, NCR, chipboard, books and OCC. It is sorted, processed, and baled for further shipment at Loop and RSI. sites. The paper is hauled by UIC, Premier Recycling Services and Allied. Neither our program nor Loop provides destruction services. However, the paper we pick up is kept secure in our packer truck until it reaches Loop, where it is processed immediately. That is sufficient security for most offices on campus. We are paid monthly for our paper, however the average revenue for FY09 was only \$9 per ton. The pricing is currently at \$5/ton based on the rate for mixed paper and allowing for sorting of paper types and the contaminants. Loop and the other paper haulers do not get involved with our program at the building level. We supply all our own collection bins. We deliver the paper loose or in clear plastic bags.
 7. Education and promotion:
 - a. Initial education: Education plays an important role in the implementation process of the UIC Recycling Program. With the addition of any new UIC building to the recycling program an assessment is made to determine how to properly educate the occupants of the building including foremen and housekeeping staff, departmental representatives, and building occupants. Whenever we install a building with the UIC recycling equipment we carry out the following education:

- i. Informing the building foremen and housekeeping staff is the most important element of implementing a new program. A recycling program will not function without the participation of the housekeeping staff. Meetings are held with the housekeeping staff most often during a period when all work shifts are present. The goal of the meeting is to educate the housekeeping staff on how the new program will function.
 - ii. Meetings are held with personnel representing every department of the building. This often ranges from one meeting to more than a dozen, beginning with the initial assessment of the buildings recycling needs to the education of individual staff members. It is at these meeting where we explain the responsibilities and expectations of building occupants to maintain the proper functioning of the recycling program. This is often combined with a mass email that is provided to the directors to forward to their respective departments.
 - iii. The third phase of our educational process occurs during the distribution of desk-sets and hallway totes in the form of an informational pamphlet. The informational pamphlets explain the recycling process and instructs personnel on what can be recycled and proper recycling procedures. Pamphlets are distributed to individuals providing an opportunity to field individualized questions and concerns.
 - iv. Posters accompany the hallway recycling and trash bins serving as a permanent educational resource informing personnel on what can and cannot be recycled. Placed above the respective bins, or in the form of a sticker applied directly to the bins, the posters itemize the recyclable materials accepted by the UIC Recycling program.
- b. Ongoing education: In April 2000, the UICycle (currently known as UIC Recycling) Program launched a website that included detailed program information including history, operations, recycling instructions, and Frequently Asked Questions. In January 2008, the Office of Sustainability (OS) was established and took over UICycle's promotion responsibilities, including operation and maintenance of the website. In early 2009, all information from the former UICycle site was transferred and updated on to the OS website (<http://sustainability.uic.edu/recycling>). To keep the information in the OS site's UIC Recycling Program section more dynamic, an RSS (Really Simple Syndication) feed from the OS Blog was inserted into the "Recent News" column; this automatically publishes recycling related blog entries to the recycling page, so when people visit the UIC Recycling Program's pages they will automatically see recent information, news and other updates that is technically hosted on the OS Blog. In addition, the university's mass emailing system is used to send out updates to the campus about the program. The OS has also established the EcoReps program, which consists of departmental/unit liaisons who are environmentally-conscious staff. The OS and the UIC Recycling Program communicates information on initiatives with the EcoReps, who in turn reach out by email, through departmental meetings, or in whatever way communication works best in their department to inform faculty, staff and students of any relevant sustainability initiatives, in particular those related to recycling.

In 2008, the UIC Recycling Program developed "recycling fact" posters to hang near recycling bins. The posters included pertinent recycling information (e.g. how many trees are saved by recycling one ton of paper). Campus newspapers run occasional articles describing recycling and other environmental initiatives taken by our program.

Six thousand bookmarks are produced annually and are distributed at the summer student orientation for incoming students. The bookmarks direct students to the OS website where they can access recycling tips and guidelines.

8. Results/evaluation of method: In 2000, the program recycled 1031 tons of paper and cardboard. The program's initial success was a setback after much of the program was reduced in scope in 2002. In 2004, 917 tons of paper and cardboard were collected. However, in recent years UIC has been able to again build the recycling program and raise the recycling totals. In FY2009, paper and cardboard recycling reached 1,549 tons from our collection program. If we include the materials recovered by RSI, an additional 770 tons were collected.
9. Future changes/enhancements: The primary challenge for us is to bring the central collection UIC Recycling Program to the remaining campus buildings. The West Campus in particular needs additional recycling. Thanks to a recent DCEO grant, we have begun to install several new buildings on campus. But with more and more buildings "on-line" to monitor and keep in shape, scheduling additional installations is difficult and demanding of limited staff time.

The other challenge is to keep publicity and education flowing to the campus. Ongoing outreach needs to occur with the building occupants (staff, faculty, students) and the building services/janitorial personnel. The building occupants need to have confidence in the recycling program and understand acceptable recyclable materials, and those collecting the recycling in the buildings need to be consistent in the collection and disposal of recyclables. We need to constantly repeat our message of waste reduction, conservation, and recycling.

Our south campus began a development process which included three residence halls, the Forum (a conference center), and mixed use office/commercial space in the early 2000s. Recycling programs were implemented in most of these areas as the construction was completed and the buildings were occupied. Presently, we are working to expand recycling for the businesses on South Campus. Currently, a large portion of the recyclable cardboard is being thrown away by these businesses that could otherwise be diverted to recycling. Although RSI is separating that material for recycling at their C&D processing facility, it would save the University money spent on tipping fees (and become a source of revenue from the rebates for recycling) if we could capture that material prior to it being placed in a waste dumpster. In addition, we are looking at how to maximize the revenue from our materials while making the collection process more efficient. Since there has been no full-time Recycling Coordinator for 2 years, no one has been able to closely monitor the revenue for the paper and why receipts are so low.

2.2.c Current Recycling Methods – Mixed Bottles and Cans

1. Material(s) in question: Mixed bottles and cans (glass, aluminum, steel, and plastic (numbers 1-5)).
2. Start date of method: In June of 1991, Physical Plant (now Facilities Management) started a small collection program for aluminum cans in 12 buildings on campus. Then in August of 1992, the Chicago Illini Union (now Student Center West) and one of the west-side residence halls began collecting both aluminum cans and glass bottles. In January of 1993, the program was expanded to Chicago Circle Center (now Student Center East) and about a month later to the east-side residence hall. When the UICycle Program (now UIC Recycling Program) started in November of 1994, one of its main features was to bring bottle-and-can recycling to each building that housed the program. Therefore, the collection of these materials is now available in all 65 UIC Recycling buildings as well as the original campus unions and residence halls.

3. Collection process: Mixed bottles and cans are collected in central recycling bins that are located throughout the UIC Recycling Program, student centers, and residence halls. These bins are mainly found in corridors, kitchen areas, and by vending machines. In the UIC Recycling buildings, the recycling bins are 23-gallon gray or blue plastic; in the student centers/residence halls, there are of several differing types. There are no separate small desk-side containers for individuals to collect and store their bottles and cans; rather every person is simply expected to take their empty beverage containers to the nearest central recycling bin. Just as with paper, building services workers empty the bins of their bottles and cans and store them in 90-gallon totes. (These totes are always blue or black, to distinguish them from the green paper-recycling totes.)
4. Self-processing of material: UIC does not process its own material.
5. Transportation of materials: For several years, UIC tried using its own trucks to handle the recycled mixed bottles and cans. However, this turned out to be both messy and expensive. The UIC truck wasn't designed with bins or compartments to efficiently collect these materials. Therefore, the bottles and cans were simply stored in the back of a regular straight-truck, which always had to be washed out before the truck could be used for other purposes.

Since 1996, the University has contracted with the non-profit Resource Center in Chicago to pick up and recycle our bottles and cans. The Resource Center has a schedule of all buildings that recycle, and picks up the materials twice a week from the appropriate buildings' docks and basements, or from large outdoor lockers that hold the 90-gallon totes.

6. Markets for materials: All materials collected (see question 1) are accepted by the Resource Center. The materials are sorted, processed, and baled for shipment by the contractor. The bottles and cans are picked up from each building that collects them. The bi-weekly pickups are scheduled by us; we provide the schedule to the Resource Center driver. We pay the Resource Center for the service; we are not paid for the materials. We currently pay \$6.08 per pick-up per tote. We do not ask the Resource Center for programmatic help. We provide all our own containers. Many of the totes are on docks, but some are in hallways of buildings; others are outside in locked cabinets. The recycled bottles and cans are co-mingled and kept in 23-gallon bags. These bags are put into the 90-gallon totes for storage, awaiting pickup.
7. Education/promotion: We use the same materials and activities to promote bottle-and-can recycling as we do for the recycling of mixed paper. See question 7 under 2.2.a.
8. Results/evaluation of method: In FY2009, we collected 31 tons of mixed bottles and cans. This number has nearly doubled since the lower collection rates of FY05-07 of 17 to 18 tons/year. This demonstrates that these methods have produced an increase in recycling.
9. Future changes/enhancements: As with paper recycling, we still have more buildings to install with the full UIC Recycling Program. This expansion of the program will, of course, increase the intake of bottles and cans. In addition, we will need to do more education around the recyclability of plastic.

