Implementing Donations and Processing Procedures for the Habitat for Humanity Metro-West/Greater Worcester ReStore

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Abstract

The Habitat for Humanity ReStore accepts donations of new and used furniture and home improvement tools and sells them at a fraction of the retail price. All proceeds are then used to fund Habitat's local building projects to house families in need. The goal of this project was to implement an effective donations process for the Habitat for Humanity Restore. This goal was accomplished by (1) documenting the baseline processes, (2) evaluating sales, storage, and donations processes in detail, (3) assessing workforce activities, and (4) designing and testing scenarios.

Executive Summary

Millard Fuller, and his wife, Linda, founded Habitat for Humanity International in 1976. Their mission was to provide housing to families in need in exchange for their service in the building process, regardless of their race, ethnicity or religion. The organization was funded by new homeowners' house payments, no-interest loans and other fund-raising activities that contributed to "The Fund for Humanity". Today, the organization has built over 600,000 homes in over 3,000 countries for more than 3 million people around the world.

The Habitat for Humanity ReStore accepts donations of used furniture and home improvement tools and sells them at a fraction of retail price. All proceeds are then used to fund Habitat's local building projects. However, the ReStore in Worcester, Massachusetts has identified a problem with its donation process. The layout and design of the processing area are not conducive for efficient work. The goal of our project was to implement an effective donation process for the Habitat ReStore warehouse.

Literature Review

In our review of literature, we described some contextual issues, discussed recent publications and explained the challenges related to our project at the Worcester Habitat ReStore in greater depth. Each Habitat ReStore's main objective is to make enough profit to provide a consistent flow of funding for their local projects. In order to make as much profit as possible, the ReStore tries to maintain operations at the lowest possible cost. The ReStore building is leased by the organization and the store has five full time employees on staff along with three part time employees. The number of volunteers varies on a day-to-day basis. This core group of staff and volunteer help keeps costs to a minimum. The director of the ReStore reports that individual donors do not always drop off donations at designated entrances and commercial donors drop off large donations without notifying the ReStore beforehand. These two factors contribute to the disorganization and surplus inventory in the donations processing area as seen in the figure below:

Storage area for employees only. (Photo: Jonathan Arnone, 2013)

One way to evaluate the problem is to consider a layout that promotes functionality. As one researcher notes, "Operations in a warehouse have to be investigated since they impact the design of layout. The various activities performed in a warehouse and their sequence, should be identified to help in developing the layout" (Hassan, 2002, p. 434). It is important to not only understand operations, but also how they relate to one another. These operations range from inventory levels, to class formations, to storage techniques. We will discuss methods for implementing these operations in greater depth.

Determining inventory levels is important for any type of warehouse. It is an operational decision that impacts the estimating of space requirements. The ReStore's inventory consists of donations that are received at random times. There is a significant gap in research on predicting inventory levels for this type of situation. While determining inventory levels for Habitat will not be possible, a separate step called class formation offers a way to classify existing and future inventory. The premier method to classify inventory is known as "ABC analysis". It is an inventory control method that puts emphasis on the value of each item.

In order to design a material handling system as well as a proper storage operation, all other previously discussed processes must work effectively. To have an efficient storage system there will be several decisions made based on the type, and amount of inventory. In the case of the ReStore, the objective of their storage is to maximize the utilization of resources all while satisfying their customer's needs. There are two different types of storage location methods that can be considered for the store. Randomized storage is a method of storage in which the closest available area is designated as that particular storage location. The dedicated storage method is used when an item is assigned a specific storage location. The ReStore could utilize both of these storage location methods.

We met with Leominster ReStore manager, Werner Thissen, at his store for a tour of his system. The Leominster store layout is similar to the Worcester store, however, the donations processing area is an example of how organization will encourage efficiency. The donations

processing area is broken down into several distinct stations. This provides employees with a clear idea of what items need to go where and allows for each function to be completed without interruption. While the space designated for this area is larger than the area in the Worcester ReStore, the concepts used can still be applied.

Another way that the Leominster ReStore maintains a high level of efficiency is through their store policies. When applied properly, policies allow for smooth operations both on the sales floor and in the donations area.

Methodology

This goal of our project was accomplished through the objectives listed below:

1. Document the baseline processes
2. Evaluate sales, storage, and donations processes in detail
3. Assess workforce activities
4. Design and test scenarios

To document the baseline of the processes that were already in place, we spent our first days observing the operations at the ReStore. We utilized participant observation and naturalistic observations. By using both of these methods, our team obtained a full understanding of the ReStore's day-to-day processes and patterns. To get additional information about best practices specific to the ReStore warehouse, we interviewed the director of another ReStore location and the Salvation Army of Central Massachusetts.

We evaluated the sales floor through archival research and mapping. Our archival research was dependent on records from the ReStore. They provided our team with documentation of this year's sales ranked by sales of department by square foot as well as order of department sales. We then dimensioned and created a blueprint using AutoCAD. We used the blueprint, the sales trend data, and our own observations to create a map of the building. We evaluated the storage area by taking measurements of the donations processing area, the shelving, and any other key objects in the back room. These measurements allowed us to create a dimensioned map of the donations processing area.

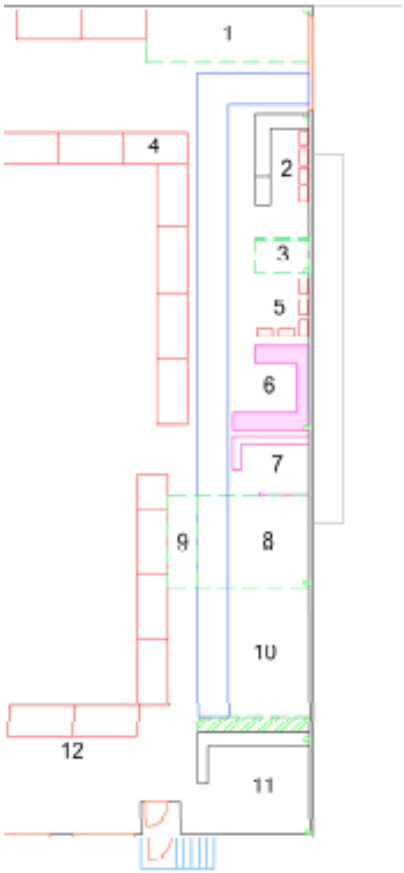
Our team documented what the volunteers and employees do at the warehouse by conducting interviews and observation. The interviews provided firsthand information about what the workers experience. The observations validated the interviews data and allowed us to see firsthand what really happens in the warehouse rather than just hearing what the workers think about present processes.

Results and Recommendations

From our findings, we recognized two important key factors impacting the donations process: an unclear system and lack of flexibility. There were procedures in place that were unclear to volunteers. This created confusion and disorganization in the donations processing area. The main concern was process consistency. Based on our research, we could deduce that operating policies and checklists will improve the consistency of the processes. We have also noticed that the donations processing area needs to be flexible in order to facilitate the various donations types and sizes.

In Chapter 5, we discussed the process that we implemented. This design was based on the inability to move the pricing desk. Technical restraints made moving this desk impractical

during our project's time. However, in addition to the process we put in place, we provided the ReStore with two additional recommendations that allow the pricing desk to be moved. The first recommended blueprint can be seen below:



Implemented Design

1	Sold items waiting for pick-up	7	Cleaning station
2	Receiving desk and small donation sorting station	8	Medium-large donations
3	Appliance testing	9	Priced items ready for sales floor
4	Temporary storage for large donations	10	Flex zone
5	Items ready for pricing	11	Fixing station
6	Pricing desk	12	Pallets

This design included physical changes to the layout and direction of traffic flow, as well as five task signs for employees/volunteers that will promote with organization and efficiency. We provided the ReStore with templates for these signs so that if unexpected changes occur, the signs can be altered to match the change.

Recommendations for future improvements involve moving the pricing desk next to the donations drop off area. Moving this desk creates a better flow of donations as they are dropped off. We also introduced the concept of a mobile pricing desk. Making the pricing desk mobile eliminates the amount of handling for donation. Each of these options will open up more space, allowing for more flexibility.

The ReStore will be able to analyze their internal processes over the next few months to measure the quality of the changes after processes have become habitual. Indicators for this analysis include employee's feelings about the system as well as how organized the donations processing area is. If the zones are being used as they were intended, we believe that the result will be an efficient easy to use process. The enhancements we made will increase sales, as items get to the sales floor at a faster rate, and create a quicker turnaround of donations. This was the overall goal of our project. Increased sales means the ReStore will be able to provide more funds for its builds. This will allow them to keep expanding, start building more homes each year, and have a bigger impact in the Worcester community. We wish all the best to this incredible organization.

Acknowledgements

We would like to thank the Habitat for Humanity ReStore for giving us this opportunity to give back to the city of Worcester in such a wholesome manner. We have learned a lot about the organization and developed new found respect for the non-profit organization.

We would also like to thank Debbie Maruca Hoak, ReStore Director, for guiding us through our problem solving process. She was very patient and encouraging during our stay at the ReStore. She provided us with vital information and feedback needed to solve the problem.

Lastly, we would like to thank the ReStore staff and volunteers for their contribution to the project. They all welcomed us to the ReStore family with open arms and were always very cooperative and informative.

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Chapter 1: Introduction

Inspired by their religious beliefs, Millard Fuller, and his wife, Linda, founded Habitat for Humanity International in 1976. It started at Koinonia Farm, a small, interracial, Christian community in Georgie, founded in 1942 by Clarence Jordan, a farmer and biblical scholar. Their mission was to provide housing to families in need in exchange for their service in the building process, regardless of their race, ethnicity or religion. The organization was funded by new homeowners' house payments, no-interest loans and other fund-raising activities that contributed to "The Fund for Humanity". In 1984, the organization expanded dramatically after being recognized by the former U.S president, Jimmy Carter, and his wife. Carter helped to restore a six-story building in New York City that was able to house 19 families. Today, the organization has built over 600,000 homes in over 3,000 countries for more than 3 million people around the world.

Habitat is able to reach the community in many ways, one being through its ReStores. The Habitat for Humanity ReStore accepts donations of used furniture and home improvement tools and sells them at a fraction of retail price. All proceeds are then used to fund Habitat's local building projects. This process, although seemingly small in the problem of poverty, has been fundamentally important for improving the quality of life for those in need of affordable shelter. However, these Restores carry a heavy burden as they are Habitat's only constant source of revenue. The non-profit organization receives funds and grants every so often, but are not able to rely on these methods to fund their builds. This means that each ReStore must strive to accept and sell as many donations as possible.

