Case Studies of Reuse Centers

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The Austin Habitat for Humanity RE-Store

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The Austin RE-store is part of the Austin affiliate of Habitat for Humanity International, a charitable organization that is well known for helping low-income people throughout the world by building homes in partnership with them. Since the early 1990s about 15% of the 1600 American chapters have opened centers dedicated to building materials reuse and recycling. The net revenue generated from the RE-stores is used to fund the local chapter's home construction work, and a small percentage is also contributed to the international umbrella organization.

The Austin Re-store was one of the first of its type among the Habitat for Humanity chapters in North America. Founded in 1992 by Dianne MacKie, the store did very well from the beginning. Today it is one of the largest of the Habitat re-stores in the nation, and it occupies two facilities in the Austin area. Only about 60 of the North American affiliates have grown to have full-time staff, and only about ten of those have deconstruction operations. The Austin Re-store is a national model not only because of its size, longevity, and success, but also because it was the first RE-store to enter the building deconstruction business.

I interviewed Tom Luba, the Director of the Austin Re-store, and Bill Bowman, the Director of Deconstruction. Mr. Luba joined Habitat in 2004 and brought to the organization his background experience in retail, including work as a division manager for John Deere. Mr. Bowman started working in 1995 for the Habitat for Humanity chapter in San Antonio as a VISTA volunteer, then he moved to the Austin chapter in 1996. In 1997 he left for a few years, then he returned in 2000 to start the deconstruction program. He also brought to the Habitat chapter background expertise based on his master's degree in international relations and resource environmental management.

The Austin RE-store sells a wide range of materials, including appliances, lighting, cabinets, doors, window, lumber, tile, flooring, and other materials that can be found in a home supply store. The materials come from a variety of sources, such as overstocked, slightly damaged or discontinued inventories from businesses, as well as individuals and contractors doing remodeling. People bring their used home materials to the store, or they have the store pick them up. The deconstruction projects are another significant source of materials. However, not all the materials in the RE-store are used or recycled. Supply companies donate overstocks and close-outs, and the RE-store also purchases discontinued and close-out items materials. Some of the new material that is being used in the chapter's home construction projects is also

warehoused in the RE-store. Individuals may purchase even the new materials at reduced margins—about 50-60% of the retail price—and both new and old stock move quickly.

The deconstruction operation grew out of the RE-store work. As Mr. Bowman explains, "We started basically in the same manner that the RE-store started. People were calling in and asking us to pick up materials such as cabinets, but when we got out there to pick them up, they were still on the walls. We realized that we were losing opportunities for donated materials because we didn't have the ability to take them down. Also, because lumber is a hot commodity across the country, we very rarely got any donations. By doing deconstruction, we got a steady flow of lumber throughout the year, which we knew would always sell. It wasn't an enormous amount, but it would keep people coming back.

"At the beginning just I and another guy worked part time with no volunteers. We found that people often couldn't work within our time frame because they had a plan for rebuilding. They often call us at the end of their project timeline to take the building in question down, and we need to fit into their time frame. We realized that we had to have paid staff. Today we have five, full-time, paid staff members. So we give the clients a deadline, and then if we have volunteers, we can do it more quickly. We still lose a lot of jobs because deconstruction takes longer than demolition. With demolition you can have a small 1,100 sq. ft. house down in a day and a half, whereas if you want to do deconstruction and save 60-80% of the materials, it will take two to three weeks."

One of the attractions of selecting deconstruction over demolition is that the recovered materials can be donated to Habitat for Humanity. As a result donors have the satisfaction of knowing that their donation will help Habitat to construct new affordable housing, and at the same time they can earn a tax deduction from their donation. According to Bowman, for most of the donor clients the tax write-off is not the primary motivation for the donors: "It depends on the case and individual. If I have a bid and it's not close to the bid from someone who is doing standard demolition, the value of the salvage materials might make up the difference. The tax write-off is important for some people, but it's really not the major driving force. It's the fact that Habitat for Humanity gets to use the material, and they are helping us to fulfill the mission of building more homes. Some of the people are so well-off that they don't need the tax deduction; they're working with us because of Habitat for Humanity."

Equity and Sustainability

The primary goal of Habitat for Humanity is to provide affordable housing for low-income people, and historically the RE-store and deconstruction operations have emerged as revenue-generating streams in service of the primary goal. From this perspective, the environmental sustainability side of the RE-store and deconstruction operations is a secondary goal. However, there are interesting synergies that have emerged between environmental sustainability and the mission of building affordable housing. As Mr. Luba commented, "Austin has always had a recycling-friendly environment, and that helped the RE-store to get off the ground quickly. The advertising for RE-store highlighted how much product is being diverted from the landfill." For example, the deconstruction brochure notes that about a third of the nation's solid waste is from construction and demolition, and 90% of that one third is due to renovation and

demolition, rather than new construction. According to Bowman, people are attracted to the deconstruction program for both environmental and low-income assistance motivations. "There are a lot of things that are great for the environment, but when Habitat for Humanity does it, then all of the sudden we get their attention."

In addition to environmental benefits of RE-store and its role as a source of revenue for new home construction, RE-store also allows Habitat for Humanity to expand its original mission of affordable housing to many more people. As Bowman explained, "Habitat for Humanity can only affect a limited number of people through home construction. For instance, we build approximately fifteen to twenty-five houses per year. If there is an average of four people for twenty houses, that's about 100 people. By opening a RE-store and by doing what we do in deconstruction, we're reaching easily over a thousand people per month. When we first started the RE-store, a lot of people considered it a money-maker—it was a way for us to increase the funds to build homes—but we realized that it was a way for us to increase our outreach and to help the environment, and everybody's happy. It's a win-win-win situation."

Another synergy between the low-income mission of Habitat for Humanity and environmental goals involves the design of the new homes that are being built. The city of Austin has strong green building standards, and the homes that the chapter builds qualify for the city's green building program. As Bowman explained, "The mission is to build homes. How that happens depends on the local market. Of course, during this day and age they're going to try to make the home as energy efficient as possible. We provide programmable thermostats and little things that can make a difference. Here in Texas we'll use metal roofs that are made with recycled material and also last longer. In Arizona they're building straw-bale houses. Back in the late 1980s and early 1990s, the international organization developed an environmental initiative that basically acknowledged that we need to be good stewards of resources when building the homes. It really didn't go much beyond that, but it provided some impetus to the local affiliates that want to take the next step."[1]

Unlike some of the other reuse centers, the Austin RE-store uses a minimum of paid staff, and as a result it does not specifically hire low-income people to provide them with job training skills. Instead, the primary way in which low-income people are assisted is through access to affordable housing and affordable home supplies. Because many of the people who shop at the Re-store have low incomes and cannot afford retail prices for new materials, the Re-store provides them with a way to meet their household needs in an affordable way. In this sense it is continuous with the broader Habitat mission of providing affordable housing. Bowman explained, "The people who are buying our materials are often in the neighborhoods where we are building, so in essence they are helping to build a house in the neighborhood." The staff of the Re-store itself comes from various sources. As Luba explained, "One of our staff members is a Habitat homeowner, but others are people who answer our ads and have a heart for what we do." One source of volunteer help is the justice system. As Luba explained, "We're fortunate to be tied in with the city and county courts, so people who are doing their community service restitution will work their hours off at the RE-store."

Austin's Habitat chapter is also expanding its home construction operation to have more of a neighborhood focus. Luba explained, "The term 'Brush with Kindness'

comes from the program in the Twin Cities. According to our new strategic plan, within the next five years we will refurbish fifty homes in addition to the 100 that we're going to build. We're looking at putting in community gardens and community centers, and building around them."

Policy Issues and Recommendations

According to Bowman, one policy change that would make a difference is to change the tipping fee structure. "Deconstruction is an emerging industry in the United States. Let's say we have a 2,000 square-foot house. In Austin it would probably be worth about $200,000 to $300,000. Yet, we have to bid less than $15,000 to be competitive. If you're in the Northeast or on the West coast, where tipping fees are high, it makes a lot more sense to do deconstruction. Here in Texas we have more space than we know what to do with, so tipping fees are very low. We have to appeal to people's heart strings. It is easy for someone to go in and smash and trash a building, and to get it done in a very short time and at very low cost." In other words, if there were higher tipping fees for landfilling debris from demolition, then deconstruction would be more competitive.

Although people can write off the value of the materials donated, the tax deduction is often a very low value in comparison with the cost of the house. As Bowman explained, "For example, we have a house that is valued at $649,000. The direct value of the materials that will go through RE-store will probably be less than $6,000. That's one of the problems. Even an old house built at the turn of the century is only worth about $10-15,000 in materials. The Internal Revenue Service only looks at the value of the resale of the materials, not the value of the whole house. In California, a man was audited for claiming the full value of the donation, and he went to court and won. That's only one case, but it's a start." If the tax write-off were changed to allow for the entire resale value of the house, rather than the value of its recycled components, then the deconstruction industry would be in a much more competitive position financially with respect to demolition.

Another problem that people in the deconstruction industry face is liability insurance. Bowman explained, "Deconstruction is broken down into several phases, and only about 20% is physical dismantling. The rest is clean up and processing and other phases that are less dangerous. Because deconstruction is so unique and new, insurance companies don't know how to bill it. So they will err on the side of caution and bill it at a higher rate as demolition." As a result, Bowman described that the insurance companies need to go through an "educational process" to understand what deconstruction is and how it works, so that they can charge appropriate rates.

Finally, Bowman has found that new construction technologies and materials are less amenable to deconstruction than those of previous decades. The use of glues and staples with pressed wood materials makes it much more difficult to deconstruct new buildings in comparison with buildings that are several decades old. Bowman explained, "We need to look at building homes now to be deconstructed later. Older houses are much easier to take apart than the ones built today. When you have plywood that is glued down, it rips. Staples are a heck of a lot harder to take out than nails. Sometimes there's 150 staples in one four-by-eight sheet of plywood! The new engineered materials are not necessarily the best thing for deconstruction either. We're making

headway now, but fifty years down the road, there's not going to be any way to use this material. From a deconstruction standpoint, the construction industry is becoming less sustainable. How do you go forward with the engineered materials and build houses but allow us to think about the future and taking it apart? Ultimately, in the future every building is going to be taken down."