2.2.d Current Recycling Methods -- Scrap Metal

1. Material(s) in question: Scrap metal is collected and sold by Facilities Management at UIC. Most of the metal consists of old metal chairs, desks, file cabinets, etc.

2. Start date for method: UIC began the separate hauling of scrap in July of 1990.
3. Collection process: When the Facilities Management Transportation Department gets a call from a department regarding discarding old furniture or equipment or a call from the Office of Property Accounting, or when they know of an imminent departmental move, they will spot an open-top container (OTC) outside of the appropriate building and haul metal items to the container. If the furniture or equipment is scrap the OTC is moved to the Transportation building parking lot as soon as possible to avoid any loss of metal. When the OTC is full, it is then taken to a scrap yard to be sold at the market value. If the furniture or equipment is still usable, they will take the item to the surplus area on campus (See Section 3) so it can be reused, rather than scrapping it. In addition, our waste is taken to a materials transfer station (RSI) where they recover as much material as possible from the waste for recycling as possible.
4. Self-processing of materials: UIC does not process its own material.
5. Transportation of materials: A Facilities Management driver hauls the open-top container off campus to sell the scrap.
6. Markets for materials: The scrap dealer, currently Cozzi Iron and Metal, sorts and processes the materials for further sale. We have no contract with Cozzi; payment is made at the time of delivery. We generally receive about \$110/ton for our mixed scrap. If the price is tied to a price listing, we don't know what it is. We do not ask for programmatic assistance. We provide all our own containers. We deliver the scrap loose in the open-top container.
7. Education/promotion: There are no promotional materials for collecting scrap. However, the Office of Property Accounting is happy to explain the equipment disposal forms and procedures to university offices.
8. Results/evaluation of method: The on-campus collection of scrap increased significantly in FY2009 to 74 tons a year up from a low of 15 tons in 2005 and the 29 tons in 2008. This is due to the program that involves storing the scrap in a secure central area (see 3). In addition, we are capturing a lot more metal by taking our waste to RSI where those materials are pulled out of the waste stream. This program began in February 2009 and through July 2009 167 tons of metal was recovered from the waste stream.
9. Future changes/enhancements: We need to educate facilities/building managers that there is only one outlet for scrap metal.

2.2.e Current Recycling Methods - Covered Electronic Devices:

All electronic equipment such as computers, printers, monitors, and televisions are considered state property and managed under the University's Property Accounting program. Since 2008, the University has disposed of electronic devices through an electronics recycler. Any equipment that is no longer needed is reported on a special form to the Office of Business and Financial Services, University Property Accounting and Reporting. Once they have processed the form, units must be removed intact to the surplus warehouse. This material is then managed through the University of Illinois central administration in compliance with all state mandated requirements for disposal of electronics.

The University of Illinois complies with state law, which requires elimination of electronic data from scrapped items and environmentally sound disposition practices. As such, the University disposes of electronic scrap equipment through State of Illinois contracted service providers to ensure recycling of usable items and environmentally responsible disposition of unusable items.

2.3 Current Composting Methods

1. Material(s) in question: The materials consist of branches, twigs, leaves, and grass clippings.
2. Start date of method: Composting began at UIC July 1990, when the state law went into effect that no landscape waste could be placed in landfills. Over the years, the location of the composting area for branches and leaves changed several times, but was always on the southern edge of the campus. Grass clippings, of course, were (and are) left on the grass after cutting.

With the rapid development of the real estate south of Roosevelt Road, on-campus chipping and composting has ceased. Since 2008, yard waste is hauled to the RSI transfer station. Leaves and plant waste are hauled off of campus by the contractors that do landscaping work at UIC.

3. Markets for finished composts: RSI processes and sells our wood waste as mulch chips or animal bedding. The leaves and other landscaping waste is taken to a composting site or used for land abatement (tilled into the soil, typically on farms).
4. Results/evaluation of method: About 70 tons of yard waste was composted in FY09. This number is lower than FY04 (180 tons) but we do not know how much material was hauled off by outside contractors. With budget cuts over these years, much less landscaping is being done in house and a very limited amount is outsourced.
5. Changes/enhancements: The OS applied twice for composting grants in the past year to pilot an on-site, in-vessel food-waste composting program. However, they were not funded. With the new composting law, we will continue to explore our options for both on and off-site composting and funding mechanisms.

SECTION 3 — SOURCE REDUCTION ACTIVITIES

The most plentiful recyclable commodity at most universities is paper, and UIC is no exception. However, we have not targeted it or any other specific material for a centralized plan or program of source reduction. Rather, there are several initiatives that address and promote the general concept of material conservation here at UIC.

3.1 Source Reduction

1. Source reduction activities:
 - a. Central collection recycling program: The central collection of UIC Recycling Program in the 45 campus buildings using it affects not only recycling, but source reduction, too. Central collection is based on a system of personal responsibility, requiring participants not only to separate their waste but also to carry and dispose of *both their recyclables and their refuse* themselves. At all desks and workstations, we provide personal desk-sets for paper recycling and refuse collection. In central areas are larger containers into which the desk-set must be emptied by the individual. Custodians service the larger bins, but do not empty or re-line each desk-set. Central collection encourages source reduction by helping participants to become more conscious of the waste they create and to find ways to reduce as well as recycle the materials used. As we like to say when introducing the program to a new building or department, "The less you make, the less you take!"
 - b. Electronic communication: Since the creation of the Office of Sustainability at UIC, capacity for electronic communications regarding source reductions have greatly increased. This includes the publication of recycling procedures and policies on the UIC website, a subscription based e-mail newsletter, and the existing university-wide mass-communication system - Massmail, which reaches all university faculty, staff, and students. In addition, the OS operates listserves, electronic mailing groups typically set up for a specific topic or group of people, which facilitate announcements and discussions between our campus EcoReps. This allows quick, easy communication for any number of people for purposes of discussion, planning, and/or information exchange, and presumably reduces the amount of paper and other resources that would otherwise be needed for those activities. UIC also has a web-based announcement/calendar system (<http://events.uic.edu/>) which allows information to be posted on a variety of campus-related topics, including seminars, conferences, meetings, education/training opportunities, sports events, news alerts, scholarship and grant opportunities, available positions, arts and entertainment events, ozone alerts, buy/sell/rent/want, surplus have/want notices, and a general informational category. Daily e-mail alerts are sent to all faculty and staff with summarized information from the "announce board."

In general, these formats greatly decrease the need for mass printings of memos, event announcements, newsletters, booklets, etc. and we have seen a reduction in the amount of printed material that goes out about campus events. In addition, there are many other web-based applications being developed and used at the university. Course catalogues and registration are now all on-line. There is an electronic phone book and many units are developing electronic processes. Both Undergraduate and Graduate Admissions Offices have increased their use of online applications, while Graduate Admissions has completely phased out printing of their applications; 90% of graduate applications are submitted online, so the office provides a printable PDF file for the remaining 10% who choose to submit paper applications.

- c. Surplus furniture & equipment: UIC has a surplus furniture and equipment system through which departments get rid of or claim such items which are still useable. Surplus items are stored in a warehouse on campus which is accessible for any university-affiliated person who would like to search for a needed desk, chair, table, file cabinet, etc. for use on campus. Sometimes the storage area is bypassed when a department instead advertises through e-mail that they need or have a particular item available. In either case, the appropriate property accounting forms must be filled out to either add or remove items from the surplus area or to exchange items between departments. Through this system, waste is reduced when useable or repairable items are kept and utilized instead of being discarded.
- d. Hazardous Waste: UIC's Environmental Health and Safety Office (EHSO) operates a web-based chemical redistribution program (<http://www.uic.edu/depts/envh/>) through which UIC faculty and staff may donate or obtain free chemicals for research use. Participants avoid purchase costs, reduce disposal costs, and minimize waste generation. Distribution is on a first-come, first-served basis. A signed requisition form is required and available on-line as well. EHSO has brought recycling of xylene to the hospital pathology lab and is recycling methanol within its own operations. They are also sharing the technology with other universities.
- e. Other: There are many source reduction activities that are carried out either campus-wide or in various departments, often due to the initiative of individuals. Examples are:
 - Campus Dining Services uses reusable plates, cups, and silverware in its "All you care to eat" cafeterias. They have also reduced food waste by going "trayless" which limits the amount of food diners end up throwing away.
 - The campus bookstores and concessions offer a reusable mug that can be used to purchase a large drink for the price of a small drink to encourage reuse instead of disposal.
 - Departments are encouraged to use two-sided printing.
 - At UIC's Computer Center, the printer default is set on double-sided printing.
 - All intercampus mail is sent in reusable envelopes of various sizes, which are, used a minimum of 6-20 times before they are recycled.
 - UIC's Children's Center, which provides daycare for children of UIC employees, is known for reusing many kinds of items in creative ways. For instance, envelopes are reused for the children to send letters to each other, donated newspapers are used for paper mache, donated magazines are used for art projects.
 - In buildings throughout campus, as departments move or do some "spring cleaning," many initiate "stuff exchanges," in which unneeded office supplies are made available to neighboring departments and individuals. In this way, they end up discarding less as new uses are found for many items. This practice was the inspiration for a recent campus-wide exchange (described in full below).