At the same time, the scale of donation services are challenging organizationally and logistically. The ReStore in Worcester, Massachusetts has identified a problem with its donation process. The layout and design of the processing area are not conducive for efficient work. The space is limited due to the disorganization of donations as well as a large amount of surplus inventory. With issues like these, the ReStore cannot expect to generate a successful and sustainable donation process. These kinds of problems can create confusion among employees, damage to products, and most importantly loss of sales. The goal of our project was to

implement an effective donations process for the Habitat ReStore warehouse. In order to complete our goal, our team developed and tested several different solutions to this problem, and then collaborated with staff to choose the most effective plan.

Chapter 2: Literature Review

This chapter describes some of the contextual issues related to our project at the Worcester Habitat ReStore in greater depth. It discusses recent publications and explains the challenges of our project. Finally, we present a case study on another Habitat ReStore in Massachusetts as well as the Salvation Army.

2.1 Site Description

Habitat for Humanity ReStores are becoming more and more popular throughout the country. These retail stores are unique and operate unlike many other retailers. Each ReStore's main objective is to make enough profit to provide a consistent flow of funding for their local projects. To make a profit the store sells donated items at a discounted price that they receive from either commercial vendors or local donors. In order to keep a constant inventory, the store must accept a wide range of donations from the public. Donations can be dropped off or picked-up by the Habitat truck Tuesday through Saturday. These items are either new or used, and include; appliances, furniture, building materials, cabinet sets, windows, doors, and tools. The store accepts many different items that could either furnish a home, or help fix it.

In order to make as much profit as possible, the ReStore tries to maintain operations at the lowest possible cost. The building that houses the store as well as Habitat's administration offices is leased by the organization. The store has five full time employees on staff along with three part time employees. Tuesday through Saturday, two of these employees usually pick up donations for the Greater Worcester area. In addition to the employees, volunteers play a large role in ReStore operation. Responsibilities include moving items from the donations processing area to the sales floor (see figure 1, below), looking for unpriced items, and marking discounted products. The number of volunteers varies on a day-to-day basis. This group core group of staff and volunteer help keeps costs to a minimum.

Figure 1 - Sales Floor. The space behind the blue tarp and shelving is the storage area. (Photo: Jonathan Arnone, 2013)

One of the central issues facing the ReStore is the donations process and how they control inventory. When a customer donates an item (that does not need ReStore's pick-up service), they are supposed to use the back garage door entrance, which is gated off just for customer drop offs. However, the manager of the ReStore reports that customers do not always abide by these rules and drop off using other entrances. These entrances include the front of the store, the pick-up area, and even the Habitat Administrative office's entrance.

The ReStore receives donations from commercial suppliers as well. Usually these companies will contact the store beforehand to let them know when and what they are dropping off. The store can then try to prepare their limited space and the employees for these large deliveries. However sometimes the retailers will not call to notify the ReStore of the delivery and arrive with pallets full of merchandise with no place to put them.

In front of the building are two garage doors used as a loading dock. This loading dock is primarily used for trucks to drop off donations and for customers to pick up larger items that they have purchased. The loading dock leads inside to the "Employees Only" area. This is roughly a 150ft long x 30ft wide corridor that is barricaded from the rest of the store by

shelving, filled to the top with unpriced merchandise. At the end of this corridor is the customer drop-off area as seen below in Figure 2.

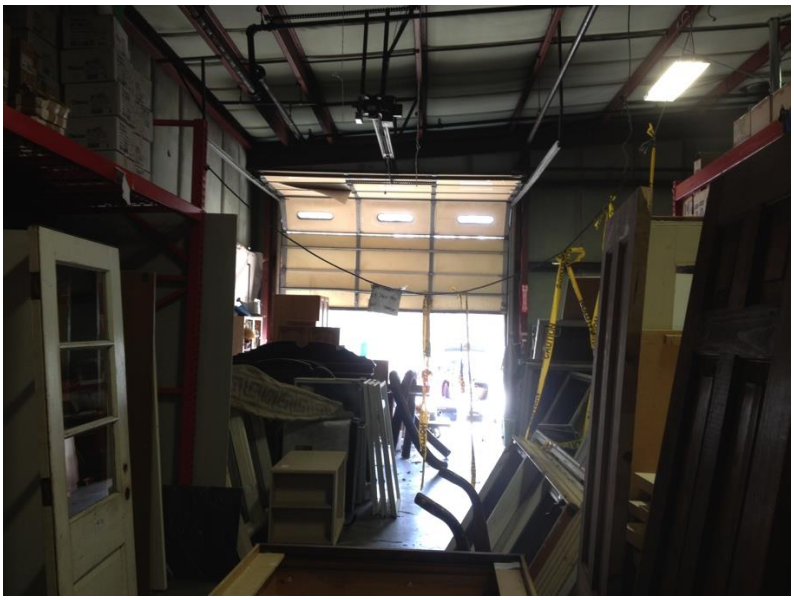


Figure 2 - Individual donor drop-off area. The caution tape blocks customers from entering this area. (Photo: Jonathan Arnone, 2013)

Throughout this space lies donated items that have yet to be priced and placed on the sales floor, as well as sold items waiting for customer pick up, unassembled donations, and a pricing cubicle used by two employees to price donations (see figure 3 below).

Figure 3 - Storage area for employees only. (Photo: Jonathan Arnone, 2013)

More photos describing this area can be found in Appendix A.

2.2 Establishing Operating Policies

One way to evaluate the problem is to consider a layout that promotes functionality. However, design cannot happen until an understanding of functions taking place within the warehouse is established. As one researcher notes, "Operations in a warehouse have to be investigated since they impact the design of layout. The various activities performed in a warehouse and their sequence, should be identified to help in developing the layout" (Hassan, 2002, p. 434). It is important to not only understand operations, but also how they relate to one another. This task can be completed using process mapping described in *APICS Operations Management Body of Knowledge Framework* (2011, p.5) as a "visual form for documenting the details of a process. Depending on the process map's objective, the level of detail varies. Process maps can take many forms, including flowcharts; relationship maps, and cross-functional maps." It is a flexible visual device that will aid in connecting operations. These operations range from inventory levels, to class formations, to storage techniques. We will discuss methods for implementing these operations in greater depth.

Inventory Levels and Class Formations

Determining inventory levels is important for any type of warehouse. It is an operational decision that impacts the estimating of space requirements. Inventory decisions rely on predicting the type and quantity of items being received (Hassan, 2002, p. 434). However, this type of estimation is not applicable to this project. The ReStore's inventory consists of donations that are received at random times. There is a significant gap in research on predicting inventory levels for this type of situation. Standard techniques simply do not apply in this case. While determining inventory levels for Habitat will not be possible, a separate step called class formation offers a way to classify existing and future inventory.

The premier method to classify inventory is known as "ABC analysis". It is an inventory control method that puts emphasis on the value of each item. This analysis technique was developed by the 19th century economist, Vilfredo Pareto, who observed that "a small number of situations in a population would often dominate the results achieved. Therefore, controlling the vital few would go a long way to controlling the whole" (Wong, 2006). When applied to inventory management, it determines the importance of each type of item and how that item should be controlled. Fogarty (1983) writes, "The letters A, B, C represent different classifications of descending importance, but there is nothing sacred about having three classes. Criteria for classification should reflect the difficulty of controlling an item and the impact of the item on costs and profitability" (p. 171). The most common way to create these classifications is by determining what percentage of the annual usage each item claims. This process is broken down into the six following steps outlined by Fogarty (1983):

1. Determine annual usage for each item in inventory (how many of certain item was sold that year)
2. Multiply usage by the cost of item to obtain annual dollar usage
3. Add annual dollar usages for each item together
4. Divide each annual dollar usage into total annual dollar usages to obtain percentages for each item
5. List items in order of percentages highest to smallest
6. Group items based on percentages of annual usage

This process will result in items that can be broken into three categories. “A” items which will be either the faster selling or more expensive items. “C” items which make up most of the general stock. These items require less attention as they make up less of the annual dollar value. Finally “B” items make up any inventory in between these two categories. “ABC analysis” is effective because it is extremely flexible. This is important due to the gap in research of controlling donations inventory. Because the inventory at the Habitat ReStore will constantly be changing with no idea of what is coming next, flexibility is exceedingly important. This analysis technique “put emphasis on where the value is” (Wong, 2006) and every company, no matter how unique the situation, values certain items more than others.

Material Handling and Storage Operations

In order to design a material handling system as well as a proper storage operation, all other previously discussed processes must work effectively. These next two steps are directly related to the flow of the material as a result of the other processes. To have an efficient storage system there will be several decisions made based on the type, and amount of inventory. According to Hassan (2002), “The decisions made at this step are numerous and include determining storage method, depth of storage, the type and dimensions of unit loads, the type, number, and capacity of handling equipment, and the assignment of equipment to particular areas of the warehouse” (p. 436). After making and implementing these decisions, the facility can move on to appropriate storage operations. In the case of the ReStore, the objective of their storage is to maximize the utilization of resources all while satisfying their customer’s needs. Tompkins (1996) states that, “Customer requirements for storage and warehousing functions are to be able to obtain the desired goods quickly and in good condition. Therefore, in designing storage and warehousing systems it is desirable to:

1. Maximize space utilization
2. Maximize equipment utilization
3. Maximize labor utilization
4. Maximize accessibility of all materials
5. Maximize protection of all material

Planning storage and warehousing facilities directly follows these objectives” (Koster, 2007, p.

418). There are two different types of storage location methods that can be considered for the store. Randomized storage is a method of storage in which the closest available area is designated as that particular storage location. This method results in high space utilization, but it increases the distance in which an item must be moved (Koster, 2007). The dedicated storage method is used when an item is assigned a specific storage location. Tompkins (1996) refers to this as a, "fixed slot (p. 420)". An advantage of dedicated storage is that employees working in the storage area now become familiar with the product locations. This technique also can save work in the ReStore because the products are logically grouped (Koster, 2007, p. 489). The ReStore could utilize both of these storage location methods. One area could apply dedicated storage for fast moving items, while another area would be randomized storage, utilized for slow moving items, i.e. a hybrid storage (White, 1980).

