

Global Case Writing Competition 2009

Social Entrepreneurship Track

2nd Prize

The ReUse People: Turning Scrap into Sales

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Abstract

This case discusses The ReUse People, an organization that specializes in deconstruction of buildings, with the aim of reusing as much of the materials as possible, hence keeping them out of landfill. The organization is facing a classical growth-related dilemma: should it grow organically, keeping most of the work in-house but hence limiting its growth rate, or should it “franchise” its deconstruction approach by certifying other companies in the deconstruction process? The mission of The ReUse People is squarely environmental, but the organization is increasingly aiming to provide social benefits too by reaching out to community organizations and providing employment opportunities.

Inspection Copy

Introduction

In June 2007, Ted Reiff, co-founder and president of The ReUse People (TRP), sat in his warehouse cubicle and pondered over the future of his nonprofit organization. He had just watched a truck unload a beautiful hardwood floor that his organization had salvaged, and he felt proud that he had been able to save such pristine materials from an untimely and unnecessary landfill grave.

According to its Web site at the time, “The ReUse People reduces the solid waste stream and changes the way the built environment is renewed by salvaging building materials and distributing them for reuse.”¹ In other words, TRP specialized in deconstruction, the process of dismantling a building and salvaging the materials. It was at a critical juncture in its growth. Thus far, it had offered services spanning the entire deconstruction value chain: deconstruction, logistics, and retail. The company’s warehouse in Oakland, California, which was used for storage and retail sales, was nearing capacity. TRP had more deconstruction jobs than it could handle, and it was shipping salvaged material across the United States and into Mexico. With such high levels of demand, the TRP board of directors knew that it should grow the organization, but the members didn’t agree about how to do so.

Some company managers argued that TRP should become the leading deconstruction contractor by entering new cities, hiring its own deconstruction crews, and operating its own warehouses. TRP’s profit margins on deconstruction jobs were very high, and supporters of this view felt that TRP should raise the funds for expansion into one new city at a time and focus on profit margins. Other managers believed that an early mover advantage would be critical for TRP’s success, and that the company should become a leading authority on deconstruction by training and certifying other demolition contractors in deconstruction. The differences had large implications for the organization, how it was run, and how it fulfilled its mission. If the organization chose to focus on growing as a deconstruction contractor, it would have to open new warehouses, hire staff, and compete with local demolition contractors. If it chose to begin certifying demolition contractors, it would have to focus on training and evangelism.

Reiff saw the merit in both strategies, but was unsure which to pursue. Ultimately he would be responsible for leading the organization down whichever path he and the board of directors chose, and with an important board meeting coming up, he knew that the decision would be made fairly soon.

Company Beginnings

Ted Reiff was a serial entrepreneur who had started companies in four different industries throughout his career. A graduate of Ohio State University with a major in business, he began his career working for the data processing consulting firm Management Horizons. When

¹ The ReUse People’s Web site, “News Room,” <http://www.thereusepeople.org/NewsRoom/> (accessed December 31, 2007).

PricewaterhouseCoopers acquired Management Horizons, Reiff took an entrepreneurial position at Raytheon, and later started his own investment bank in San Diego focusing on biotechnology, artificial intelligence, and defense technology. When the investment bank did not perform to his liking, he closed the San Diego location and started a similar bank in Mexico City. He returned to the United States in 1993.

In early 1993, Reiff gave a lecture on U.S.-Mexican joint ventures to contractors in Tijuana, Mexico. At that event, Judy Bishop saw him speak. Bishop was working on a relief effort for the victims of flooding in northwestern Mexico where an estimated 10,000 people had fled their homes. Bishop spoke to Reiff after his lecture and asked for help in sending building materials across the U.S.-Mexican border to help rebuild the thousands of flood-damaged homes. Bishop and Reiff collaborated and convinced the city councils of San Diego and Tijuana to allow a shipment of building materials to cross the border without tariffs. By April 1993, Bishop organized a shipment of 400 tons of donated building materials from San Diego to Tijuana. According to Reiff, this was the largest private donation that had ever occurred between the two countries.

The success of the donation spurred Reiff and Bishop to continue to collaborate. Reiff wrote a business plan for the resale of building materials to Mexican contractors. The business plan originally called for the organization to be a for-profit enterprise, but difficulty in fundraising persuaded Reiff and Bishop to incorporate as a nonprofit. Bishop and Reiff were very excited about their business idea, but nonprofit incorporation was a lengthy process, and they did not want to wait the year it would take for the government to register their organization. In the process of discussing the difficulties of incorporating a nonprofit with his friends, Bishop found out that one friend had a registered, but non-operational nonprofit. Since the friend had already paid for the registration and was recognized by the government as having 501(c)3 tax status, Reiff took over the nonprofit and changed its name to The ReUse People. While their original plan called for a profit-generating revenue stream, the rewritten nonprofit business plan incentivized building-materials donors with a tax-deductible donation.

Reiff had strong opinions about the role of an entrepreneur in the early stages of growing an organization. A fervent believer in planning, he carefully crafted the TRP business plan and mission statement to ensure relevancy for several years. It was important to Reiff that he and his managers made decisions according to the agreed-upon plan. Upon hiring new managers, he looked for a candidate's interest in sticking to a plan, even after it became clear that the plan had some faults. "Every plan is going to have problems," Reiff commented. "Most entrepreneurs come up with a plan and then change it when their next-door neighbor points out a problem. I like to hire people who stick with a plan." Reiff also instilled in his employees the need to be salespeople. "Each employee's number-one priority on a daily basis should be to sell people on The ReUse People's mission." Sales, Reiff argued, would lead to top-line revenue growth—his second priority after selling.

TRP's Early Days

TRP's first materials donor was Home Depot. Home Depot retail locations had a liberal merchandise returns policy, but they often had difficulty reselling returned items and discarded those that did not sell quickly. TRP began taking these discarded items and shipping them to Mexico where they would be reused. In return, Home Depot received a tax

deduction for the donation. Shortly thereafter, TRP began deconstructing homes in San Diego.

Recognizing that there was a larger market and more sympathetic municipal governments in northern California, Reiff moved TRP to Alameda County, across the bay from San Francisco. TRP received a grant to open its first retail warehouse to sell its salvaged materials, and opened the lot to the public in 2000. By mid-2000, TRP offered, according to Reiff, the industry's most comprehensive set of services related to deconstruction and materials reuse in the country. No other organization at the time offered deconstruction services, shipping and logistics, and retail.

Company Operations

The Deconstruction Process

Based in a warehouse in Oakland, California, TRP began its service cycle with an estimate of a deconstruction job opportunity. The company often competed against demolition contractors, so its salespeople had to educate the homeowner and the general contractor about deconstruction, its environmental impact, and its financial benefits.