2. Education related to source reduction:

- a. Electronic education: Our most important means of education is our OS website that promotes resource conservation. The website has a blog which allows for frequent, up-to-date posting and discussion of topics such as, "Is plastic or paper better for bags?" We also send out periodic email updates through Massmail, listservs and the EcoReps-specific lists on ways people can reduce their use of materials. The website features an entire section with suggestions and ideas on reducing waste, both on-campus and off-campus opportunities for reuse, and links to sites with even more details and specifics on these topics.

- b. Educational presentations: The OS has made presentations to classes, seminars, employee committee-organized events, the Student Centers Board, departmental retreats, Ecoreps, and during Earth Month (April) and Sustainability Week (September) about how people can reduce their consumption of paper, bottles and cans and energy. We usually cater the presentation to the needs of the venue. However, the theme of reduce, reuse, recycle is always predominant.
 - c. Educational publications: Through various publications, we attempt to educate the campus on source reduction and reuse concepts. Examples of the following are included in the samples packet provided with this report: new student bookmarks, the UIC Recycling Brochure, and the “facts” posters.
 - d. Yearly campus-wide events: For the past two years, the OS has organized Sustainability Week in September, each day is themed on a different area of sustainability. One day is devoted to recycling and another may be devoted to waste reduction. This fall we sponsored an electronics recycling event on campus for individuals from the campus and surrounding communities to recycle their personal electronics and over 10,000 lbs of material was collected. During January to March we participate in the national recycling competition among colleges and universities, Recyclemania. Each year, in celebration of Earth Month in April, the OS (in collaboration with student groups) holds an event to highlight recycling and waste reduction at the university. We also participate in student-led “fun fairs” that are held at the beginning of each semester to introduce students to student groups and activities, as well as a Wellness Jam that is held in April.
 - e. Great Stuff Exchange: In April, 2009, the OS held a large-scale “swap” in which individuals and departments could donate unneeded or unwanted office supply items that others could then take away for free. The event was held all day for the Student Center West, a high traffic area. By the end of the day nearly all the donated items had been claimed for reuse!
3. Results/evaluation of program: In most cases, we have no quantitative evaluation of the impacts of the various source reduction strategies happening on UIC’s campus. What follows is mainly a qualitative assessment.
- a. Central collection recycling program: The UIC Recycling Program is very successful in terms of recycling (typically, the recycling rate increases 2- or 3-fold when a building receives the program), but more work is needed to measure its impact on source reduction. Although the recycling truck has a scale on it we have found that it typically underweighs by about 20-40% so it is hard to make accurate comparisons.
 - b. Electronic communication: Concerning the various electronic communication formats described above in “Source Reduction Activities” (Massmail, listservs, events calendar/announcements, website), much more can still be done to enhance the use, availability, and campus awareness of these services. Massmail casts a wide net, and has been shown to increase spikes in website traffic for the OS, but the format of Massmails is not as dynamic as more modern e-mail communications. For instance, previously Massmail could be tailored to target specific groups of people by departments, by building, by last name, etc., but it has now become more limited, with general distribution to three categories: faculty and staff; students; deans, directors and department heads.
 - c. Surplus furniture & equipment: The surplus program at UIC is relatively successful, but improvements could be made. Not everyone knows about it or how to use it. Procedurally, the costs associated with moving furniture items (UIC union employees must be used, including transportation costs with potential for overtime charges) can be a deterrent to departments who may otherwise utilize the service more frequently.

Finally, some of the items that end up in surplus are damaged or outdated to the point of being unusable, and currently there is no mechanism for repair or refurbishment.

- d. Trayless dining: This is one area in which we do have some numbers to share. During the week of November 17-21, three dining halls on campus went trayless. The purpose was to measure how much waste could be avoided by not offering trays for its customers, and to evaluate the response among students and staff. The event turned out to be a great success, waste was reduced by 3,120 lbs for the week collectively. This is equivalent to 46.8 tons of waste a year. It was decided to go "tray by request" from now on, and students seemed to be on board with the concept.
- e. Recyclemania: We participated in the benchmark category for the first time in 2009. We added temporary bottle and can recycling in 4 buildings and the participation was overwhelming. These buildings have now been fully furnished with recycling bins thanks to a DCEO grant. Our recycling rates were comparable to other research universities with hospitals. We feel that it attests to the success of the program and plan to continue to participate.
- f. Other: Most of the small-scale source reduction activities carried out by individuals and departments on campus cannot be quantitatively measured and may actually have very little impact in that way. Mostly, they serve to instill or deepen a reduction and reuse ethic in both those who exercise these strategies and those who observe or are impacted by them.

4. Changes/enhancement of program:

- a. Central collection recycling program: We are continually expanding the program into new buildings on campus, educating as we go. With the inception of our new green office presentation, we now have the materials and format to put more emphasis on source reduction during program presentations to newly installed departments and plan to do so.
- b. Electronic communication: Since the OS has begun using a personalized e-mail tool called MailChimp – subsequent Massmails that were sent out included a link to subscribe to the MailChimp mailing list. The MailChimp signup form is also available on the OS website. As this process continues, we expect the MailChimp list to become populated with campus allies who will continue to advocate on the behalf of the UIC Recycling Program.
- c. Surplus furniture & equipment: The Office of Business and Finance Property Control group has been tasked with developing an on-line system that would make the inventory available on a website so people would not have to go out to the warehouse to see what is there. It would also facilitate transfer of materials directly from department to department without need to transport to the warehouse.
- d. Hazardous waste: EHSO plans to continue to evaluate waste streams for solvent recycling, particularly acetone. Also, they will be acquiring a chemical inventory database system that will help researchers better manage their chemical inventory and prevent them from purchasing unneeded supplies.
- e. Vegetable oil to biodiesel program: During the summer of 2009, thanks to an Illinois EPA P-2 intern grant, the OS hired an intern to explore the feasibility of producing biodiesel from waste vegetable oil generated by food service on campus. The intern studied the systems other campuses have and developed a business plan. Through collaboration with the Environmental Health and Safety Office (EHSO), the intern was actually able to purchase and build the biodiesel system which is housed in the Environmental Safety Facility where adequate safety controls are available. The system will process approximately 90 gallons a week of vegetable oil, mostly from the hospital kitchen, into biodiesel. This will then be transported to the

Transportation Facility where it will be mixed into the 10% biodiesel they use to fuel their trucks and make 20-25% biodiesel. The waste methanol from the process will be recycled on-site and used again in the process. The glycerin by-product will be donated to a woman's shelter that makes soap products for sale. Soap produced from UIC's glycerin will be sold in the campus bookstores. The program will be funded from the internal "sale" of biodiesel to the transportation department (at a discount of 10 cents/gallon). Student help will be used to run the process. The hospital is very excited to no longer have to pay to dispose of its oil.

SECTION 4 — PROCUREMENT

4.1 Current Procurement Activity

1. Procurement survey: At UIC, there is no centralized purchasing system or database. Instead, P-cards (credit cards) are used for most orders under \$5,000, and the data related to these transactions resides with the individual departments, not with the university's Purchasing Office. However, there are several departments that purchase items in large quantities, often to supply the university on a campus-wide basis. For example, Publications Services buys paper stock to create printed jobs for hundreds of departments and Facilities Management purchases paper towels that are placed in washrooms in dozens of buildings. Therefore, we went to several of these key departments to request purchasing data, including the recycled content (if any) of what they buy. In addition, we contacted the largest vendor that services UIC and requested they provide us with purchasing information relevant to the Procurement Survey in Appendix IV.

The departments surveyed:

- Athletics
- Computer Center
- Facilities Management [Physical Plant Material Distribution]
- Office for the Vice Chancellor of Research
- Publications Services
- Purchasing, Office of Business Affairs [contacted vendor]
- Student Housing

The results of our surveys can be found in the table in Appendix IV.

2. Procurement constraints: The major procurement constraints are lack of a green or sustainable procurement policy and data management. Currently the University of Illinois does not have a green or sustainable purchasing policy. A green or sustainable procurement policy would provide direction and incentives for departments to buy products with recycled content and that are environmentally preferable. Top down leadership is needed to affect the kind of large-scale behavior change that is necessary. People and their departments purchase items out of habit, habits which are hard to change. A green or sustainable purchasing policy, adopted by the University of Illinois, would illustrate to the different departments and units the university's commitment and would inspire change. In addition, data management, which includes reporting and tracking, is severely limited due to the lack of a centralized reporting system. Since there is no way to track or report on campus wide purchasing our office had to request information from different departments and vendors. This process is subject to double counting, under reporting and other significant errors. A green or sustainable procurement policy that included the recommendations below would greatly aid data management.

4.2 Procurement Goals

The Chancellor's Committee on Sustainability (CCSE), Purchasing and Services (P&S) subcommittee met during 2008-2009 to assess and discuss the current purchasing practices and contractual services at UIC with the purpose of making recommendations to the Chancellor and the Executive Assistant Vice President for Business and Finance, Office of Business and Financial Services about sustainability purchasing on campus.