2.3 Procedural Checklists

Once storage techniques and policies are finalized, it is essential to make these processes clear to the employees and volunteers. The solution for designating space can be as simple as a well-placed sign stating the functions take place in that zone. The most effective way to make the steps of these tasks clear to the employees and volunteers is through checklists. When used properly, checklists provide instructions in an easy-to-use format. Gawande (2009), author of *The Checklist Manifesto*, writes, "Good checklists are precise. They are efficient, to the point, and easy to use even in the most difficult situations. They do not try to spell out everything…instead, they provide reminders of only the most critical and important steps. Good checklists are, above all, practical" (p. 120). Outlining the important steps of the ReStore's donations process would be excellent guidance to volunteers who are new to the ReStore's operations. Using checklists for each task and process creates a system and encourages collaboration between employees and volunteers. Most importantly, it makes complex tasks seem easier to complete and will reduce mistakes. Gawande (2009) explains that when faced with a complex task we must recognize "the simplicity and power of using a checklist. Indeed against the complexity of the world, we must. There is no other choice. When we look closely, we recognize the same balls being dropped over and over, even by those of great ability and determination. We know the patterns. We see the costs. It's time to try

something else. Try a checklist" (p. 186). Checklists are a low-cost solution that can provide guidance for both the employees and volunteers. When carefully planned and implemented, these lists can make a complicated process much easier to comprehend.

2.4 Case Study: Salvation Army

We visited the Salvation Army regional warehouse in Worcester, Massachusetts as a case study for this project. Our team met with the warehouse supervisor, Kevin McGuire. During our time at the warehouse, Mr. McGuire answered questions and gave our team a tour of the facilities.

The warehouse serves as the distribution center for all of the Salvation Army stores in the greater Worcester area. No pricing is done at this location; all pricing is done at each individual store. This warehouse specifically sorts and organizes all items that are donated locally and then ships them out to stores. There are nine trucks that are used for the shipping of the donations. This warehouse is much bigger than the ReStore warehouse; however, both organizations engage similar processes. There are fifteen employees working in the warehouse, with an additional eighty workers belonging to the Salvation Rehabilitation Program. There is a pre-sorting process that takes place at the loading dock for donations arriving on any of the nine delivery trucks available. All clothing is placed in large metal containers; all furniture is placed directly inside of the warehouse by the loading dock; and all other types of donations are placed in large plastic bins. Pre-sorting the donations before they enter the warehouse leads to faster and more efficient sorting inside the warehouse where there are designated areas for the sorting of these different donations.

Inside of the warehouse, workers are assigned to specific sorting areas. Assigning the workers to the designated areas promotes organization and structure. The workers are given a specific task that they focus on for a work day. The warehouse refuses to have a backup of unsorted donations because it slows the process down. In the event that the warehouse is receiving donations fasters than they can be sort and processed, Salvation takes the backed up donations and quickly bundles them all into a large unit. The unit is weighed and stored in a designated area. They remain there until they are eventually shipped and sold based on weight.

When Salvation receives seasonal items, they are sorted and stored in overhead storage, and recovered during the right season.

Salvation is very dedicated to recycling, and scrapping. They make a profit from recycling because they have systems in place and remain diligent to them. These systems ensure that the recycling and the scrapping of materials are a top priority for Salvation. In the past it would cost the warehouse money to remove these materials, where now they are able to make a profit.

After meeting with Mr. McGuire and seeing the Salvation warehouse, our team realized that many of the policies and procedures would not be applicable to the ReStore. However, what makes Salvation so efficient is that the rules are followed. Any process developed at the ReStore will need rules that are well-known and followed.

2.5 Case Study: Leominster Habitat for Humanity Restore

We visited the ReStore in Leominster, Massachusetts as a case study for this proposal. This ReStore is an outstanding example of how proper planning of space can result in an effective store process. We met with Leominster ReStore manager, Werner Thissen, at his store for a tour of his system.

The Leominster store is 14,000 square feet with 3,000 square feet dedicated to donations processing. The sales floor is made up of standard departments including lighting/electrical, cabinetry, furniture, and buildings supplies. This layout is similar to the Worcester store, however, the donations processing area is an example of how organization will encourage efficiency. The zone is broken down into several distinct stations. These stations along with their functions are listed below:

- Appliance testing
    - Any electronic donation will be tested here to determine if it works properly
- Recycling zone
    - Habitat promotes “green” policies and tries not to produce any waste. This zone is broken down into metals, plastics, etc.
- Delayed customer pick-up

    - Sometimes a customer will buy a bigger item and need to pick it up later that week. This area is the holding cell for those items.
- Priced, ready for floor items
    - These items have already been priced and are now waiting to be moved onto the sales floor.
- Donations processing
    - Area for assessing and pricing donations

The sectioned donations processing area is important for several reasons. One, it provides employees with a clear idea of what items need to go where. According to Mr. Thissen, many times problems will arise in ReStores because volunteers do not understand the process of the back room. The Leominster store eliminates this issue. Furthermore, sectioned donations processing area allows for each function to be completed without interruption. When a donation comes in it can be processed and priced while another item is being tested in the appliance area. This is just one example of the multi-tasking that can occur due to the organization of the donations area. While the space designated for this area is larger than the area in the Worcester ReStore, the concepts used can still be applied.

Another way that the Leominster ReStore maintains a high level of efficiency is through their store policies. When applied properly, policies allow for smooth operations both on the sales floor and in the donations area. One policy used by the ReStore is a color system to display discounts to customers. For example, items that arrive in January will be marked with a blue label. February will be red, March green, and so on. To promote a dynamic sales floor, when an item has been there for a month it will be on sale for 25%. Each month another 25% is taken off. In April, blue items will be 75% off, red items 50% off, and green items 25% off. A large chart is placed in the front of the store to convey this to customers. The color coding of monthly discounts is an easy way to make sales clear to customers. It will lead to more revenue and a constantly changing sales floor. Another policy used here is the EBay section. Antique and valuable donations that do not necessarily fit in anywhere on the sales floor are instead put up for auction on EBay. An employee is in charge of the online process. Once sold, items can be packaged and shipped directly from the warehouse. This provides the ReStore with another

method of acquiring revenue. To promote efficiency the Leominster store limits drop off time and space. Receiving donations can become frustrating when donors aren't aware of the designed drop off zones. Even with clear marking of where to go, this still happens often. When a donation is dropped off in the wrong area, the manager will say "we will take it this time, but next time, please follow the signs to the drop off zone" (personal communication, November 26, 2013). The donation is still received and the donor is politely reminded of the proper process. Finally, to reduce clutter and improve the quality of product being sold, the ReStore turns away bad donations. Although it tough for a non-profit to turn away a donation, sometimes it is necessary. The Leominster store will turn away donations that they do not think they can sell in a reasonable time period. By controlling where and what donations come in, the ReStore can reduce time spent correcting donors as well as improve the quality of product.

2.6 Summary

In conclusion, after evaluating literature and a case study, we learned three key points:

1. Understand operations and how they relate to each other
2. Classify inventory
3. Assess storage

Understanding each operation and how they relate is the basis for designing an effective layout. Solutions will not be discovered unless there is good understanding of the store's process. Once this is accomplished, industry practices show that classifying inventory and assessing storage are the next critical steps. Methods for completing these tasks at the Habitat ReStore in Worcester will be discussed in the next chapter.

Chapter 3: Methodology

The goal of this project was to implement an effective donations and purchasing process for the Habitat for Humanity Restore. This goal was accomplished through the objectives listed below:

1. Document the baseline processes
2. Evaluate sales, storage, and donations processes in detail
3. Assess workforce activities
4. Design and test scenarios

In this chapter we will discuss the methods we used to complete each of these objectives. A Gantt chart displaying our timeline for the project term is also included.

3.1 Document the Baseline Processes

This objective was designed to document the baseline of the processes that were already in place. We spent our first days observing the operations at the ReStore. We utilized two different strategies for observation. Our first technique was participant observation, during which we were immersed in the ReStore's environment. During this time our team observed the store's functions and engaged in conversation with its employees. Noteworthy functions ranged from getting an item to the sales floor to organizing smaller items in the donations processing area. In order to gain this information our group used the following steps, as suggested by methods researcher, Bruce Berg:

"1.Take in the physical setting,
2. Develop relationships with the workers,
3. Track, observe, eavesdrop, and ask questions,
4. Locate employees with experience in various subgroups. (2007, p. 194)"

Following these steps encouraged immersion in the ReStore's practices. Coming in contact with a situation first-hand is one of the best ways to generate qualitative data (Mason, 2002).

To expand our data collection, we also used naturalistic observation. This method does not involve direct interaction. We observed the process and the employees within their own

setting. To prevent confusion, and to distinguish between each unstructured observation technique, our group had a rotation. Each day two members conducted participant observation strategies, while one used naturalistic methodologies. This way our team did not create an awkward setting amongst the employees, for two of us were able to communicate and engage with the staff. The group member employing naturalistic observation was not necessarily accompanying the other two members during their participant observation. He/she investigated and attempted to observe employees within their own environment. We took field notes and photos during this time. All information was then uploaded into a secure word document for later examination. By using both of these methods, our team obtained a full understanding of the ReStore's day-to-day processes and patterns.

To get additional information about best practice specific to the ReStore warehouse, we interviewed the directors of another ReStore and the Salvation Army of Central Massachusetts and toured their facilities. These interviews were semi-standardized so that the interviewer was able to edit scheduled questions on the spot and the interviewee was able to clarify their responses. This way, our team had a better chance of receiving more relevant feedback about interview topics. The combination of interviews and tours allowed us to understand the processes used by other non-profit groups.

3.2 Evaluate Sales, Storage Techniques, and Donations Process

This objective was completed in three related yet distinct evaluations, each requiring slightly different methods of research. Once each step was completed we formed connective concepts that linked the research together. The steps to this objective are as follows:

First we evaluated the sales floor to assess the best and worst selling items, how fast each product typically takes to be sold, and how the floor changes based on available inventory. To accomplish this we used a combination of archival research and mapping. Our archival research was dependent on records from the ReStore. They provided our team with documentation of this year's sales ranked by sales of department by square foot as well as order of department sales. Archival information can prove to be a rich source of primary data (Berg, 2007, p. 244). This allowed us to identify the "quick-sellers" and past sales trends. We then dimensioned and created a blueprint using AutoCAD. We used the blueprint, the sales

trend data, and our own observations to create a map of the building that we took notes on every day. In his book on social science research methods, Berg (2007) outlines the mapping process:

> "Create a drawing or map of the setting. All the stable physical elements observed in the setting should be included in this map. The map might be duplicated a number of times so that every time the researcher enters the field, he or she can work on a fresh map…At the end of the week, compare the drawings, to see if any changes can be detected" (p. 213).

These maps focused on the sales floor. They included what items are being sold from what area of the sales floor. The flow of the workers and customers were also noted during this time. After analyzing the resulting maps, we were able to detect changes to the physical layout as well as observe the customers responses to the change.

During the second step of this objective, we evaluated the storage area and types of storage. To implement a truly effective process, an understanding of this space was critical. We took measurements of the donations processing area, the shelving, and any other key objects in the back room. These measurements allowed us to create one dimensioned map of the donations processing area.