Demolition was the traditional method of tearing down a building. It took one to two days to tear down a typical residence, and required a bulldozer or excavator and a crew equipped with sledgehammers. By contrast, deconstruction took longer, was more organized, required more people, and created much less waste. Despite its benefits, however, deconstruction could cost the homeowner two to three times as much as demolition. (**Exhibit 1** contains information about the financial benefits of deconstruction versus demolition.) At the time, the average cost of deconstruction in the Bay Area was \$12 per square foot.

Most residential deconstruction firms were incorporated as nonprofits, allowing the homeowner to gain a tax advantage from donating the salvaged materials. This tax advantage outweighed the higher cost of deconstruction services. A deconstruction team could often salvage \$80,000-\$100,000 of materials and appliances from a larger home, as shown in **Exhibit 2**. Depending on his or her tax bracket, the average homeowner could earn about 30% of the value of the donated salvaged materials. In addition, homeowners who chose to demolish their homes also had to pay a landfill fee, which was about \$60-\$80 per ton in the Bay Area.² A typical project for TRP would be a 2,500 square foot residence, but they had done projects as large as 500,000 square feet. Two particularly large projects were the sets of the film sequels *The Matrix 2* and 3, and the deconstruction of the Dayview Terrace complex in National City in San Diego County. The latter consisted of 618 living units, of 750 square feet each, and some other buildings. Deconstruction had been planned to take two years, but in the event only two months were available; Reiff recalls how they were able to salvage all the doors and other key parts, despite being practically chased around the site by the bulldozers.

² Bob Falk and Brad Guy, *Unbuilding: Salvaging the Architectural Treasures of Unwanted Houses* (Newtown, CT: The Taunton Press, 2007), 12. "A simple raised wood-floor, wood-framed older house can weigh 50 lb. per sq. ft. A 1,500-sq.-ft. light wood-frame building can therefore weigh more than 37 tons or the volume of about three 40-cu.-yd. container loads."

TRP's main hurdle in selling services to homeowners was the cost of the deconstruction, which was much higher than demolition. It simply took longer for TRP salespeople to educate homeowners and general contractors about the financial and environmental benefits of deconstruction. Reiff argued that there would be an inflection point at some time in the future when the cost of deconstruction would be surpassed by the cost of demolition. The financial incentive for homeowners to choose deconstruction over demolition would be a straightforward calculation that did not require estimations of tax breaks to offset higher direct fees. When this occurred, TRP and others would have the option of changing their tax status from nonprofit to for-profit.

Successful deconstruction required careful planning and preparation. Assessing whether deconstruction could be performed safely was a first and critical step. Some buildings were not suitable, either due to insurmountable structural deficiencies or an excess of hazardous materials. Wood structures were the most suitable for deconstruction, as steel and concrete were more likely to be recycled than reused.³ If deconstruction appeared feasible, a walk-through yielded an inventory of materials, and the contractor needed to decide which to salvage.

Once TRP's estimate was complete, the homeowners hired a third-party specialist to appraise the value of the materials that would be salvaged. (Exhibit 2 contains examples of appraised values of materials salvaged from TRP deconstruction projects.) This appraisal later served as the dollar amount the donating homeowners could deduct from their taxes that year. If anything happened to the materials after they were donated (rain damage, for example), TRP assumed all liability and the homeowner could still declare the original appraised value for tax purposes.

Once a deal with a homeowner was finalized, a TRP area manager walked through the house with a voice recorder, placing numbered stickers on items he thought were salvageable. Arthur Renaud, the area manager for West Los Angeles, explained that this recorded information was turned into an inventory list, which included all the items, their numbers, and corresponding descriptions. Each worksite had a binder that described the steps TRP expected the crew to follow, and in which sequence. Some crews did not adhere to the precise schedule, but as long as the end result was good, Renaud did not mind.

The deconstruction process took TRP 10 to 20 days to complete, and varied according to the size of the home and the number of crew members on the job. The crew began with the home interior, removing cabinets, lighting, and other cosmetic details. The roofing was then dismantled, followed by the sheathing, rafters, and ceiling of the home. Finally, the wall coverings, siding, and the studs, flooring, and floor joists were removed. The crew spent the last few days cleaning up the site and loading the trucks to tow away the salvaged materials. They hauled debris separately to a materials-recovery facility or landfill.

Before deconstruction started the contractor decided where and how to store the salvaged material and debris. Because many items were worth much more as a set than individually (e.g., doorknobs, kitchen cabinets, vintage lighting fixtures, hardwood floors, etc.), and pristine items were more valuable than damaged ones, careful storage during the

³ Falk and Guy, *Unbuilding: Salvaging the Architectural Treasures of Unwanted Houses*. This paragraph draws heavily from this reference.

deconstruction process was critical. Every time items were moved they risked being damaged or separated, so preparing a plan before deconstruction started helped to avoid costly and time-consuming movements later in the process.⁴

Renaud stressed the importance of keeping a clean workplace, as “it represents us.” This included staging the salvaged materials carefully, so they could be loaded quickly and correctly. Needless to say, this had to be done without damaging the materials. If a deconstruction crew seemed to be causing too much breakage, Renaud reminded them of the importance of proceeding carefully.

TRP had a few deconstruction crews of its own, but for most projects it worked with traditional demolition companies with which it had close relationships. On such projects, the demolition crews operated according to TRP’s guidelines, and were trained and closely monitored by TRP. Reiff was also exploring an arrangement with the California Conservation Corps, under which TRP would train young adults working with the CCC in deconstruction, after which the CCC would have licensed deconstruction crews in their midst. Reiff saw this as a way to combine environmental and social goals, as such an arrangement would provide young adults with the skills needed for other jobs they might take upon leaving the CCC, including exposure to an actual workplace.

Logistics

From the very beginning, Reiff saw logistics as the key to successful deconstruction. “No contractor in the world likes to throw something away; they just don’t know what to do with it.” Sometimes there were stores for salvaged materials, but they did not take everything that a contractor saved, and even big stores filled up during the peak summer season so they simply could not accept any more materials. Reiff’s goal was to open multiple warehouses so they could move materials to where they were in demand, and to be able to tell everybody that “we’ll never be full, you bring your stuff to us and we’ll find a home for it.” Shipping materials between TRP’s warehouses was not cheap; Reiff noted that once they started doing this they no longer made money, but they did not lose money either. He gave the example of hollow core doors, which were widely used, but nobody wanted to reuse them. TRP removed the doorknobs and hinges, which “we can sell all day long,” and stacked the doors in a semi-trailer. The company then sent them to Mexico, where they sold them for a dollar a door, enough to cover the freight. “What’s important,” says Reiff, “is that we’re keeping a very low-value, high-volume item out of landfill.”