In summary, the experience of the Austin Re-store indicates that several policy changes could help shift the construction industry toward greater use of deconstruction and recycling. Among those cited by Bowman and Luba are tipping fee policies, tax write-off policies for donated materials, and insurance fee structures. In addition, the emerging deconstruction industry raises general questions about technology, design, and sustainability for the existing construction industry. Not only is the demolition end of construction less than ideal from an environmental sustainability perspective, but the trend in prefabricated and synthetic materials is also making deconstruction more difficult. Materials engineers and builders of the future who are concerned about sustainability will need to face the design challenge of making engineered materials that are of equivalent cost to existing engineering materials, but are also more amenable to deconstruction.

Web site: http://www.re-store.com/information.htm
Based on an interview with David Hess on April 13, 2005.

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Case Study of Reuse Centers:
The Loading Dock of Baltimore

By Govind Gopakumar
Edited by David Hess

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The Loading Dock (TLD) claims the distinction of being the "first successful, self-sufficient, nonprofit distributor of reusable building materials." Because its primary organizational mission is to store and distribute surplus building materials, TLD accepts almost any surplus, reusable building material including "paint, lumber, plumbing fixtures, doors, cabinets, windows, caulks, moldings."[1] TLD began as a clearinghouse for used and donated building materials in 1984 with an initial seed grant of $35,000. In 1990, after a period of about five years, the organization achieved its goal of becoming self-sustaining, which substantially reduced its dependence on external sources of funding. In addition the organization attained greater visibility for its achievements when it was awarded two prestigious national awards: the Presidential Award for Sustainable Development in 1996 and the United Nations Habitat II "Building Communities of Opportunity" National Excellence Award. I visited The Loading Dock in Baltimore in order to gain a more thorough understanding of the workings of the organization. I also interviewed Ms. Leslie Kirkland, the Executive Director of the TLD. She joined TLD as an office manager in 1989.

According to Kirkland, the TLD was started by three founders who later went on to become part of the board of directors. "The board of directors has always been a pretty good mix of for-profit business and non-profit representatives. The board has always had heavy finance people to give us advice that ties into wanting to be self-supporting." The presence of both for-profit as well as non-profit members on the board has been a source of productive tension that has helped TLD grow as an organization. The organization employs 15 full-time people with each person performing more than one task. For example, the office support person and two cashiers double up with reception and customer support.

The immediate rationale for an organization like TLD was the prevalence of substandard housing within Maryland. The Governor's Housing Initiative of 1986 suggested that one out of six housing units within the state was substandard. A majority of substandard housing units were occupied by households below the poverty line. An adequate quantity of building materials as required to upgrade the quality of substandard dwellings as well as to encourage the construction of more affordable housing units. It was this niche that TLD has tried to occupy. As of 2004, TLD claims that it has rescued over 33,000 tons of building materials from landfills and saved 24,000 gallons of paint and other toxic chemicals from reaching landfills. Furthermore, it

has saved low-income housing projects over $6.7 million through reused materials. Both these examples suggest that a potential win-win situation is possible through reuse efforts.

TLD has witnessed dramatic growth in the first twenty years of its existence. It has expanded its warehouse area regularly by renting larger premises in different localities. The expansion is clearly evidenced by the about 800% growth from 1984 to 2002. In 2005 TLD is moving to even larger premises in keeping with projections of future growth. As Kirkland explained, "We figured a 15% increase right away n expanding space, which would allow more people to get more materials, and each year after that at least a 5% increase."

Apart from being a repository for reusable materials, since 1996 TLD has become involved with deconstruction and "gut rehabs." Deconstruction is the process of salvaging building materials from a house before it is torn-down. As of 2005 TLD has conducted over twenty deconstructions. Since deconstruction is a labor intensive process, TLD evaluates the costs and benefits of deconstruction projects closely before making a decision. During the actual deconstruction, TLD carefully salvages building materials for its warehouse. TLD then gets contractors to conduct the deconstruction without actually getting involved in it. As Kirkland noted, "We decided after that experience, and a few others after that, that rather than handling it [deconstruction] in-house, it was better to work with a contractor who does it every day." Such an approach allowed TLD to focus on what it does everyday while at the same time develops a relationship between contractors and TLD. About 30-40% of the material in the warehouse is a result of deconstruction efforts.

Since the middle 1990's, TLD has also been involved with conducting workshops and providing tips for "do-it-yourself" projects for the home. These workshops are prominently advertised on TLD's website.[2,3] Workshops are usually conducted on such topics as installing cabinets, tiles, and toilets. TLD has also been considering inviting lenders and contractors to come and speak about the process of purchasing a home. In addition to these activities, TLD does bulk purchases of some materials such as white paint, paint supplies, door hardware, and weatherization materials in the fall before winter. This allows TLD to make it easier and to pass on savings to their clients.

Donations of surplus or reusable building materials are accepted from both individual and business donors. TLD lists nearly fifty business donors from the Maryland and greater Baltimore-Washington metro area who are currently supporting it. Large donations made by businesses are picked up by TLD. For smaller donations or those made by individuals, three alternative means exist for providing donations: taking the materials directly to the TLD warehouse in Baltimore, bringing the materials to specially marked containers in four participating landfills in Baltimore City, Baltimore County, Howard County and Montgomery County; and making donations to TLD by arranging with the organization for materials to be picked up by truck. The TLD truck travels to specific prior-arranged sites on special Community Days. Of the participating landfills, the ones at Montgomery and Howard counties are the most active. This is mostly due to the fact that these counties are relatively affluent and can afford the luxury of encouraging reuse.

As of 2005, TLD has partnered with several organizations and established a dedicated client base mainly within the mid-Atlantic region. According to its website,

"TLD has an active partnership with more than 400 manufacturers, distributors, and contractors in the Mid-Atlantic Region."[4] TLD is quite clear that the partnership with these organizations is a symbiotic venture with benefits accruing not just to TLD but to partner organizations. Tangible benefits to donor organizations include savings in handling, tipping and storage fees. Organizations also benefit by increasing storage capacity by eliminating reusable waste. Finally donor organizations gain substantial tax write-offs through their involvement. TLD mentions that their activities have saved their donors about half a million dollars and provided over $1 million in tax deductions.

TLD possesses a membership system for people who get materials from TLD. The membership system was set up so that the member pool and the targeted group of low and moderate communities match closely. Initially membership was regulated by requiring potential clients to be sponsored by a local non-profit. In the interests of streamlining the process, members are now matched up against zip codes that correspond to low and moderate income localities. TLD requires individuals and organizations who wish to purchase building materials to register as members. An annual fee of $10 is charged by TLD as membership. A membership makes members eligible for benefits such as: discounts on materials, free paint give-aways, and sign-up for free workshops.

In addition to its internal programs, TLD was instrumental in creating a national information network to accommodate the growing interest in reuse facilities. Accordingly, in 2002, ReDO (Reuse Development Organization) was established and is physically located within TLD. ReDO seeks to "advocate, educate and organize new and established reuse centers across the United States and Canada." Functionally, ReDO helps reuse centers throughout USA by providing a space for sharing of ideas and by finding a home for large loads of surplus material that a warehouse wants to get rid of in a hurry. In one instance, fifteen tractor trailers full of materials were sent to different centers because the TLD could not handle the quantity.

Equity and Sustainability

Equity and environmental sustainability lie at the heart of the reuse program for building materials and are integrated within TLD's organizational mission. TLD's mission is twofold: to increase the availability of affordable building materials and also to reduce the environmental burden that arises from the landfilling of unclaimed building materials. The first aim of the organization's mission is to collect and store building materials that can then be reused in construction efforts of community development organizations or individuals. The second aim is to remove reusable building materials from the waste stream and thus save precious environmental resources that would have been utilized in order to create the same commodity from virgin materials. TLD argues that both aims are being positively addressed through their efforts.

TLD sees some tangible benefits that arise from promoting a venture like reusing building materials. It suggests that a primary community-oriented benefit is to transfer needed materials to disadvantaged populations at a fraction (about 25-30%) of the retail price. TLD sees building material reuse as a means for rejuvenating low income neighborhoods and bringing substandard housing up to par either through the efforts of organizations or individuals. Donations of building materials have been directed to "over 8,500 low-income housing organizations, soup kitchens, community centers,

neighborhood improvement groups, nonprofits, theatres, senior citizen groups, day care centers and low to middle income individuals and families." They support the efforts of over 2000 low-to-moderate income families, who collect their building materials from TLD. In the process they make improvements in their physical environment when they otherwise would have not been able to. TLD estimates that their building materials reuse program has saved low-income housing projects over $6.7 million and they have assisted in the rehabilitation of nearly 10,000 homes each year.[5] TLD finds that in addition to supporting the lower economic strata of society, its efforts have served racially disadvantaged populations. It finds that about 60-70% of its clientele are African Americans while the remaining proportions are composed of Caucasian, Hispanic and Asian. In order to maintain the focus of the organization, TLD has consistently tried to locate their premises within low- and moderate-income neighborhoods in order to make it easier for their target population to access their service.

The environmental benefit can be traced to the ability to avoid resource consumption that arises from brand new products as well as to the reduction in landfill volumes occupied. The economic benefits are due to the savings that accrue from using reused commodities that are cheaper than virgin commodities. Furthermore, reuse centers contain the potential for introducing jobs into the community that can be targeted towards handicapped or at-risk youths.[6]

Tension between equity and sustainability is visible on a number of counts. The most obvious has been the possibility of reused appliances and materials promoting more damaging environmental lifestyles. For example, many of the toilets that are reused are often older flush toilets that use larger quantities of water. Thus while these toilets are often available cheap they sustain the depletion of natural resources. TLD has worked around this problem by placing notices that advertise placing bricks within the cistern of the toilet so that the volume of water per flush is reduced. In other appliances like shower heads, washing machines and ovens, TLD has decided not to accept appliances that are older than five years. In construction materials, it has decided to promote energy efficiency by accepting only thermal pane windows. The only single pane windows that are accepted are historic windows that are used for preservation of historic properties. Another facet where a tension between equity versus sustainability issues is evident is in the reuse of historical and architectural materials. Kirkland explicates that there was a time when more and more historical materials that were being stocked were being grabbed by upper middle class. She notes that the organization went through some internal discussion as to whether they should "take on and mark up these materials." And it was eventually decided that TLD "would keep historical materials in stock but we would keep prices lower in the interests of people in low and medium income segments who are desirous of renovating their homes."