Next we evaluated the donations process. The inventory in the Restore was all donated at one point. To improve the donations process, we gained an understanding of the actions that occur when receiving these items. Our team documented five key activities for each donated item:

- Who donated the item? (commercial vendor or individual donor)
- When was the item donated? (time and day)
- Where was the item placed? (location in processing area)
- How did the item get inside?
    - Donation truck or donor drop-off
    - Which entrance of building
- What is the item?

On site, our team recorded these characteristics into a template displaying the activities. This template as well as our data can be found in Appendix B. This documentation method provided us with critical information that allowed us to organize the donations processing area and gain a true understanding of the process.

3.3 Assess Workforce Activities

In order to solve the problem at the ReStore warehouse, our team documented what the volunteers and employees do at the warehouse. This allowed us to implement convenient and useful processes while ensuring that the workers maintain efficiency. Our team conducted interviews and used the findings from the observations previously described.

The interviews provided firsthand information about what the workers experience. We chose to do interviews because, according to Trochim (2006), "it is among the more rewarding forms of measurement" (p. 54). With interviews, we better understood how people feel about the organization's processes and developed relationships in the warehouse to help us solve the problem as best as possible. These interviews were semi-standardized allowing for flexibility of questions and clarification of responses. (Berg, 2007, p.109) Advantages of interviews include, but are not limited to, "getting high response rates, and being able to ask more detailed questions and clarify unclear responses. However, interviews can be very time-consuming" (eVALUEd, 2006). We interviewed 5 of the 8 full time employees, namely the ReStore Director, Donations Manager, Donations Coordinator, Resources Manager, and Floor Manager. An interview guide is located in Appendix C.

The observations validated the interviews data and allowed us to see firsthand what really happens in the warehouse rather than just hearing what the workers think about present processes. By participating in the process with the employees we were able to identify problems and then discuss solutions in the interviews.

3.4 Design and Test Scenarios

Our team designed three scenarios with differing costs and timelines for implementation. To assess scenarios designed, we compared factors such as time consumed and money spent. We were able to forecast the possible benefits in each scenario using

information received from previous objectives. These scenarios were presented to the sponsor. We piloted trials on a small-scale to test the feasibility of potential options. Our team received feedback from the workforce and conducted observations to identify the strengths and weaknesses of the piloted donations and purchasing process. We presented the results to the sponsor for final evaluation. All data we collected was protected in a password locked computer. Data was not shared, was used for educational purposes only, and destroyed upon completion of the study.

3.5 Timeline of Work

The following Gantt chart breaks down our timeline. This sequence of events allowed us to develop strategies and concepts as we completed the seven week term. We allowed for three weeks to design and test scenarios as this was the overall goal of the project.

Table 1 - Gantt chart of work timeline

Timeline	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7
	1/16-1/23	1/23-1/30	1/30-2/6	2/6-2/13	2/13-2/20	2/20-2/27	2/27-3/7
Assess Baseline Process							
Evaluate Sales							
Storage Techniques							
Donation Process							
Assess Workforce Activities							
Design & Test Scenarios							
Present Findings							

Chapter 4: Findings and Analysis

The objectives are presented below with their corresponding findings. We then provide some analysis of these results.

4.1 Documenting the Baseline Process

During our stay at the ReStore warehouse, we have observed the basic procedure of the donations process: A donor (usually unexpectedly) arrives to drop off a donation. The donation is assessed by an available employee or volunteer, to determine if it is worth accepting. In the case that the donation is accepted, the donor has the option of receiving a receipt that may be later used for filing taxes. Each item donated is then tested, assembled and cleaned as necessary and then priced and placed on the sales floor. If the donations are picked up by the ReStore truck, assessment is usually done on site.

From our interviews with the employees, we gathered several factors that hinder the efficiency of this process. These include but are not limited to:

1. The space available on the sales floor and donations processing area
2. Inefficient use of labor with regards to donations processing

These limitations are further discussed in the following subsections.

4.2.1 Evaluating the Sales Floor

Items donated are typically priced at a small fraction of its retail price to be sold at the Habitat for Humanity ReStore. These items are later discount based on how long they have been on the sales floor. If the item is on the sales floor for 30 to 59 days the original price is discounted by 25%. For 60 to 89 days it is discounted by 50%, and 90 days or more is discounted by 75%. We acquired a document presenting the sales per square foot for each department on the sales floor. This document compared the profitability and efficiency of each department. Most of the items sold by the ReStore are donated so all the income from these sales is profit. There are two items that the ReStore purchases and labels as their own; soda and recycled paint.

The sales floor is divided into departments. Certain departments, such as lighting and hardware, however, are not clearly organized. When small items such as lighting fixtures, screws and nails are donated, it is up to volunteers to place these items on the sales floor after they have been priced. The disorganization of the sales racks forces the volunteers to place items in the most convenient place. This compounds the problem and takes away space for new items to be brought to the floor. This lack of space on the sales floor is one reason for the clutter in the donations processing area. Priced items are held in the donations processing area for extended periods of time which adds confusion to the process.

4.2.2 Evaluating Storage

The ReStore has dedicated space for storage. There are three main storage areas at the ReStore warehouse.

1. "Top Stock"
2. Various locations in the Donations Processing Area
3. Outdoor shed

There are 16 large racks in the warehouse separating the sales floor from the donations processing area with shelving on top to place items. This is known as "Top Stock". On a regular basis the ReStore receives large donations of lighting from the government and commercial donors. Typically, there is not enough space on the sales floor for these donations as soon as they arrive, so they are stored on the large racks until space is available. Other large donations, consisting of hardware supplies, may also be stored in "Top Stock". At the same time, there is no record of what is placed in "Top Stock", so items usually get misplaced and/or forgotten after being stored on the racks.

Parts of the donations processing area are used for storage. These are located by the loading dock, between the fixing station and cleaning station and by the drop off door. Items stored by the loading dock are parts of a display unit the ReStore is planning to use in the near future to renovate the lobby area of the store. The area between the fixing station and cleaning station, also known as the "Flex Zone", is used for large volume donations. The items are stored here until a volunteer or employee is available to test, assemble, clean and price them. The

area by the drop off door is mainly used for the storage of sold items. Customers may make large volume purchases, such as furniture pieces and chairs in bulk, and do not have enough space in their vehicle to take them from the warehouse at the time of purchase. The ReStore offers a 7-day holding period for these items, giving customers a chance to make the necessary transportation arrangements for these items. In some cases, sold items are held for up to four weeks, after which point the item returns to the sales floor and the customer receives store credit.

At the back of the warehouse stands a trailer that the ReStore uses as storage. The items stored in this shed changes seasonally. For example, during the winter, out of season items such as leaf blowers and lawn mowers are stored in the shed because their demand falls significantly. The ReStore contractor also stores tools in the shed. It is a rare occurrence that there is room for additional items in the trailer.

4.2.3 Evaluating Donations Processing Area

We will present our findings for this objective in spatial order from the drop off door to the loading dock. With reference to our blueprint of the warehouse the areas will be addressed in the following order (see figure 4):

1. Drop-off Door
2. Service Station
3. Electrical Unit
4. Open Space
5. Pricing Area
6. Cleaning Station
7. Flex Zone
8. Fixing Station
9. Loading Dock

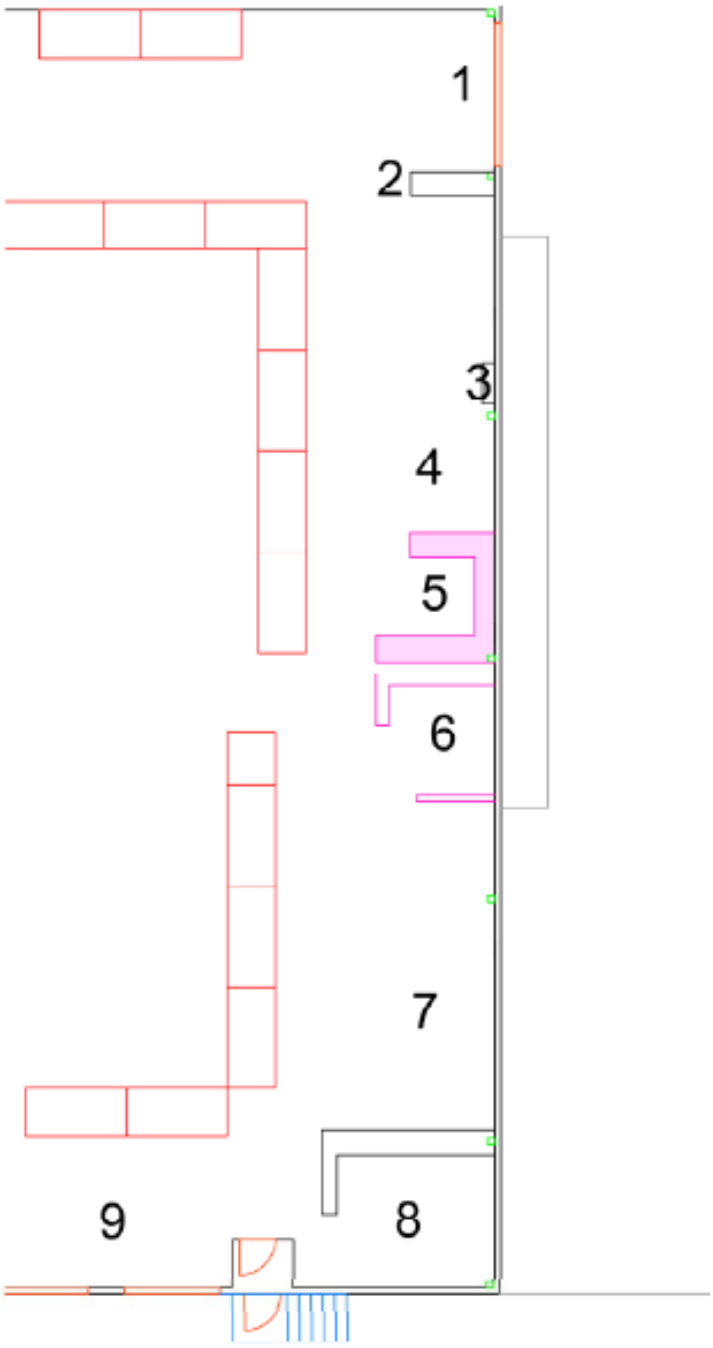


Figure 4 - Zones of initial donations process

The “drop off door” is the main unloading and loading area for individual donors. When items are dropped, this is usually where large items are left before they go through the necessary processes prior to going on the sales floor. This makes this station an area of convenience. As more donations are received, items begin to pile up and reduce the efficiency

of the basic processes that take place in this area. To the right of the “drop off door” stands a display unit used as a service station. When small items are donated, they are placed on the service station until they are attended to. This is also where customer and donor files are stored. Next to the service station is the electrical unit used for testing large appliances, such as dryers and refrigerators, with 220v plugs. For safety and efficiency reasons, this unit should have 6 to 8 feet of open space in front of it. However, most of the time this area is blocked with carts of small items. Between the electrical unit and the pricing area is an open space which houses additional small items waiting to be sorted and priced. From our observations, we have gathered that small items are the most time consuming items to process. Items such as screws, nails, lighting fixtures and glassware are considered small items. They typically arrive in large quantities and it is up to a volunteer or employee to go through these items by sorting and cleaning them.