Retail Operations

After performing a residential deconstruction, TRP either shipped the salvaged materials to a prearranged buyer or to its warehouse. Prearranged orders came from a variety of sources: TRP consistently received orders from Mexican contractors for lumber and raw materials; and it had a standing order for all high-quality lumber from a specialty- furniture manufacturer based in Berkeley, California called The Wooden Duck. Reiff estimated that the average shipping costs were 1.0-1.5% of the total appraised value of the salvaged materials.

⁴ Falk and Guy, *Unbuilding: Salvaging the Architectural Treasures of Unwanted Houses*, p. 108. This page gives sample site layouts for different configurations of the house and the lot.

The warehouse was open to the public, and a mix of contractors and consumers shopped its aisles. The majority of the materials that reached its warehouse was sold within two months, and many items were donated to other local nonprofit organizations or sent to Mexico for the cost of shipping. Because TRP priced materials to move quickly, and donated a lot to local nonprofits, there was no connection between appraised value and sales price. Even some warehouse items sold for as little as 5% of their appraised values.

At the rate TRP sold items through retail, Reiff estimated that the warehouse could hold materials from about seven deconstruction jobs per month. TRP needed resources from three to five deconstruction jobs per month in order to cover all warehouse costs, including rent (\$0.50 per square foot), personnel, and utilities. The TRP warehouse in Oakland had historically generated a 20% operating profit margin.

Marketing

TRP did not invest much money in marketing. The organization instead relied on word-of-mouth referrals, fliers posted near its warehouse, and its Web site. Reiff made sure each of his employees—regardless of their function within the company—promoted deconstruction whenever possible. TRP also sold bumper stickers and t-shirts containing humorous quotes such as, “I bought your grandmother’s commode at The ReUse People.”

Reiff was also efficient at generating media interest. In addition to several news articles, he and TRP were featured in a 30-minute Public Broadcasting Service program hosted by Huell Howser. To create a sense of community, Reiff published a semiannual newsletter titled *The Velvet Crowbar*⁵ and distributed it to former and potential clients, general building contractors, architects, and building department employees of local municipalities.

Industry Considerations

The Deconstruction Industry

In 2004, deconstruction was still a fledgling industry in the United States despite increasing landfill fees. Industry experts estimated that construction and demolition produced approximately 30% of all solid waste in the United States in 2003, while only about 20-30% of that waste was recycled.⁶ Furthermore, the Institute for Local Self Reliance projected that deconstruction could redirect almost 24 million tons of waste per year from landfills back into the economy.⁷

By contrast, the deconstruction industry in Europe had been forced to evolve earlier than in the United States due to higher landfill fees and pricier building materials. Homeowners had to find ways to reduce waste during home construction. Governments, anticipating diminishing landfill space, created incentives to encourage materials reuse. The United Kingdom was the most advanced in reusing construction materials. In 2005, almost 24% (60 million tons) of 250 million tons of construction material used in the United Kingdom was

⁵ For past issues, see <http://www.TheReUsePeople.org/VelvetCrowbar/> (accessed December 31, 2007).

⁶ Deconstruction Institute, *A Guide to Deconstruction*, prepared by Bradley Guy and Eleanor M. Gibeau, January 2003.

⁷ Diane Greer, “Building the Deconstruction Industry,” *BioCycle*, November 1, 2004.

recycled. The Netherlands and Germany recycled 14% and 10%, respectively.⁸ In 2006, The Dutch government required that all materials be reused when contractors tore down a building, and that no debris was allowed.⁹ In many European countries, materials manufacturers were responsible for managing their supply chain to ensure that recycled materials had an aftermarket.¹⁰

Despite the fact that about 245,000 residential structures were demolished each year in the United States¹¹, deconstruction was more common in commercial and government sectors than in the residential sector. Industrial-grade materials, such as steel beams and cinder blocks, were easier to reuse since they were durable and modular. Commercial real estate companies and government agencies also had the financial and industry resources to make a deconstruction project worthwhile. A commercial real estate developer had the industry contacts to quickly identify another party interested in an order of reusable steel beams, and had the financial resources to ship it. Government entities, such as the Army Corps of Engineers, had long been advocates of deconstruction and published widely on its feasibility and importance. So far, though, this was not a market that TRP had focused on.

Within the residential sector, deconstruction was most common in areas of the country where salvaged materials had historical value. Firms across the United States specialized in removing moldings, statues, stained glass windows, and other high-value architectural elements found in older buildings. Deconstruction of basic materials, such as bricks, lumber, doors, and windows was much less common.

Deconstruction services were often performed by firms that also did demolition. The demolition industry was a regional business where contractors would bid on projects. Since design, color, and warranties were not part of the requirements for demolition contractors, homeowners usually hired the lowest bidder. The resulting bidding warfare drove prices down to the point where margins for demolition contractors were very slim. Deconstruction, with its higher price tag, was often a more attractive, higher-margin service for demolition contractors to provide.

Industry Components

There were three primary components to the deconstruction industry: building deconstruction; shipping and logistics for the salvaged materials; and retail sales of the salvaged materials. At the time, TRP was the only organization that performed all three functions, with other firms specializing in only one or two.

The U.S. Building Materials Reuse Association (BMRA), a deconstruction industry association in the United States, estimated in 2004 that the retail portion of the deconstruction industry was \$40 million, but the organization did not report revenue for the

⁸ "The classic image of demolition is of a building crumbling under the blow of a wrecking ball," *Contract Journal*, March 15, 2006.

⁹ Barbara Knecht, "Designing for Disassembly and Deconstruction" *Architectural Record*, October 1, 2004.

¹⁰ Ibid.

¹¹ Deconstruction Institute, *A Guide to Deconstruction*, prepared by Bradley Guy and Eleanor M. Gibeau, January 2003.

other two components. The BMRA did, however estimate that the entire industry grew about 30% over the five-year period 1997-2002.¹²

Retail stores for salvaged construction materials provided an outlet for building materials not directed to a contractor. The nonprofit home construction organization Habitat for Humanity created retail locations, called ReStore, for reused building materials. The first ReStore opened in Winnipeg, Canada, in 1989. Habitat for Humanity subsequently opened new stores across the United States and Canada. In 2004, an industry expert estimated that ReStores generated about \$38.4 million in revenue annually.¹³ Donated materials for ReStores came from building supply stores, contractors, demolition crews, and individuals.¹⁴ Proceeds from ReStores were channeled to local Habitat for Humanity construction projects. Donated materials included most of the materials a homeowner would need for new construction, including lumber, doors, windows, cabinetry, and appliances.

