



Furniture Repair Project Summary Report

Agreement No. SWMPPG-2021-ZeWaWa-00039
Prepared by: Zero Waste Washington

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Introduction

Zero Waste Washington and partners aim to build on the growing momentum of the repair movement in Washington. This is the genesis of the “Fix-It Furniture” project to reduce furniture waste and provide items for families in need.

In Ecology’s most recent *Washington Statewide Waste Characterization Study* for the year 2020, furniture made up 1.3% of the disposed load (estimated 59,842 tons), by weight. Furniture was one of the top ten most prevalent material types in the self-haul category (5.8%, 24,925 tons).

An Ecology Public Participation Grant 2021-2023 provided funding to pilot a pathway to rescue furniture that is unsuitable for “as is” donation at Goodwill and similar entities. Furniture was, instead repaired and refurbished and then provided and delivered to recent immigrant, refugee and low-income families. The first phase of the two-year pilot project was conducted in three locations: Seattle, Tacoma, and Kitsap County areas. The second phase focused on a King Co presence.

The pilot program consists of three main activities:

- Salvaging and collection of damaged furniture from the public and partners, focusing on needed items by families;
- Repair/refurbishment of items with help of fixers, apprentices, and volunteers;
- Provision of restored furniture to vulnerable community members, in partnership with refugee resettlement agencies.

After the first phase, Zero Waste Washington developed a document with analysis of the pilot’s activities within the first reported year and developed suggestions and strategies to improve operations. This analysis included what was explored, what worked, what needed improvement within the context of this grant to maximize positive environmental and social impact of the project. Analysis also included a SWOT exercise and rationale for program revisions.

This Final Summary document compliments the previously developed mid-term analysis and includes improvements implemented based on those suggestions and recommendations for further development of the program. This report includes examples of promotional materials and a summary of project result, and other content.rs.

All analysis is based on team meetings, brainstorming sessions, individual informal interviews, online and in-person surveys and feedback requests.

Partnerships, Promotion, and Recruitment

What we explored in Phase I

We worked to communicate three main messages to the public:

- Awareness of the program;
- “We are seeking to collect distressed/damaged furniture from the public;”
- “We are seeking fixers, apprentices, and volunteers.”

To create project identity and kickstart promotion and recruitment, we:

- Developed a test name and logo (Figure 1);
- Developed an online presence. We launched a Facebook page that contains news for the project and event announcements (<https://www.facebook.com/furniturefixitwa>). We also created a landing page with project summary for easy digestion about key components of the program (https://www.repaireconomywa.org/furniture_fix_it/);
- Developed promo blurbs, flyers, and informational presentation, created a general one-pager, recruitment one-pager, and promotional posts. To provide accessible information, we translated those materials into Spanish;
- Developed online application forms for fixers, apprentices, and volunteers;
- Developed an online form for furniture donations.



Figure 1: Project logo

Later we developed additional promotional materials, including:

- Digital ads to promote volunteer opportunities and furniture item collection. We A/B tested different messages to understand what messaging attracts more people;
- Facebook event pages to provide Facebook audience with a familiar format;
- Before and after photos of donated furniture items;
- Professional photo and videography gallery to use for future promotional needs;
- Press releases. Our news was picked up by TV channels and online newspapers (Figure 2 is an example media article).

MERCER ISLAND REPORTER

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NEWS

Fix-it Fairs refurbish furniture for local refugee families

Volunteers at the July event restored 39 pieces of furniture.

By Sarah Fox • August 3, 2022 1:30 am

Volunteers from several King County cities recently helped refurbish old furniture to help Afghan refugees at the Repair Economy Washington's (REW) Furniture Fix-it Fair in mid-July.

Over the course of the three-day event, 31 volunteers contributed 197 hours of work. In total, 39 furniture pieces were refurbished.

The furniture was then donated to four families (13 people in total) from Afghanistan who recently relocated into, at the time, unfurnished permanent housing.

Pat Corwin and Dimitri Pierre-Louis at the Furniture Fix-it Fair. Photo courtesy of Xenia Dolovova.

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MIHS boys golfers snag fifth straight 3A KingCo tourney title

Figure 2: Article in Mercer Island Reporter

Recruitment was directed towards specific partners (Figure 3):

- **Fixers, apprentices, volunteers recruitment:** we focused on technical colleges, woodshops, wooden and upholstered furniture repair businesses, platforms with volunteers, groups of veterans and military bases;
- **Furniture donation:** we connected with centers that accept second-hand furniture and might have discussed items in their inventory, senior centers, universities with dorms, rotary club auction;
- **Tools and supplies donations:** we reached out to tool sharing organizations, woodworking and supplies stores;
- **Event space:** we partnered with community centers, entities with warehouses and event spaces, makerspaces;
- **Storage:** we sought mission-aligned organizations with warehouse space, warehouses with charitable programs;
- **Transportation:** we sought mission-aligned organizations with transportation capacity;
- **Promotion:** we partnered with community facing entities and organizations;
- **Refugee resettlement:** we partnered with refugee resettlement agencies and organizations;
- **Strategic partners:** we connected with partners who can support the project on multiple levels, share ample resources and knowledge.