Policy Issues and Recommendations

Policy issues of relevance to TLD's functioning concern the level of support that is provided by city and county governments. Kirkland is of the opinion that in general the city government has been supportive of their effort, while certain county governments—Montgomery and Howard Counties in particular—have been very supportive in sustaining the organization. An indicator of this support is the landfill collection containers. The landfill program in the city was effective initially, but then a change in

staffing and indifference on the part of the new landfill staff, and a change in the city's solid waste priorities, resulted in the program falling between the cracks. However, the landfills in Howard and Montgomery Counties have been active sites for material collection. Kirkland stressed that improving the collection of reusable materials was not a high priority for TLD. She summed up the organization's attitude to the issue as follows: "It would be ideal to have the city's department of solid waste or recycling department really pushing reuse, but if we were the only game in town we would not be able to handle it [the volume]. So in a way it is kind of like let sleeping dogs lie until we come up with other solutions for collection of unwanted yet useable products."

Policy recommendations that TLD would like to see considered by governmental authorities are either incentives that the government can provide for reuse or the removal of barriers that hinder reuse. On the tax incentive side, Kirkland noted, "The benefit is the same for most donors whether the product is donated or disposed of. because you get the same write-off for donating as for throwing it out." A higher tax incentive might encourage individuals and smaller companies to donate newer materials to the reuse stream rather than disposing them. Another incentive for reuse could come through tax credits for historic renovations. A significant disincentive for TLD is the insurance liability that it has to shoulder from the classification of reuse centers as 'risky' businesses. Because of the classification, the TLD must contend with much higher worker compensation and auto-liability. Warehouse workers in reuse centers like TLD require almost twenty times the insurance cost of administrative/clerical staff. Since in TLD almost half of the personnel budget is for warehouse workers, this is a significant burden for the organization.

Web site: www.loadingdock.org

Based on interview of Ms. Leslie Kirkland with Govind Gopakumar conducted on June 17, 2005.

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Case Studies of Reuse Organizations:

Urban Ore (Berkeley)

By David J. Hess

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Dr. Daniel Knapp, who holds a Ph.D. in sociology from the University of Oregon, traded being a college professor to work full time on community economic development. The year was 1976. "I cashed out my retirement at 35. I didn't quit working; I just jumped body and soul into building a more sustainable human culture for our planet. I explored horticulture and food distribution, but slowly gravitated to recycling, an industry that was then in startup mode. Work is exercise to me; I like physical work. After some surprising twists and turns, I become a landfill scavenger at Berkeley, California's, dump. That was the beginning of Urban Ore."

Working closely with his wife Mary Lou Van Deventer, he built a reuse and recycling company that currently grosses over $2 million per year and employs more than thirty people. Urban Ore estimates that it keeps about 6,000 tons of discarded material from being wasted annually.

Dr. Knapp's unusual career transition began with months of volunteering and worked up to a paid government job co-managing a recycling planning staff of about twelve based in the then new Lane County, Oregon, Office of Appropriate Technology (OAT). This first recycling job turned out to be deeply frustrating because "the solid waste people controlled all county recycling and wasting facilities. They had just spent millions of dollars on a mechanized shredding plant that was supposed to make refuse-derived fuel from mixed garbage. They sold it to the people as a recycling plant, but it didn't produce anything recyclable in three years of trying."

At OAT Dr. Knapp applied his extensive training in research methods and science, but to little immediate effect. "My staff and I could study the hundreds of tons of discarded resources passing through the transfer stations to landfill, and we could circulate our reports and findings," he says, "but the waste managers made sure we couldn't touch anything, pull anything out, sell anything, or change anything." After performing studies at two of the county's transfer stations, OAT staff proposed an alternative materials recovery system that was labor and skill-intensive. "That only made the waste people see us as competitors," says Dan. "From then on we were slated for elimination."

The breaking point came when Dr. Knapp predicted at a meeting of the elected Board of County Commissioners that the Solid Waste Division's shredding plant would blow itself up. He based the prediction on an extensively researched report on similar plants that he and the OAT staff put together. "We had to tell them what we knew," he says. "Several other refuse-derived fuel plants had already exploded. Reports said the high-speed shredders made lots of sparks as they chewed through the infeed material. The sparks touched off the explosions. Explosives were hard to detect; they included flammable liquids, military ordnance, even airborne dust. In our case, the primary shredder was very close to the public unloading area, so it was urgent to warn the electeds before someone got hurt."

At the end of OAT's first year, there was still nothing real or lasting to show for the agency's effort. Their proposal and business plan to establish a county enterprise based on salvaging metals for recycling and whole objects for reuse was ignored. Then the whole agency was defunded, and all but one half-time employee were ejected out into the streets looking for gainful employment.

Ironically, the garbage shredding plant blew up, as Dan predicted, in December 1980. "The explosion blew the roof and sides off the building. I read about it in the papers. By then I was 550 miles down south in Berkeley, where the City Council voted unanimously in that very same month to build a garbage-burning power plant right near where I had chosen to live."

The Berkeley plant was called a "mass-burn incinerator"; it had none of the automated separation equipment Lane County tried to use to produce a better fuel. Instead, it just proposed to burn raw solid waste. "The plant would burn hundreds of tons of fairly clean resources that I watched get smashed and buried every day while I was scavenging out at the landfill. I thought we recyclers could eventually rescue most of that stuff, but the burner was slated to destroy it. I had successfully jumped from the frying pan into the fire."

For a while Dr. Knapp was employed by a nonprofit subcontractor to a paving and grading company that had just taken over running the landfill. "The primary contractor outsourced the recycling to the nonprofit, but the company had too many managers and soon went out of business." Because no subsidies were available, it was necessary immediately to organize a new salvaging entity into a legitimate and recognized business that paid all its costs, including labor, taxes, and insurance. Money had to come from current revenues generated by selling whatever the company could develop markets for. Dr. Knapp helped boost income by developing upgrading for nonferrous metals and by creating a new offsite profit center specializing in used building materials. Urban Ore began as a partnership in 1980 and reorganized as a for-profit corporation in 1981. Dr. Knapp became Urban Ore's sole owner in 1986 following closure of Urban Ore's Compost Farm.

"Compared to my county experience, the freedom to actually organize a business at the landfill was exhilarating, and I made the most of it. As a former academic, I had little

knowledge of business, but I found excellent advisors. I made a very good decision early on to hire an honest, independent bookkeeper and an accountant to oversee the bookkeeping and do the tax returns. Together we developed money-handling procedures with a goal of accounting for every penny of income and outgo." He credits this stress on regular reports and meeting all obligations with creating a firm foundation and knowledge base for the company's growth.

The landfill-based business was so popular with customers that it quickly expanded onto commercial property in West Berkeley. The off-landfill part of the company moved several times in its first years, which caused the company to develop portable sales fixtures and sales areas. Moves were fewer in later years, but there were many internal stock reorganizations as the company pursued growth aggressively. The investment in organization paid off; the facilities attracted more and more discarded materials, and sales improved dramatically.

This design capability based on hands-on practicality has been put to good use internationally. Starting in the 1990's, Urban Ore has fielded a design team to work on site planning in Australia, New Zealand, the UK, and the USA. "Travel to these places has been fascinating, and our designs have gotten more and more sophisticated," Dan says. "We're working on a Zero Waste Centre in Lowestoft, England, and an alternative design for a $30,000,000 makeover of our current transfer station complex in Berkeley."

As Knapp has developed his philosophy, he came to see "wasting" as a manufacturing process. "Waste isn't waste until it's wasted." he says. "Discarded materials are resources, not wastes. After being discarded, they are wasted by being mixed indiscriminately." He strongly rejects the idea that recycling, reuse, and remanufacturing are "diverting" materials from landfill. "We recyclers don't divert resources from landfill, we attract them to us by friendly service and fair pricing for both the disposal service and the product. This principle is fundamental to good resource-recovery park design and operation. From his zero waste perspective, all discarding should be the beginning of a new use for the materials. To help visualize and eventually to build a discard management system handling all discards as resources, he developed a scheme of twelve master categories into which all discards could be sorted.

The categories are resusable goods, paper, metal, glass, plastics, textiles, chemicals, putrescibles, wood, ceramics, soils, and plant debris. "The twelve master categories are a teaching tool; there are lots of interesting applications. For example, each master category can be broken into many subcategories, and the more subcategories you develop, the more income potential becomes evident," says Dr. Knapp. "The list is copyrighted, but everyone is welcome to use it provided they give credit. The point of copyrighting here is to prevent people from editing and distorting the categories, then claiming they got them from me. Sometimes people in the solid waste and recycling fields have willing hearts but get confused over these concepts."

People think of Berkeley as a place where developing a business like Urban Ore would be easy, but it wasn't. "We fought for ten years to grow in the face of City initiatives to close us down in favor of the garbage burner. I was a focal point because of my early vocal opposition to the burner and the knowledge I had gained about the technology while in Oregon. I would work hard all day taking people's stuff, then attend meetings or develop position papers or legislation at night."

One of his most effective tactics was to show up at the City Council's public comment period with hazardous items he had found while scavenging at the landfill. "I remember holding up a little bottle of mercury dumped in with some dental tools and telling the councilpeople that mercury vaporizes at about 600 degrees Fahrenheit, and all of Berkeley was downwind." Some containers were old and the contents unidentifiable. Others were new but worn-out, like batteries, radioactive smoke detectors, or fluorescent light ballasts. The impression built up that the fuel source was unpredictable and getting the toxics out was impossible.

"I didn't work alone in any of this. Urban Ore joined forces with the other recycling businesses, principally Ecology Center and Community Conservation Center. Public opinion began to change, but the best the anti-burn coalition could manage was to change four votes out of nine on the Council. The 5-4 split in the council vote followed a deeper political rift between pro-rent-control council members, who were anti-incinerator, and anti-rent-control members, who were pro-incinerator. This made everything a lot more emotional. It was clear that both sides had hardened up and there would be no more defections."

A new strategy was needed to win. The coalition turned to the California ballot initiative process. A group of activists got together, wrote an ordinance declaring a five-year moratorium on building the incinerator, and got enough signatures of registered voters to put it on the 1982 ballot. Our campaign slogan was "Give Recycling a Chance." Mary Lou Van Deventer staged a press event where we released black balloons from the burn plant site to demonstrate where the emissions would go." A councilperson who was there said "That's going over my house!"

The ballot measure passed handily with over 60% of the vote. The incinerator was shelved, at least for awhile. As expected, the change created the conditions for Urban Ore and the other recycling businesses to grow very rapidly. "We all got much bigger. We hired more people, occupied more real estate, moved more resources to market. The whole time of this rapid growth we were having to fight the city's efforts to shut us down, usually by trying to give our businesses to our competition or by hitting us with lawsuits. But we survived and grew anyway, thanks to our suppliers and buyers, who liked our services and what we were producing."