By 2004, many more stores selling reused building materials existed. Several, such as Urban Ore and Ohmega Salvage, were located near TRP's Oakland facility and competed directly with it. Reiff saw the hierarchy of competition as follows: "Our biggest competition is the bulldozer. Next, in California and some other areas in the US, there are material recovery facilities (MRFs) that take material and grind it up for various uses, or for energy recovery. When legislation requires diversion from landfill, sending material to a MRF satisfies that requirement, and it's a lot cheaper than we are. The next level of competition is organizations such as Habitat for Humanity. They do what we call a skim, they take only the high-grade materials, they don't have the necessary licenses and insurance to do a full deconstruction. They usually do their work for free, with volunteers, and only take the custom doors, custom hardware, cabinets, etc. There are firms that do deconstruction and resale of lumber only. Nobody does the full spectrum of deconstruction and reuse that we do."

Industry Groups and Government Agencies

Some industry groups and government agencies lobbied for regulation of the deconstruction industry. The BMRA, whose mission it was to educate and influence government agencies about the benefits of deconstruction and materials reuse, encouraged government regulation through the U.S. Environmental Protection Agency (EPA). In a 2006 report, the EPA had set forth plans to begin regulating the deconstruction industry. This plan singled out materials reuse in Section 3.1.1, titled "Decrease Waste Generation and Increase Recycling," which read, "Through 2011, reduce adverse effects to land by diverting materials from disposal through increased material reuse and recycling."¹⁵ Included among the strategic targets for the EPA in this plan were a decrease in the total amount of waste in landfills and an "increase in the reuse and recycling of construction and demolition debris."¹⁶

¹² E-mail message to author from Brad Guy, president of the Building Materials Reuse Association, April 26, 2006. He used retail sales growth as a proxy for entire industry growth, since no organization tracked the size or growth trends of the entire industry at the time of writing.

¹³ Ibid.

¹⁴ Habitat for Humanity, "Habitat ReStores," www.habitat.org/env/restores.aspx (accessed October 24, 2008).

¹⁵ U.S. Environmental Protection Agency, Draft 2006-2011 EPA Strategic Plan Architecture Public Review Draft February 14, 2006, p. 13.

¹⁶ Ibid.

Reiff and TRP favored a free-market approach to deconstruction. Reiff indicated a number of reasons why the “Feds would screw things up,” including unnecessary and costly requirements and certifications, strict process requirements, IRS limitations on materials donations, and restrictions on materials containing lead-based paint.

The BMRA and the EPA were both wary of reusing materials containing lead-based paint. While there were laws in place in 2005 governing the use and disposal of lead-based paint in residences and offices, there were no national standards concerning the reuse of building materials containing lead-based paint. The BMRA and the EPA were creating some standards, however, including a manual for deconstruction.

Reiff projected that the vast majority of the doors and windows salvaged from deconstruction projects across the United States contained lead-based paint. Stricter regulations would slow the industry’s growth and would affect TRP directly. Reiff estimated that the majority of the windows and doors in the TRP warehouse at any point in time were covered in lead-based paint. “Without sales of materials containing lead-based paint, we will have to rethink our business model,” Reiff commented. However, he also noted that:

“Material with lead-based paint can still be sold, but it has to be handled and treated in a very particular and safe way. The beauty of deconstruction is that we’re not creating dust. The lead stays with the material; it does not get released into the air or water as dust. If it’s on a board, you can turn it over, like siding, so the lead-based paint is on the inside, or you can paint over it, so it’s also encapsulated. Both are EPA-approved procedures.”

Another government issue companies in the industry wrestled with concerned the IRS. Homeowners were often donating materials and getting tax deductions as high as \$80,000. Reiff worried that too many homeowners with such large tax deductions would prompt the IRS to investigate or create roadblocks preventing homeowners from realizing the full value of the donation. Such a move would be disastrous for the deconstruction industry.

Not all government agencies, however, threatened the future of TRP. The California State Assembly passed AB 939 (The Integrated Waste Management Act) in 1989, which required all municipalities to divert up to 25% of their waste from landfills by 1995 and 50% by the year 2000. BMRA President Brad Guy argued that AB 939 “greatly increased interest in this sector in California and this in turn generated programs, ordinances, etc., that have become models for the rest of the United States.”¹⁷

TRP at a Crossroads

Growth Options

Reiff had a clear sense of where he thought the deconstruction industry was heading and how TRP could become a dominant player in that scenario. For starters, he knew the industry would grow. It had to, he figured, because landfill fees were likely to continue rising.

¹⁷ E-mail message to the author from Brad Guy, president of the Building Materials Reuse Association, April 26, 2006.

However, the past 10 years of rapid growth was taking its toll. In January 2007, TRP temporarily lost its credit line because Reiff's travel schedule had caused him to miss a paperwork deadline. Reiff summarized it succinctly: "I was dropping balls."

To capitalize on the future industry growth, and to uphold TRP's mission statement, Reiff and his board of directors knew that the company should move into new geographic regions. The question was how to do this.

One option was to certify other contractors to perform deconstruction services, or it could stick with its core competency and increase its own capacity to do so. Deconstruction services commanded higher profits than certifying third parties, but growth would be slower and the risks much higher.

The process of certifying contractors in deconstruction would require several steps. First, to raise awareness, Reiff and his team would have to educate demolition experts about the fundamentals of deconstruction. TRP would then have to train selected demolition contractors to perform deconstruction on residences. Reiff estimated that a TRP team member would have to spend about four hours with a crew six to eight times before that crew could be certified in deconstruction. With turnover in demolition companies running high, Reiff assumed that his team would have to perform annual training sessions for the certified contractors. Once a contractor finished deconstructing a home, he would be responsible for shipping the salvaged materials to either a new construction site or to the TRP warehouse.

By contrast, the process of expanding TRP's own operations was conceptually simpler, though not easy to execute. It would require hiring additional crews, training them, and finding work to keep them busy enough to cover the associated fixed costs. This would be difficult to do within a confined geographic area, but branching out beyond TRP's traditional regions would make it correspondingly harder. Reiff currently spent a large portion of his time traveling up and down the San Diego-Los Angeles-San Francisco Bay Area corridor, and the prospect of extending his commute to Oregon, Washington, Arizona, and beyond, was not appealing.

So far, TRP's unsystematic approach had led it to work with certified contractors in other parts of the country, but Reiff questioned whether the company should keep going down that path. In May 2007, TRP was about to start a project in Seattle, and it had already done three in the Boulder/Denver area. It was also likely to start projects in St. Louis and Chicago. Reiff explained how the Chicago project illustrated the opportunistic nature of TRP's growth thus far:

"We did a job for someone in San Diego six months ago, and they were happy with us. Later his uncle in Chicago called. He was doing his house in six months and wondered if we could help him. We had also been written up nicely in a magazine around that time, which triggered a call from a contractor in Chicago who wanted to be a certified contractor for us. We were already contemplating expanding into a range of other cities but not yet Chicago, but I couldn't resist the combination so I told the uncle I'd be there in six months."