#	Partner Name	location	Community partner	Events partner	Volunteers, fixers recruitment	Apprentices recruitment	Furniture Donation	Tools, supplies rental/donation	Event Space	Promotion	Refugee resettlement	Transportation	Other partnerships
1	Lutheran Community Services Northwest (LCSNW)	WA	☑	☐	☐	☐	☐	☐	☐	☐	☑	☐	☐
2	Jewish Family Services	WA	☑	☐	☐	☐	☐	☐	☐	☐	☑	☐	☐
3	BARN	Bainbridge, KI	☑	☑	☑	☐	☐	☑	☑	☑	☐	☐	☐
4	Tacoma Tool Library	Tacoma	☑	☑	☐	☐	☐	☑	☐	☑	☐	☐	☐
5	Tacoma Recycle Center	Tacoma	☐	☑	☐	☐	☐	☐	☑	☐	☐	☐	☐
6	Joint Base Lewis-McChord	Tacoma	☑	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐
7	NW Furniture Bank	Tacoma	☑	☑	☑	☐	☑	☐	☑	☑	☑	☐	☐
8	The Center for Wooden Boats	Seattle	☑	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐
9	Olympia Woodworking Guild	Olympia	☑	☐	☑	☑	☐	☐	☐	☐	☐	☐	☐
10	Seattle Zero Waste FB	Seattle	☑	☐	☐	☐	☐	☐	☐	☑	☐	☐	☐
11	Clover Park Technical College	Tacoma	☑	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐
12	City of Tacoma	Tacoma	☑	☑	☐	☐	☐	☑	☐	☑	☐	☑	☑
13	Tacoma Dome	Tacoma	☐	☑	☐	☐	☐	☐	☑	☐	☐	☐	☐
14	Herald's	Seattle	☑	☐	☐	☐	☐	☑	☐	☐	☐	☐	☐
15	Phinney Community	Seattle	☑	☑	☑	☐	☐	☐	☐	☐	☐	☐	☐
16	New Holly Community (SHA)	Seattle	☑	☑	☐	☑	☑	☐	☑	☑	☐	☐	☐
17	University of Puget Sound	Tacoma	☑	☐	☐	☐	☑	☐	☐	☐	☐	☐	☐
18	Ballard Tool Library	Seattle	☑	☑	☑	☐	☐	☑	☐	☐	☐	☐	☐
19	Capitol Hill Tool library	Seattle	☑	☑	☑	☐	☐	☑	☐	☐	☐	☐	☐
20	Food Lifeline Hunger Center	Seattle	☐	☑	☑	☐	☐	☐	☑	☐	☐	☐	☐
21	Kitsap Co	Bainbridge, KI	☑	☑	☑	☐	☐	☐	☐	☑	☐	☑	☑
22	Sustainable Bainbridge	Bainbridge, KI	☑	☑	☑	☐	☑	☐	☐	☑	☐	☐	☐
23	Lindblad Expeditions (to run Impact Week)	WA	☐	☑	☑	☐	☐	☐	☐	☐	☐	☐	☐
24	Piece County	Tacoma	☑	☑	☑	☑	☑	☐	☐	☑	☐	☐	☐
25	The Good Future Design Alliance	WA	☐	☑	☑	☐	☐	☐	☐	☑	☐	☐	☑
26	Memo furniture	Seattle	☐	☑	☑	☐	☐	☑	☐	☐	☐	☐	☑
27	Humble Design	Seattle	☑	☑	☐	☐	☑	☐	☐	☐	☑	☐	☑
28	Rotary Club of Bainbridge Island	Bainbridge, KI	☐	☐	☐	☐	☑	☐	☐	☐	☐	☐	☐
29	St. James Cathedral Immigrant Assistance	Seattle	☑	☐	☐	☐	☐	☐	☑	☐	☑	☐	☐
30	Multicultural Child and Family Hope Center	Tacoma	☑	☑	☐	☐	☐	☐	☑	☐	☐	☐	☐
31	Tacoma South Rotary		☑	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐
32	Dugood	Seattle	☑	☐	☐	☐	☑	☐	☐	☐	☐	☐	☐
33	RAI	Seattle	☑	☐	☐	☐	☐	☐	☐	☐	☑	☐	☐
34	First Congregational Church	Seattle	☑	☐	☐	☐	☐	☐	☐	☐	☑	☑	☐
35	NE Seattle Tool Library	Seattle	☐	☑	☑	☑	☐	☑	☐	☑	☐	☐	☑
36	First Congregational Church	Redmond	☑	☐	☐	☐	☐	☐	☐	☐	☑	☐	☐
37	Sacred Heart Shelter	Kent	☑	☐	☐	☐	☐	☐	☐	☐	☑	☐	☐
38	Global Perinatal	Seattle	☑	☐	☐	☐	☐	☐	☐	☐	☑	☐	☐

Figure 3: Partners for the project

What worked well in Phase I

A/B testing of ads:

For the first round of recruitment messaging testing, we learned that volunteers did not click as much when the word “repair” was used. We think this may have been a barrier because the potential volunteer might have thought that they needed to have repair skills. Instead, there are actually no skills needed!

Ads are shown from most successful to least successful (Figure 4).

Figure 4. First round of recruitment ads



For the second round of recruitment ads (Figure 5), when we communicated that no requirement was needed for skills, the general volunteer ad performed better than the call for skilled fixers. Ads are shown from most successful to least successful.

Figure 5. Second round of recruitment ads



Facebook Ads:

- For the Tacoma furniture fix-it event we advertised for two opportunities: the collection event and the repair event (specifically recruiting fixers and handy volunteers). Ads reached 101,300 individuals;
- For Seattle furniture fix-it event, we benefited from having tested the previous ads and were able to have more successful ad messaging. We also pushed a volunteer recruitment campaign. The ads reached 45,000 people in the Seattle area using only a third of previous budget for the Tacoma event.

Media:

- The April 2022, Tacoma repair event was covered by a feature piece on Tacoma TV;
 - The Seattle Furniture event was covered by KOMO News in a TV news episode;
 - The Seattle event was also featured in at least 10 newspapers and other news channels, such as Seattle Weekly, Our Community Now, Kirkland Reporter, Mercer Island Reporter, etc.;
- As a note, with this exceptional media coverage we had a spike of volunteer and fixer applications.

Targeted recruitment:

- We found that recruitment through promotional partners proved to fruitful.

What we learned from Phase I that could be improved

Program name:

- We learned that the name of the project – Furniture Fix-It Events – was confused with our other fix-it program. Thus, we decided to rename the program to create a more defining and exclusive name.

Application forms:

- When developing application forms for fixers, apprentices, and volunteers, we initially created separate forms. We learned that applicants did not know which one to use. Thus, we merged them together and defined roles for involved people after conducting an informational interview to understand the barrier.

Space and Transportation partners:

- We did not succeed in developing in-kind or other partners for storage space.
- We did not develop transportation partners. Instead, we piloted deliveries done by volunteers. We plan to explore this challenge further.

Improvements implemented in Phase II

Name:

- We conducted an exercise to identify the best suitable name for the program. We learned that a simple name which included the word “furniture” was important.
- We selected name “Furniture Repair Bank.” The name we picked illustrated the main two features of the program: furniture bank concept, and the fact that it focuses on repair. To allow for future development we added a sub-name “redesign hub,” that will support efforts of salvaging repairable furniture beyond the furniture bank.
- We developed basic branding elements including logo (Figure 6), design style, and colors of the brand. The design we picked represents the collaborative and community center of the program. The colors we selected stand for repair, renovation, hope, and earth.



Figure 6: New Project logo

Website:

- Feeling confident in new branding and thanks to additional funding we were able to register a domain and launch a new website <https://www.repairbank.org>

Application forms:

- We developed new forms to reflect what we learned from the three iterations. For example, the form now includes time volunteers are available and ready commit, and other experiences that they can bring in.
- Volunteers' forms: <https://form.jotform.com/ZeroWasteWA/FRB-volunteer>

- Furniture donation form: <https://form.jotform.com/ZeroWasteWA/FRB-donation>
- Resettlement agency form: <https://form.jotform.com/ZeroWasteWA/FRB-agency-input>

Communication strategy:

- We worked on developing a strategy and matrix for inbound and outbound communication and promotion (Figure 7).

