

Northern Illinois University

Executive Summary

We implemented pilot programs in the Engineering Building, DuSable Hall, Watson Hall and Williston Hall. In the Engineering Building we implemented a full central collection system. Each occupant was issued a new desk side paper recycling bin and a mini garbage bin. Each occupant is responsible for carrying their trash and recyclables to a central collection location. In Watson Hall we implemented central collection for recyclables. Building Service Workers continue to collect trash from the desk side and now collect the recyclables from the central locations. In DuSable we implemented central collection systems in the public areas and installed stacking recycle bins in the classrooms next to the waste basket. Building Service Workers collect from the central areas and the classrooms. In Williston Hall we implemented full desk side service. Building Service Workers collect both trash and recyclables from the desk side in each office.

The pilot program buildings were fully implemented by the end of February. Prior to implementation we analyzed two waste streams from each pilot building to determine the composition of the waste we were sending to the landfill. After the pilot programs were implemented and had been operating for some time, we analyzed two more waste streams from each pilot building to determine the impact of the recycling programs on the composition of the waste we are sending to the landfill. We also analyzed the effects on Building Service Workers' time in terms of labor costs. The results are summarized in the table below.

Location	Impact on Waste Stream	Incremental Annual Labor Cost	Annual Labor Savings
Watson Hall	28% reduction	\$4,182	
Williston Hall	9% reduction	\$6,775	
DuSable Hall	21% reduction		\$1,623
Engineering Building	34% reduction		\$4,740

The Physical Plant assumed full responsibility for administering the Recycling Program by the middle of March and the Student Association Recycling Center closed. The Student Association did not keep monthly records of the amount of materials recycled. From their annual total, we computed a simple average of 35 tons of paper per month. The April report provided by Waste Management indicated that we recycled 67.3 tons during that month.

The average monthly bill for trash removal costs (garbage only) was \$19,600 prior to the time that the Physical Plant assumed responsibility for the Recycling Program. Since that time we re-evaluated the service requirements for trash and the new monthly rate will be approximately \$15,000. The monthly bill for removal of recyclable materials is \$2,400. The approximate savings to the University is \$19,800 for the nine month school year. The waste collection contract for trash and recyclable materials will be re-bid and implemented during the FY99 year. We anticipate a significant cost savings will be realized after that process.

Introduction

The pilot program buildings were fully implemented by the end of February. The Physical Plant assumed full responsibility for administering the recycling program toward the middle of March and the Student Association Recycling Center was closed.

In the non-pilot buildings, Building Service Workers are responsible for moving the blue totes to a central location and Waste Management collects the material from those locations. The Student Association did not keep monthly records of the amount of materials recycled. From their annual totals we computed a simple average of 35 tons of paper per month. The April report provided by Waste Management indicated that we recycled 67.3 tons during that month.

Impact on Waste Removal Costs

Prior to the Physical Plant assuming responsibility for administration of the Recycling Program, the monthly trash removal costs were averaging \$19600 per month for the entire campus. Since that time, we have re-evaluated the service on trash removal and the monthly bill will be reduced to approximately \$15,000 per month. The monthly bill for recycling is \$2,400. This will vary slightly because we have several cardboard dumpsters that are emptied on an as-needed basis. The approximate savings to the University is \$19,800 during the nine month school year. The Waste collection contract for trash and recyclables will be re-bid and implemented during the FY99 fiscal year. We hope to realize a significant costs savings after that process.

Results of Pilot Study

Williston Hall

Building Service Workers in Williston Hall are collecting both garbage and recycling from the desk side. Garbage is collected daily, and recycling is collected three times per week. Prior to the implementation of the recycling program it required about 2.5 hours per night per Building Service Worker to collect the trash.

Impact on Building Services

We studied the time required to collect the waste from the desk side before and after the implementation of the recycling program. The results are summarized below. Times are expressed in hours per night per Building Service Worker. Annual labor cost is based on three nights per week for 49 weeks per year.

Time Required pre-implementation	2.40
Time required post-implementation	3.75
Increased (decreased) time	1.35 hours per night per Building Service Worker
Nights per week	3.00
Average hourly rate	\$11.38
Building Service Workers	3.00
Annual Labor Cost (Savings)	\$6,775

Impact on Waste Stream

We audited the waste stream in Williston four times to determine the composition of the waste which was being sent to the landfill. The recyclable components of the waste stream were reduced by about 9% after implementation of the pilot program.