The CCSE P&S subcommittee made the following recommendations:

- The main recommendation of the CCSE P&S subcommittee is for the Executive Assistant Vice President for Business and Finance to establish a Green Procurement Committee to develop and recommend a green purchasing policy for UIC. This should be a comprehensive committee, which includes representatives from University Administration, UIC and the Office of Sustainability, including representatives from purchasing, strategic procurement, academic fiscal officers, business managers, facilities, the medical center, research operations, laboratories, computing center, environmental health and safety, student auxiliaries and other relevant stakeholders.
- The Green Procurement Committee should define green/sustainable purchasing, environmentally preferred products, and possible areas of procurement (e.g., energy-efficient equipment, recycled content materials, etc.) to help develop and group guidelines and recommendations using the available federal and state resources.
- After a green purchasing policy has been developed by the committee, the policy should be adopted and promoted throughout the campus.
- Language should be incorporated in bids and request for proposals (RFPs) to require the submission of a contractor or supplier's green policies and procedures, determine its ability to track green purchases and require the submission of reports.
- In order to assist with data tracking, the Office of Business and Financial Services (OBFS) should develop an account code for green office supplies, items, and services for tracking purposes.
- Deans, department heads and directors in colleges and departments should require and promote the use of green codes.
- OBFS should encourage the use of detailed account coding specifically for air, rail, and automobile travel for tracking purposes.
- Departments should utilize proper account coding for green purchase and transportation travel (and for all other purchases as well).
- OBFS should establish a green procurement Wiki. This Wiki would be used as a tool to determine high demand products. This information will be beneficial when establishing a strategic purchasing schedule and repository of green contracts and suppliers.
- A strategic purchasing schedule should prioritize green products and services. UIC and OBFS should promote this purchasing schedule to departments.
- OBFS should create a portal within iBuy that lists the green services and products and cross references them with Minority and Female Business Enterprise (MAFBE) vendors and other local vendors.
- UIC is in the process of joining the Great Lakes Green Purchasing Consortium (Chicago Sustainable Purchasing Consortium) established by the Delta Institute. The goal of the consortium to harness the large scale buying power of public and private organizations throughout the Great Lakes region. This program and its benefits should be publicized to departments. In conjunction with this marketing campaign, a centralized purchasing schedule should be available to Departments through iBuy. As UIC's membership in the Great Lakes Green Purchasing Consortium matures, less sustainable products should be replaced with green products and services in the centralized purchasing schedule available to Departments through iBuy.

4.3 Procurement Policy

UIC follows the statutes for procurement of recycled materials under the Illinois Procurement Code as follows:

- a. Recycled Materials (30 ILCS 500/45-20)
When a public contract is to be awarded to the lowest responsible bidder, an otherwise qualified bidder who will fulfill the contract through the use of products made of recycled materials may, on a pilot basis or in accordance with a pilot study, be given preference over other bidders unable to do so, provided that the cost included in the bid of the products made of recycled materials is not more than 10% greater than the cost of products not made of recycled materials (Source: P.A. 90-572, eff. date See Sec 99-5.)

- b. Recyclable paper (30 ILCS 500/45-25)
All paper purchased for use by State agencies must be recyclable paper unless recyclable paper cannot be used to meet the requirements of the State agencies. State agencies shall determine their paper requirements to allow the use of recyclable paper whenever possible, including without limitation using plain paper rather than colored paper that is not recyclable. (Source: P.A. 90-572, eff. date – See Sec. 99-5)

SECTION 5 — WASTE GENERATION & WASTE COMPOSITION

5.1 Waste Generation Study

1. Total municipal solid waste generated in tons per year: The total of municipal solid waste generated by UIC buildings and grounds during the fiscal year 2009 was 8427 tons.

<u>FY2009 UIC Waste Generation</u>	<u>Tonnage</u>
Total Municipal Solid Waste	8427
Total Municipal Solid Waste Landfilled	5702
Total Recycled/Composted	2724
Percent of Recycled/Composted	32.2%.

2. Initial measurement - volume or tons: Tonnage is the measure for UIC's waste generation study.
3. Waste generation study methodology: The quantity of waste generated at UIC is tracked on a monthly basis using tonnage records from the transfer station, recycling vendors, and independent reporting by some university units. UIC trucks haul refuse from the campus, excluding the hospital, to Recycling System Inc.'s Construction and Demolition Material Recovery Facility (RSI's C&D). At the site, this material is sorted for recycling to the extent possible and a report is generated at the time of dumping. That information is tracked by UIC's transportation department and it is incorporated into our recycling rates. The waste is sorted into concrete, inert, wood, metal, brick, miscellaneous recyclables (primarily glass and aluminum), cardboard and drywall. The most significant components of those waste streams are metal and cardboard.

Refuse from the hospital is picked up by Premier Waste. Recyclable paper is hauled by UIC, Recycling Services, and Allied Waste. Paper for confidential disposal is collected by Citadel and they recycle it and report the tonnage. The Resource Center collects bottles and cans. Miscellaneous recycling items are handled and reported by the campus units independently recycling the various items. Landscape waste is collected and hauled to RSI's C&D station, where it is separated and sent off-site for mulching. Scrap metal is collected from campus by UIC on an as-needed basis and periodically hauled and sold to Cozzi Iron & Metal, Inc. UIC's waste generation figures for 2005 – 2009 fiscal years are located in Appendix I.

5.2 Waste Composition Study

1. Results of waste composition study: See standardized form at the end of this section. Footnotes are as follows:

“Computer paper” does not constitute a significant proportion of the wastestream and is included in “white office paper.”

“LDPE (#4)” plastic does not constitute a significant proportion of the wastestream.

Glass samples were 99% clear glass and were not broken into separate categories.

2. Waste composition study methodology: The 2009 waste composition study was conducted at the Central Management Services building by the Associate



12/02/09 [Gary Wisby](#) - Lisa Sanzenbacher and Dan Stefiuk (front) sort through Monday's trash from the College of Pharmacy and University Hall with Josh Dansdill, Andy Waggoner and Angela Larsen for a campus waste audit. [Photo: Kathryn Marchetti](#)

Chancellor for Sustainability, Graduate Assistants, recycling assistants, a trainee, and volunteers. Two samples were collected, sorted, and weighed on November 30, 2009. Each sample represented approximately one day's material put in recycling and refuse bins by occupants of two campus buildings, University Hall (UH) and the College of Pharmacy (Pharmacy). A reprinted photo and caption about the waste audit from *UICNews*, the campus's faculty/staff paper. The full article can be found at <http://www.uic.edu/htbin/cgiwrap/bin/uicnews/articledetail.cgi?id=13747> and in Appendix II.

For the audit, bags, rakes, and brooms were provided by Physical Plant, safety clothing was provided by the Environmental Health and Safety Office, and collection bins were provided by UIC Recycling. The help of recycling and garbage collection crews were employed to transfer the waste to the site.

For each building, two 90-gallon totes of recyclable paper were sorted and weighed. Approximately 80% of the refuse was then sorted into various subcategories, weighed and recorded. This provided an insight into the composition of the refuse and of the different categories of recyclable material. Data was then used to extrapolate to the scale of the entire university. Results and calculations for both audits are reprinted at the end of this section.

UH and Pharmacy were chosen for two main reasons: they were the buildings audited five and ten years ago for the previous waste reduction plans, and they give a good representative sample of total university discards. UH is the largest administrative building on campus and has offices and classrooms; Pharmacy consists of laboratories, classrooms, and some administrative offices. The material percentages from each waste audit were averaged together, and then extrapolated to represent the amount generated by the entire campus for the period of one year. Two types of materials – landscape waste and scrap metal -- were not represented in the waste audit of the two buildings, and yearly weights for these were taken directly from the waste generation figures.

Waste Audit for College of Pharmacy

Monday, November 30, 2009 (Auditing the Waste of Wednesday, November 25)

Material	Audit Recycled		Actual Not Recycled Lbs.	Mat'l % of Total Waste
	Wt. in Lbs.	Mat'l % in recycling		
White Paper	70	39.33%	101	18.91%
Shredded Paper	30	16.85%	10	1.87%
Mixed Paper	9	5.06%	45	8.43%
Newspaper	33	18.54%	9	1.69%
Magazines	19	10.67%	8	1.50%
Books/Journals	0	0.00%	0	0.00%
Corrugated cardboard	15	8.43%	13	2.43%
Chipboard	2	1.12%	10	1.87%
Plastic/food			na	
PAPER TOTALS	178	100.00%	196	36.70%
PET plastic bottles (#1)			17	3.18%
HDPE plastic bottles (#2)			3	0.56%
Aluminum cans			6	1.12%
Steel cans			3	0.56%
Glass (99% clear)			15	2.81%
Bottle lids, food, etc.			na	
B&C TOTALS			44	8.24%
Food waste			72	13.48%
Non-recyclable paper			140	26.22%
Non-recyclable plastic			73	13.67%
Broken equipment			3	0.56%
Polystyrene			6	1.12%
Total Refuse			294	55.06%
Total Recyclables			240	44.94%
Total Waste			534	

Waste Audit for University Hall

Monday, November 30, 2009 (Auditing the Waste of Wednesday, November 25)