The pricing area is very similar to the typical office cubicle. There are various tools there for assembly and pricing. The most used tools in this area are the computer, printer, scale and electrical sockets. Next to the pricing station is the cleaning station housing all the cleaning supplies needs to the clean the donations. There is usually a great deal of unused space in this area. Between the cleaning station and fixing station is the “Flex Zone”. As mentioned before, this is the area where large volume donations coming from the loading dock are placed. This area also houses priced items to be placed on the sales floor. The fixing station holds all the tools used for major repairs and assembly. The loading dock is where trucks are unloaded and loaded.

Overall, we observed and documented the processes for 71 donations during our stay at the ReStore; 37 from individual donors, and 34 from the truck’s pick-up service. We paid close attention to the location of the donations in the donations processing area. Out of the trucks donations, 16 items made it to the “Flex Zone”, 2 were placed directly on the sales floor, and the last 16 were placed in the most convenient location at that time. Similarly, out of the 37 individual donations, 26 were placed in the most convenient location. Our data sheets recording these donations can be found in Appendix B.

4.3 Assessing Workforce Activities

Of the 8 employees at the ReStore, we had the opportunity to interview 5 of them to assess workforce activities. Our first interview was with the Resources Coordinator. This employee is expected to "seek out the best resources, such as vendors and websites, for the ReStore to complete various projects" (Participant 1, February 12, 2014). The second interview was with the Donations Associate. This employee is "responsible for donations processing which includes pricing, picking-up, fixing and working with customers and donors" (Participant 2, February 13, 2014). The third interview was with the Donations Coordinator, who is responsible for "arranging pick-ups and working with donors" (Participant 3, February 13, 2014). The fourth interview was with the Floor Manager. This employee focuses on "assigning tasks to volunteers, merchandising and pricing" (Participant 4, February 13, 2014). The last interview was with the ReStore Director who "oversees all the activities that take place in the ReStore" (Participant 5, February 13, 2014). However, we have observed that these employees do a lot more than what their job descriptions specified. All of them have experience in donations processing. The Resources Coordinator mentioned that they "fill in gaps" (Participant 1, February 12, 2014) as needed. The ReStore Director mentioned that the "turnover rate of volunteers very high" (Participant 5, February 13, 2014). Based on responses from the interviews, volunteers are generally expected to "clean items, load and unload vehicles, and help customers" (Participant 1, Participant 4, Participant 5, February 13, 2014). However, the ReStore Director and Floor Manager noted that volunteers are hindered from working efficiently due to the lack of knowledge of the processes in the ReStore which forces them to be "very dependent on the employees" (Participant 4, Participant 5, February 13, 2014).

4.4 Discussion

From the data collected, we recognized two important key factors impacting the donations process: an unclear procedure and lack of organization.

With the high turnover rate of volunteers, it would not be efficient to teach each volunteer about every aspect of donations processing. Some volunteers tend to treat items in a different manner than what the intended process prescribes. This creates confusion in the donations processing area. However, from over observations, when a process is correctly

followed a donation can be processed and placed on the sales floor in a few minutes. The main concern is educating volunteers on the correct procedure in an efficient manner. Based on our research, we can deduce that operating policies and checklists will improve the consistency and efficiency of the processes. This change is easily adaptable since there will be signs clearly stating established policies.

We have also noticed that there is a lack of organization in the process previously in place. From our observations, it is very rare that two donations are the same. During our interviews, a few of the employees mentioned that an aspect of the donations area they believe needs to be improved is the use of space. At times, the donations area is disorganized as a result of the unclear procedures. We have concluded that the space needs to be flexible in order to facilitate the various donations types and sizes. We have observed that empty spaces are easily filled with clutter until designated for a specific reason. Overall, we realized that the process lacks consistency.

Chapter 5: Recommendations and Conclusions

Based on our findings and analysis our team developed and implemented a new layout and process in the donations area. This implemented design was based on the inability to move the pricing desk. Due to technical restraints, moving the pricing desk was not an option during our project's time. In addition to the process we implemented, we provided the ReStore with two additional recommendations that require the pricing desk to be moved. In this chapter, we will discuss our implemented design as well as the details of the recommendations that can be put in place once the technical restraints are no longer a factor.

5.1 Implemented Design and Policies

To create a more efficient donations process we developed a new physical layout accompanied with a set of policies. The policies will help volunteers and employees maintain a consistent and easy to understand donations process. We established these policies by creating a series of checklists that are displayed throughout the donations processing area. We also established work zones, each with a distinct purpose within the process. These zones and their functions can be viewed in the blueprint and legend below:

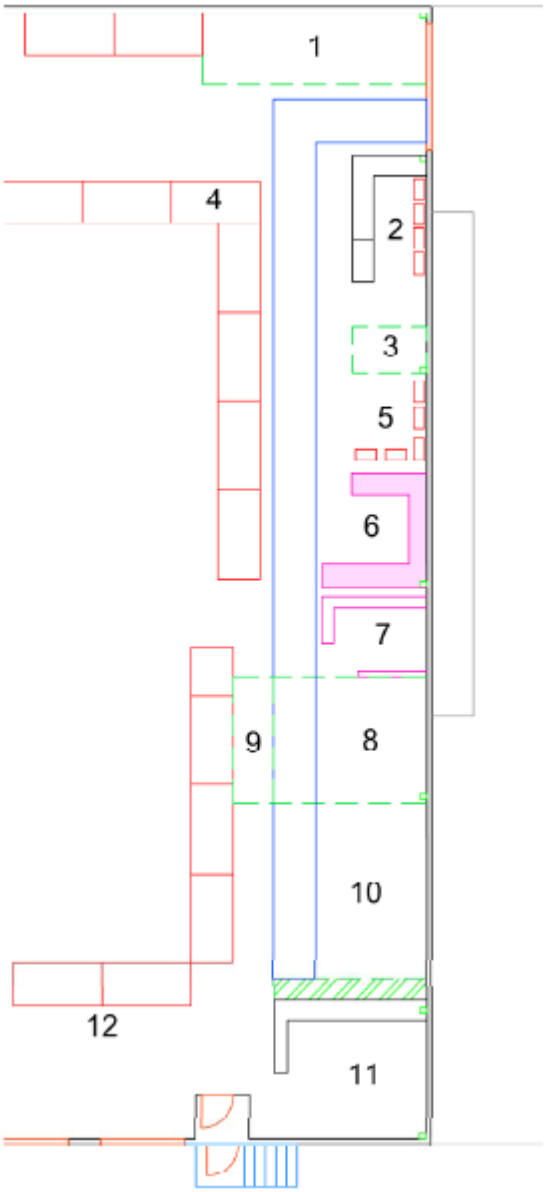


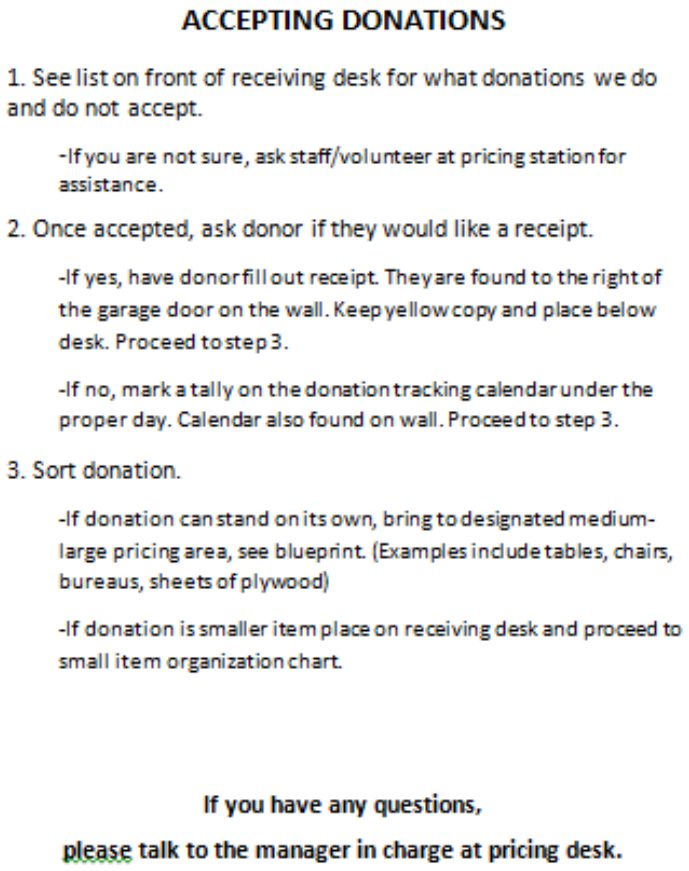
Figure 5 - Zones for implemented donations process

1	Sold items waiting for pick-up	7	Cleaning station
2	Receiving desk and small donation sorting station	8	Medium-large donations
3	Appliance testing	9	Priced items ready for sales floor
4	Temporary storage for large donations	10	Flex zone
5	Items ready for pricing	11	Fixing station
6	Pricing desk	12	Pallets

The green dashed lines on the blueprint are used to separate zones from each other. For implementation, we used tape and marked these zones in the same dash-lined fashion. The blue path going the length of the donations area is an aisle where nothing should be placed at any time. This allows for better movement of items and less chance of donations getting damaged. It is 4 feet wide to allow a pallet to pass through easily. This aisle was also marked off with tape.

Directly inside the garage door, we designated an area for sold items waiting for customer pick-up. Dollies and hand trucks are stored against the wall where Section 1 meets the red shelving unit. This allows for a quick transaction when customers arrive to retrieve their purchases.

Next to the garage door, we created a zone for a receiving desk and small donation sorting station. This is where the volunteer or employee will collect donation and provide the donor with a receipt. We created a guide that explains how to accept donations; this guide will be on the table at all times accompanied by a list of what donations the ReStore does and does not accept. This guide can be found below:



ACCEPTING DONATIONS

1. See list on front of receiving desk for what donations we do and do not accept.

    -If you are not sure, ask staff/volunteer at pricing station for assistance.