Watson Hall

Building Service Workers in Watson Hall are collecting waste from the desk side garbage cans and from the central collection units on a daily basis. There are 15 central collection units for garbage, paper and commingled containers placed throughout this building. Prior to the implementation of the pilot program it required about 2.75 hours per night per Building Service Worker to collect the trash. After implementation of the pilot program it requires 3.5 hours per night to collect the trash and recyclables. There are 15 central collection units placed throughout Watson Hall.

Impact on Building Services

We studied the time required to collect the waste before and after the implementation of the recycling program. The results are summarized below. Times are expressed in hours per night per Building Service Worker. Annual labor cost is based on five nights per week for 49 weeks per year.

Time Required pre-implementation	2.70
Time required post-implementation	3.50
Increased (decreased) time	0.75 hours per night per Building Service Worker
Nights per week	5.00
Average hourly rate	\$11.38
Building Service Workers	2.00
Annual Labor Cost (Savings)	\$4,182

Impact on Waste Stream

We audited the waste stream in Watson Hall four times to determine the composition of the waste which was being sent to the landfill. There are 15 central collection units placed throughout Watson Hall. The recyclable components of the waste stream were reduced by about 28% after implementation of the pilot program.

DuSable Hall

DuSable Hall is primarily a classroom building. We removed the large waste containers from the hallways and central areas and replaced them with central collection units for garbage, paper and commingled containers. There are 17 central collection units and 12 stand alone bins for commingled recyclables placed throughout DuSable in the public areas. We also placed stacking recycle bins in the classrooms for paper and commingled recyclables next to the waste cans. We hired student employees to collect the trash left by students on desks and floors in the classrooms and sort it into the classroom recycle bins and trash cans. Historically, the Building Service staff spent a great deal of time collecting these materials in the classrooms.

Impact on Building Services

We studied the time required to collect the waste before and after the implementation of the recycling program. The results are summarized below. Times are expressed in hours per night per Building Service Worker. Annual labor cost is based on five nights per week for 35 weeks per year because this is primarily a classroom building.

Time Required pre-implementation	1.10
Time required post-implementation	0.67
Increased (decreased) time	(0.43) hours per night per Building Service Worker
Nights per week	5.00
Average hourly rate	\$11.38

Time Required pre-implementation	1.10
Building Service Workers	4.00
Student Worker	\$ 5.15 @ 2 hours per night/49 weeks
Annual Labor Cost (Savings)	(\$1,623)

Impact on Waste Stream

We audited the waste stream in DuSable Hall four times to determine the composition of the waste which was being sent to the landfill. There are 17 central collection units placed throughout Watson Hall and 12 stand alone commingled recycle bins. The recyclable components of the waste stream were reduced by about 21% after implementation of the pilot program.

Engineering Building

In the Engineering Building we implemented a full central collection system for all waste. Each occupant was issued a new desk side paper recycling bin and a mini garbage bin. We removed the standard garbage cans from the office. Each occupant is responsible for taking their garbage and their recyclables to a central location. We studied the time required to collect the waste from the desk side before implementation and the time to collect from central units after the implementation of the recycling program. The results are summarized below. Times are expressed in hours per night per Building Service Worker. Annual labor cost is based on five nights per week for 52 weeks per year.

Impact on Building Services

We studied the time required to collect the waste before and after the implementation of the recycling program. The results are summarized below. Times are expressed in hours per night per Building Service Worker. Annual labor cost is based on five nights per week for 49 weeks per year.

Time Required pre-implementation	1.18
Time required post-implementation	0.33
Increased (decreased) time	0.85 hours per night per Building Service Worker
Nights per week	5.00
Average hourly rate	\$11.38
Building Service Workers	2.00
Annual Labor Cost (Savings)	(\$4,470)

Impact on Waste Stream

We audited the waste stream in the Engineering Building four times to determine the composition of the waste which was being sent to the landfill. There are 11 central collection units placed throughout the Engineering Building. The recyclable components of the waste stream were reduced by about 34% after implementation of the pilot program. Since no recycle bins were placed in the classrooms here, this number represents the change due to central collection for the office and public areas.