By 1983 Urban Ore included not only the reuse business that exists today but also a compost operation handling about 14,000 tons per year. The compost operation charged suppliers at the rate of $2/cubic yard of clean compostable plant debris, and it provided friendly service and pleasant facilities just ahead of the landfill. It cost

$4/cubic yard to dump the same load at the landfill a quarter-mile down the road. Given its competitive edge, the compost facility soon pulled in about 80% of the available supply. This was a very large and quick reduction in landfill burial.

“Urban Ore’s Compost Farm was zero-waste theory in action. Starting with the twelve master categories, zero-waste theory builds a whole collection of industries based on charging for the service of disposal in addition to selling products. Our Compost Farm service was legal disposal, just like the landfill. We charged half what the landfill charged and got nearly all of the supply in a matter of months. It was breathtaking, and best of all, it was real.”

In 1985 the coalition went to the voters again for an extension of the moratorium on incineration and a reaffirmation of a Council-passed goal of 50% recycling. The 1976 plan had allowed recycling to be defined to include incineration. The new initiative (Measure G) closed this invitation to wasting by defining recycling as materials recovery, not materials destruction. The still-active pro-incineration group ran a counter-initiative (Measure H) that looked ecologically friendly but would have opened the door to incineration. The campaign coalition campaign slogan—“G is good; H is a hoax”—worked, and Measure G won, again with over 60% of the votes. Similar events occurred in many other communities across the country during the late 1980s. Measure G killed incineration as an issue in Berkeley. In 1989, the California state legislature caught up with the Berkeley initiatives when it passed AB 939, which mandated 25% waste “diversion” from landfills by 1995 and 50% by 2000.

In 1986 Urban Ore suffered a setback when the city closed its Compost Farm and developed plans to convert the seven-acre site into a grassy park. Interestingly, the Sierra Club and Audubon Society allied with the pro-burn and solid waste management groups to oppose continued use of the former landfill for composting, because they wanted to turn the land into a park. Dr. Knapp adds, “I thought the two uses could be quite compatible. What I wanted was an Ecopark, with an educational message that we are reusing the surface of this abominable old landfill to stop landfilling organics and turning them into methane. This happens in all landfills, even at our newest dumps at the headwaters of various creeks in our surrounding hills. This argument went nowhere.” The outcome was that the city shifted its composting to a facility about 75 miles away, and Urban Ore’s business refocused on its reuse enterprise.

“This was a bitter defeat that flew in the face of common sense,” says Dan. “Now Berkeley burns expensive refined diesel fuel to haul our compostables 75 miles out into the San Joaquin Valley. We burn refined carbon to haul unrefined carbon away where it can be composted and we don’t have to look at it. It’s an energy sink, completely unsustainable.”

In 1989 a new coalition put forward a third initiative, this time for all of Alameda County. This initiative raised the cost of wasting by imposing a $6 per ton surcharge at all three county landfills. This was enough to raise about $8 million each year at first to fund recycling infrastructure improvements. The initiative created a new government agency,

the Alameda County Source Reduction and Recycling Board, to manage the funds. The initiative passed with a 63% vote and, with the help of the Earthjustice legal team, triumphed over a court challenge. As a result, funding was made available to strengthen resource recovery, recycling, reuse, and remanufacturing throughout the county. From four to five facilities in 1980, the number grew to about 30 facilities in 2005. Some remanufacturing firms found creative and profitable new uses for materials, such as a high-end countertop material that was made from crushed porcelain and glass.

Over time the Berkeley city government became more supportive of Urban Ore, and from 1999 to 2004 it helped the company to relocate to a three-acre industrial site with a 30,000 square foot building. The move required a zoning amendment to allow materials recovery enterprises to exist there. Urban Ore is now just one of many business enterprises and nonprofit organizations in the East Bay materials recovery industry. Although most of its materials come from purchases and drop-offs, the organization also does pick-ups, and it still has scavengers on its staff who work at the City's transfer station, a job that Knapp once held. The landfill pays Urban Ore $28.84 per ton for recovering materials from its transfer station floor. The reuse store facility is about the size of a Home Depot or Lowe's store, and it processes about $2 million in goods per year. What Urban Ore cannot resell it deconstructs for scrap.

"If we can't recycle it, we have to pay market rate at the City's waste transfer station, which is over $70 per ton. That's a strong incentive to find recycling markets for our unsaleable stuff. We have some very interesting and specialized markets we've developed over the years to minimize our cost of wasting." The General Store and Building Materials Exchange departments sell everything from used books and electronics to furniture, doors, toilets, tubs, and windows. On an afternoon visit in March 2005, the 55-space parking lots were full and business was brisk. "Moving was arduous, and renovating our building was expensive, but it was worth it. We're really hitting our stride now, with month-over-month records most months. It's very gratifying," says Dan.

Equity and Sustainability

The company's customers include homeowners, remodel contractors, business owners, students, collectors, and other second-hand shops. Dr. Knapp notes that he wrote a book on poverty programs, *Scouting the War on Poverty* (1971), and he points out, "I'm an old anti-poverty guy." Although Urban Ore is a for-profit enterprise, Dan notes that there is room in the field for all types of enterprises

Urban Ore is is helpful to low-income people in two main ways:

- Unlike most nonprofit reuse centers, which receive donated material, Urban Ore often pays people who bring in used products. Small trash haulers are regular suppliers, motivated by both the cash and cutting the weight and volume of the load going to the

landfill, which is expensive in Berkeley. Because some of the people who bring in used products have low incomes, the business puts money in their pockets. In contrast, nonprofits get material from donors that expect a tax write-off, so they appeal more to corporations and the wealthy.

• A second way that Urban Ore helps low-income people is similar to the nonprofits. Many of the employees are low-income people who are gaining training in the building and construction industry, so their jobs with Urban Ore are sometimes a stepping stone to better work. Knapp finds that Urban Ore's model is more efficacious than any of the antipoverty programs that he studied and worked on in the 1960s.

Policy Issues and Recommendations

Based on his longstanding experience, Knapp would like to see local and national laws in the waste industry reformed to allow greater competition from ecologically oriented materials recovery organizations. He argues that laws protect a monopolistic situation that guarantee a 15% to 30% profit for waste companies and do not allow competition from green businesses. Fundamentally, the whole idea of "disposal" needs to change from an orientation toward landfilling and incineration to a zero-waste model that defines disposal as selling and giving away materials to recyclers, reuse organizations, and remanufacturing enterprises. In order for the change to happen, he argues that the "Soviet-style" waste industry needs to be reregulated, so that small, ecologically oriented organizations (both nonprofit and for-profit) can compete by offering lower fees to residents and businesses for their waste products.

Web site:

http://urbanore.citysearch.com/

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Case Study of Reuse Centers:
Burlington's ReCycle North

By Richard Arias
Edited by David J. Hess

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ReCycle North is a nonprofit organization dedicated to resource conservation, job skill training, and poverty relief in Burlington, Vermont. It was founded in 1991 by Ron Krupp, a longtime organic farmer who found warehouse space near the city's recycling center and convinced citizens to donate household goods and reusable materials that they would otherwise discard. All the material collected was reconditioned in ReCycle North by homeless people under expert supervision, and the refurbished goods were sold in a flea-market-type setting, where anyone, including the poor, could buy appliances, furniture, and other household items at a very low price.[1] I interviewed Thomas Longstreth, executive director of ReCycle North since 1996. He graduated from the John F. Kennedy School of government at Harvard and specialized in job training programs.

In 1996, ReCycle North initiated its job skills training programs. As Longstreth explained, "ReCycle North, along with several other partners in the community, received a grant from the Housing and Urban Development Department (HUD). We were the training program, and other homeless providers referred trainees to us. All of our trainees were homeless, and we trained them in appliance repair and in electronic repair." Up to 1998, ReCycle North's budget for training was almost entirely dependent on the grant from HUD. However, in 1999 the grant was not renewed for 1999, and the organization was forced to seek alternative funding. "At that time our stream of funding changed as did the type of trainees we started serving. We started serving more trainees who had been injured on a prior job and needed retraining, and consequently we started being paid by workers compensation insurance carriers. At the same time we also started working with more people who had been on public assistance, but because of welfare law changes were being required to go to work." As a result of this transition, ReCycle North began charging tuition for its six-month apprentice-style training program in order to cover training costs. The Vermont Department of Employment and Training (DET) began to subsidize 36% of tuition for disadvantaged trainees, including individuals on public assistance, the homeless, or the otherwise disadvantaged and unemployed. ReCycle North covered the rest of the tuition through alternative sources of funding, including grants, individual contributions, and payments from workers' compensation.[2]

ReCycle North occasionally received donations of used building materials but due to space constraints, struggled to display these materials. It also lacked staff familiar with building materials and did not have a base of customers who thought to

shop at ReCycle North for this type of materials. As a result, there seemed to be little reuse potential in builing materials. Nonetheless, funded by a small grant from the Vermont Agency of Natural Resources and with the encouragement from Burlington Mayor Peter Clavelle and the Chittenden Solid Waste District, ReCycle North completed a comprehensive survey of local builders and completed a business plan for the startup of a Building Material Reuse enterprise. This effort culminated in 2001 with the start of a Deconstruction Service followed shortly afterward by the opening of the Building Material Center in an old City owned garage. The first facility became the Household Good Retail Store, which solely sells used appliances, furniture, TVs, computers, and other household items. Longstreth added, "We took a novel approach, and the first part of it that we launched was a deconstruction service, where we take down buildings that are slated for demolition and reuse the component parts. We started that enterprise first, and then once we had the materials from our first job, we then opened up the Building Materials Center, a store where we sell lumber, windows, doors, cabinets, light fixtures, toilets, bathtubs, showers, and so on."