Some aspects of the deconstruction process were the same everywhere in the country, while others were location-specific. For instance, houses in St. Louis and Chicago had much more brick than those in California. Reiff was aware of an underground brick-cleaning economy in

Chicago, where demolition contractors paid homeless people a small amount per brick cleaned.

Reiff estimated that each new location would require an investment of \$250,000. In total, he identified about 25 markets in the United States where he would like to open new TRP locations, requiring a total upfront investment of \$5-6 million. Instead of asking foundations for the capital, he planned on contacting corporations. Many corporations, he argued, would want to align themselves with TRP for publicity and strategic purposes.

In addition to geographic expansion, TRP was also penetrating deeper into their existing markets. Reiff recalls how, a few years ago, they considered closing down the Los Angeles operation, as it was proving too hard to get jobs. After bringing in a regional manager, who in turn hired Arthur Renaud and others to run parts of the Southern California market, TRP did 54 projects in the region in 2007. **Exhibit 7** shows a breakdown of the number of projects by region.

Reiff's Decision

Reiff knew that the future path of this company would be decided at the upcoming board meeting. Regardless of which growth path they decided to pursue, he would need a systematic way of evaluating and entering new geographical areas, as well as an operational infrastructure that made sense. He would also have to hire additional employees, including regional managers to develop the new geographic markets, and additional back office staff at TRP's headquarters. Reiff was unsure about the attributes he should focus on in evaluating candidates. Moreover, TRP's financial position, though generally on track, sometimes limited Reiff's ability to pursue the ambitions he had for TRP as quickly as he would like.

Exhibit 1: Homeowner Financial Comparison of Deconstruction Versus Demolition¹⁸

The example below is a composite based on actual jobs and used here to make an economic comparison between deconstruction and demolition. This composite is a single-story, 2,200 square foot house plus garage, with 3 bedrooms, 2 baths, raised foundation, composite shingles, single-paned windows, carpeting, hardwood floors, and a 12 x 40 foot wood deck. The costs do not include removal of concrete slabs, sidewalks, foundations or asphalt, but do include the site being left in a rake clean condition (no debris).

In the demolition scenario, the owner pays \$10,100, but in the TRP deconstruction scenario, the homeowner receives \$4,702 in after-tax benefits. In other words, the owner would be financially better off in the amount of \$14,802 (\$4,702 received in tax benefits versus paying \$10,100 in demolition costs).

	TRP Deconstruction**	Demolition
Physical lowering of house	(\$17,238)	(\$6,000)
Disposal of trash & debris	(4,100)	(4,100)
Appraisal of salvaged materials	(3,000)	0
	-----	-----
Total costs	(\$24,338)	(\$10,100)
	=====	=====
Donation value*	\$88,000	\$0
	=====	=====
Tax savings* (after-tax value of donated materials)	\$29,040	\$0
	-----	-----
Total costs	(\$24,338)	(\$10,100)
	-----	-----
After-tax benefit / (Out-of-pocket cost)	\$4,702	(\$10,100)

The after-tax difference between the two methods is \$14,802.

* Total materials (lumber, plywood, cabinets, plumbing and electrical fixtures, doors, windows, etc.) would usually appraise for \$77,000 to \$112,000 in good usable condition. Assuming a tax bracket of 33% (federal only - this will be larger in states with an additional income tax), the after-tax cash value, based on a typical appraisal value of \$88,000, is \$29,040.

** Figures vary depending on location, age and condition of the home and materials, topography, type of siding and interior walls, distance from TRP, landfill rates, etc. Still, the analysis almost always favors TRP deconstruction over demolition.

¹⁸ Source: <http://thereusepeople.org/Deconstruction/>, last accessed May 1, 2007.

Exhibit 2: Appraised Values from The ReUse People Deconstruction Projects

Actual Appraised Donation Values

City	Square Feet	Appraised Donation Value
<u>California</u>		
Rancho Santa Fe	4,900	\$168,465
Newport Beach	6,771	333,000
Manhattan Beach (complete gut)	4,400	110,000
Santa Monica	1,400	46,694
Pacific Palisades	4,500	162,600
Sherman Oaks	2,200	74,000
Santa Barbara (complete gut)	2,100	57,000
Santa Cruz	3,342	137,712
Los Gatos	3,696	140,040
Palo Alto	2,488	94,849
Woodside	8,600	326,863
Atherton	5,523	182,346
Fremont (complete gut)	2,220	65,000
Oakland	1,400	74,144
Orinda	4,275	137,940
Larkspur	2,304	129,425
Napa (house & barn)	2,804	102,025
Healdsburg	2,772	174,315
<u>Colorado</u>		
Boulder (complete gut)	3,300	114,000

Source: <http://thereusepeople.org/Deconstruction/>, accessed May 1, 2007.

Exhibit 3: The ReUse People's Balance Sheet, 2004-2007

	Dec 31, 04	Dec 31, 05	Dec 31, 06	Dec 31, 07
ASSETS				
Current Assets				
Checking/Savings	15,042.80	(8,351.46)	1,258.49	11,468.04
Accounts Receivable	71,489.50	52,448.60	163,645.02	102,260.06
Other Current Assets				
Inventories	112,000.00	112,000.00	112,000.00	129,748.00
Prepaid Expenses	522.64	10,882.46	8,835.17	11,264.03
Total Other Current Assets	112,522.64	122,882.46	120,835.17	141,012.03
Total Current Assets	199,054.94	166,979.60	285,738.68	254,740.13
Fixed Assets				
Leasehold Improvements	-	-	12,106.71	12,106.71
Rolling Stock	87,238.76	79,113.36	145,534.20	147,594.94
Furniture & Fixtures	20,614.14	22,354.14	45,269.66	67,897.24
Accumulated Depreciation	(23,249.00)	(44,309.00)	(61,609.39)	(112,714.96)
Total Fixed Assets	84,603.90	57,158.50	141,301.18	114,883.93
Other Assets				
Deposits	3,107.00	3,105.00	14,560.69	13,435.50
Rent Deposit	650.00	7,075.00	12,075.00	11,075.00
Total Other Assets	3,757.00	10,180.00	26,635.69	24,510.50
TOTAL ASSETS	287,415.84	234,318.10	453,675.55	394,134.56
LIABILITIES & EQUITY				
Liabilities				
Current Liabilities				
Accounts Payable	93,301.70	105,197.27	86,084.26	140,634.03
Other Current Liabilities				
NFF LOC	-	-	-	7,584.51
Deductions payable	240.18	72.13	2,646.93	1,322.23
Payroll Payable	-	-	-	6,057.00
PR Taxes Payable	10,080.31	18,288.69	27,060.47	763.57
Sales Tax Payable	13,248.17	10,521.66	(2,093.85)	11,886.38
Total Other Current Liabilities	23,568.66	28,882.48	27,613.55	27,613.69
Total Current Liabilities	116,870.36	134,079.75	113,697.81	168,247.72
Long Term Liabilities				
Chase Bank (auto loan)	-	-	19,166.67	9,166.63
Computer Purchase	1,962.09	634.15	136.84	-
Copier	5,241.00	3,936.38	1,186.94	2,000.47
OBD Truck Loan	45,555.30	26,625.13	20,558.95	21,936.60
Toyota Forklift	-	-	19,304.19	18,996.18
Total Long Term Liabilities	52,758.39	31,195.66	60,353.59	52,099.88
Total Liabilities	169,628.75	165,275.41	174,051.40	220,347.60
Equity				
Retained Earnings	159,344.58	75,764.23	73,489.25	120,674.26
Net Income	(41,557.49)	(6,721.54)	206,134.90	53,112.70
Total Equity	117,787.09	69,042.69	279,624.15	173,786.96
TOTAL LIABILITIES & EQUITY	287,415.84	234,318.10	453,675.55	394,134.56