Types	What they give/CTA		Their Motivation				External Comms (and formal)				Internal Comms (informal)				Channels			Timing															
	Volunteer time	Be a potential partner	Donate furniture	Buy or Rent	Fix for us	Give money	Learn and practice	Give back	Support refugees	Get rid of waste	Keep items in use	Save money	Updates on progress	Before/After	People served	Waste Reduced	Quality/Process	Knowledge	Updates on Progress	Manage expectations	When their item is donated	Upcoming events, changes	Ask to share their feedback	Thank you notes	Social Media/Website	Newsletter	Emails/Direct/Personal Message	Publications/Conferences	Meetings	Regularly once/Week	Once/Quarter	After the first engagement	After a significant contribution
Furniture donors	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Furniture buyers	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Flippers	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Woodworkers and furniture enthusiasts	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Repair hobbyists	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Repair Professionals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Furniture Fixers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Repair Volunteers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Interns	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Professional Volunteers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Advisors	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Metors	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Grant Managers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ZWW board	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Partners	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Gov officials	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Figure 7: Communication Management Matrix

Recruitment strategy:

- We recruited about 100 skilled volunteers and will keep focusing on repair groups to attract other skilled fixers.
- To attract groups of volunteers that can be taught repair skills, we developed an offering to corporations, to conduct group volunteering team building events.

Future recommendations

Promotion and communications:

- To keep the program growing and attract more volunteers and donors we need to develop a communications strategy and establish a strong online presence. We plan to focus on three pillars of outbound communication: social media, newsletters, and website.
- We need to explore reaching out to local news outlets and reporters to be featured in media for extended PR.

Recruitment strategy:

- To build on corporate group volunteer events, we need to create strong personal relationships with individuals and convert them into loyal donors and volunteers.

Furniture donations

What we explored in Phase I

We envisioned getting furniture donations from two types of sources:

- **The Public.** We assumed that the public has a great number of items in possession. Illegal dumping is one of the signs that the general public could be a sole major source of furniture items for the project;
- **Organizations with distressed furniture inventory.** We discovered that many businesses and organizations are dealing with furniture waste and do not have capacity for repair or another good way to redirect damaged furniture rather than landfilling. Examples of these entities include second hand stores that accept used furniture, furniture banks, senior retirement communities and housing, university dorms, multifamily buildings, and businesses that decommission their space.

We developed a list of accepted items based on the lists of desired furniture provided to us by our refugee service organization partners. Then, to manage donation requests, we developed an online form. As we learned from experience with the furniture donations, we later edited the form to require photos of potential donation items, dimensions, and weight. We needed to ensure that the furniture truly met our criteria (was not oversized, was repairable, and is on the list of items needed by families).

To test public interest in donations, we posted a message about furniture collection on a Seattle Zero Waste community page (Figure 8). The posting went viral with a 9,000 unpaid organic reach.



Figure 8: Furniture donations test message

We asked donors a set of questions when gathering items in order to understand who is donating to the project, their relationship with their furniture items, and their motivation.

We did not test the idea of receiving furniture donations the day of the event:

- As we developed the project, we realized that we need time to process and prepare items. Thus, we decided that same day donation/repair process was not feasible in current format.

We tested two ways to collect furniture:

1. **Scheduled at-home pickups** - to reduce a barrier for participation we offered a scheduled pick up. We rented hauling and transportation services and coordinated three pickups in total over the first year.

2. **Collection event** - we tested self-hauling to a collection location. People brought items to the Tacoma Transfer Station on a specific date that was well advertised. Some of the items we literally diverted from the landfill because people saw us on the way to the dump. To provide equitable participation, we arranged for parallel items pickup service on that same date.
 - Within the first year of the project, we collected 195 items from the public. We easily could have collected more, but storage space was a limitation!

To ensure we only collect items we need, we implemented a three-step vetting process:

- **Application form:** We included check marks for only items that we accept with a clear message about what items we do not accept (e.g., office desks, patio furniture, big sectional sofas).
- **Screening process:** The team reviewed photos and descriptions of the items to ensure those items met the need.
- **Acceptance or rejection of items:** We communicated with donors if their items could be accepted or not.
- **Collection triage** at collection point: We reserved the right to reject the item/s at collection.

To maximize the use of our resources, we introduced triaging. We'll explore this function further in the future. This will help:

- **Exclude items with poor Return on investment.** It is difficult or impossible to repair items that are heavily damaged or water damaged, or are from cheap easily destructive materials like plywood, or covered with material that is not easily repaired such as veneer. While we would love to repair everything, unfortunately, some furniture is beyond repair, requires hugely extensive repair effort, or is such poor quality that we determined that we could not take them.
- **Identifying item potential,** We will consider incorporating an experienced triager who can identify items that can be repaired and refurbished in a simple way. As an example, some solid wood items can be lightly sanded and protected, some can be painted to hide damage, and some items can be resurfaced easily.
- **Identifying needed parts** to complete the repair and help with repair planning.

What worked well in Phase I

Furniture donations

Public want to donate to the project and have formidable supply of damaged furniture to provide. The pilot promotional post went viral and acquired 9,000+ unpaid organic reach. Overall, 195 items were collected from the public, and an additional 200+ items were rejected because they did not meet our needs or criteria, or we did not have capacity to collect and/or store them.

Figure 4: Furniture collection event ad

Organically, we grew our network of promotional partners. On the donation and recruitment forms we ask people how they learned about the project. That helps us track and grow the network of potential promotional partners.

Through our online questions on the donation form, we learned about the public motivation to donate to the project:

- People primarily supported the cause and wanted to help resettlement;
- They wanted to share their resources with others;
- People moved and wanted to serve with their items rather than sell them;
- People wanted to reduce waste and care about the environment.



Figure 9: Furniture collection event ad

Furniture collection logistics:

- The collection event test (Figure 9) demonstrated that many people can and are willing to deliver their items. This saves project resources and eases logistics.
- Self-delivery of items by donors limits the size of items that they are able to transport. This was a benefit because most of the newly arrived refugee families are located in small apartments and are desiring items that are not too big.

What we learned in Phase I that could be improved

Donation at repair events:

Our initial plan was to build on our past experience with general fix-it repair events and ask people bring their donations to furniture repair events on the day of the events. We envisioned furniture donors might remain on-site and, if willing, help with the repair, cleaning, and refurbishment itself to engage in the waste reduction activity.

As we developed the project we realized that we need to have processing and preparation time for items and the same day donation/repair process is not feasible in current format.

Online donation form:

Initially we did not require much information in the donation form, to reduce barriers for participation, but after we discovered the enormous demand (i.e., eager donors!), we included requirements for photos, dimension, and weight of items people want to donate. This helped us make a decision on whether to collect those items or not, hence use resources more efficiently.

Vigorous donations vetting:

- Motivated by numerous reasons, people try to creatively “fit” items into our criteria. For example, we found that people try to donate desks or consoles as “dining tables.”
- Some donors underestimated the difficulty of repair jobs. Because of the difficulty of reupholstery, we would not accept items that needed a complete makeover. We are, however, often able to repair holes and rips, as well as reupholster dining chairs.

Communication:

We learned that the project could gain even more popularity and acquire loyal stakeholders if we implemented a more strenuous communication plan, e.g., giving donors updates on what items were repaired, where those items went.