In 2005, ReCycle North had grown to an organization of 39 staff members with a $2.3 million budget and over $1.5 million in sales and services located in the two stores: the Household Goods Store and the Building Materials Center. The income stream is split as follows: 75% from reuse sales and services that include appliances (17%), furniture and household goods (26%), computers (9%), building materials and deconstruction services (39%), pick-up and delivery services (4%), and appliance repair and computer repair services (5%). Another 15% of the revenue is from government grants that partly fund the training programs. The last source is individual and corporate contributions, which cover about 9% of ReCycle North's budget. ReCycle North also offers four job skills training programs, which complement its reuse and deconstruction operations, and the organization donates yearly more than $70,000 worth in goods through its Essential Goods Program.[3]

Equity and Sustainability

ReCycle North has explicit environmental commitments. It creates a market for reusable and repairable household goods and protects the environment by diverting potential resources from the waste stream. As Longstreth explained, "We fill a vital role in just keeping stuff out of the landfill, in keeping it moving." For example, in 2004 ReCycle North diverted 300 tons in household goods and 274 tons in building materials from landfills. Since 1991 the organization had sold $5,346,777 worth of reusable and repaired material that otherwise would have ended up in landfills. Individuals and businesses donate what they no longer need to ReCycle North. The items are then inspected, refurbished, and repaired through a job training and education program and sold with a guarantee of quality.

ReCycle North is also committed to relieve poverty by providing job training skills. The organization has trained and employed over 200 people, most of them from low-income households, to reuse household goods and building materials. According to Longstreth, "We help low-income people through our training programs. We give them job skills, so they can become gainfully employed." The organization has paid for the positions largely through reuse sales and services revenue.

The organization also alleviates the effects of poverty indirectly by making vital household goods and building materials available to the poor, and directly by its Essential Household Goods program. As Longstreth explained, “We have available very low-cost goods. Someone with a low income can buy major appliances from us. They can buy furniture, books, appliances, computers, pots and pans, dishware, etc., and completely outfit their house for probably less than a tenth that it would cost if they were to any other store, even a low-cost store like Wal-Mart or some other discount chain. We are cheaper and generally the stuff they can get from us is often of higher quality.”

The Essential Goods Program through which ReCycle North’s delivers its charitable giving , allows people with a very low income to purchase goods that they otherwise could not afford. In 2003, ReCycle North helped 164 individuals and families that had recently become homeless. It also helped 214 other low-income individuals and families, who acquired important household goods that they otherwise could not have obtained. That year, ReCycle North gave away $49,721 worth of goods and services as donations to poor people and 54 non-profit organizations. ReCycle North collaborates with partner social agencies to deliver the goods to individuals and families who are recovering from crisis, and the organization gives other items, including building materials, directly to non-profits to help them serve low-income people. As Longstreth added, “At the Essential Goods Program people who cannot even afford our low prices can get stuff basically for free. We work with sixteen different partner agencies and at the beginning of every year we give them a certain amount of vouchers for ReCycle North. The case managers and social workers from the other agencies can write out a voucher to a client they are working with and send that client to ReCycle North. Instead of paying cash, the client can pull out the voucher and use it as form of payment to acquire anything we offer. It is a nice way for us to partner with the other agencies and also get the support of the other agencies, because we do not want to become a social worker. We do not have staff to do that, and we want to make sure that the low-income people who perhaps have other needs get the full gamut of support.”[4]

Another way ReCycle North helps low-income people is through its training programs. The firm gives access to employment skills to disadvantaged youth and individuals who are homeless, unemployed, dependent on public assistance, or with physical or mental barriers. The job skill training programs support, and are supported by Recycle North’s productive activities. The different training programs are correlated with the various departments or productive activities in the organization, where opportunities for hands-on training can be easily coincide with theoretical instruction.

Four training programs (Apprentice-Style Training, Work Experience Training, YouthBuild, and Community Service) serve the different populations’ needs and are supported by different public agencies. The six-month Apprentice-Style and the twelve-month Work Experience trainees program have been partially funded by grants from the Vermont Department of Employment and Training and other public agencies, but recently the funds have been increasingly cut. In 2003, ReCycle North provided full or partial scholarships to 70% of Apprentice-Style trainees enrolled, and 100% of these trainees graduated as scheduled. Of the graduates, 50% were employed three months after graduation. Individuals are currently trained in four departments: Computer Systems Technology, Customer Service/Retail Management, Major Appliance Repair, and Office Administration. The organization offers them roughly ten of its twenty full-

time jobs as entry-level positions, which will ultimately allow them to move into higher paying jobs within, or outside the organization.[5]

The Work Experience program offers training opportunities to those who may not be ready for the Apprentice-Style program. The emphasis is not as much on technical learning as it is on participating on a team and developing communication and decision-making skills to work with others. As Longstreth added, "Someone who is not ready for our Apprentice-Style program might get into our Work Experience program. It's a feeder program so that even if someone comes in and their skill levels really are not ready, and we do not think that in six months they can learn to become an appliance technician or a computer technician, we might enroll them as a Work-Experience trainee. That program often does not have the same outcomes as the Apprentice-Style program, but it also has more flexibility. So someone might be able to gain some skills through that program, then graduate from that and then enter to the Apprentice-Style program."

The Deconstruction Service also has created more opportunities for training and employing disadvantaged youth because of the physical strength required to perform deconstruction activities.[6] As Longstreth explained, "When we started the Building Materials site, we wanted to have an equivalent training program. Many of the people we work with in our existing programs have been injured, so physically they are unable to do some of their old type of work. One of the challenges is that construction is an aging industry. The average age of the construction worker in Vermont is fifty-two years old, so they need young people to enter the industry. We noticed this and we wanted to create a training program for disadvantaged youth who needed to finish their education. Last year we took over a YouthBuild program, which is a national model. It serves sixteen to twenty-four-year-olds who had dropped out of high school and are economically disadvantaged and need to finish their education. We now train eighteen young people every year, and the training is in construction training. However, they also do deconstruction work, and they work at our Building Materials Center." These young people work toward their high school diploma and learn construction skills by building affordable housing for low-income people, providing deconstruction services, working at the Building Material Center, and creating new products out of scrap building materials in a new program implemented in ReCycle North called Waste Not Products! "For some materials we get in at the Building Materials Center, there is no use for them in their raw form: single pane windows, short pieces of 2x4, short pieces of oak flooring, barn board, etc. so we started taking those pieces and adding value to them. We construct sheds, garden sheds, picture frames, shelving units, and birdhouses, and we turn single pane architecturally attractive windows into mirrors, and so on. We are creating products out of waste, essentially, and so we call it Waste Not Products!, and we hope to integrate that with our job training program, related to the YouthBuild, to make it all come together."

ReCycle North also provides a structured work environment for individuals who need to complete mandated community service for either educational institutions or the justice system. The Community Service program has been specifically designed for local colleges and high schools. In 2003, the program served seventy individuals who performed community service at ReCycle North to maintain benefits, three adults whose skills and talents were not recognized in the workforce, and forty students. It also served

twenty-five adult offenders, and eighty-nine first-time youth offenders through community restitution programs.[7]

All four training programs exemplify ReCycle North's commitment to the three parts of its mission: reuse, training, and poverty relief. Every program reduces the amount of reusable and repairable items dumped in landfills while giving individuals in transition job skills and creating new, refurbished, and cheaper products for low-income people. ReCycle North's environmental and poverty relief commitments have been recognized with an award from Association of Vermont Recyclers as the "Most Innovative Waste Reduction Program" in 1993, the Governor's Award for Excellence in Employment & Training in 1998, the Blue Ribbon Award for Excellence from HUD in 1998, and the Harry Chapin Self-Reliance Award from World Hunger Year in 2000.[8]

Even though one of the remarkable characteristics of ReCycle North is having achieved a balance and having created synergies between its environmental and poverty relief concerns, there are several challenges that the organization faces to fulfill completely its mission. Several of these challenges relate to the deconstruction service. As Longstreth noted, "When we do a deconstruction job, we can't salvage all the wood, sometimes there is glue, a lot of screws, or it's just filled with nails. When that happens, it is not worth the time to take it all apart and thus reuse it. Occasionally we'll have to take some wood and we recycle it rather than reuse it, and the way we recycle it if it is clean wood not painted, we can burn it for energy, and we take it to the McNeil generating plant and it is chipped and turned into energy. We have three de-nailing guns, which are pneumatic devices that speed up the process of cleaning up wood and allow us to very quickly and efficiently take apart lumber, then reuse it. Some old structures have plaster lath, which comes apart very hard and is not something we can reuse. You tug and tug and tug, beat up a whole section and yet get only a four square foot section of wall off. Then you have to do it again and again and there is a lot of dust, and the health and safety of our workers are very important to us, so to some degree we will evaluate what problems we expect to encounter and try only go after a bid on jobs that we think we can do efficiently."

This efficiency is also a requirement to maintain deconstruction cost-competitive in comparison with demolition companies. As Longstreth amplified, "Deconstruction is expensive because in order to bid a job at a price that people are going to accept it, basically in order to stay competitive with the demolition company, we have to do it extremely efficiently and quickly. Sometimes what that means is we bid below the cost of doing the job and we can do that because the sale of the materials eventually will support the deconstruction. We have also created some tools that help us speed the deconstruction and make the work quicker and more efficient." By reducing disposal costs and by providing donors with tax benefits for donating materials as a 501(c)(3) organization, ReCycle North can also claim that its fees for deconstruction can be less than the cost of demolition. "One of the things that make us cost-competitive is that we can reuse. That is going to reduce the cost of the job for the customer, because if you are looking at a whole house, just the tipping fee at a hundred dollars a ton that will add up quickly. So the more we reuse, the more we save the customer in terms of disposal." ReCycle North has been successful in maintaining competitive costs for deconstruction and developing efficient procedures and tools for deconstruction, creating synergies with its training programs, selling the materials obtained from deconstruction at the

Building Materials Center, offering alternatives to the high tipping costs in Vermont for waste disposal, and offering tax benefits to its customers for donating material.

Sometimes ReCycle North faces trade-offs between its reuse activities and environmental concerns. As Longstreth explained, “We get some refrigerators that we can fix, but if they are an older model, they may be an energy-hog refrigerator. If we fix that refrigerator and re-sell it, we have reused it, but if it means that an energy hog is out there on the market instead of a cleaner, more efficient one. We are trying to help the environment, so we need to weigh which machine should get fixed and which should not. For refrigerators it really means we need to know how much of an energy hog they are. With energy hogs we clip the cord and recycle the metal; we do not reuse them. Where to draw that line in terms of which are efficient enough to reuse is a difficult question, but for us the cut-off is refrigerators that are roughly more than a thousand kilowatts-hours a year.”