Material	Audit Recycled Wt. in Lbs.	Mat'l % in recycling	Waste Not Recycled Wt. in Lbs.	UH % of Total Waste
White Paper	14	12.28%	36	9.07%
Shredded Paper	60	52.63%	37	9.32%
Mixed Paper	13	11.40%	32	8.06%
Newspaper	2	1.75%	10	2.52%
Magazines	5	4.39%	0	0.00%
Books/Journals	0	0.00%	25	6.30%
Corrugated cardboard	16	14.04%	20	5.04%
Chipboard	4	3.51%	5	1.26%
Plastic/food			na	
PAPER TOTALS	114	100.00%	165	41.56%
PET plastic bottles (#1)			6	1.51%
HDPE plastic bottles (#2)			1	0.25%
Aluminum cans			3	0.76%
Steel cans			0	0.00%
Glass (99% clear)			6	1.51%
Bottle lids, food, etc.				
B&C TOTALS			16	4.03%
Food waste			84	21.16%
Non-recyclable paper			74	18.64%
Non-recyclable plastic			33	8.31%
Broken equipment			23	5.79%
Polystyrene			2	0.50%
Total Refuse			216	54.41%
Total Recyclables	114		181	45.59%
Total Waste			397	

SECTION 6 — INVESTIGATION OF MATERIALS NOT RECYCLED/COMPOSTED

1. Material: Food waste is the main material not currently recycled or composted at UIC.
2. Material's percentage of waste stream: According to the waste composition study, food waste comprises 17% of UIC's wastestream, although a portion of this may be contaminated food containers.
3. Investigation process: In a study on food prep waste, conducted 2009, three campus food service areas were found to generate about 12 tons of waste per year; these were Stukel Towers, Student Center East and the Student Center West. Data gathered on food supplies procured by Campus Dining Services (serving the student centers), Subway, and the UIC Hospital food service indicates that Campus Dining comprise about 60% of the total food by weight that is procured for the campus. This could be extrapolated to meaning that about 30 tons of food prep waste would be generated on campus per year. This is a small number compared to the total amount (1447 tons) of food waste generated per year. So the remainder would be post-consumer waste.
4. Results: The OS has developed a proposal to pilot in-vessel pre-consumer food-composting on campus to evaluate the feasibility of composting on site and using the compost for landscaping purposes. Funding would need to be obtained.

With the passage of SB99 that allows food waste to be composted in Illinois, there are several companies that have received Chicago Department of Environment grants to start up large scale food scrap recycling facilities. There may be an opportunity for UIC to provide food scraps to them for composting. The OS will continue to examine the feasibility of both types of programs.

SECTION 7 — FUTURE ACTIVITIES

The UIC campus is more like a mid-sized town than an institution with a wide range of waste sources. Therefore, waste reduction must be addressed with multiple solutions. The most important of them are listed below:

1. Recycling activities:
 - a. Recycling coordinator. Since the OS has taken over the outreach and monitoring of the recycling program there has been no dedicated full time recycling coordinator. We currently have 0.5 FTE graduate assistants and two undergraduate students staffing the program and they are primarily dedicated to working on the new buildings under the grants we received. We plan to hire a full-time coordinator in the first half of 2010.
 - b. Install additional campus buildings with the comprehensive UIC Recycle Program. To date, there are 65 campus buildings fully installed with the central and deskside bins of the UIC Recycle Program. Whenever a building is installed, and the staff in the building educated regarding recycling, we find that the recycling rate of the building jumps 20-50 percent. There are about 20 buildings left on campus that need installation. Working at a rate of about one building a month (with shorter time for small buildings, longer for the largest), we would complete the installations during the years 2010-2012.
 - c. Expanding plastics collected. Currently we only collect bottle-shaped plastics. We would like to get some cost analysis on expanding the collection to other shaped plastics. It may even be worthwhile to use commingled recycling in certain areas. We intend to examine that market further in 2010.
 - d. Improve recycling in Campus Housing. Only about 15 percent of the student body lives on campus in student housing. Some recycling does currently occur in the housing units, including cardboard collection at the docks, bottle and can collection, and a little paper collection. However, the students' rooms are not equipped with recycling bins and the central collection containers in hallways are few and far between. Several residence halls have green student committees that are working to improve recycling in their areas.
 - e. South Campus Recycling: Students and Campus Auxiliary services are examining ways to bring recycling to the businesses on the South Campus. The students will assist in the outreach to the business to evaluate their interest and needs. We are already increasing the ability to capture the cardboard before it goes into the waste stream. They are also looking into setting up outdoor collection.
 - f. Scrap metal collection: We will continue to work with facility managers to capture the scrap metal. The Campus Police also will approach scrap dealers who go directly into our dumpsters to recover material. While that material does get sold by these dealers for scrap and is, therefore, not landfilled, we cannot track the quantity nor obtain that revenue that is used to support the recycling program.
 - g. Recycling of additional materials: Besides the core recyclables of paper, cardboard, and beverage containers, the University currently recycles fluorescent light bulbs, kitchen grease, gasoline, oil, tires, alkaline and rechargeable batteries, and cell phones. We still need to address food waste (as discussed in detail in Section 6). In addition, although some departments recycle toner and ink jet cartridges, there is not a campus-wide education program to ensure that the majority of them get recycled or remanufactured products.
2. Composting: The Office of Sustainability will continue to examine the feasibility of both types of programs and to seek funding for these programs through grants and development funds.

3. Source reduction: As described in greater detail in Section 3, we plan to develop the following programs to reduce waste at its source at UIC:
- a. Central collection program: As the UIC Recycle Program requires that each person dispose of his or her own recyclables and refuse, it automatically encourages the reduction of waste at its source. The less waste a person generates, the less he/she needs to carry. As the program is installed in more buildings on campus, not only recycling will increase but also the source reduction of waste will become more widely practiced. We project that the entire campus will be installed with the UIC Recycling Program by the end of 2012.
 - b. Electronic communication: We will continue to support and advocate the use of electronic media (Massmail, listservs, websites, electronic newsletters) as source reduction tools.
 - c. Surplus furniture & equipment: The most important improvement in the area of reusing surplus furniture would be the development of a “virtual warehouse,” a website that would facilitate direct exchange of equipment between departments. This “warehouse” would be housed on the website of the Office of Business Affairs and is close to implementing this, according to the University’s Property Accounting office.
 - d. Chemical redistribution: The Environmental Health and Safety Office plans to continue to use its website for the redistribution of surplus chemicals between laboratories.
 - e. Other: Education is the key to source reduction. We are working to leverage the energy of students and student groups such as the Green Youth Movement, Student Centers Board and Ecocampus to promote recycling and waste reduction.

SECTION 8 — TARGET REDUCTION

8.1 Base Year

Questions 1-4: See Appendix VI.

1. Methodology employed for 1987 figures: Unlike many institutions, UIC owns its own refuse trucks, hauls its own non-recyclable municipal waste, and keeps track of its own refuse figures. This was the case in 1987 as it is now. Our base figures were provided by our Facilities Management Transportation Department and were originally computed in square yards, which were converted to tons. In 1991, UIC's waste began to be directly measured and charged by weight. Checking the figures before and after this changeover, the earlier figures look reasonable and we believe them to be accurate.

8.2 Forecast (2010-2014)

Questions 1-7: See Appendix VI. Note that the figures for the year 1999 are *actual* and not estimated.

From 1987 to 1999, UIC achieved a 30 percent reduction in landfilled waste per FTE student. From 2009 to 2014, our plan assumes the following:

- a. The size of the student body will grow by about 227 students/year according to projections from UIC's planning offices.
- b. We are optimistically projecting no increase in municipal waste through 2014. This will be particularly difficult to achieve as we are very much a throw-away society. New source reduction programs will need to be implemented campus-wide just to keep UIC's waste steady.
- c. We project an annual recycling rate of about 38% in 2010, as we experience a full year of the impact of taking our waste to a C&D site where materials recovery occurs. A subsequent increase of about 200 tons in recycling in 2011 will mean we have reached the 40 percent reduction of UIC's landfilled waste, based on 1987 generation rates and allowing for student growth. From 2011 and on, we assume similar amounts of waste and recycling. However, the amount of waste landfilled could further decrease if we implement composting programs.