Furniture donors - partner organizations:

We had so much interest from the public that we did not have capacity to additionally test collection of items from partner organizations. We decided we would explore it further once we secured a warehouse space and thus would have sufficient storage space for items that are awaiting repair.

Unfortunately, within the first year some furniture waste occurred:

- Testing interest and strategizing, we collected and accepted some items that we could not repair, e.g., larger sofas that needed significant reupholstery, damaged particle board tables, and water damaged veneer items. We had to send these items to the landfill. In some cases, however, we were able to salvage parts or stuffing or other components that were used in the repair and refurbishment of other furniture.
- During repair, some waste naturally occurred, e.g., from disassembly of upholstered items and replacement of some materials.
- We worked with Tacoma transfer station and disposed items at no cost to the project or at discounted rate.

Improvements implemented in Phase II

Online donation form:

- We improved donation forms, made them more descriptive, and required photographs of items public want to donate to our program. The form also includes the date patrons need to get rid of items, as this will help future implementation of just-in-time inventory.

Partner furniture donors:

- We piloted working with junk haulers whose mission is recycling, and who can redirect items to us. This or similar partnership can support our need for transportation and needs to be explored and developed further.
- We explored opportunities to work with large partners who send to the landfill large amounts of furniture and pay landfilling fees. We had an initial conversation with Goodwill, but they were interested in donating to us any and all furniture, even that the furniture perfectly fine.

Future recommendations

Just-in-time donations:

- Considering the limited throughput, the program needs to focus on developing sets of furniture that can be donated all together to families (that is, they receive a collection of furniture that meets their needs). This calls for collection of larger items a few weeks before they are being restored and provided to families. With time, as throughput settles and becomes relatively predictable, the just-in-time inventory will be easier to implement and control.

Partnerships:

- Partnerships with junk haulers could support the program's need for transportation and needs to be explored and developed further.
- To partner with large organizations, we need to develop other partnerships where perfectly good furniture can be redirected without landing at our warehouse. This can satisfy the interests of these potential large partners.

Logistics: Storage and Transportation

What we explored in Phase I

We tested storage options:

- We researched paid storage solutions and narrowed down possible options. We occupied three different self-storage units in Seattle and Tacoma. As we went through the inventory and repaired items, we consolidated down to just one unit.
- We looked into in-kind temporary storage/warehouse solutions and only were able to secure temporary warehouse type locations or storage containers to host events or store items for week-long periods at a time.
- With the Kitsap event, we arranged for a temporary tent storage space that worked for the duration of the two-day event.

Needs for storage capacity change with development of the project:

- Initially we estimated storage needs. After testing the interest and filling up one of the units, we made adjustments for capacity and accessibility for the second unit in Seattle. The Tacoma storage unit was intended to be used temporarily for the duration of the Tacoma and Kitsap events, which were planned to be two months apart.
- Considering output of one repair event, we could then plan accordingly for the storage capacity. Roughly one storage unit (10x20 sq. ft.) corresponds to the output of one repair event under the models we were testing.
- We were planning for future ongoing repair activities and exploring the need to maintain a larger fixed space that will serve both as a collection center and repair space with at least 1000 sq. ft. capacity.

For furniture transportation, we identified and tested multiple solutions, including:

- Exploring working with partners who could provide in-kind transportation;
- Researching all possible options for paid hauling services and identified local more sustainable solutions (Green Movers);
- Testing transportation provided by volunteers;
Renting a U-Haul truck and transporting furniture ourselves.

What worked well in Phase I

Storage solutions:

- Self-storage units served well the needs of the pilot providing accessibility and convenient proximity to highways.
- Event venues we secured were ideal and provided both temporary storage (a few days) for items and workspaces.

Transportation:

- We successfully tested working with volunteers to do furniture pickups and deliveries. Altogether they picked up 11 furniture items and delivered 4 items. We provided reimbursement for gas. This transportation option could be scaled if we recruit more such volunteers.

What we learned in Phase I that could be improved

Storage unit logistics:

Initially we collected some bulky, oversized items which occupied a lot of space, and, unfortunately, we could not repair them. After the first round of pickups, we learned the lesson about storage units, including the necessity for those to be on the ground floor with easy truck access. We also stopped accepting oversized items with major upholstery problems.

Space and transportation costs:

- After analysis of costs and operations, and with additional funding in the pipeline, we decided to look for a co-shared temporary warehouse/workshop space to conduct collection and repair in one place.
- We also decided to look into minimizing transportation and hauling costs by crowdsourcing this service and looking for in-kind service from partners.

Improvements implemented in Phase II

Space:

- After an unsuccessful round of looking for a co-shared space, we decided to rent a warehouse space (Figure 10) in the location that had most potential for finding volunteers and a strong supply of furniture. The location will be a base for furniture collection, repair, and storage for items that are ready to be provided to families.
- We set up the space to meet basic needs for piloting the second set of repair activities and learn from our experience.

Transportation:

- Not being able to secure affordable transportation solution we continued developing relationships with volunteers who had trucks and were ready to transport items for the program.



Figure 10: Volunteers after a repair day at the new Furniture Repair Bank warehouse and workshop space

Future recommendations

Space:

- To set up the space, we considered key logistics factors including safety, work flow, storage solutions, and ambiance that promotes collaboration and fun. We believe this will help with volunteer recruitment and retention.

Transportation:

- We are working with junk haulers to develop a fixed cost of picking up donations from multiple locations which we could then share the cost among furniture donors who agree to pay a fee.
- If the program succeeds at securing transportation that belongs to the program, a pick-up fee could cover hard costs of owning that transport and create capacity to deliver items to families in need.

Events and repair

What we explored in Phase I

To learn from experience of others, we researched projects that have similar purpose. We connected with an organization in BC that pilots a similar program, Furniture Bank Northwest with well-oiled operations in Tacoma, an interior design charity organization that accepts furniture donations, and others. We gained learnings, key hardships, and success factors. We also researched skillsets needed for furniture repair and refurbishing, and tools needed for repair events.

We researched types of repair, tools and supplies to perform them, including:

- **Cleaning:** steam cleaning, wooden furniture wiping;
- **Leather:** cleaning, conditioning, painting;
- **Disassembly and assembly;**
- **Wood:** repair, sanding or stripping; staining or painting; finishing;
- **Upholstery:** hand stitching, constructing and sewing upholstery parts, one-piece staples assembled upholstery

We experimented with event workflow options, including:

- **Non-public events:** Early in the development stage we realized that with current operations we'll need to collect furniture ahead of time and cannot invite general public to observe repairs, although we welcome them as volunteers.
- **Prioritizing items:** Before staging items for the repair event, we collected requirements from the refugee resettlement agency that we were partnering with for that event. They gave us a list of families and their exact needs. This helped us prioritize items for the team of volunteers and fixers to work on.
- **Work stations:** We set up different workstations for different types of work, such as cleaning, sewing, sanding, re-upholstering, staining, etc.
- **Item "owners":** We experimented with having people work on one item from beginning to end. That provided additional ownership over result and quality of the work volunteers performed.
- **Item cards:** We introduced cards to track what work has been done on a furniture item, such as what stain used, etc. This helped new volunteers pick up where the item was left off and do the next step.