Exhibit 4: The ReUse People's Profit & Loss Statement, 2004-2007

	Jan - Dec 04	Jan - Dec 05	Jan - Dec 06	Jan - Dec 07
Income				
Cash Donations	-	-	-	485.00
Consulting/Commissions	-	5,194.00	7,193.00	26,545.00
Deconstruction Fees	967,372.21	896,756.53	610,457.30	517,874.00
Project Coordination Fees	65,834.00	156,670.95	338,749.00	343,855.40
Wholesale Sales	43,958.20	39,051.51	95,048.35	100,403.99
Warehouse Sales	355,797.78	369,183.51	453,032.78	525,266.78
Grants received	-	8,500.00	-	17,000.00
Other Income	748.60	-	-	13.98
Total Income	1,433,710.79	1,475,356.50	1,504,480.43	1,531,444.15

Exhibit 4 (continued): The ReUse People's Profit & Loss Statement, 2004-2007

	Jan - Dec 04	Jan - Dec 05	Jan - Dec 06	Jan - Dec 07
Expense				
ADMINISTRATION				
Advertising	10,541.66	7,408.97	5,143.12	14,800.89
Auto Allowance	269.85	13,563.11	-	11,470.64
Bad Checks	(34.00)	10,053.71	2,236.85	-
Bad Debts	9,982.34	-	-	-
Bank Charges	-	1,327.62	2,514.76	3,105.07
Conferences & Meetings	-	-	-	839.38
Contributions				
Cash Donation	100.00	300.00	-	-
Materials Donation	2,605.00	-	-	-
Total Contributions	2,705.00	300.00	-	-
Depreciation	-	6,948.00	6,711.00	18,100.00
Dues & Subscriptions	1,119.95	1,139.00	1,580.49	229.00
Employee Welfare	-	-	1,500.00	3,740.50
Insurance - Liability	3,543.48	5,410.88	3,933.95	1,277.25
Insurance - Medical	4,476.00	2,871.00	4,257.24	6,307.21
Insurance - Vehicle	-	-	1,871.39	3,088.23
Licenses and Permits	5,103.40	30.00	1,654.83	2,713.66
Medical Expenses	3,287.94	(200.12)	-	3,125.60
Office Supplies - Admin	8,000.63	11,918.39	9,528.78	8,342.74
Postage & Delivery	1,908.67	1,706.80	2,552.34	2,857.95
Professional fees				
Computer & website	5,153.64	10,915.30	14,548.40	3,979.52
Consulting & Training	8,444.21	10,466.41	27,352.00	29,498.25
Legal, Acct'ing, Pension Mgt	16,474.77	2,501.85	15,158.35	11,079.00
Payroll Processing	4,515.59	3,897.27	6,322.29	16,209.75
Total Professional fees	34,588.21	27,780.83	63,381.04	60,766.52
Rent	6,620.00	12,071.39	11,237.39	11,115.00
Repairs & Maintenance	3,802.52	3,132.35	6,263.56	1,887.12
Telephone	24,058.37	6,253.29	13,778.63	15,257.35
Tools	-	-	8.80	843.37
Travel	21,064.08	39,408.47	54,410.41	64,378.39
Utilities	379.22	5,387.81	4,026.27	4,125.62
Wages - Officer	37,015.45	49,684.43	20,500.00	39,396.00
Wages - Operations Mgr	-	-	-	22,269.12
Wages - Office	29,799.26	38,644.91	41,495.19	53,434.98
Payroll Taxes Fed & State 100	5,114.40	7,959.28	6,227.04	8,491.33
Worker's Comp - 100	1,439.24	1,863.33	2,616.94	4,084.43
Miscellaneous	1,094.38	(377.00)	3,300.00	-
Total Administration	241,820.45	254,286.45	276,698.90	379,409.66

Exhibit 4 (continued): The ReUse People's Profit & Loss Statement, 2004-2007

	Jan - Dec 04	Jan - Dec 05	Jan - Dec 06	Jan - Dec 07
Deconstruction Program				
Advertising	11,898.11	3,224.08	1,739.39	2,688.90
Auto Allowance	3,025.00	6,875.00	6,600.00	6,600.00
Depreciation	-	-	2,040.00	3,074.00
Disposal	126,519.64	79,010.83	46,470.58	55,078.43
Employee Welfare	7,539.00	8,874.61	5,997.00	117.00
Equipment Rental	36,300.12	4,887.25	1,510.24	1,288.41
Freight Out - Decon	6,066.00	4,762.28	104,700.42	-
Insurance - Liability	29,341.67	23,927.24	24,170.59	25,276.58
Insurance - Medical	800.00	1,149.80	1,354.11	1,407.64
Insurance - Vehicle	-	3,866.75	2,775.23	2,109.80
Office Supplies	-	-	1,153.14	505.86
Permits	2,118.20	182.20	300.00	357.00
Postage & Delivery	-	-	106.53	39.00
Rent	-	583.00	567.00	636.00
Subcontractors	153,110.37	177,546.00	60,370.81	-
Telephone	(24.12)	5,507.76	5,672.12	5,639.50
Tools & Supplies	18,349.01	15,472.62	4,738.75	8,046.99
Travel	17,387.09	23,271.14	7,474.53	385.89
Truck Expenses & Rental	14.00	12,878.49	7,632.50	15,064.28
Wages-600 Decon Mgr				
Base-600 Decon Mgr	42,151.29	26,380.00	28,970.39	28,600.00
OT-Incentive-600 Decon Mgr	30,687.02	36,127.59	26,586.39	25,785.00
Total Wages-600 Decon Mgr	72,838.31	62,507.59	55,556.78	54,385.00
Payroll Taxes Fed & State 600	(409.03)	6,128.45	4,205.56	4,657.21
Worker's Comp 600	-	2,420.23	1,528.85	1,888.39
Wages - Crew	216,732.17	80,992.28	-	-
Wages - Outsourced Crew 300	-	134,359.08	46,731.50	140,910.80
Casual Labor Crew	8,500.09	1,219.00	94.11	-
Payroll Taxes Fed & State Crew	24,977.08	11,386.31	-	-
Worker's Comp - Crew	92,408.78	51,063.95	-	-
DECON PROGRAM - Other	-	15.32	-	-
Total Deconstruction Program	827,491.49	722,111.26	393,489.74	330,156.68