APPENDIX I Waste Generation Reports FY2004-2009

FY05	ROLLOFF OTC	949 NF WASTI	949 DOCK	MED SHRED	EAREN PACKEF	ROLL-OFF IC	RS	NATL	UIC PAPER	UIC OCC	B&C	SCRAP	COMPOST	MISC. RECYCLE	TOTAL TONS	MSW TONS	TOTAL LAND- FILLED	TOTAL RECYCLED/ COMPOSTED	PCT(%) RECYCLED/ COMPOSTED
JUL	73.0	28.1	208.0	47.7	139.1	164.7	23.5	11.4	48.8	3.5	1.5	0.0	16.5	0.0	765.9	664.8	511.8	153.0	23.01%
AUG	90.4	30.8	198.0	47.7	154.3	105.0	23.9	6.4	41.2	3.4	1.4	5.7	14.3	0.0	722.4	601.2	457.2	143.9	23.94%
SEPT	66.7	23.3	206.0	47.7	171.5	158.5	19.1	8.0	40.9	0.0	1.3	2.2	14.3	0.0	759.4	669.5	536.0	133.5	19.94%
OCT	54.0	24.5	197.0	47.7	167.4	173.9	14.8	1.1	47.4	3.5	1.0	0.0	25.3	0.0	757.6	679.1	538.3	140.8	20.74%
NOV	61.2	22.7	202.0	47.7	164.5	172.9	16.5	9.2	34.2	3.0	1.4	2.9	25.3	0.0	763.5	679.5	539.4	140.2	20.63%
DEC	97.0	31.6	229.0	47.7	141.3	148.3	17.8	13.1	38.9	2.6	0.9	1.6	15.4	2.3	787.4	658.8	518.6	140.2	21.29%
JAN	60.6	27.6	204.4	69.0	152.1	138.8	15.6	15.6	31.2	0.0	1.1	0.0	5.5	0.0	721.4	633.2	495.3	137.9	21.78%
FEB	33.8	29.4	200.1	69.0	144.4	170.5	21.9	15.1	32.0	0.0	1.7	0.0	5.5	0.0	723.3	660.1	514.9	145.2	21.99%
MAR	64.3	26.7	216.1	69.0	153.2	164.9	24.8	19.6	42.6	0.0	2.1	1.6	11.0	0.0	795.8	704.9	534.2	170.7	24.21%
APR	41.0	29.8	204.2	67.6	149.0	182.0	20.2	14.2	35.7	0.0	1.9	0.0	18.7	55.0	819.2	748.5	535.2	213.3	28.49%
MAY	67.2	26.9	200.0	67.6	164.6	133.7	18.8	13.8	44.8	0.0	1.5	1.2	12.1	1.4	753.7	659.5	498.3	161.2	24.44%
JUN	77.3	27.6	196.3	67.6	108.9	124.2	21.8	14.2	41.7	0.0	2.2	0.0	16.5	0.0	698.2	593.3	429.3	164.0	27.64%
TOTALS	786.5	328.9	2461.1	696.0	1810.2	1837.3	238.6	141.7	479.3	16.1	18.0	15.2	180.4	58.7	9067.6	7952.3	6108.5	1843.8	
AVERAGES	65.5	27.4	205.1	58.0	150.8	153.1	19.9	11.6	39.9	1.3	1.5	1.3	15.0	4.9	753.7	658.8	516.5	142.3	23.18%

FY06	ROLLOFF OTC	949 NF WASTI	949 DOCK	MED SHRED	EAREN PACKEF	ROLL-OFF IC	RS	NATL	UIC PAPER	UIC OCC	B&C	SCRAP	COMPOST	MISC. RECYCLE	TOTAL TONS	MSW TONS	TOTAL LAND- FILLED	TOTAL RECYCLED/ COMPOSTED	PCT(%) RECYCLED/ COMPOSTED
JUL	48.5	28.1	208.0	68.4	112.5	136.9	20.1	15.1	32.5	1.0			16.5	687.7	611.1	457.5	153.6	25.14%	
AUG	104.3	30.8	198.0	68.4	163.4	78.3	28.7	15.3	49.1	1.2		2.7	14.3	754.5	619.4	439.7	179.7	29.01%	
SEPT	76.8	23.3	206.0	68.4	170.5	138.7	32.8	10.3	31.6	3.4	0.8	8.0	14.3	784.8	684.7	515.2	169.5	24.76%	
OCT	66.9	24.5	197.0	68.2	163.7	119.8	28.8	12.7	38.8	1.7		19.1	25.3	766.4	675.1	480.5	194.6	28.82%	
NOV	90.4	22.7	202.0	68.2	153.2	168.3	17.2	14.8	31.4	2.1		0.0	25.3	795.6	682.4	523.5	158.9	23.29%	
DEC	59.7	31.6	229.0	68.2	127.5	124.1	20.0	14.8	39.3	4.2	1.0	12.6	15.4	747.3	656.1	480.5	175.5	26.75%	
JAN	49.7	27.6	204.4	66.6	146.4	171.8	20.0	22.8	34.1	1.6		1.7	5.5	752.0	674.7	522.5	152.2	22.55%	
FEB	63.1	29.4	200.1	66.6	152.9	173.6	15.8	26.4	41.0	1.3			5.5	775.5	683.1	526.5	156.6	22.92%	
MAR	68.9	26.7	216.1	66.6	178.3	169.7	21.8	23.0	54.2	1.4	1.7	1.7	11.0	17.0	856.3	760.7	564.1	196.6	25.85%
APR	74.2	29.8	204.2	69.8	167.4	160.8	22.0	17.4	39.1	1.8			18.7	805.2	701.2	532.4	168.8	24.07%	
MAY	95.3	26.9	200.0	69.8	190.9	160.3	22.3	14.5	40.7	1.5	3.9	3.9	12.1	27.8	866.1	743.8	551.2	192.7	25.90%
JUN	90.8	27.6	196.3	69.8	152.1	145.3	20.8	7.9	49.8	1.5	4.8	4.8	16.5	783.1	664.8	493.7	171.1	25.74%	
TOTALS	888.6	328.9	2461.1	818.7	1878.7	1747.5	270.3	195.1	481.6	7.6	16.9	54.4	180.4	44.8	9374.5	8157.0	6087.3	2069.8	
AVERAGES	74.0	27.4	205.1	68.2	156.6	145.6	22.5	17.0	40.1	3.8	1.4	6.0	15.0	22.4	757.8	654.5	483.3	171.3	25.40%

Note: March 2006 Misc. includes 3 tons of fluorescents and 14 tons of e-waste.

FY06	ROLLOFF OTC	949 NF WASTI	949 DOCK	MED SHRED	EAREN PACKEF	ROLL-OFF IC	RS	NATL	UIC PAPER	UIC OCC	B&C	SCRAP	COMPOST	MISC. RECYCLE	TOTAL TONS	MSW TONS	TOTAL LAND- FILLED	TOTAL RECYCLED/ COMPOSTED	PCT(%) RECYCLED/ COMPOSTED
JUL	86.5	28.1	208.0	66.2	133.8	130.9	18.2	8.7	32.9	1.2		2.7	0.0	13.0	730.2	615.6	472.7	143.0	23.22%
AUG	116.1	30.8	198.0	66.2	163.7	161.0	25.3	13.2	50.1	0.7		11.5	68.9	905.5	758.6	522.6	235.9	31.10%	
SEPT	88.2	23.3	206.0	66.2	164.4	169.8	29.2	14.1	41.7	1.6		1.6	37.9	844.1	732.6	540.2	192.4	26.27%	
OCT	120.2	24.5	197.0	68.8	177.2	197.1	21.2	13.7	39.6	1.9		3.2	7.3	871.6	727.0	571.4	155.7	21.41%	
NOV	73.0	22.7	202.0	68.8	173.4	183.0	25.4	12.5	48.6	1.3		0.0	12.1	822.8	727.0	558.4	168.6	23.19%	
DEC	63.3	31.6	229.0	68.8	149.4	147.5	22.4	10.4	31.0	0.9		1.9	45.0	801.2	706.3	525.9	180.4	25.54%	
JAN	124.8	35.1	220.0	71.0	152.6	173.8	25.4	13.4	32.7	6.9	0.8	0.0	46.0	902.4	742.5	546.4	196.1	26.41%	
FEB	54.2	33.6	225.0	71.0	166.5	185.1	23.0	14.0	25.5	1.9		2.9	2.2	804.7	717.0	576.6	140.4	19.58%	
MAR	104.1	35.8	249.8	71.0	177.2	188.0	25.3	14.9	31.165	1.5		8.7	0.0	907.4	767.6	615.0	152.5	19.87%	
APR	93.0	79.7	230.7	70.3	144.3	192.0	21.8	13.9	29.4	2.1		2.0	8.0	867.2	714.5	567.0	147.4	20.64%	
MAY	83.2	51.5	162.6	70.3	182.2	185.0	22.7	13.4	29.4	1.9		0.0	17.2	819.3	684.6	529.7	154.9	22.62%	
JUN	101.4	40.5	191.5	70.3	154.9	156.4	20.7	11.6	35.1	1.4		0.0	11.2	795.0	653.1	502.8	150.3	23.01%	
TOTALS	1108.0	437.2	2519.6	828.8	1939.5	2069.6	280.6	153.7	427.2	6.9	17.2	34.5	255.9	13.0	####	8546.3	6528.7	2017.6	
AVERAGES	92.3	36.4	210.0	69.1	161.6	172.5	23.4	12.9	35.6	6.9	1.4	2.9	21.3	13.0	834.9	712.2	533.0	179.1	23.57%

Note: July 2007 Scrap number is "other scrap" from e-waste report.