In our four events in Phase I (Figure 11), we experimented with varying length of events, number of days and hours:

- **One half day:** The first pilot event showed that to accomplish a single item within a day needs careful planning and appropriate fast-drying supplies. Items need drying and curing time, drying in between layers of varnish, stain, paint, finish.
- **Two & half day:** A longer timeframe proved to be optimal amount of time to accomplish priority sets of different difficulty.
- **Three & half day:** An even longer timeframe allowed to us accomplish multiple cycles of repair from start to finish. Items that needed 24 hours to cure were able to be accomplished.

Volunteers management at events:

- **Volunteers apprentice pairings:** We paired skilled fixers with novice volunteers and volunteers worked under guidance and supervision. This proved to be an effective way to scale repair activities.
- **Station leads:** For each station we tested the concept of a lead fixer. This format accommodated higher numbers of less experienced volunteers who only worked on one task for the duration of the event (e.g., sanding or staining). This proved effective and also satisfying for many volunteers as they could improve their skill and efficiency over the course of the time they were there.

Other repair activities:

- We tested working with a technical college and their upholstery program. Specifically, we brought a more complicated upholstery job to the Clover Park Technical College for use as a student project. This worked well, but unfortunately, the engaged instructor retired.
- We engaged youth by partnering with the Duwamish youth program and trained apprentices on sanding and staining. Their instructor is interested in continuing this partnership.
- We coordinated with two volunteers to work in their garages or workshops. They refurbished two dining tables and a nightstand. This also worked well.

Item	App weight in (lb)	Emissions avoided (kgCO2e)	Provided												Grand Total # of items	Goal
			April 2022			July 2022			August 2022			June 2023				
			#	Total weight	Total emissions avoided	#	Total weight	Total emissions avoided	#	Total weight	Total emissions avoided	#	Total weight	Total emissions avoided		
Dresser	110	50	3	330	150	4	440	200	3	330	150	2	220	100	12	
mirror on a dresser	50	25		0	0	1	50	25		0	0		0	0	1	
Chair	30	35	6	180	210	14	420	490	18	540	630	18	540	630	56	
Bench	35	50		0	0		0	0	2	70	100		0	0	2	
Sofa 3 seats	300	90	1	300	90	2	600	180	1	300	90	1	300	90	5	
Loveseat	250	88	3	750	264	2	500	176		0	0	1	250	88	6	
Armchair	100	50	2	200	100	2	200	100	1	100	50	2	200	100	7	
Table 6-10 people	250	35	1	250	35	1	250	35	1	250	35	2	500	70	5	
Table 4 people	180	25		0	0	1	180	25	2	360	50	1	180	25	4	
Table 2 people	80	20		0	0	1	80	20	1	80	20		0	0	2	
Nightstand	60	20		0	0	3	180	60		0	0	6	360	120	9	
Coffee table. TV stant	80	30	5	400	150	2	160	60	2	160	60	3	240	90	12	
Shoe rack	50	30		0	0	1	50	30		0	0	1	50	30	2	
Lamp	15	15	5	75	75	5	75	75	1	15	15	7	105	105	18	
Wall art	5	5		0	0		0	0		0	0	4	20	20	4	
Carpet	50	10		0	0	1	50	10		0	0		0	0	1	
Full bed + mattresses	300	150	1	300	150	1	300	150		0	0	1	300	150	3	
Mattress															0	
Twin bed + mattress	250	120		0	0		0	0	1	250	120	1	250	120	2	
Mattress															0	
Total Weight (lb)				2785			3535			2455			3515		12290	3000
Total Emissions avoided (kg CO2e)					1224			1636			1320			1738	5918	
Total items donated			27			41			33			50			151	150
Volunteers			16			31			20			45			112	36
Volunteer hours			52			197			138			179			566	
Staff			4			4			2			8			18	
Families served			5			5			4			4			18	
People served			15			17			21			16			69	

Figure 11. Final results of the pilot program

What worked well in Phase I

Duration of the event:

- The longer 2½ day events turned out to be sufficient to accomplish a standard refurbishing cycle for an average item, considering cleaning, disassembly, repair, sanding, staining, painting, and all of the drying or curing times. Ideally we'll graduate into ongoing repair activities.

Priority items:

- Doing a better job pre-identifying high-priority furniture items needed by the recipient families on the list for that event helped us focus and achieve our event goals. For example, we knew we needed a certain number of tables, sofas, lamps, etc.

Gathered feedback:

- We used the survey form to solicit partners' and volunteers' feedback that gave ideas on improvement.

What we learned in Phase I that could be improved

Length of repair events:

A 1½ day event was insufficiently long. Learning from the first pilot event, we planned for longer hours and more days for future events.

Donated items repair process:

Early in the development stage we realized that with current operations we'll need to collect furniture ahead of time and cannot invite general public to donate on the spot at events and observe repairs.

Workflow

- **Item prioritization** was not implemented until the second pilot event. We learned to coordinate with the agency staff earlier and plan to tackle priority items first.
- **Fixers and volunteers pairings:** While the pairings worked great as a concept, a system needs to be implemented to make this collaboration work better. One solution could be to implement QA and QC practices. We also could provide advance guidance on what and how apply repair/staining, and more direct guidance from fixers to volunteers. We also may need to secure more skilled fixers who can pass on knowledge.

Developing volunteer base in different locations was triple work:

It was highly beneficial to partner with different organizations and cities, but it did make for triple the work. We developed personal relationships with fixers in each location and only piloted one event in each geography. More focused work would yield in higher engagement and participation.

Scarce repair skills:

Upholstery skills proved to be the most scarce among our fixers and volunteers. Reupholstery work is only suitable for unskilled volunteers if it's a simple non-construction work with a stapler. This in many cases covers the needs of dining chairs and small upholstered items.

Communication:

We believe the project would gain more popularity and acquire loyal stakeholders if we implemented a more strenuous communication plan, e.g., having a system communicating with fixers and volunteers providing them with project updates.

Improvements implemented in Phase II

Repair Activities:

- We developed a questionnaire to send to volunteers to understand more about their motivations, commitments, and ways they want to be involved in the repair program. After surveying volunteers on their preferred way to be engaged and their availability, we are planning for three types of ongoing repair activities:
 - Open hours, when fixers and volunteers would come at their own time, individually, and spend unrestricted amount of time.
 - Dedicated shifts, when volunteers sign up for regular shifts. We'll facilitate the groups of 1 skilled + 3 unskilled volunteers at a time. This will ensure efficient work of the whole shift.
 - Special monthly repair events. These will be open to broader public and suitable for volunteers who only can contribute a few hours/month and appreciate the community component of the program. We predict having up to 20 participants at each event.