Exhibit 4 (continued): The ReUse People's Profit & Loss Statement, 2004-2007

	Jan - Dec 04	Jan - Dec 05	Jan - Dec 06	Jan - Dec 07
Project Coordination				
Advertising & Promotion	3,678.59	8,937.66	8,637.25	9,857.19
Auto Allowance	11,041.90	13,974.03	29,200.00	22,875.00
Consulting	-	-	10,922.50	10,500.00
Depreciation	-	8,112.00	8,112.00	5,857.00
Employee Welfare	-	-	900.00	575.00
Equipment Rental	-	-	1,161.45	1,662.94
Freight - Inter Region	-	340.00	1,650.00	1,206.25
Freight - Project	12,711.86	8,357.76	5,487.50	2,756.25
Insurance - Liability	-	-	6,519.17	3,063.22
Insurance - Medical	364.00	1,098.00	4,339.33	6,737.69
Insurance - Vehicle	-	-	1,030.11	917.40
Office Supplies	4,040.40	3,924.95	3,238.29	1,605.51
Permits - PC	612.35	-	90.00	387.00
Postage & Delivery	670.41	1,336.27	901.79	932.38
Rent	1,650.00	3,002.00	4,889.50	2,246.00
Subcontractors	8,800.00	-	-	-
Telephone	639.26	6,690.84	6,990.39	8,382.75
Tools & Supplies	-	-	1,224.98	1,493.46
Travel	6,883.41	3,180.43	3,056.51	1,537.89
Yard/Trailer Space Rent	1,601.74	3,523.25	4,759.50	14,682.20
Wages - Area Manager				
Base-Area Mgr	2,554.00	27,510.00	65,788.40	59,001.80
OT-Incentives	-	21,460.86	48,723.50	49,598.50
Total Wages - Area Manager	2,554.00	48,970.86	114,511.90	108,600.30
Wages - Regional Mgr				
Base-Reg Mgr	25,765.13	21,200.00	39,823.51	80,096.47
OT-Incentive-Reg Mgr	11,731.80	21,145.20	11,278.00	13,267.10
Override-Reg Mgr	-	1,117.20	18,251.00	10,662.00
Total Wages - Regional Mgr	37,496.93	43,462.40	69,352.51	104,025.57
Payroll Taxes Fed & State PC	2,654.97	8,966.48	14,850.16	15,294.77
Worker's Comp - PC	1,386.27	4,527.61	5,669.90	7,999.43
Total Project Coordination	96,786.09	168,404.54	307,494.74	333,195.20

Exhibit 4 (continued): The ReUse People's Profit & Loss Statement, 2004-2007

	Jan - Dec 04	Jan - Dec 05	Jan - Dec 06	Jan - Dec 07
Retail Sales Program				
Advertising	13,939.88	10,778.11	10,392.17	11,441.17
Credit Card Fees and Rental	3,820.67	4,964.27	6,191.01	7,417.24
Depreciation		6,000.00	6,237.00	6,805.00
Disposal Fees	5,229.09	6,977.23	11,683.75	6,780.37
Employee Welfare	-	-	715.00	409.26
Freight	3,236.94		10,245.62	3,011.78
Insurance - Liability	9,026.04	16,419.67	11,178.55	3,696.77
Insurance - Medical		1,315.00	1,187.96	1,202.58
Insurance - Vehicle	8,875.65	3,939.75	4,000.25	5,198.04
Maintenance & Repairs	1,029.11	7,971.73	2,212.30	9,902.35
Merchandise - Consign/Purchase	5,510.75	(98.68)	5,441.00	3,000.00
Office Supplies	-	-	2,137.63	3,605.85
Postage & Delivery	-	-	185.62	366.46
Rent	45,134.78	46,673.54	52,025.11	72,793.25
Returned Checks	-	-	587.68	-
Telephone	-	3,999.55	5,154.16	8,087.16
Tools & Supplies	5,599.90	9,356.44	4,708.81	6,911.71
Travel	748.00	549.01	-	227.00
Truck & Equip Rental	9,124.58	9,414.91	1,044.01	4,076.74
Utilities	7,480.94	4,067.11	3,723.40	3,679.39
Vehicle Expenses	2,718.50	177.00	3,453.06	5,650.41
Wages-500 Retail Mgr				
Base-500 Retail Mgr	26,384.08	30,000.36	31,051.93	31,173.43
OT-Incentive-500 Retail Mgr	34,666.04	12,663.90	30,665.52	20,151.40
Total Wages-500 Retail Mgr	61,050.12	42,664.26	61,717.45	51,324.83
Worker's Comp - 500		967.29	1,647.96	3,125.45
Payroll Taxes Fed & State 500		2,516.62	3,508.68	5,782.09
Wages - Asst Mgr 400				
Wages - Outsourced 400	-	24,762.70	61,281.73	37,974.68
Base-Asst Mgr 400	18,115.41	11,015.00	4,569.60	6,730.00
OT-Incentive - Asst Mgr 400	11,636.42	7,598.41	-	9,887.60
Total Wages - Asst Mgr 400	29,751.83	43,376.11	65,851.33	54,592.28
Wages-400 Labor				
Wages - Outsourced 400	-	-	-	134,918.73
Base-400 Labor	24,666.46	60,604.20	69,201.84	-
OT-Incentive-400 Labor	11,716.28	8,534.45	9,974.48	17,712.00
Total Wages-400 Labor	36,382.74	69,138.65	79,176.32	152,630.73
Casual Labor 400	6,412.00	5,533.00	270.00	3,852.00
Payroll Taxes Fed & State 400	9,522.44	6,175.26	-	-
Worker's Comp - 400	40,637.18	17,960.20	-	-
Total Retail Sales Program	305,231.14	320,836.03	354,675.84	435,569.91
Interest & f/c, late fee Exp	3,939.11	16,439.76	10,801.77	13,362.31
Total Expense	1,475,268.28	1,482,078.04	1,343,160.99	1,478,331.45
Net Surplus (Deficit)	(41,557.49)	(6,721.54)	206,134.90	53,112.70