2. Once accepted, ask donor if they would like a receipt.

    -If yes, have donor fill out receipt. They are found to the right of the garage door on the wall. Keep yellow copy and place below desk. Proceed to step 3.

    -If no, mark a tally on the donation tracking calendar under the proper day. Calendar also found on wall. Proceed to step 3.

3. Sort donation.

    -If donation can stand on its own, bring to designated medium-large pricing area, see blueprint. (Examples include tables, chairs, bureaus, sheets of plywood)

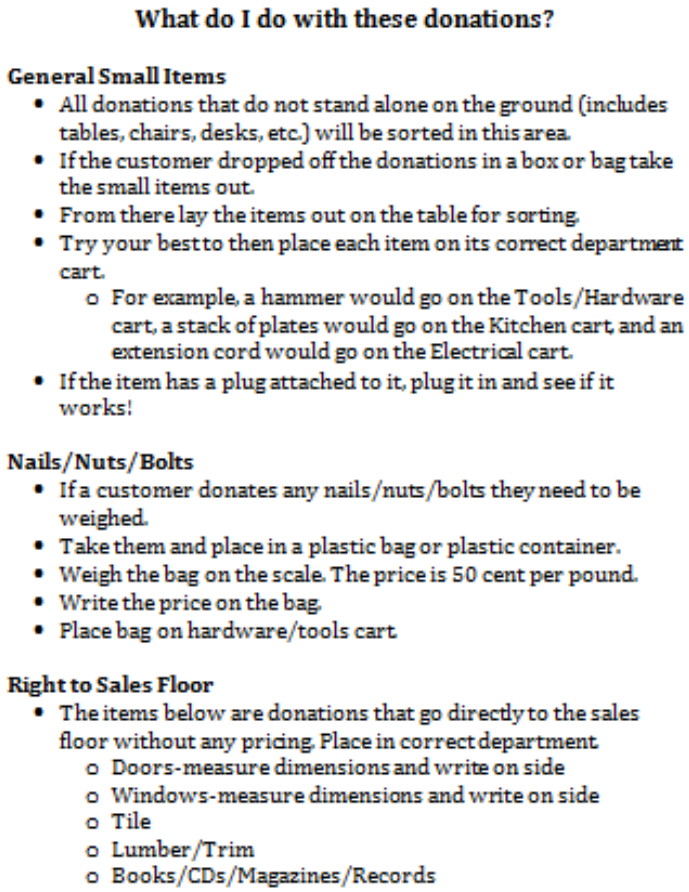
    -If donation is smaller item place on receiving desk and proceed to small item organization chart.

If you have any questions,

please talk to the manager in charge at pricing desk.

Figure 6 - Accepting Donations instructions

This table will also serve as the small donation sorting station. The ReStore receives many small donations, and these donations often take the most time to sort and price because there are so many of them. Behind the table is a line of rolling carts, each cart belonging to a certain department on the sales floor. This way when the volunteer or employee is sorting the small donations, there will be no confusion on where to place the processed items. We dedicated a portion of the sorting table to be used for sorting, weighing, and pricing nails and other hardware items. This pricing process can be handled by volunteers without relying on the donations associate. An overview of how to sort small items will be on the table at all times and can be found below:



What do I do with these donations?

General Small Items

- All donations that do not stand alone on the ground (includes tables, chairs, desks, etc.) will be sorted in this area.
- If the customer dropped off the donations in a box or bag take the small items out.
- From there lay the items out on the table for sorting.
- Try your best to then place each item on its correct department cart.
  - For example, a hammer would go on the Tools/Hardware cart, a stack of plates would go on the Kitchen cart, and an extension cord would go on the Electrical cart.
- If the item has a plug attached to it, plug it in and see if it works!

Nails/Nuts/Bolts

- If a customer donates any nails/nuts/bolts they need to be weighed.
- Take them and place in a plastic bag or plastic container.
- Weigh the bag on the scale. The price is 50 cent per pound.
- Write the price on the bag.
- Place bag on hardware/tools cart.

Right to Sales Floor

- The items below are donations that go directly to the sales floor without any pricing. Place in correct department.
  - Doors-measure dimensions and write on side
  - Windows-measure dimensions and write on side
  - Tile
  - Lumber/Trim
  - Books/CDs/Magazines/Records

Figure 7 - Small donations instructions

When the department carts are full, they should be moved next to pricing desk in a line. This zone is marked as “5” on the blueprint. Additionally, we kept two of the bigger carts against the wall as shelving for miscellaneous items that need to be processed. This will contribute to the flexibility of the layout.

As shown on the blueprint, there is small area designated for appliance testing in between the small donation sorting station and the pricing desk. The only 220 volt outlet in the ReStore is located in this zone. This area will remain clear and allow for quick and easy access when large appliances need to be tested.

As discussed previously, the pricing desk was constrained to its current location during our project’s time. The only change we made was moving the scale from this desk to the small donations sorting station for nails and hardware items. Besides this, the pricing desk will continue to house the computers, printer, and supplies such as markers and pricing guns. The

cleaning station will remain next to the pricing desk but we reduced the area of this zone by 4 feet by rearranging supplies and moving a flexible wall. This opened up more space for the medium to large donations.

The zone labeled by an “8” on the blueprint has been designated for medium to large donations. These are items that can stand on their own such as dressers and chairs. When a medium to large donation is received it will be brought to this zone and await pricing. Once priced, volunteers can bring items to the sales floor directly from this zone.

Across from the medium to large donations, is a zone dedicated to items that are priced and ready for the sales floor. Often times a cart will be ready for the sales floor and is just waiting for a volunteer to bring it out. Those carts will now be lined up in this zone making it is easy to recognize what is ready to go out. Medium to large donations that are priced without room on the sales floor can also be placed in this area.

When the donation pick-up truck returns at the end of the day it is usually carrying a large load that varies greatly in size and type of donation. To be efficient, it works best to unload these items into the same area. We named this area the “Flex zone”. This area is reserved for donations from the truck. The main goal is to keep the zone as clean as possible throughout the day to allow for quick unloads of the truck with no confusion on where to place items. The “Flex zone” being right next to medium to large donations is important because this allows for flexibility when organizing donations. Depending on the amount and type of donations these two areas can blend together when necessary.

When it comes to the repair of donations we elected to keep the fixing station that existed initially. However procedure-wise, we encouraged the donations associate to bring any donation that needs fixing to this area. In front of the fixing station, marked with the diagonal green lines, is an area for the assembly and disassembly of items. By placing a table in front of the fixing station these unassembled donations will have a set zone to occupy until a volunteer can assemble them. All the tools needed for any assembly are conveniently located in the fixing station. Donations may require disassembly when they cannot be sold but the parts can be recycled. By dividing this table in half, these items waiting for disassembly will also have a set location.

The zone marked with a “12” on the blueprint is reserved for pallets of donations that come in periodically. We noticed that when these pallets arrived there was no designated area for them to be stored for processing. Dedicating this space inside the loading dock enhances the overall organization and allows for easy drop-off of these large pallets. We were not able to implement this during our time because the ReStore has been storing supplies to renovate the store’s lobby in this area. We recommended that after the renovation is complete, this area is used for pallets.

The layout of the donation processing area is the foundation for effective policies. Volunteers often have difficulty finding things to do. To give some direction to the volunteers, we placed signs around the donations area listing general tasks to be done. The sign below is a volunteer checklist that gives instructions on some of these general tasks. It is followed by a blueprint of the building with important spots labeled:

Date: _____

DON’T KNOW WHAT TO DO…
HERE’S A START!

Cleaning	Merchandising	
Sweep where necessary ☐ Lobby ☐ Sales Floor ☐ Donations Area	Place priced donations on sales floor -Must have priced tag and all pieces -Must be cleaned and fully assembled -Use blueprint to find proper location in store	Organize sales floor, make it look nice! ☐ Bookshelves along walls - Metal shelving aisles ☐ Hardware ☐ Electric ☐ Plumbing ☐ Bulbs ☐ Paint ☐ "Front" all items ☐ Check for empty boxes, broken pieces, etc.
Vacuum the nook -Vacuum located in cleaning closet (see blueprint) ☐ Before 10 A.M. ☐ After 5 P.M.	Assist customers in picking up larger items at donation garage -Verify receipt -Pull paperwork from customer-hold file	
☐ Dust and Polish items on sales floor -Supplies found at cleaning desk	☐ Check items on sales floor for 30-60-90 day discount and mark accordingly -Supplies found at checkout	Help unload truck when it arrives (usually around 3:00 P.M.)
☐ If cardboard recycling bin is full, bring outside and replace with empty bin		
☐ Bring out trash when full Trash goes into large blue dumpster in donations yard. Please load back to front, bottom to top.	If you have any questions with regards to the sales floor, see Louis. If you have any questions with regards to the donations, see Gary. Without you volunteers, our store could not operate. Thank you!	

Figure 8 - Volunteer task list

Figure 9 - Sales Floor guide

The labels on the blueprint shown here are samples. The version put in the ReStore did include text from AutoCAD, but rather physical labels taped to the blueprint. This allows the ReStore to change the labeling when necessary; departments are switched around occasionally. This will allow for flexibility with the sign.

Lastly, we also created a task list geared towards volunteers for the daily opening and closing of the store. This list includes tasks that should be performed every day to help promote organization and structure. The list can be found below:

MORNING CHECKLIST

- ☐ General clean-up of donations area.
  - Sweep if necessary.
  - Take out any garbage or cardboard.
  - Clear receiving desk.
- ☐ Assist donations manager with pricing of medium/large donations from previous day
  - Test if needed to be tested.
  - Cleaned if needed to be cleaned.
  - Assembled if needed to be assembled.
  - Move to sales floor once ready.

CLOSING CHECKLIST

- ☐ All recycling outside to respective areas. This includes:
  - Cardboard
  - Metal
  - Large plastics
  - Kitchen metals and glass
- ☐ Bring any pallets and garbage outside
- ☐ All dolly's and hand trucks brought to assigned area
- ☐ Clear receiving desk
- ☐ Any donations out of place put in assigned area

Figure 10 - Morning/Closing checklist

This implemented design and process included physical changes as well as five signs that will help with organization and efficiency. In the case that unexpected changes to occur, the ReStore will be able to alter these signs using templates that we provided.