Some other times these trade-offs are between its reuse activities and training programs. “Let’s say an employee learns in the appliance department how to fix a dryer. If we were a pure business, we would keep that person on a dryer and have him just work on dryers because that is what they know, but really we switch the trainee to washing machines, refrigerators, or stoves. We try not to rely on our trainees to get reuse done, and we really try to keep that focus on the training, so that those trainees can continuously learn the skills and as quickly as possible. It is a challenging trade-off, and it is particularly challenging when with government funding being fairly tight and it sometimes means we need to fund the training through the reuse activities, when that is the case we are going to be pushing. One unintended consequence is that sometimes we cannot accept a trainee who has higher barriers to success. If we do not get governmental funding or private sources of funding, we have to rely on our reuse income, which means we cannot serve a trainee who has got multiple barriers to employment. Fortunately, we have had pretty good luck with getting individual and corporate and foundation grants, and the YouthBuild funding is a new source of funding that is enabling us to really expand that youth training.”

Policy Issues

Local, state and federal policies have helped ReCycle North’s mission over the years. High disposal costs fixed by local policies in Burlington and Chittenden County ($100 per ton), as well as tax deductions, have helped deconstruction services to be cost-competitive in comparison with demolition companies. State policies that do not allow businesses to throw out their computers in Vermont also promote more willingness from businesses to pay reuse centers to dispose or to recycle computers.

However, there are some other policies that have constrained reuse activities. As Longstreth explained, “One policy that hurts is that individuals can still throw out electronics, including computers and monitors, and in some cases the cost is relatively cheap. That is a policy that could be improved. In addition, the Chittenden Solid Waste District has days that are free to drop off appliances and other items like that. In some ways that means that people have this way to get rid of the materials for free, so if they

are comparing that with using us, sometimes they would rather drop it off on their local free day."

Other policies that have generated extra-costs for reuse and training activities in the past have come from taxes. Again, Longstreth explained: "In terms of the local city government, we used to be required, even though we are non-profit, to pay a business property tax. We were taxed on some of the equipment we own, including our trucks and our tools. However, a Supreme Court ruling recently issued a ruling so that going forward we are not going to have to pay that tax anymore."

The relationship with the City of Burlington and the local agencies is not only limited to the grants received from these public agencies to support training programs and mandatory community service for first-time offenders, it is also instantiated in support of physical space. For reuse centers physical space is critical to store, refurbish, and sell reusable goods and materials. In the case of ReCycle North, the Building Materials Center is located in a city garage. Longstreth: "It is a space with no lease. We can use it on a temporary basis because the city of Burlington is supporting us but we cannot invest in it, we can not grow it, and it is not well heated. It has all sorts of problems: for example, the lighting is terrible and it leaks, so we have identified the building as almost a crisis because we can lose that space any time. Fortunately, the city is interested in having us redevelop it, and the mayor is willing to work with us to do a redevelopment plan. I am not sure if the city is going to be able to help us financially, but I hope the city is going to agree to give us a long term lease. They do not want to sell the land but they might give us a lease for the land for $1 for 99 years. We would own the building, and I think that is the general structure of how the relationship would be." The city's support in ensuring a permanent physical space for the Building Materials Center will be key, and it will require the leadership of both the city and the nonprofit organization to gain public acceptance of this proposal. "We need to talk to the local people; we need to talk to the City Council and make sure that we get their support."

Another policy change that would facilitate the work of ReCycle North is that LEED (Leadership in Energy and Environmental Design) standards could be implemented in building design and building construction policies to promote and to facilitate deconstruction practices in the future. ReCycle North has alliances with local universities, LEED and local construction companies to promote these standards. As Longstreth added, "LEED is essentially a certification that promotes buildings being constructed in an environmentally safe and benign way where the long-term costs, the life cycle cost of the materials, is factored in so that a material that is going to last a hundred years. Often when you are constructing, the long-lasting materials are compared with the materials that are going to last only twenty years, and if the one with a twenty-year life span is less expensive, that is the one people buy. LEED promotes an analysis that looks at the long-term value of materials. It also promotes as one of its criteria the degree of recycling and reuse that occurs, so you can get more points by designing and using deconstruction as part of the process. So an old building if you deconstruct it, and that is where your new building is going to go in, that gets factored in."

Web site: http://www.recyclenorth.org/

Based on an interview by Richard Arias with Thomas Longstreth, June 20, 2005, and a visit to ReCycle North in Burlington, VT.

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Case Studies of Reuse Organizations:

The Reuse People (Oakland)

By David J. Hess

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The Reuse People (TRP) started in San Diego in 1993 as a way to help flood victims in Mexico to rebuild their housing. Organized by Judy Bishop, TRP's cofounder, the campaign solicited donations of building materials from local organizations. Response was generous: the organization received over 400 tons, or 27 tractor trailers, of materials. Ted Reiff, a former investment banker, met Bishop shortly after the donation campaign was completed. He found the work fulfilling and decided to engage in it on a full-time basis in the San Diego area. In 1999, the Alameda County Source Reduction and Recycling Board offered the organization a grant to relocate near its resource recovery facility in San Leandro, so TRP moved its headquarters to the East Bay. Two years later, Warner Brothers was using portions of the former Alameda Naval Air Station as a set for the movie "The Matrix Reloaded," and it asked TRP to help with set deconstruction. As a result, the organization moved to the former naval base, where it was able to recycle about 95% of the material, or about 10,000 tons. In TRP's new Bay Area headquarters on the former naval base, the organization established a reuse store, where people can buy used home materials at very low prices.[1]

At the beginning, TRP's source of materials came largely from donations. Home supply companies such as Home Depot donated significant amounts of materials, but unfortunately customers who bought the materials from TRP sometimes took them back to the home supply store to get a refund. As a result, TRP gradually shifted out of donated extra stock from home supply stores, and over time the source for new materials shifted to building deconstruction. Most of the deconstruction work performed by TRP was for residential property owners. In many cases property owners who were taking down older homes were willing to pay TRP for its "velvet crowbar" of ecological deconstruction. Although the cost for ecological building deconstruction is generally fifty to 100 percent of more conventional methods of demolition and landfilling, property owners can earn a substantial tax deduction by donating the materials to the nonprofit organization. As a result, the ecological deconstruction process not only satisfies a growing environmental consciousness among property owners, but in some cases it can be even more advantageous financially than conventional demolition.[2]

TRP receives grants and in-kind donations, but its main source of revenue is fees from building deconstruction and sales of materials. As a result, it has developed a model of a nonprofit reuse organization that is financially viable and self-sufficient.

Building materials are warehoused at the reuse store in the former Alameda Naval Air Station, and frequently local contractors will buy large allotments of a single type of material. Some of the wood is also used by a furniture remanufacturing company. By 2005 TRP's network was statewide, with branches in the Bay Area, Los Angeles, and San Diego. It was developing plans for a branch in Seattle, and Reiff was even developing a plan to make the organization national by 2010.[3]

Equity and Sustainability

The primary goal of TRP is to educate the public to make remodeling and deconstruction more ecological. Tremendous amounts of construction debris go into landfills, and much of the material can be reused or remanufactured. In addition to its primary environmental goal, the organization also hires low-income workers and provides them with training in tool use, safety, and construction methods. After receiving training and gaining experience, the workers sometimes move on to better jobs with contractors. TRP has also developed innovative ways of combining the high-technology associated with conventional demolition with the "low-tech" approach of the velvet crowbar. For example, instead of using a crane to wield a wrecking ball against a building, TRP uses the crane to remove the roof or a module of the roof, then lower it to the ground, where workers can take it apart without the risk of falling. Because of the emphasis on safety and the use of human-scale deconstruction techniques, injuries to workers have been very low, including several years with no injuries at all. Another dimension of TRP's concern with equity and low-income issues is that the organization donates building materials to nonprofit organizations such as Habitat for Humanity, Volunteers of America, and Goodwill. Finally, low-income residents in the East Bay also benefit from the low prices at the reuse store, and surplus lumber is sold to a company that builds housing for low-income people in Mexico.[4]

Policy Issues and Recommendations

One of the largest problems that TRP has faced is liability insurance for its demolition work. Insurance policies are structured so that even if 90% of the business is in resale retail, and only 10% is in demolition, the insurance rate is based on the entire revenue of the organization. One solution is to divide the organization into two units, one of which does demolition. However, Reiff is gradually shifting the TRP away from demolition work to a distribution role between building owners and deconstruction firms. In this new role, which is termed the "Reuse Solution"^{TM}, TRP will oversee the work of the contractor to make sure that it follows ecological deconstruction techniques. The materials will then be donated to TRP.[5]

A second problem has been building codes. In the US local building codes are based largely on regional code guides (one for the Eastern states and the other for Western states), and the Western codes restrict the use of reused lumber to non-supporting walls and beams in buildings. In order to use lumber in supporting wall or beam positions, the reused lumber needs to be certified. However, in order to make certification cost effective, an organization would need to have a warehouse full of lumber to pay for a certification person to come in for a whole day. Yet, accumulating and storing that level of material in the Bay Area, where property values are so high, is not cost effective. Instead, the organization focuses on a more rapid turn-over of

lumber, much of which is shipped off to other countries. A change in the building codes or certification process would allow more lumber to be reused domestically.

A third problem has been a proposed policy change that would make it illegal to ship any building materials that carry lead paint. The proposal is based on the assumption that the dust from the materials constitutes a hazard. However, Reiff has called in experts to test the air in building deconstruction sites where there is significant lead paint, and no detectable lead can be found in the air. TRP is among the organizations that challenges the proposed legislation. The conflict is complicated because it pits two environmental "goods" against each other: lead-free air and reuse of building materials. Reiff's position is that the scientific evidence to support the claim that there is a lead hazard from airborne particles in deconstruction sites is not there. Partly, the issue may depend on the techniques of deconstruction (the slow, human-based process of building deconstruction compared with the crane and bulldozer process of demolition).

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http://www.thereusepeople.org

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Case Studies of Reuse Organizations:

Construction Junction (Pittsburgh)

By Rachel Dowty

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Edited by David J. Hess and Mike Gable

Construction Junction opened in 1999 with support from the Pennsylvania Resources Council, the oldest grassroots environmental organization in the state. The reuse center represents Western Pennsylvania's first non-profit, retail business that promotes conservation by selling used and surplus building supplies. The organization is said to have started when a contractor who asked Lou Tamler of the Pennsylvania Resources Council where he could donate useable siding from a renovation job. The Pennsylvania Resources Council had nothing set up to organize such donations, but Tamler saw the opportunity to create such an organization. In 1997 Conservation Consultants and the Green Building Alliance joined with the Pennsylvania Research Council to put together a business plan. I spoke with Mike Gable, the manager and executive director of Construction Junction. Before joining Construction Junction when it was launched in 1999, Mr. Gable managed an organic farm for the Pittsburgh Food Bank.