Location:

- We decided to focus on building volunteer base in one fixed location. That helped focus recruitment efforts and allowed us to reach partners locally, and even within walking distance.

Repair skills:

- From the pilot we learned that volunteers do not need experience of skills to be productive at furniture restoration, they just need guidance and minimal training.

Future recommendations

Repair Activities:

- Building on corporate group volunteering days may bring a stable source of volunteers and generate donors for the program

Repair skills:

- A system of video tutorials could be implemented for repair days when non-skills volunteers work. If a skilled fixer is not available to teach a skill, volunteers could use their phone and learn the skills by scanning a QR code that leads to a YouTube video of that particular part of repair job.

Materials and Inventory management

What we explored in Phase I

We developed a furniture inventory sheet to track individual items:

- We harvested information from the donation form;
- We created a photos-only inventory sheet to visualize inventory and help create collections of furniture for families and identify priority items (Figure 12).

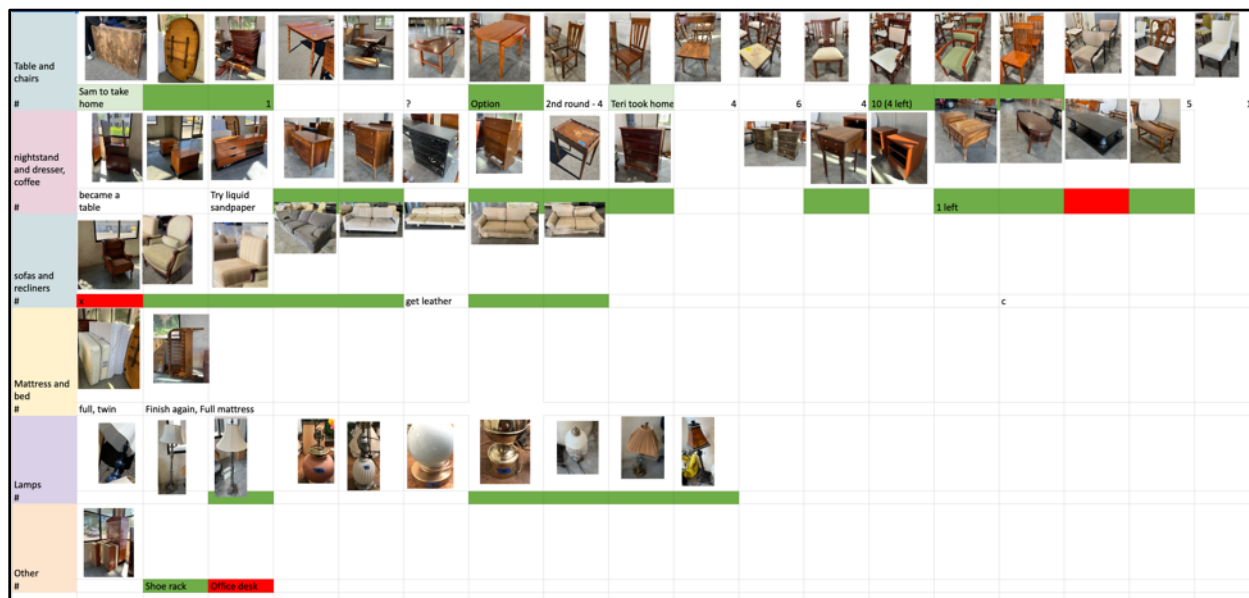


Figure 12: Visualization of priority items for one of the events

We developed a **prototype** for the furniture inventory App (Figure 13). We worked with a volunteer engineer to develop an inventory flow and a prototype for the inventory management App.

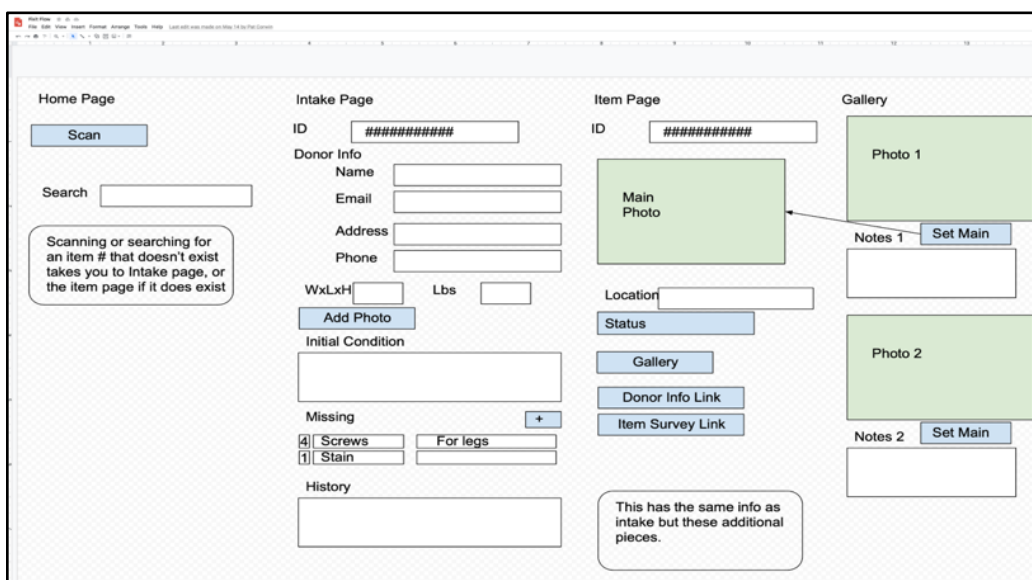


Figure 13: Inventory App map

We researched options for the end-of-life for the items that we are not able to repair and found options for:

- wood recycling;
- metal recycling; and
- foam recycling at mattresses recycling centers.

We researched and purchased basic supplies and machinery including:

- **Cleaning:** steamer and cleaning supplies;
- **Leather:** cleaning supplies, made a list of potential coloring supplies;
- **Wood:** tools and supplies for sanding, cleaning the sand dust, staining, painting, finishing;
- **Upholstery:** needles and hand stitching, constructing and sewing upholstery parts, one-piece staples assembled upholstery; and
- **Safety:** eyes, airways, and skin protection supplies.

We developed a spreadsheet for supplies inventory management including:

- Trying to provide visual representation to tools and supplies in the inventory sheet;
- Asking participating fixers to compliment tools based on our spreadsheet and advice what to acquire for future events; and
- Trying to implement a system to manage supplies inventory.

We borrowed tools for the duration of the event:

- We worked with partner tool libraries to rent some tools in order to test some tools and to provide ample number of tools for larger events;
- We borrowed some general repair tools and supplies from our sister program; and
- We worked with BARN makerspace on Bainbridge Island and co-hosted the event in their premises, and so we were able to use their stationary sanders with vacuums and other large power tools.

What worked well in Phase I

We photographed items that we collected and added visuals of each item to the inventory sheet. That helped create sets for families and identify priority items.