UIC Waste Generation Data

FY08	ROLLOFF OTC	949 NF WASTI	949 DOCK	MED SHRED	EAREN PACKET	ROLL-OFF IC	RS	UIC NATL	UIC PAPER	UIC OCC	B&C	SCRAP	COMPOST	MISC. RECYCLE	TOTAL TONS	MSW TONS	LAND- FILLED	RECYCLED/ COMPOSTED	RECYCLED/ COMPOSTED
JUL	65.3	37.1	213.0	70.4	150.7	165.8	16.4	13.8	47.4	1.6	7.4	5		793.9	691.4	529.5	162.0	23.4%	
AUG	173.6	41.6	223.0	70.4	176.3	121.8	21.3	8.4	61.1	1.6	0.0	13.1		912.1	697.0	521.1	175.9	25.2%	
SEPT	77.8	35.3	208.0	70.4	159.3	175.8	19.1	11.0	33.2	1.3	0.0	4.8		795.9	682.8	543.1	139.7	20.5%	
OCT	162.5	36.9	207.0	70.7	203.8	169.3	24.0	11.8	35.8	1.9	3.6			928.3	728.9	580.1	148.7	20.4%	
NOV	92.9	43.0	209.0	70.7	172.8	166.3	20.2	9.8	30.4	1.2	0.0			816.3	680.4	548.1	132.4	19.5%	
DEC	151.7	35.1	215.0	70.7	144.6	151.7	17.0	8.6	30.2	1.3	8.9			6.1	840.9	654.0	511.3	142.7	21.8%
JAN	177.2	34.9	217.0	70.9	144.3	104.9	19.2	7.2	33.9	1.5	0.0			811.0	598.9	466.2	132.7	22.2%	
FEB	133.5	34.7	212.0	70.9	159.3	119.4	16.7	13.7	24.2	1.9	0.0			786.3	618.1	490.7	127.4	20.6%	
MAR	132.9	39.8	221.0	70.9	160.4	160.1	17.1	10.6	36.4	1.4	1.9			7.3	859.8	687.1	541.5	145.7	21.2%
APR	84.5	43.9	217.0	70.7	167.6	152.0	16.2	8.1	33.5	1.5				794.8	666.4	536.6	129.8	19.5%	
MAY	130.6	34.7	232.0	70.7	174.5	165.1	19.5	8.9	30.1	0.6	3.2	11.7		881.4	716.1	571.6	144.5	20.2%	
JUN	118.1	35.7	212.0	70.7	129.8	141.8	16.1	9.4	39.8	1.3	3.9	20.1		798.6	644.8	483.6	161.2	25.0%	
TOTALS	1500.5	452.8	2586.0	848.3	1943.4	1794.0	206.7	121.2	435.7	0.0	17.1	28.9	49.6	14.3	8066.1	6323.4	1742.6		
AVERAGES	125.0	37.7	215.5	70.7	162.0	149.5	18.8	10.2	36.3	1.4	2.6	12.4	4.8	849.3	696.1	544.4	151.7	21.62%	

NOTE: Scrap and misc. recycle July 2007 - March 2008 are numbers from CMS and Twin City recycling.

FY09	ROLL- OFF OTC TOTAL	ROLL- OFF OTC INERT	949 INF. WASTE	949 DOCK	MED SHRE D	NRW	Concret e	Inert	Wood	Metal	Brick	Misc. recyclable s	OCC	Drywall	RS Paper	Allied Paper	UIC Paper	Bottles & Cans	SCRAP	TOTA L	MSW	LAND- FILLED	RECYCLE & COMPOST	COMPOS T	RECYCL E RATE
JUL	102.9	19.6	39.2	217.0	70.8	258.0	0.1	0.9	2.5	0.9	0.0	10.8	18.3	0.0	15.0	8.9	45.6	2.3		812.7	651.0	475.0	176.0	20.5	27.0%
AUG	107.2	3.9	40.2	219.0	70.8	227.3	18.4	2.2	5.2	1.1	0.0	12.1	38.0	0.0	16.5	8.3	44.4	1.9	2.4	818.8	667.5	446.3	221.2	6.1	33.1%
SEPT	87.5	1.1	36.2	217.0	70.8	308.5	0.0	0.2	4.3	3.0	0.9	6.7	72.5	0.1	17.7	10.5	46.3	0.9	19.9	903.8	779.1	525.5	253.6	1.3	32.5%
OCT	138.8	28.3	36.8	216.0	62.0	339.0	7.1	0.3	5.5	1.6	0.0	0.5	68.6	1.1	16.8	9.2	47.8	2.7	6.7	988.8	784.9	555.0	230.0	28.6	29.3%
NOV	82.8	0.4	30.3	218.0	62.0	276.6	0.0	0.3	1.0	0.2	0.0	1.8	46.7	2.1	17.4	7.7	34.8	3.1	7.2	792.4	678.9	494.6	184.4	0.6	27.2%
DEC	40.6	0.3	32.8	245.0	62.0	254.5	0.1	0.2	2.9	0.5	0.0	2.1	35.0	0.0	13.0	5.7	33.4	2.3	4.1	734.5	660.8	499.5	161.3	0.4	24.4%
JAN	47.1	0.4	32.1	229.0	64.7	247.4	0.0	0.1	1.4	0.0	0.0	1.0	44.5	0.0	16.5	7.8	40.2	2.1	1.5	735.6	656.0	476.4	179.7	0.4	27.4%
FEB	54.4	7.0	31.7	209.0	64.7	258.5	0.0	0.0	4.9	21.7	0.0	0.2	72.3	2.1	18.2	8.6	32.2	2.9	8.4	796.8	703.6	467.5	236.1	7.0	33.6%
MAR	61.3	0.2	34.2	225.0	64.7	256.8	0.0	0.0	10.2	39.6	0.6	1.6	106.5	1.2	20.8	9.1	32.0	4.3	5.6	873.6	777.8	481.8	296.0	0.2	38.1%
APR	76.5	1.4	31.9	227.0	62.9	221.3	0.0	0.0	6.5	37.3	1.2	0.8	99.9	1.1	20.1	8.7	33.0	4.4	8.0	841.9	732.1	448.3	283.8	1.4	38.8%
MAY	115.1	2.1	32.4	224.0	62.9	196.9	0.0	0.0	3.2	30.5	0.7	3.7	87.7	0.3	19.5	7.7	32.0	2.6	6.3	827.5	677.9	420.9	257.0	2.1	37.9%
JUN	75.1	0.8	31.1	231.0	62.9	180.8	0.0	0.0	3.6	30.5	0.9	0.0	79.8	0.0	18.1	8.6	35.5	1.7	3.7	764.2	657.1	411.8	245.3	0.8	37.3%
TOTALS	989.3	65.4	408.8	2677.0	781.3	3025.5	25.8	4.0	51.0	166.9	4.3	41.1	769.7	7.9	209.6	100.7	457.2	31.1	73.8	9890.5	8426.9	5702.5	2724.4	69.5	
AVERAGES	82.4	5.5	34.1	223.1	65.1	252.1	2.1	0.3	4.2	13.9	0.4	3.4	64.1	0.7	17.5	8.4	38.1	2.6	6.7	863.3	712.3	499.3	213.0	5.8	32.2%

Note: Roll-off for July has 8 tons from Loop, rest from RSI

Note 2: No scrap or misc. recycle numbers available from CMS for FY09 as of 10/16/08

Facts to go with graphs:

FY08 = Fiscal Year 2008, July 2007 - June 2008

Recycled/composted denotes all materials averted from landfill. Includes, but are not limited to, paper, cardboard, scrap metal, electronics, and yard waste

The recycling rate is calculated by dividing the weight of recycled material by the weight of total waste generated.

APPENDIX II UIC News Article

UIC News

For the community of the University of Illinois at Chicago

<http://www.uic.edu/htbin/cgiwrap/bin/uicnews/articledetail.cgi?id=13747>

By [Gary Wisby](#)

12/02/09

Talking trash

Sustainability office weighs campus

Let's talk trash with [Cynthia Klein-Banai](#), associate chancellor for [sustainability](#).

Along with three graduate assistants, a lab manager and an intern, she did a waste audit of two campus buildings Monday.

The audit, which the state requires every five years, was an assessment of a day's worth of garbage produced by the College of Pharmacy and University Hall.

The audits are part of a waste reduction program required of Illinois public universities. UIC met a goal of a 40 percent per capita reduction through 2002. After a budget cut, the university fell short for 2003 through 2005; a report on 2005 to now is pending.

Armed with rakes and wearing bright-yellow jumpsuits, booties, gloves and face masks — “to keep the odor and the dust out,” Klein-Banai said — the group sorted through refuse in a loading dock at the Central Management Services Police Building on the West Side.

They worked on the College of Pharmacy's trash output in the morning and University Hall's product in the afternoon.

Klein-Banai said, during a late-morning pause, “Pharmacy has a pretty good program, but we're still finding a lot of stuff that should have been recycled” — including paper, plastic bottles, cardboard, aluminum cans and a battery.

Among finds were plastic pipette tips, which should have been discarded in sharps containers, and an unopened box of needles, ditto.

Totals of waste audited were 578 pounds from the College of Pharmacy, including 256 pounds of recyclable material. From University Hall came 397 pounds, including 255 pounds of recyclables.

More than half of the recyclable trash was paper.

As far as food waste goes, University Hall had 84 pounds and the College of Pharmacy, 72 pounds.

“We found lots of paper plates and cups, and pizza cartons,” Klein-Banai said.