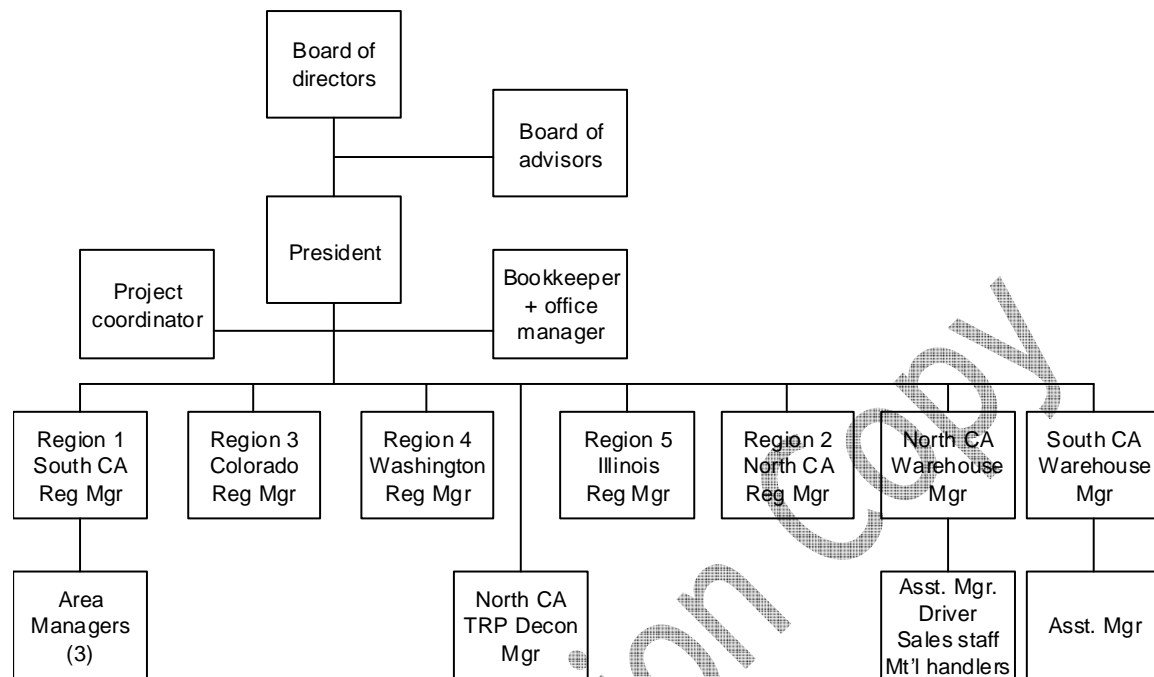
Exhibit 5: The ReUse People Organization Chart, as of 12/31/2007

Exhibit 6: Sample Deconstruction Project¹⁹

The TRP Mission:
TRP of California reduces the solid waste stream and changes the way the built environment is renewed by salvaging building materials and distributing them for reuse.



A crew of Habitat volunteers at Santa Clara site

With offices serving the San Francisco Bay Area, Eastern Sierras, L.A., Orange County & San Diego
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Anatomy of a Job

Joint Project with Habitat Volunteers Proves Productive and Fun

by Ted Reiff

Several months ago I had a meeting with the Silicon Valley affiliate of Habitat for Humanity. The purpose of the meeting was to explore the possibility of opening a warehouse similar to ours in Alameda. During the meeting, the folks from Habitat mentioned that they were acquiring a piece of property in Santa Clara on which stood an older home that had to be removed. They said they would provide all the volunteers necessary to deconstruct the building if TRP would provide the supervision, safety guidelines and training. In exchange, TRP would receive all

the materials. I was reluctant at first, because I was concerned about safety issues using untrained volunteers and had reservations about productivity, or the lack of it. The home in question was built in the 1950s, had been vandalized and would not yield much reusable material. Plus, I was hesitant to give up a key supervisory person for up to two weeks.

I reluctantly accepted the assignment because I believe that if you are going to get into a partnering arrangement with a person or organization, the best way to get to know each other is to jump into a short term project that has the potential for conflict with minimal risks. That way you can test the mettle and tenacity of the prospective partner with little exposure. Besides, since the volunteers were to be provided by Cisco Systems, Habitat colleagues who had worked with the organization before, I figured

the productivity curve would rise quickly.

Then Ted Becker at Habitat let the other shoe drop. Not only would there be a new crew every four hours—absolutely no repeats—the crew size would be from 10 to 15. Our crew size for a 1,700 square-foot house is five people—all trained and experienced in deconstruction and working as a unit. Now we had up to 15 inexperienced people most of whom had not worked together before.

So much for the productivity curve! Let's see, in our first four hours we spent 45 minutes on training, took one 15-minute break and indulged in a little Cisco shop talk. Add a bathroom break and at least one cellphone call. Ok, what the heck, we still had three hours to work.

Now the good news: we had a great time, the job got done in a little over two weeks. I met some great Cisco people and there were no serious injuries (two people stepped on nails and needed tetanus shots).

Working with the Habitat staff through the various issues of scheduling, coordination, personnel, training, deconstruction and materials handling was more fun than I could have imagined. I was impressed with their "can do" attitude and ability to forge positive relationships in the community.

On our side of the ledger, we demonstrated our ability to step into the breach and do what we said we would do, and we got some decent materials out of the job, including an old horse-drawn plow, which now sits

—continued on back page

Examples of Recent Jobs

Job Type	Owner/Contractor	Sq Ft	Tons Salvaged
Commercial building	Northstar Ski Resort	25,000	175.1
Wood-frame house and barns	A. J. Johnson, owner	3,200	48.2
2-story wood frame house	Shanley Construction	2,500	25.8
Wood-frame, single-story house	Talmage Construction, Inc.	3,770	43.8
2 1/2-story 1980 house interior only	Epoch Development	4,400	18.2

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¹⁹ Reproduced from *The Velvet Crowbar*, Spring 2005, p. 2.

Exhibit 7: Number of Projects by Region

	Northern California		Southern California	Colorado	Washington	Illinois	Total
Year	TRP decon	TRP contractor					
2005	30	48	18	0	0	0	96
2006	20	50	59	0	0	0	129
2007	28	55	54	2	5	5	149