

The Hidden Costs of Campus Recycling

by Robert G. Brooks, P.E.

I review quite a few Request-for-Proposals (RFPs). These RFPs are not limited to the higher education community, but all state, local, county, and federal solicitations as well. I recently saw one from a small city that was truly unique.

The Public Works (PW) Department was issuing the RFP for someone to put up, take down, and store the city-owned Christmas decorations. At first, I thought how odd is this project? The city was small, so how much work could it be? Then I thought this was sort of wasteful; why not get the staff do it? It might even help get everyone in the mood of the season.

When I thought about it, the brilliance of the PW director hit me. The PW director wanted everyone to know there is a cost to decorating for the holidays, which includes:

- Buying and assembling decorations.
- Acquiring and managing the use of assistant tools, such as ladders and bucket trucks.
- Commissioning of electricians, landscapers and other laborers to do the work.
- Scheduling police support to direct traffic, as vehicles and pedestrians will need to be re-routed from the work area.

After the season is over, the city will have to repeat the whole process to take down and store the decorations in an out-of-the way place until the following holiday season.

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So, what does all this work have to do with PW maintenance? The PW director demonstrated that when city council approves a plan to do anything, even something as seemingly small as decorating the city, there is a cost to the city, and planning should consider that in annual budgets.

Implications for Higher Education

With the various holidays, university programs, and student events—many of which may “pop up,” the seemingly minor tasks of hanging building posters or setting seasonal displays across campus can end in a large unplanned price tag. I see these types of issues discussed on the APPAInfo Discussion List, specifically with campus recycling programs.

Students and faculty are all ready to start a recycling program, but ask who will monitor the collection, separate recycling items (paper, from plastic, etc.) filter non-recyclable materials, and transport materials to recycle stations? More importantly, what costs will be incurred in doing this? When students, faculty, and department heads are not jumping up to volunteer, the most common solution may be to incorporate those tasks as part of the custodians' daily duties.

The handling of materials is at the heart of the cost of everything we purchase, own, or consume. For example, the oil in the ground is free, but costs start to accumulate when you have to “handle it” out of the ground. Then you have to “handle it” to the refinery; “handle it” to the distributors, who then “handle it” to the retailers. You can be sure that if you had home delivery of gasoline, it would cost more than you driving over and pumping it yourself. Handling materials, even for recycling, is no different.

In terms of the campus recycling program, this sometimes starts innocently enough. The logic is: Custodians have to carry out the trash anyhow, right? So coordinators place separate containers, and have the custodians frequently double-check the contents to separate paper, from glass, from plastic and then separate paper: cardboard from white, from colored paper. Depending on how much your university recycles, left-

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over building materials may need to be recycled—the wood from the drywall; the copper from the steel; paper from the plastic, etc.

Also, the removal of all of these materials needs to be in accordance with local, state, EPA, and federal guidelines. If this always falls to the custodians, when are they going to have time to provide the necessary custodial services they were hired to do? In short, something has to give.

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In terms of costs, as everyone in the APPA community knows full well, the cost per square foot of custodial services is one of the most commonly quoted and reported of all facility benchmarks. A few pennies per square foot either way can cause eyebrows to raise and the telephone to ring. The presumption is that an institution with custodial costs at \$.86 per square foot, is better than the institution getting them for \$1.10 PSF. Of course, we really can't be sure unless consistent APPA cleaning levels are achieved, and whether they both have equally ambitious recycling programs. (See *Custodial Staffing Guidelines*, and *Facilities Performance Indicators*, both APPA publications).

Contracting out the recycling program is at least one way to identify the true costs of the collection effort. A

The University of Oregon uses the fully electronic Tiger Star truck to lessen its recycling loads. The truck costs about \$300 to maintain per year compared to the \$1,400 it costs to maintain the traditional step van.

scope that defines a level of effort, frequency, applicable laws, etc. would help keep the costs in proper perspective. If after a few years of contracted services, the institution may decide that the program could be returned to in-house forces with new funding the same money could be programmed for overtime for the in-house landscapers, custodians, etc.

In 2004, the University of Oregon (UO) Campus Recycling Program purchased a fully electric truck to help the program collect recycling and compost material on campus and at events. The Tiger Star—smaller than the traditional step van UO Facilities Services uses—is able to carry 1,200 pounds on its truck bed and is used for handling recycled paper, cans, bottles, compost, and events recycling material. The university recycles more than 1,200 tons a year.

The truck has been effective in managing recycling at campus events and assisting in gathering recyclable items on campus. Also, the truck costs about \$300 to maintain per year compared to the \$1,400 it costs to maintain the traditional step van.

The University of Missouri-Columbia (UM) recycles about 1,900 tons of trash each year, including paper, cardboard, beverage containers, and other items such as ink/toner cartridges, batteries, and electronics.

Steve Burdic, UM solid waste and recycling coordinator, says the school currently recycles about 25 percent of its solid waste. The university plans to increase its indoor beverage container and paper recycling by providing cardboard trays and recycling containers in common areas of academic buildings.

Burdic says people will be asked to sort their materials into the common area containers which should free custodians to remove the materials from the building. Custodians are currently not participating in the program.

“All forces need to come together to make these things happen—administration, custodians, solid waste managers, faculty and students. Any of these groups can start the process, says Burdic. “If there is nothing going on I would suggest recruiting students to ask for recycling opportunities and solid waste managers to support reductions in solid waste costs.”

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that also handles solid waste. This costs about \$2,000 per year.

Future versions of APPA’s Facility Performance Indicators (FPI) should examine how colleges and universities monitor the per square-foot costs of recycling. It is an undeniable part of maintenance and operational costs, but it is buried within job categories so the actual costs are lost. The recycling program should be treated as

any task or duty to be managed. Remember: if you can’t measure it, you can’t manage it. 🏢

Kisha D. DeSandies, assistant editor, Facilities Manager, contributed to this article.

Here is an overview of recycling management and costs at UM:

- The school has used the same private recycling group for the last 20 years—a service that was initially free, now cost about \$25,000 per year. The recycling group picks up 1.3 million pounds of mixed paper including white and colored paper, newsprint, and phone books and about 800,000 pounds of cardboard.
- The city of Columbia picks up about 150,000 pounds of cardboard per year at no cost. This is part of the normal service they provide to commercial customers.
- Several groups on campus, like Printing Services and Records Management arrange their own paper pickup. Normally paper is picked up for free and represents about one million pounds per year.
- UM recycled about 19 tons of mixed beverage containers at home football games this year. Transportation was provided by the city; the school’s Landscape Services provided logistical support like drivers and pickup trucks. Anheuser Busch and the local solid waste management district provided recycling bins and bags. A student group, Sustain Mizzou, provided the volunteer labor to hand out bags and pick up materials.
- Several years ago, student fees were tapped to purchase 110 sidewalk recycling containers that are placed in high traffic areas around campus. They are serviced under the contract with the city



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