5.2 Recommendation 1: Moved Pricing Desk

Our team has developed two different recommendations that may be implemented in the future, once the technical limitations are resolved. In this section, we will explain the changes made to the implemented process. The first recommendation involves moving the pricing desk next to the donations drop off area which will create a better flow of donations as they are dropped off. A blueprint of this design can be found below:

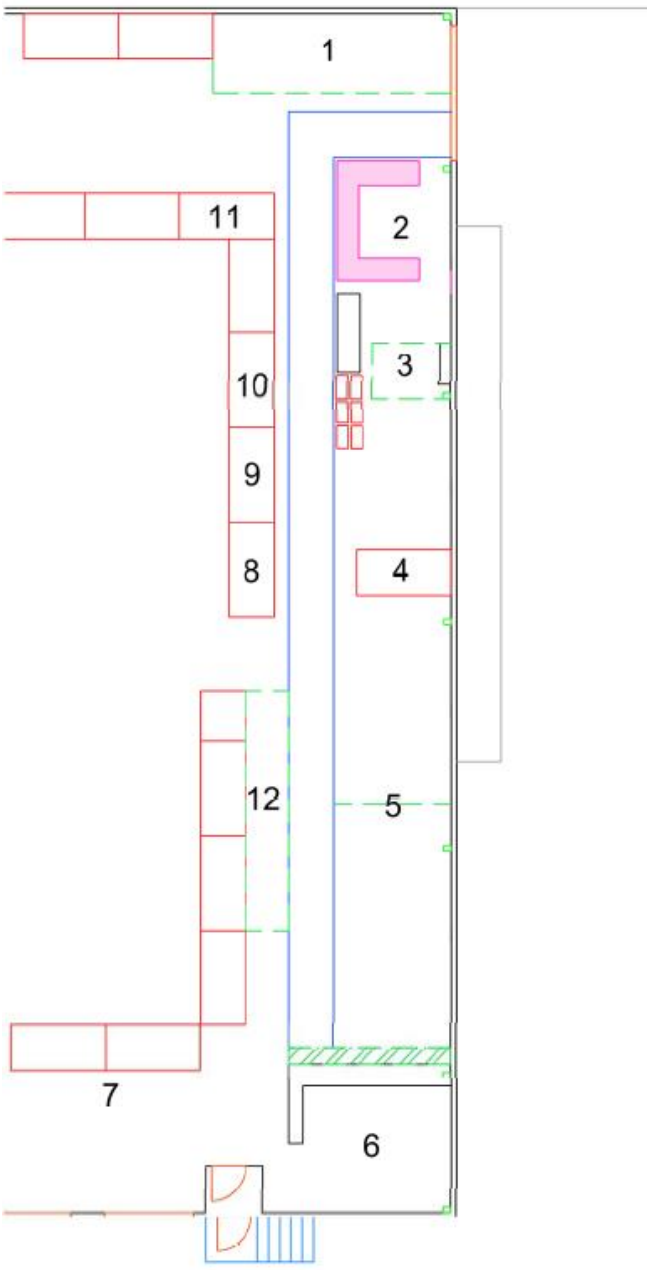


Figure 11 - Recommendation 1 blueprint

1	Sold items waiting for pick-up	7	Pallets
2	Small item sorting station and pricing desk	8	Cleaning supplies
3	Appliance testing	9	Recycling
4	Additional shelving	10	Dollies and hand trucks
5	Flex zone	11	Temporary storage for large donations
6	Fixing station	12	Priced items ready for sales floor

When a donation arrives at the drop off area the volunteer or employee will accept the donation at the pricing desk. The volunteer or employee will then follow the same accepting donation checklist that has already been implemented. In this solution, the pricing desk also serves as the small items sorting station. These two previous zones have now been turned into one, making better use out of the limited spacing. The small item department carts are now located next to the pricing/accepting station. The employee/volunteer will then follow the same small donation sorting checklist that has already been implemented. The employee will then price the carts and move them to the "ready for sales floor" zone. In this design the flex zone is much larger. It can be utilized for both large donations as well as items from the truck. Additional shelving, labeled as "4", can be used as the ReStore sees fit, given the circumstances at that time. It can also be used to divide the flex zone into parts separating individual donations from pick-up donations. If any type of overflow occurs during this process, the volunteer or employee can then utilize the temporary storage area. The cleaning supplies, recycling bins, and all dollies and hand trucks are now located under the shelving racks. They are tucked away which will create a better flow of donations throughout the area and more organization.

If a process or zone was not mentioned in this section, it has not been altered and will follow the current implemented solution. We believe that this recommendation will create more organization and flexibility in the donation processing area.

5.3 Recommendation 2: Mobile Pricing Desk

The second recommendation our team developed utilizes the concept of a mobile pricing desk. Making the pricing desk mobile reduces the amount of touches on a donation drastically. This way the donation does not need to be moved through the donations processing area. The pricing desk can simply go directly to the donation and the donation can then go directly to the sales floor.

After research, our team has found what we believe to be the best option for this mobile pricing unit, the Newcastle Systems NB380 Mobile Cart.

Figure 12 - Mobile pricing cart

The cart's battery can support the computer, monitor, and the printer for pricing. It is completely mobile and roughly 2ftx2ft at the base. There are two shelving units to hold the electronics and other items the employee would need to properly price the donations. The cart is priced at $1,979.00. Although the price is relatively high, it will greatly reduce processing time. Thus sending items to the sales floor faster and producing more profit. With the implementation of the mobile cart not many specifications had changed from Recommendation 1. A blueprint of the proposed layout can be found below:

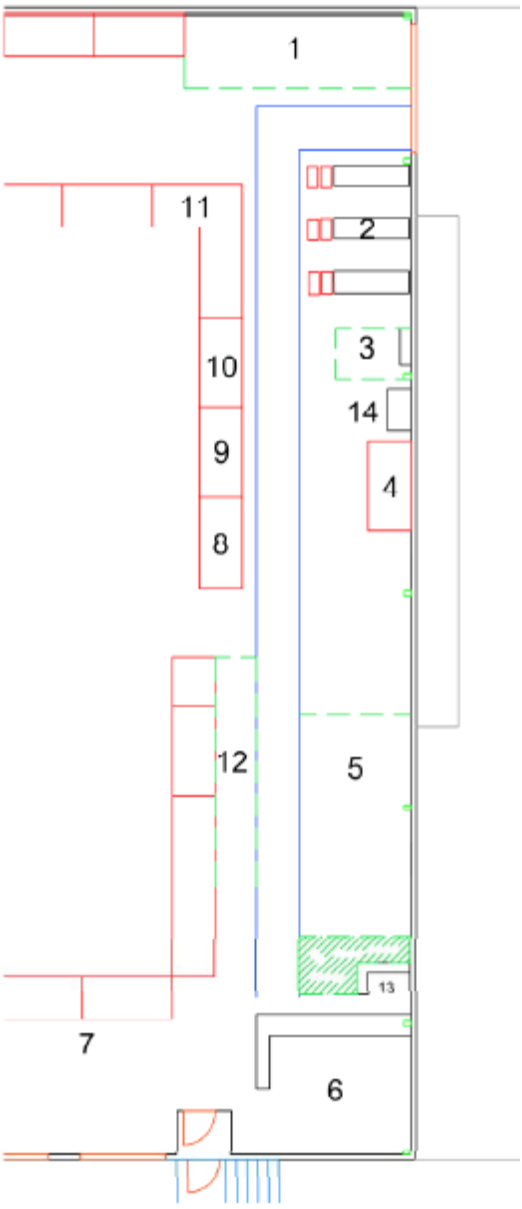


Figure 13 - Recommendation 2 blueprint

1	Sold items waiting for pick-up	7	Pallets
2	Small item sorting stations	8	Cleaning supplies
3	Appliance testing	9	Recycling
4	Additional shelving	10	Dollies and hand trucks
5	Flex zone	11	Temporary storage for large donations
6	Fixing station	12	Priced items ready for sales floor
13	Employee desk	14	Nails/Nuts/Bolts sorting station

Accepting donations at the door has not changed. However, the small item sorting station is now divided into three different tables. The items will be taken out of the boxes and placed on anyone of the tables. From there they will be sorted and placed in the red carts. Once the cart is full, the mobile pricing cart will price each item. The red carts will then be brought either to the sales floor, or the "ready for sales floor" zone. The nails/nuts/bolts now have their own table for sorting. Any larger donation will be brought to the flex zone where it will await the arrival of the mobile pricing cart. Once priced it is free to go to the sales floor. With the mobile sales cart now being used, the employees have no desk. Our team decided to place a desk by the fixing zone to use for paper work and general volunteer or employee use. The mobile pricing unit is the ideal solution for the donation processing area for the sole purpose that items are moved a maximum of two times. There decreases chance for damage, and increases room for profit.

5.4 Conclusions

To organize these recommendations and offer our advice for implementation, we created an employee guidebook for the ReStore. This book includes the blueprints for each plan as well as descriptions of each work zone. The guidebook will provide employees with a clear visual of the donations process and can be referenced easily at any time.

The design we implemented will enhance organization while allowing for flexibility of space. Having some structures and policies clear for all employees and volunteers, brings self-sufficiency to the store. These aspects created an easy-to-follow system of smoothly processing donations. While the process we implemented provides ease and flexibility, we provided two recommendations for the future: one that moves the pricing desk, and one that makes it mobile. Either one of these recommendations will provide even more space for medium to large donations as well as organized stations for small donations handling.

The ReStore will be able to analyze their internal processes over the next few months to measure the quality of the changes after processes have become habitual. Indicators for this analysis include employee's feelings about the system as well as how organized the donations processing area is. If the zones are being used as they were intended, we believe that the result

will be an efficient easy-to-use process. One last indicator is how quickly volunteers understand the process and their tasks. We believe that they will be able to self-start and not have to rely on an employee's instructions as often as they did before this project. We hope that the enhancements we made will increase sales, as items will get to the sales floor at a faster rate. This was the overall goal of our project. Increased sales will enable the ReStore to provide more funds for its building projects. This will allow them to keep expanding, start building more homes each year, and have a bigger impact in the Worcester community. We wish all the best to this incredible organization.