We partnered with tool libraries. This allowed us test multiple tools and create additional capacity when needed.

What we learned in Phase I that could be improved

Joined inventory for furniture and supplies:

- We learned that we needed a system where we could track hardware and supplies needed for each furniture item.

We learned we were lacking a convenient and efficient process to **manage and control consumables:**

- We need to track what we consume, what needs replenishment and what we need for individual items of furniture

Toxicity:

- We need to research toxicity of materials we use and identify less toxic materials (often they require longer drying times and more perfectly prepared surfaces);
- We decided we would aim to research and design toxics out of refurbished items.

Improvements implemented in Phase II

Process and output tracking:

- Because items take multiple days to be completed, it was hard to keep track of the results of repair events. We created tracking systems for donated items and for items that are being worked on and finished after each event (Figure 14).

Toxicity:

- We initiated research on furniture toxics that are used in production and materials that are used for restoration.

	Sponsored by	Date	Day of the week	Time	# of hours	# of volunteers	Total volunteer h	# items WIP	# items finished
1	PPG 039	6/3	Sat	9-4	7	9	37.8	20	2
2	Re+	6/8	Thur	9-1	4	2	8	5	7
3	Re+	6/15	Thur	9-1	4	4	16	4	5
4	PPG 039	6/16	Fri	9-1	4	3	12	1	1
5	PPG 039	6/17	Sat	10-5	7	10	42	10	8
6	Re+	6/21	Wed	9-1	4	6	24	4	1
7	Re+	6/22	Thur	9-1	4	5	15	2	6
8	PPG 039	6/26	Mon	9-1	4	6	24	0	12
June					38	45	178.8	4	42

Figure 14: Repair Events repair results including “new work in progress items” and “finished items”

Future recommendations

Inventory management:

- We would like to find a solution to track hardware needed for each furniture item and supplies we use for each item. We also need to track what we consumed, what needs replenishment and what we need for individual items of furniture.

Toxicity:

- We plan to implement lessons learned from the research to increase exposure to toxic chemicals by clients and volunteers.

Social Component

What we explored in Phase I

Volunteer opportunities:

The program provided meaningful volunteer opportunities to:

- Individual retiree fixers’
- Members of woodworking groups’
- Professional groups of volunteers seeking a team building activity (i.e., social service work); and
- Student groups seeking environmentally and socially charged volunteering opportunities .

Workforce development:

The program provided training, educational, and workforce development opportunities:

- Learning opportunities for individuals with no prior repair experience. We paired them with skilled fixers for knowledge sharing;
- Apprenticeship potential for students who are exploring career paths; and
- Potential for workforce development for recent refugees.

Give back:

The program provided an opportunity for the public give back:

- People who donated furniture items had meaningful stories to share about why they participated;
- The public also identified a desire to contribute in many other ways and provide additional resources to refugees and other underserved populations.

Language accessibility:

We ensured language accessibility for limited English-speaking people:

- We translated promotional materials into Spanish;
- We ensured we had duo-lingo volunteers who can translate and interpret.

Resettlement agencies:

We worked with organizations that serve refugees and low-income populations and:

- Identified all active refugee resettlement organizations in WA and partnered with the most active ones;
- Connected with Refugee Forum of King County and are now staying informed about infrastructure development and future opportunities for the program;
- Initiated relationships with other immigrant assistance programs to explore future collaboration; and
- Explored future partnerships with organizations that serve people getting out of homelessness.

The program worked across cultural groups, with people across social and economic statuses, serving the most vulnerable populations to meet the needs of immigrants and refugees who receive furniture and furnishings. We worked with their case managers and tried to provide the best service possible. We remained aware and respectful of the cultural background of families we serve at all times.

To provide furniture in ways that are accessible and helpful, we:

- Built off the lists that refugee case managers provided us;
- Offered furnishings beyond requested (e.g., shoe racks, carpets) if available;
- Delivered furnishings at convenient times and provided moving services to families;
- Met all the families and individuals, if possible, and learned about their needs to improve our service.

To improve strategies and internal cultural competency for the families we serve and fixers that provide repairs, we gained feedback from participants online, verbally, and informally via conversations.

What worked well in Phase I

Program fills the gap and demand feels limitless:

- We received private requests for furniture from low-income families;
- When we delivered items to families we always met other refugees who requested furnishings from us directly;
- Our partner organizations have more demand to serve their clients than we have capacity to provide.

As we build up the program, we facilitated adjacent connections for partners. For example, we facilitated:

- Furniture donation to non-profits who require donation stream of items in good condition; and
- Individual donors to families in need.

What we learned in Phase I that could be improved

We went through a learning curve to understand the **types of damaged or distressed furniture that is most available** to be donated and what underserved communities need:

- Living conditions of newly housed families are often tight and items they receive cannot be bulky or too heavy.
- Some items are “out of date” such as large TV consoles. We are considering how these could be cut down or re-imagined in new uses.
- The most wanted items are beds, and we did not collect enough to meet all the needs. We will focus on them in the future. In this case, we are only accepting mattresses in good condition.

We identified a **big gap in that was beyond the scope of the project** but looked like a potential way to expand the service:

- We identified a tangible capacity and readiness of the public to donate multiple resources to people in need (kitchenware, linens, kids care items, etc.), but that fell beyond the scope of the project;
- Refugees we connected to needed various additional resources but did not know how to access them.

We could look into creating **advance communication capacity**:

- To create deeper connections with stakeholders, with volunteers and participants, we need to create capacity for regular updates;
- Use basics or CRM and provide individual updates.

Workforce development:

- We demonstrated that the program could provide on-site training on basic furniture repair skills. This opened the door for more formal training in repair trades;
- We will explore employment opportunities and opportunities to provide workforce development elements to refugee populations.

Improvements implemented in Phase II

Serving the vulnerable:

- We expanded our pool of partners, establishing new partnerships who support low-income populations beyond recent refugees. With partners like Sacred Heart Shelter in Kent and Global Perinatal Services we are able to support people getting out of homelessness and women who are building new lives.

Workforce development:

- We held focused meetings with Refugee Artisan Initiative (RAI) who specializes in workforce development for refugee women to learn the best practices they developed in training and employing refugees.
- RAI confirmed a very high demand for such opportunities and advised us to communicate these opportunities to communities directly, not through case managers. RAI committed to redirect people who are interested in such opportunities and who they cannot serve, our way.
- Because program staff speaks the same language as Ukrainians, we researched communities of Ukrainian refugees for future outreach.

Future recommendations

Accessibility:

- To make the program more accessible, we need to design all digital materials including forms, website, promotional materials in accessible way.

Project SWOT

At the end of Phase I, we conducted a SWOT analysis of internal strengths and weaknesses, and external threats and opportunities., We informally interviewed stakeholders, coordinated a brainstorming session, and used submitted surveys and feedback forms.

Strengths (internal factors):

These are resources and capabilities that can be used as a basis for developing a competitive advantage.