Construction Junction was originally run out of an old warehouse in the Lawrenceville section of Pittsburgh. In 2002 the organization moved into a new, 50,000-square foot store in the Point Breeze area, near the East End Food Co-op. According to Gable, the new building had several desirable features, which might be of general interest to those in the reuse industry looking at sites: "First, we had sales information and a knowledge of our top five sales zip codes, so I wanted the new facility to be somewhere accessible, ideally right in the middle of the top five sales zip codes. The building had to have adequate parking, at least enough for fifty cars. It had to have decent general comfort level. Natural light would be ideal. The building needed to have at least 50,000 square feet with the possibility of acquiring more space if we needed it. It had to have more than one loading dock, and it had to have a separate space for processing materials, separate from the retail space."

Although Construction Junction obtained its nonprofit status in 1999, as an independent organization, it has remained partnered with Pennsylvania Resources Council. Since 1999, CJ has recorded over $2,200,000 in sales of building material donated by more than 3000 individuals and companies. The majority of the 550,000 inventory items purchased at CJ would have otherwise wound up in landfills. CJ's sales

growth has averaged a respectable 30% per year since opening. In 2004, the store recorded sales of $631,000-its best sales year covering over 98.5% of operating expenses.

Both the quantity of its sales and the quality of its offerings reflects the organization's local popularity. The store accepts and sells kitchen cabinets, doors, lumber, windows, light fixtures, carpet, plumbing fixtures, architectural salvage (mantels, molding, etc.), tile, tools, mirrors, shelving, latex paint, clean brick or block, surplus shingles, insulation, plywood, and drywall. Prices are a fraction of their equivalent for new items. Donations are tax-deductible, and Construction Junction offers a free pick-up service for large donations. The facility also hosts 3 monthly collection events for special items, such as appliances, propane tanks, electronics, tires, phonebooks, and Christmas trees (to be chipped into mulch). Sponsors for these collections have included paper and appliance companies, a bank, and a recycling and repair shop. Such special collections are the combined project of the Pennsylvania Resources Council, Construction Junction, the City of Pittsburgh, Alleghany County Health Department, the Pennsylvania Department of Environmental Protection, and the Southwest Pennsylvania Ozone Action Partnership. [2]

Another program of the Construction Junction's is the artistic use of reused materials. The University of Pennsylvania at Pittsburgh's Public Service Learning Alliance recommends Construction Junction as a great place to buy materials needed to make trivets to give as Christmas presents. For Earth Day 2000, Construction Junction sponsored "The Art of Re-Use" event featuring art created from used building materials. In 2003, Construction Junction opened a 4,000 square foot loft in their store to act as a gallery and workshop area for SALVO (Salvage Artists Linking Venues & Opportunities), and hosted a two-day "Festival of the Salvage Arts."[3]

Construction Junction made its presence known through other Pittsburgh events as well. During the 2003 U.S. Green Building Council's Greenbuild International Conference and Expo held in Pittsburgh, Construction Junction and the Pennsylvania Resources Council collected display materials after vendors were taking down their stands. Green Inspectors roamed the conference looking for attendees in the process of turning materials in to be recycled. When found, recyclers received a sticker stating, "I got caught Green-Handed" and were entered into a prize drawing.[4]

Equity and Sustainability

Construction Junction has three organizational goals. The first is to keep materials out of landfills. Approximately 20-25% of the trash in landfills comes from construction, demolition, and other reusable materials. Low tipping fees in Pennsylvania relative to surrounding states exacerbates landfill dumping problems in the Pittsburgh area. Construction Junction received an Enviro Star award from the Allegheny County Health Department in 2002 as one of 18 local businesses and institutions with voluntary pollution prevention programs that exceed county environmental regulation standards. The second goal is to reduce or avoid the environmental cost of reproducing lumber, steel, etc. as raw materials instead of reusing already existing materials. Their third goal is to provide low-cost materials for people becoming homeowners. Although people from all income levels shop at Construction

Junction, low-income families looking to buy or renovate their homes depend on Construction Junction to make low-cost, quality building materials, home furnishings and appliances available.[5]

The primary mission of Construction Junction is environmental, but the organization also works with programs that provide training for the unemployed or underemployed. As Gable explained, "We just started trying to develop a partnership with the Black Contractors' Association, which has a program that trains minority youth in construction skills. We've hired one person from that program, and we want to work more closely with their program. We've also hired from a program in Pittsburgh called Life's Work, and they train people with disabilities and hard-to-employ individuals who may have had criminal records or problems with drugs and alcohol. We've hired people from that program with mixed success. We've had some very good experiences and some people who still work for us, and we've had some troubles. Mixed results are to be expected when you're offering people decent wages and benefits, and you're dealing with a pool of potential employees that tend to have issues of holding down jobs."

Construction Junction has also helped the Union Project restore the former Union Baptist Church around Highland Park (one of the most racially diverse sections of Pittsburgh) and East Liberty areas through offering the organization space to hold stain glass window restoration classes in its warehouse. The windows had been damaged in an attack by vandals. The Union Project's vision is to make the former church into a gathering place for neighborhood residents, and a gateway to many communities, including a Mennonite community working close by.[6]

Policy Issues and Recommendations

The City of Pittsburgh and surrounding Allegheny County have not provided financial support for Construction Junction, but the local governments have helped the organization gain access to buildings that have been condemned and slated for demolition. As Gable explained, "We're going to put together a proposal for salvaging materials out of buildings that the county acquires on brownfield sites. However, there are some issues involved with municipalities having clear titles to structures and not being able to let us in, so there are still issues that need to be hammered out. One of the issues in a place like Pittsburgh—which doesn't exist in a place like Seattle, Portland, or California—is that most of those municipalities have targeted goals for diverting usable materials from the landfill. In other words, by a certain date we're going to divert 50% of what used to go into our landfills. I'm trying to work with the city of Pittsburgh and the county right now to create an ordinance on demolition permitting, to build space and incentives into the demolition process for reuse. Lots of other places are already doing this, like Portland, Seattle, and different places in California. Some are really aggressive. In the city of San Jose, if you apply to demolish a building you have to put a $2500 deposit down that's only refundable to you when you hand the permitting office a description of how you disposed of everything on the site that shows you diverted, reused, or recycled at least 50% of the material from whatever you demolished."

Another difference from the West Coast is that the full recycling infrastructure is not in place in Pittsburgh. As Gable explained, "In California there are places that take drywall and grind up the gypsum and use it as a soil amendment; there are places that take asphalt shingles; and there are people who are aggressively recycling and grinding up wood for composting and mulch. In our area we have people who deal with wood, but we don't have anybody who works with drywall and asphalt shingles. As a result there is a large amount of material that just is not reusable or recyclable."

At a federal level, Gable noted that Congress was examining the issue of nonprofit organizations and how they are defined. He thought that such a discussion was valuable, but it needs to take into account the broader issues of the value of nonprofits for society, including sustainability goals. As he elaborated, "The whole idea of what a non-profit is and what a non-profit can be is grossly out of date. All of the nonprofit related discussion in the federal government appears to be about funding issues, not about the real contributions that are made by nonprofits and how important they are to the economy and the whole sustainability agenda. Nonprofits are very important to social entrepreneurship and the triple bottom line, and I think until they are looked at in a little more thoughtful and enlightened way, it's going pull attention from the good work that non profits are doing and focus it instead on whether this organization or that organization is worthy of being a nonprofit by virtue of its funding mechanisms." He added that one improvement would be to establish a federal agency dedicated to serving and developing the nonprofit sector.

Another policy challenge is developing standards so that new building materials are designed with deconstruction in mind. Gable explained, "How do you construct new products to be raw material for the next stage of a new product? I used to live in California and worked for a water conservation utility. They used to take old toilets and smash them up and use them for roadbeds, or construct artificial reefs out of them. But we don't have an ocean in Pittsburgh, and we're not smashing them up to use them in roadbeds. So, all we're doing is taking perfectly usable toilets and we're throwing them away."

He noted that commercial buildings are renovated about every seven years, and the renovations generate huge amounts of waste material. "The commercial building industry throws away tons and tons of usable material, and they're not creating any kind of market for reuse at all. It's a problem that needs to be addressed. The City of Portland issued a request for proposals for people to come up with innovative ways to use this commercial material. We know we can get the materials; we know we can pull them out, and we can market some of them. But the sheer quantity of material that is usable and is being thrown away is overwhelming. So there's going to have to be equally aggressive market development." He added that standards for using used material in new construction would be helpful, because they could help establish design criteria that were oriented toward reuse and remanufacturing.

Update (August, 2005): "We have reached an agreement with the County and have been salvaging our first site in Duquesne for almost a month. The site is not technically a brownfield (it is a residential neighborhood), but it is part of a larger development which will include development of a brownfield site."

Based on an interview by Rachel Dowty with Mike Gable, June 10, 2005.

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Case Studies of Reuse Centers:

The Rebuilding Center (Portland, Oregon)

By David J. Hess

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The Rebuilding Center in Portland, Oregon, is a nonprofit organization that was founded in 1998 by Shane Endicott. The reuse center grew rapidly from diverting approximating 500,000 pounds of construction debris in 1999 to over 9,000,000 pounds (4,500 tons) in 2005. By 2005 it was the largest nonprofit reuse center in the United States. I spoke with Shane Endicott, the executive director, and Jennifer Jako, the marketing/outreach coodindator.[1]

The Rebuilding Center has been so successful that it launched a $2 million capital campaign to fund an expansion of its warehouse of over 28,000 square feet. Portions of the new building, which I was able to see when I visited in June, 2005, use recycled materials. A demonstration project along the east side of the building also utilizes cob, a clay-like material that can be drawn from local sources. As Ms. Jako explained, “The expansion will double our capacity and allow us to increase foot traffic from approximately 200 people per day to 300 per day. We’re currently keeping about five tons of material from the waste stream, and we see that figure doubling to approximately ten tons.”

In addition to the quantity of materials that the Rebuilding Center diverts from landfills, the organization also takes in a wide range of materials. As Jako explained, “We accept an item based on its reusability, not based on the profit that we can make from it. Most reuse centers, particularly for-profit entities, look at an item in terms of how much revenue it will generate. They look at materials as products, not recyclables. We look at an item and ask if it is reusable. If we can answer yes to that question, we accept the item, as long as it does not contain hazardous materials or is not in such a deteriorated condition that it cannot be used for its original purpose or interpreted into a new use.”