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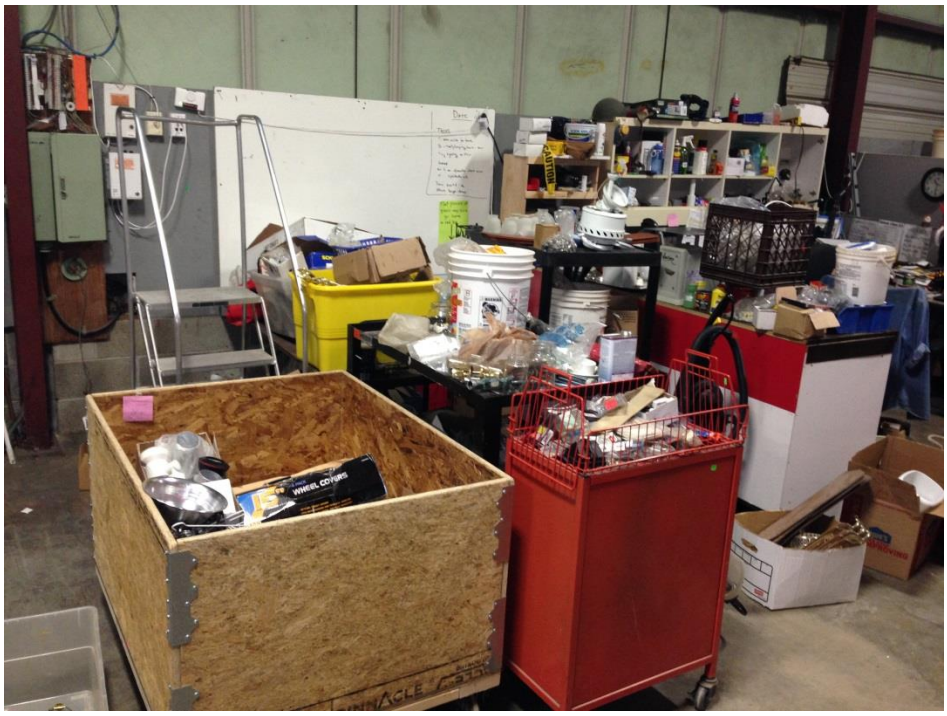
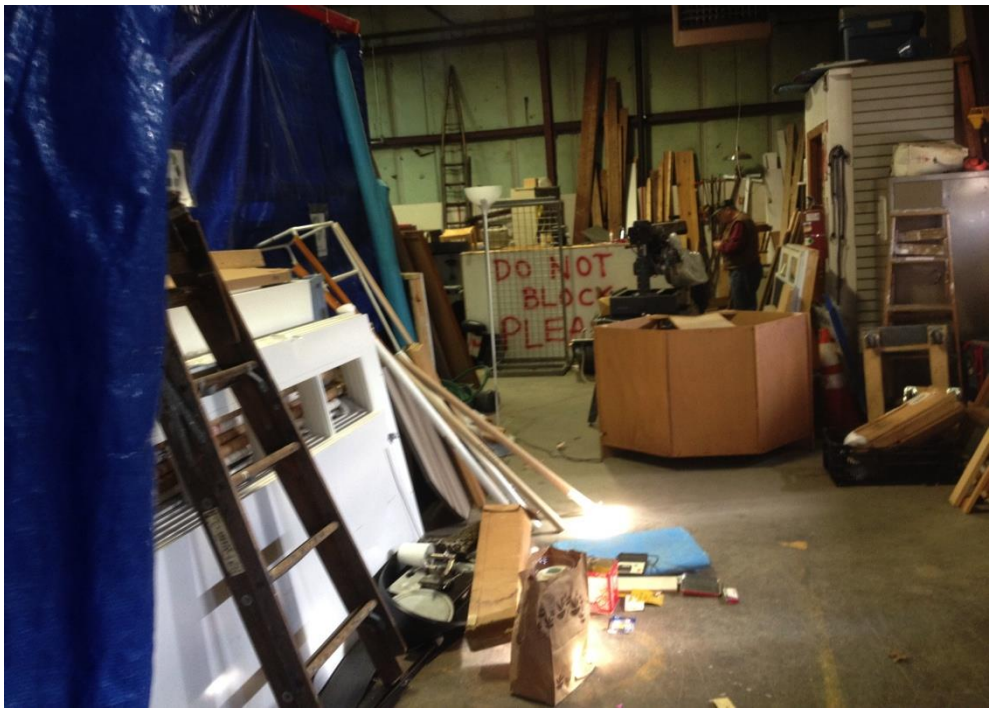
Appendix A: Photos of Site



Small donations area. To the right is the pricing desk.
(Photo: Jonathan Arnone, 2013)



Area in front of the loading dock. Sometimes items can get piled up in front of the dock. (Photo: Jonathan Arnone, 2013)

Appendix B: Donations Data

DO	Donor drop-off
FE	Front entrance
LD	Loading dock
ID	Individual donor
ND	Next day

Donor	Date	Time	Entrance	Item	First Placed:	Moved To:	Moved To:	Moved To:
ID	30-Jan	11:30	DO	Humidifier	Testing	Sales floor		
ID	30-Jan	11:30	DO	Room Heater	Next to desk	Testing	Desk	Sales Floor (ND)
ID	30-Jan	11:30	DO	Drink Bucket	Next to desk	Open Area	Sales Floor	
ID	30-Jan	2:00	FE	Books	Nook			
ID	30-Jan	2:30	DO	Vanity	Sales floor			
ID	30-Jan	2:30	DO	Sink	Sales floor			
ID	30-Jan	3:15	DO	Queen bed frame	Against wall			
ID	30-Jan	3:15	DO	2 Closet doors	Against wall			
Tru	30-	3:2	LD	Table	Open			

ck	Jan	0			Area			
Truck	30-Jan	3:20	LD	Washer	Open Area			
Truck	30-Jan	3:20	LD	Cabinet/Desk with mirror	Open Area	Next to Desk	Sales floor	
Truck	30-Jan	3:20	LD	Dresser	Open Area	Next to Desk (ND)		
Truck	30-Jan	3:20	LD	Door	Sales floor			
Truck	30-Jan	3:20	LD	File Cabinet	Open Area			
Truck	30-Jan	3:20	LD	Dresser	Open Area			
Truck	30-Jan	3:20	LD	2 Glass Side Table	Open Area	Sales floor (ND)		
Truck	30-Jan	3:20	LD	Printer	Open Area			
Truck	30-Jan	3:20	LD	Fence Wire	Open Area			
Truck	30-Jan	3:20	LD	Cabinet	Open Area	Next to Desk (ND)		
Truck	30-Jan	3:20	LD	Door	Sales floor			
Truck	30-Jan	3:20	LD	Window	To the side			
Truck	30-Jan	3:20	LD	Boxes of electrical and plumbing	Open Area	Next to Desk (ND)		
Truck	30-Jan	3:20	LD	Ply wood	Next to door	Building materias		

						(ND)		
Truck	30-Jan	3:20	LD	Boxed miscellaneous items	Open Area			
Truck	30-Jan	3:20	LD	Dryer	Open Area	Testing (ND)		
ID	30-Jan	3:30	FE	Books	Nook			
ID	30-Jan	3:30	FE	Bathroom Set	Donations			
ID	30-Jan	3:30	FE	Wall Shelf	Donations			
ID	31-Jan	10:00	DO	File Cabinet	At door			
ID	31-Jan	10:00	DO	Folding Table	At door			
ID	31-Jan	10:00	DO	Kitchen Sink	At door			
ID	31-Jan	10:00	DO	Plates	At door	Next to Desk	Cart for Price	Sales Floor
ID	31-Jan	10:17	DO	Crock Pot	At door	Open Area		
ID	31-Jan	10:17	DO	Mantle	At door			
ID	31-Jan	10:17	DO	Kitchen Sets	At door			
ID	31-Jan	10:35	FE	31 Children VHS	Nook			
ID	31-	11:	DO	Glass Door	At door			

	Jan	15						
ID	31-Jan	11:15	DO	Sink	At door			
Truck	31-Jan	11:20	LD	14 Office Chairs	Dock	Open Area	Sales Floor	
Truck	31-Jan	11:20	LD	3 File Cabines	Dock	Open Area	Sales Floor	
ID	31-Jan	N/A	DO	Lamp	At door			
ID	31-Jan	N/A	DO	Child's Chair	At door			
ID	31-Jan	N/A	DO	Glass Side Table	At door	Open Area	Sales Floor (ND)	
ID	31-Jan	2:45	DO	Hand Saw	At door			
ID	31-Jan	2:45	DO	Week Whacker	At door			
ID	31-Jan	2:45	DO	Power Sander	At door			
ID	31-Jan	2:45	DO	Box of Nails	At door	Cart for sorting (ND)		
ID	31-Jan	2:45	DO	Hand Clippers	At door			
ID	31-Jan	2:45	DO	4 Plastic stools	At door	Next to Desk	Sales Floor	
ID	31-Jan	2:55	DO	Toaster	At door	Placed by testing		
ID	31-	2:5	DO	Desk Chair	At door			

	Jan	5						
ID	31-Jan	2:55	DO	Air Conditioner Mount	At door			
ID	31-Jan	2:55	DO	Pale of Miscellaneous Items	At door			
Truck	6-Feb	3:10	DO	Bookshelf	At door	Sales floor		
Truck	6-Feb	3:10	DO	Tubing	At door	Back entrance (ND)		
Truck	6-Feb	3:10	DO	Table	At door	Sales floor		
Truck	6-Feb	3:10	DO	Bureau	At door	Sales floor		
Truck	6-Feb	3:10	DO	Bed Frame	At door	Sales floor		
Truck	6-Feb	3:10	DO	Miscellaneous Wood	At door	Sales floor (ND)		
Truck	6-Feb	3:10	DO	Door Frame	At door	Fixed (ND)	Sales floor	
Truck	6-Feb	3:10	DO	Detergent	At door	Out of box		
Truck	6-Feb	3:10	DO	3 Tables	Flex Zone	Sales floor (ND) 10:30		
Truck	6-Feb	3:10	DO	Door Frame	At shelves	Sales floor (ND) 10:45		
Truck	6-Feb	3:10	DO	2 Doors	At shelves	Sales floor (ND) 10:45		

Truck	6-Feb	3:10	DO	Director Chairs	Donations	Sales floor		
Truck	6-Feb	3:10	DO	Sheet of Sheetrock	Donations	Sales floor (ND) 10:55		
Truck	6-Feb	3:10	DO	Racking	Flex Zone	Sales floor (ND)		
Truck	6-Feb	3:10	DO	Paint	Flex Zone			
ID	7-Feb	10:40	FE	Chandelier	Cart	Sales floor		
ID	7-Feb	11:10	FE	Towel Rack	Desk	Pricing Cart	Sales Floor	
ID	7-Feb	11:10	FE	Toilet Paper Holder	Desk	Pricing Cart	Sales Floor	

Appendix C: Interview Questions

1. How long have you worked at the ReStore?
2. What is your job title and what are the responsibilities that come with it?
3. What do you like about the donations process now?
4. What are some of the essential items used by employees and volunteers to having a successful donations process?
5. Are there any items/tools that would help that we don't have?
6. What do you see as the biggest flaw in the donations processing area? What are your ideas towards improving it?