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APPENDIX III – STANDARDIZED FORMS

2.1 Survey of Recycling/Composting Activities

<i>Material</i>	<i>Recycling</i>	<i>Composting</i>
Paper		
White Office Paper	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Mixed Paper	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Computer Paper	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Newspaper (ONP)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Magazines	<input checked="" type="checkbox"/>	<input type="checkbox"/>
OCC	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Other Paper (Specify)	<input type="checkbox"/>	<input type="checkbox"/>
Plastic		
PETE (#1)	<input checked="" type="checkbox"/>	
HDPE (#2)	<input checked="" type="checkbox"/>	
LDPE (#4)	<input checked="" type="checkbox"/>	
Polystyrene (#6)	<input type="checkbox"/>	
Other Plastic (Specify)	<input type="checkbox"/>	
Metals		
Aluminum Cans	<input checked="" type="checkbox"/>	
Steel or Bi-metal Cans	<input checked="" type="checkbox"/>	
Other metals (Specify)	<input checked="" type="checkbox"/>	
Glass		
Clear	<input checked="" type="checkbox"/>	
Brown/Amber	<input checked="" type="checkbox"/>	
Green	<input checked="" type="checkbox"/>	
Other Glass (Specify)	<input type="checkbox"/>	
Other		
Landscape Waste	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Food Waste	<input type="checkbox"/>	<input type="checkbox"/>
Electronic Scrap	<input checked="" type="checkbox"/>	
Other (Specify)	<input type="checkbox"/>	<input type="checkbox"/>

APPENDIX IV – Procurement Survey

4.1 Current Procurement Activity

<i>Material</i>	<i>1. Procured within last 12 months</i>	<i>2. Total dollar value of procurements</i>	<i>3. Total dollar value of recycled-content procurement</i>	<i>4. Percent of post-consumer materials in #3</i>
Office Products				
Letterhead paper	<input type="checkbox"/>			
Copy paper	x	\$99,367.00	\$40,688.00	10-100 %
Computer paper	x	\$24,059.00	\$24,059.00	30 %
Newsprint	<input type="checkbox"/>			
Writing tablets/Notebooks	x	\$4,849.00	\$2,119.00	30-50 %
File folders	x	\$6,600.00	\$16,334.00	10-100 %
Report covers	x	\$14,924.00	\$7,496.00	30-70 %
Poster board	x			
Pens	x	\$11,022.00	\$96.00	100 %
Other (Envelopes)	x	\$25,226.00	\$1,808.00	5-50 %
Other (Adhesive notes/Pads)	x	\$3,562.00	\$295.00	30%
Other (Labels)	x	\$6,747.00	\$23.00	100%
Other (Beverage sets)	x	\$10,467.00	\$ 494.00	60%
Other (Tape dispensers)	x	\$4,751.00	\$0.00	0%
Other (Calendars)	x	\$3,243.00	\$2,752.00	30-100%
Other (Index Systems)	x	\$1,013.00	\$4,711.00	10-30%
Other (Batteries)	x	\$3,209.00	\$0.00	0%
Other (Storage files)	x	\$245.00	\$3,576.00	59-100%
Other (Uncoated, Coated, and Carbonless Paper)		\$69,160.00	?	10-30%
Other (Toner Cartridges)		\$139,348.00	\$26,510.00	~19%
Other (Fax Toner)		\$6,101.00	\$0.00	0%
Janitorial/Refuse Products				
Toilet tissue	x	\$89,705.00	\$83,355.00	10-88%
Paper towels	x	\$98,373.00	\$86,190.00	10-40 %
Paper napkins	<input type="checkbox"/>			
Facial tissue	<input type="checkbox"/>			
Floor scrubbing pads	x	\$2,291.00	\$0	0 %
Buckets	<input type="checkbox"/>			
Collection bins	<input type="checkbox"/>			
Trash bins	x	\$1,598.00	\$28.00	10-30%
Recycling bins	<input type="checkbox"/>			
Other ()	<input type="checkbox"/>			
Landscape Products				
Compost/mulch	<input type="checkbox"/>			
Hydro-seeding	<input type="checkbox"/>			
Landscape timbers	<input type="checkbox"/>			
Other ()	<input type="checkbox"/>			

Other Products

Food service trays	<input type="checkbox"/>			
Bags – Paper	<input type="checkbox"/>			
Bags – Plastic	x	\$181,796.00	\$0.00	0 %
Park benches/picnic tables	<input type="checkbox"/>			
Fencing/snow fencing	<input type="checkbox"/>			
Stadium seating	<input type="checkbox"/>			
Traffic barricades, speed bumps, parking stops	<input type="checkbox"/>			
Athletic surfacing	<input type="checkbox"/>			
Mats	x	\$3,624.00	\$3,624.00	100 %
Remanufactured/retreaded tires	<input type="checkbox"/>			
Automotive /lubricating oils	<input type="checkbox"/>			
Furniture	x	\$7,663.00	\$4,056.00	30 %
Carpeting	<input type="checkbox"/>			
Other ()	<input type="checkbox"/>			
Other ()	<input type="checkbox"/>			
TOTAL		\$828,943.00	\$308,214.00	

APPENDIX V

5.2 Waste Composition Study

Question 1 – Results of the Study

<i>Material</i>	<i>Weight (tons per year)</i>	<i>Estimation or Measurement</i>		<i>Percent of Total</i>
Paper				
White Office Paper	1636.7	<input checked="" type="checkbox"/>	<input type="checkbox"/>	19.3
Mixed Paper	688.8	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8.1
Computer Paper	NA	<input type="checkbox"/>	<input type="checkbox"/>	
Newspaper (ONP)	175.7	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2.1
Magazines	62.3	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0.7
OCC	312.2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	3.6
Other Paper (Books, journals and chipboard)	394.0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	4.6
Plastic				
PETE (#1)	196.2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2.3
HDPE (#2)	34.0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0.4
LDPE (#4)	NA	<input type="checkbox"/>	<input type="checkbox"/>	
Polystyrene (#6)	68.0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0.8
Other Plastic (#4, #5, #7, laboratory equipment, latex gloves, grossly contaminated plastic)	918.4	<input checked="" type="checkbox"/>	<input type="checkbox"/>	10.8
Metals				
Aluminum Cans	78.5	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0.9
Steel or Bi-metal Cans	23.5	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0.3
Other metals (scrap metal)	73.8	<input type="checkbox"/>	<input checked="" type="checkbox"/>	0.9
Glass				
Clear	180.5	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2.1
Brown/Amber	NA	<input type="checkbox"/>	<input type="checkbox"/>	
Green	NA	<input type="checkbox"/>	<input type="checkbox"/>	
Other Glass (specify)	NA	<input type="checkbox"/>	<input type="checkbox"/>	
Other				
Landscape Waste	69.5	<input type="checkbox"/>	<input checked="" type="checkbox"/>	0.8
Food Waste	1447.3	<input checked="" type="checkbox"/>	<input type="checkbox"/>	17.0
Electronic Scrap	0	<input type="checkbox"/>	<input type="checkbox"/>	
Other (non-recyclable paper (tissue, napkins, paper towels), broken glass and equipment, and non-hazardous lab wastes)	2139.7	<input checked="" type="checkbox"/>	<input type="checkbox"/>	25.2

APPENDIX VI

8.1 Base Year (1987)

Question 1	Tons of municipal solid waste generated during 1987	<u>6757.9</u>
Question 2	Students enrolled in fall 1987	<u>20,977</u>
Question 3	Tons of municipal solid waste generated per student enrolled in 1987 (Question #1 response divided by Question #2 response)	<u>0.322</u>
Question 4 enrolled	Target – Maximum tonnage of solid waste land-fillable and/or incinerated in 2005 per student (Question #3 response multiplied by 0.60)	<u>0.193</u>

8.2 Forecast (2009 – 2014)

		<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>
Question 1	Tons of municipal solid waste generated over entire year	<u>8429.9</u>	<u>8429.9</u>	<u>8429.9</u>	<u>8429.9</u>	<u>8429.9</u>	<u>8429.9</u>
Question 2	Students enrolled in fall term	<u>25,610</u>	<u>25,837</u>	<u>26,064</u>	<u>26,291</u>	<u>26,518</u>	<u>26,745</u>
Question 3	Tons of municipal solid waste generated per student enrolled (Q #1 response divided by Q #2 response)	<u>0.329</u>	<u>0.326</u>	<u>0.323</u>	<u>0.321</u>	<u>0.318</u>	<u>0.315</u>
Question 4	Tons of materials recycled/composted	<u>2727.3</u>	<u>3203.4</u>	<u>3399.5</u>	<u>3399.5</u>	<u>3399.5</u>	<u>3399.5</u>
Question 5	Tons of material recycled/composted per student enrolled (Q #4 response divided by Q #2 response)	<u>0.106</u>	<u>0.124</u>	<u>0.130</u>	<u>0.129</u>	<u>0.128</u>	<u>0.127</u>
Question 6	Tons of municipal solid waste landfilled and/or incinerated	<u>5702.5</u>	<u>5226.5</u>	<u>5030.4</u>	<u>5030.4</u>	<u>5030.4</u>	<u>5030.4</u>
Question 7	Tons of municipal solid waste landfilled and/or incinerated per enrolled (Q #6 response divided by Q #2 response)	<u>0.223</u>	<u>0.202</u>	<u>0.193</u>	<u>0.193</u>	<u>0.193</u>	<u>0.193</u>