

Case Study: Large Scale Reuse (and 21% Savings) from a Public High School

Cony High School in Augusta, Maine was the state's largest public school building, housing nearly 3,000 students daily. When the city constructed a new school, it sold the Cony property to Hannaford Bros. Inc. (HB) for redevelopment into a Hannaford supermarket. The school was sold as-is, including thousands of desks and chairs, file cabinets, shelves, library equipment, and other school furnishings.

Hannaford has made a serious commitment to sustainability, and the Cony School redevelopment was planned as a LEED project from start to finish. Hannaford and IRN had worked together on previous reuse and recycling initiatives, and Hannaford

contacted IRN to remove the furnishings, fixtures and other salvageable assets from the Cony School. As a LEED project, tracking and reporting was to be critical to the final LEED status. Managing this project for recycling and, ultimately, reuse of classroom furniture, HBC faced conflicting pressures: Stay in budget; Meet high expectations for LEED status; Achieve environmental and social goals set by the State and HBC; Comply with the State's surplus property management requirements. High among Hannaford's priorities was to assure reuse or recycling of as much as possible of the surplus left in the school.

Dealing with Surplus & Fixed Assets: Complicated, Wasteful, Expensive – Before reaching out to IRN, Hannaford tried multiple outlets: Reuse within the state system; Sale through liquidators; Donation to local schools and nonprofits. None was able to absorb more than a small fraction of the surplus that comes from a 3,000-student campus, and they all added cost and confusion to the disposition process. Recycling was an option only for the relatively small fraction of metal goods, because most wood items were painted or varnished. It was clear there had to be a better way.

A New Model: Starting in 2002, IRN began working with institutions and corporations to develop a new model for surplus disposition. The model had to satisfy three objectives: It had to be **Simple**, so it would be understood, it had to be **Credible**, so it would be accepted and, of course, it had to be **Cost effective**.

The basics are simple. First, markets. Like any other material, surplus isn't recycled if it's pulled from the waste stream but has nowhere to go. To provide stable outlets for surplus, IRN has established a network with dozens of nonprofits active in worldwide relief and development. For the first time, institutions and corporations like Hannaford have a reliable outlet for thousands of items of surplus.

Second, labor to remove furniture from buildings and load it for disposition. At first, we assumed this cost would be the same whether filling overseas containers for charitable reuse or roll-offs for disposal. But ironically, we have found that it takes 10-15% less time to load overseas containers instead of roll-offs. In addition, one trailer holds as much as three or four roll-offs, so there's a lot less logistics (meaning a lot less to go wrong) when overseas containers are filled.



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Third, there's the difference between the cost of managing surplus for reuse through IRN and the costs for disposal and recycling. On the IRN/reuse side, IRN's partners absorb most of the costs of transportation and distributing surplus in relief areas. There remains a flat fee per trailer paid by the generating organization (in this case, Hannaford). This fee varies with the nature of the surplus, project location and schedule, and the recipient organization.

Finally, there's the cost of project administration. Reuse demands more on-site management; disposal and recycling require more recordkeeping and paperwork. On balance it's typically a wash.

Results: 100% Reuse and Recycling, 21% Cost Savings – Tables 1-3 summarize the cost model for the Cony project. Cony High School's inventory (Table 1) determines the number of trailers (charitable reuse) or roll-offs (disposal/recycling) needed for the project. For disposal and recycling, we obtain local cost or

Item	Count	Material	Weight (Lbs)	Total Weight
Tablet Arm Chair	1054	Wood	35	36,890
Stacking Chair	478	Metal	30	14,340
Desk	478	Wood	100	47,800
Table	390	Wood	90	35,100
Cabinets	257	Metal	150	38,550
Bookcase	210	Wood	60	12,600
Locker Sets	241	Metal	160	38,560
Doors, Interior	256	Metal	75	19,200
Total	3,364			243,040

Option	Parameter	Value
Both	Project Duration	6 Days
Charitable Reuse	Number of Movers	11
	Number of Trailers	25
	Cost per Trailer	\$1,400
Recycling & Disposal	Number of Movers	16
	N of Containers, Metal	18
	Set and Haul, Metal	\$150/Pull
	Revenue/Ton, Metal	(\$100)/Ton
	N of Containers, Wood	72
	Haul and Tip, Wood	\$525/Pull

revenue quotes, and we obtain costs for trailers from our charitable partners. We do a walk-through with moving staff to secure a price for removing and loading furnishings, and we estimate administrative costs based on our experience in similar projects (Table 2).

The product of the model is a comparison of the cost of managing surplus for reuse against the cost of recycling and disposition, broken out for each major element of the project. Table 3 summarizes this comparison. For the Cony project, we documented savings of about 21% when furnishings are managed for reuse.

We've tested the reuse model now in hundreds of projects. What we have proven time and again, in rural areas, on major urban campuses and tight inner-city locations, is that the cost of managing surplus for reuse through IRN is at worst cost-neutral compared to disposal and recycling, and is generally fifteen to thirty percent less expensive.

Toss in the environmental and social benefits of reuse, along with positive public relations exposure, and no wonder Hannaford Bros. and hundreds of other clients come back to IRN's surplus program over and over. It's a combination of benefits that's hard to beat.

Cost Element	Reuse	Recycling/ Disposal
Administration	\$2,500	\$2,500
Labor (Move/Load)	\$18,480	\$31,360
Trailer Cost	\$35,000	
Haul & Recycle, Metal		\$2,700
Revenue, Metal		(\$3,107)
Haul & Dispose, Wood		\$37,800
Total Project Cost	\$55,980	\$71,253
Savings	\$15,273	