When asked about how the organization handles lead paint and other hazardous materials, Jako explained, “At this time our policy is to accept lead-coated items, as long as the material is not deteriorated and the paint is not chipping or flaking. We have a warning label that we place on all lead-painted or coated items, and we also distribute lead abatement and lead safety information with every purchase. It is the same for other hazardous materials, such as window glazing that has asbestos in it. We haven’t established a service to customers to accept other hazardous waste, but we will direct them to an appropriate hazardous waste site.”

Although a grant provided help to get the Rebuilding Center off the ground, the organization is largely supported by the revenue generated from the sale of reused materials and its deconstruction services. According to Mr. Endicott, the deconstruction business brings in about 90% of the lumber, but it only brings in about 25% of the kitchen cabinets and about 15-20% of other materials, such as windows and doors. Some of the material that the organization cannot sell is donated. For example, The Rebuilding Center also sends surplus materials overseas. For example, it donated two 40-yard containers worth of materials to Hondurans who had been struck by a hurricane.[2]

According to Endicott, the deconstruction service evolved with the organization from its beginning: "We always worked with deconstruction, but we didn't always have it in house. When we first started, we worked with a private company that did deconstruction, and I would refer people to that for-profit company. Probably 30% of the time it worked out that the materials were donated to the Rebuilding Center. As time went on and volume increased, the contractor wasn't able to take on the capacity of buildings that we were interested in, so we explored developing our own deconstruction services in house. We seem to be able to maintain three jobs at a time. The department has been as low as twelve to fifteen employees and as high as thirty employees, depending on the volume."

As Jako explained, one of the attractions of deconstruction is the tax write-off that some clients can take: "For example, a client paid us $20,000 to deconstruct an average-sized family home of about 2500 square feet. After his tax deduction, he had only paid out $5,000, because he was an individual who was able to take a large tax deduction from the project. We provide a detailed catalog and description of all items gleaned from the site, and it is up to the owner to obtain an independent, appraised inventory for their tax preparation."

The Rebuilding Center also sponsors "ReFind," which employs two people to remanufacture furniture from salvaged lumber such as the Douglas fir. There is a section of the warehouse dedicated to the display of the furniture. Jako explained, "We make these gorgeous tables and benches that have nail holes that were part of it being an integral structural member of the home or building. Our ReFind furniture is priced quite a bit higher than our other items; it's priced comparably to retail of similar quality. In general we like to inspire people to make furniture out of reused lumber, or picture frames out of reused molding. It also allows us to demonstrate another idea of reuse. We also have an education component in our plan for the new space."

Equity and Sustainability

Some reuse centers emphasize the community development, job creation, and affordability goals as the primary objective, and some emphasize environmental goals. No matter what goal is emphasized, reuse centers generate both social and environmental benefits. The mission of the ReBuilding Center indicates that the organization balances both types of goals:

divert reusable building and remodeling materials from the waste stream;

provide affordable, quality used building and remodeling materials to people of all income levels;

generate physical, financial, and social resources for Our United Villages' community enhancement efforts.[3]

Regarding the question of how the organization balances environmental and social goals, Endicott answered, “It’s full circle. The goal is getting people involved in their communities and realizing their full potential, but the ReBuilding Center provides a perfect model to demonstrate to people that over 90% of what we get here would have ended up in a landfill. If we had continued the practices of seven years ago before we started this place, we wouldn’t have created the forty-three jobs that we currently have. We don’t call ourselves an environmental organization; we are an organization that is trying to demonstrate that people have the capacity in their communities to make a big difference just by their day-to-day choices.”

The ReBuilding Center originated as a project of Our United Villages, whose work Endicott explained as follows: “We work in one neighborhood for a year at a time. We canvass an entire neighborhood and get people to come together around a common interest. That’s the soul of this organization. Our goal is get people to realize their common interest and realize their full potential as a community. Part of the motivation that started this organization was recognizing that most of our communities are fragmented and people don’t know their neighbors. As soon as we bring people together, we create a stronger social fabric to foster healthy communities.”

The ReBuilding Center provides affordable building materials to people with limited incomes, but it does not specifically describe its mission as assisting low-income residents. Endicott clarified, “We don’t want to brand anyone as low-income. We say that our materials are affordable to people of all income levels. Everything here is priced 50-90% less than what it would cost new on the market. The staff understand that we have wants and we have needs. About 80% of our inventory doesn’t really pay to be here, and the want items subsidize that 80%. If you’ve been to other building material places, you won’t see a lot of hollow-core doors and the marginal materials. You’ll see some, but not the quantities that you see here. The high-end materials like the jacuzzi tubs and the kitchen cabinet sets subsidize everything else. The lumber pays for itself but is priced at half of what it costs new.”

Both Endicott and Jako noted that customers come to the store for a variety of motivations. As Jako commented, “We have two mindsets that drive people to come here. There are people who love the bargains and are able to make home repairs and improvements that otherwise would not be affordable. There are other individuals who could acquire new building materials, but they choose to come here because they know that they are giving new life to material that would otherwise go to waste. They know that they are having a positive effect on the environment.” She added that the two mindsets are not mutually exclusive; for some people the environmental and affordability aspects sometimes go together.

The ReBuilding Center also works hard to hire a diverse workforce and provide people with new opportunities. From my visit to the store, it was clear that the forty-three employees are a diverse group. They also receive better wages than most other entry positions. As Endicott explained, “The minimum wage here is $10 an hour for an entry position, and we pay full medical and dental. Most of our staff—about 80%—have no prior experience, so we train them from the ground up, and most of the staff come

from minimal low-income families." Many of the employees speak Spanish, and there are interpreters available at group meetings.

Some of the employees live in the ethnically diverse northeast neighborhood, but the neighborhood is changing very rapidly. When the ReBuilding Center moved into its Mississippi Street location in Portland's northeast section, the neighborhood was much more of a low-income area than it is today. When I walked around the neighborhood, it was quite diverse ethnically, but evidence of gentrification and construction was everywhere. The blocks of Mississippi Street where the Rebuilding Center is located are characterized by a mixture of run-down buildings and new, gentrified coffee shops and stores. There was also a new station along the light rail system that was located a few blocks away, so the neighborhood was now easily accessible on the new light-rail system. I wondered if the Rebuilding Center had contributed to the evident changes, or if the gentrification was a parallel process. It turned out that the neighborhood had been targeted for redevelopment by the Portland Development Commission.

Endicott explained, "I grew up here, and I live up the street, but we could have ended up anywhere in the city. When we started the ReBuilding Center, we put in the business plan that we wanted EX zoning, 16,000 square feet, and a location close to the city and close to a freeway. That was based on my visiting twenty-four used building places and what I found out were the factors that people told me helped or hurt their access to the public. I was mainly focused on the industrial area in northwest Portland near the transfer station, but we were looking all over the city. When I was coming to work one day, I was walking down this street and noticed that there was a sign up on this building that I hadn't seen before. The zoning and square footage were what we wanted, and we ended up buying this place.

"I had no idea that this was an empowerment zone. Last night they had a Second Thursday, and there were hundreds of people on the street. It looked nothing like the way it looked when I was growing up. I remember right across the street here, when I was fourteen, I had a knife stuck to my stomach and my leather jacket stolen. And I remember my grandmother's tavern that was at the end of the street. Those were the things that came to mind when I thought of North Mississippi. Everybody's perception is that the ReBuilding Center is anchoring the revitalization of the neighborhood, but the credit goes to people who were working on this street years before we came here." So the ReBuilding Center cannot claim credit for the revitalization of the neighborhood, but, as Jako pointed out, having 200 people coming to the store every day probably contributed to a process that was already taking place.

Endicott has mixed feelings about the gentrification, and he discussed how it is going on throughout the city. Although gentrification is occurring in many cities, in Portland it is accelerated because of the urban growth boundary to the west and the river to the north and east. The ReBuilding Center is located in the inner portion of the northeast quadrant, which is, according to Endicott, one of the last of the urban neighborhoods to undergo gentrification. When he was growing up, the banks were redlining loan applicants, and the neighborhood was one of the few places where African Americans could get loans to purchase homes. His grandmother was among the few white families that did not leave for the suburbs. Today, the tide has turned, and African Americans are being pushed out of the neighborhood as home values increase.

Policy Issues and Recommendations

Some of the issues that have emerged in other reuse centers have not been barriers for the ReBuilding Center. As Endicott explained, "Currently there are no barriers that are preventing us from doing what we're doing. We're at a half-way point, and we're about to double what we've been doing. We see many possibilities just with what exists." According to Endicott they have been able to cover insurance rates through the revenue from the deconstruction services. Likewise, some organizations are too small to support their own regrading staff person, so the lumber cannot be graded for use in load-bearing structures. However, at the ReBuilding Center, regrading of lumber is not a problem because the organization is large enough to have two staff members certified as regraders.

One policy change that Endicott thought would be beneficial to the reuse and deconstruction industry would be to have governments—especially local governments—recognize the value of deconstruction. "We employ about four to six people for every one person that standard demolition employs. We also provide millions of pounds of affordable resources to our community that most of our shoppers couldn't afford new. We also provide resources to community building that could not be sustained by grant funding. What if policies were changed so that people could not demolish a building, but it had to be deconstructed?"

He added that if laws were passed that favored deconstruction, the process needs to be defined clearly. The city of Portland already requires deconstruction in its RFPs for work on its own buildings, but Endicott added that the bids and work need to be monitored carefully. For example, in a recent case where a contractor bid on deconstruction for a home, "We had bid on the job, and I was actually happy that the contractor got it, because we were changing the culture. But then I found out that his interpretation of deconstruction was to take out the doors, windows, and molding, then demolish the building. I called the city on it. They didn't know what was going on, and they went out and stopped the job."

Endicott noted that deconstruction is not always more expensive than demolition, and in some cases his bids were below demolition. "I would say that 80% of our bids were within 5% of demolition." Yet, as he emphasized, there were many other benefits to deconstruction, and the message needs to get out to policymakers. "We're going to summarize the social, economic, and environmental benefits of salvage and deconstruction. We want to quantify it in social capital terms, so that we can give the information to our governor and mayor."

Web site: http://www.rebuildingcenter.org

Based on an interview by David Hess with Jennifer Jako, on June 8, 2005, and with Shane Endicott on June 10, 2005.

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