Organizational capabilities:

- Zero Waste Washington is uniquely positioned and has strong ties with communities we serve and knowledge about waste streams we are addressing
- Strong reputation of the organization and positioning as a capable and impactful org
- Strong management competency, work ethics and organizational culture
- Ability to accept grants funding (as a nonprofit)
- Agility
- Resourceful and innovative management
- Striving for efficiency and mindful or ROI management

Partnerships:

- Large base of partners and network
- Partners that provide constant supply of furniture - supply of damaged furniture (e.g., Goodwill)
- Partnerships with Repair Economy partners

Addressing the need:

- Demand for refurbished furniture is vast
- Project is aligned with the mission of the organization
- Timely addressing the need with newly welcomed refugees

Favorable location:

- Cities and counties we operate in that want to reduce waste
- WA is a good state for this pilot because of public awareness, legislative innovativeness, infrastructure for initiatives, support of the government
- Potential for policy changes that can be supported

HR:

- Good initial general volunteer base
- Good initial skilled volunteer base
- Project Management excellence
- Attractiveness of the repair for fixers volunteers to work on different tasks

Capital and capacity of the project:

- Already purchased some supplies
- Tested many scenarios and approaches
- Being frugal and using small parts for other items, e.g., wood legs

Communication:

- Story of items, captures imagination of people; connecting furniture to refugees; tangible way of helping people
- Ownership of social media/web, project recognition, growing following

Weaknesses (internal factors):

Organizational and project shortcomings.

Pilot stage:

- Pilot is not known, does not have a strong online and offline presence
- Workflow isn't a well-oiled machine yet
- Waste is still occurring
- Industry knowledge is limited but growing
- Trying to serve/operate in a large geography

Communication:

- Need to build more capacity for internal and external communication
- Need to improve customer service and follow through

HR limits:

- While there's still expertise, some skills are scarce (e.g., upholstery)
- Some items require longer hours (beyond volunteer commitments)
- Recruiting, coordinating, and maintaining relationship with volunteers takes a lot of time
- Project team is small at the moment
- Getting into harder repair will prevent from ability to automate

Technical limitations:

- Project is unique in offering and off the shelf tech solutions might not be available
- Need an improved triaging system
- Irregular events put a time constraint on repair cycles
- Transportation of safely moving items
- Toxic chemicals in both what we sand down, and applying
- Heavy material to handle

Monetary and environmental Costs:

- Storage or space costs
- Funding dependent on grants at this time
- Not diversified funding sources at this time
- Cost/piece is high
- Transportation cost and emissions

Opportunities (external factors):

Things that are changing in areas outside our control that might offer a potential for growth.

Funding streams:

- New grants available
- New revenue streams through selling refurbished items or renting
- Ability to organize fundraisers
- Public contributions
- Transforming pieces into high end stuff
- Finding niche markets for some items (TV cabinets)
- "First apartment" market - sell it to college kids for \$1

- Partnerships with donors to get in-kind donations of supplies and tools

Impact:

- Create a replicable model for other geographies to adopt
- Become a popular movement to reduce waste and GHG emissions related to that
- Legislation to outlaw curbside dumping; program to recover from transfer station; consult transfer stations

Human Resources including volunteers and Workforce:

- Capitalizing on existing woodworker groups
- Mentorship and training

Market:

- WA public becomes more environmentally conscious
- Supply chain interruptions help people look at resources in a less consumeristic way
- No visible competitors

Operational and Technical:

- Partnering with existing mattress programs
- Triaging optimizations and ROI impacts; having a really good triager to identify quality items - state sales
- Ways to facilitate skilled triager to minimize their hurdle (e.g., consults over photos) for 1) what can be sold; 2) what can be fixed; 3) what is most useful for families
- Regularly scheduled volunteer events/shifts
- New unexplored partnerships
- Triaging some unpromising items into waste and provide wood recycling/salvaging
- Find furniture producers to find someone to divert furniture items (cabinet makers)
- Start producing veneer and pressed wood - downcycling instead of throwing away

Bring more community together:

- Potentially act as a platform for furniture flippers
- Potentially act as a furniture recycling facility
- Become a maker workshop space
- Create a maker space - are there ways of reducing the cost of square footage by being an "artist" space

Threats (external factors):

What could cause problems in the environment outside the area of our focus.

Funds, Costs, and Capital:

- Lack of secure funding
- Cost of operations
- Small quantities mean higher cost per unit, at this time
- Thievery of supplies
- Rising costs of warehousing and gas for transportation
- Tipping fee is cheaper than selling/moving/do anything

Operations:

- Difficult to find appropriate space
- Supply chain for parts
- Old/Poor design or obsolete items (TV cabinets)
- Staff to manage inventory/online selling/movement of items
- Hard and heavy items to transport
- Collaborating with many partners make it complicated and fluctuating
- We cannot harvest in a transfer station (i.e., that is illegal)
- COVID and another shelter in place orders

Program revision considerations for Phase II

Considering SWOT exercise and overall analysis of the program we developed the following recommendations to consider for implementation in Phase II:

Operations and Logistics

- Look into developing in-kind partners for storage space
- Secure warehouse/workshop space on the ground floor with natural lighting
- Develop transportation partners
- Test further deliveries done by volunteers
- Collect items from partner organizations
- Minimize program waste by recycling or preventing it in the first place
- Pilot ongoing repair with regular repair events
- Focus on collecting priority items
- Develop a robust inventory management system, including furniture donations, supplies, and tools
- Research toxicity of materials

Workflow, HR, and workforce

- Implement QAQC practice in repair process
- Secure more skilled fixers to pass on knowledge
- Develop a system for more advanced guidance on repair
- Explore employment opportunities and opportunities to provide workforce development elements to refugee populations
- Recruit more general volunteers
- Develop and implement a rigorous triaging process

Communication

- Rename the program to create a more defining and exclusive name
- Develop and implement a more strenuous communication plan, e.g., giving furniture donors updates on what items were repaired, where those items went; having a system communicating with fixers and volunteers providing them with project updates
- Use basics or CRM and provide individual updates
- Build on exceptional base for storytelling
- Create strong online presence and outbound communications plan
- Recruit communications intern to create digital marketing capacity

Scaling and Impact and Funding

- Develop and document operations model to help other geographies implement it
- Apply to more grants (secured Re+ grant)
- Explore other funding opportunities

Implemented program revisions in Phase II

We implemented following improvements to the phase two of the pilot:

Operations and Logistics

- Secured a warehouse/workshop space
- Worked to improve the space to fit needs of the program
- Tested further deliveries done by volunteers
- Tested collecting items from partner organizations
- Piloted ongoing repair with regular repair events (rather than pop-up)
- Focused on collecting priority items
- Improved inventory management
- Initiated research on toxicity of materials

Workflow, HR, and workforce

- Secured more skilled fixers to pass on knowledge
- Tested training non-skilled fixers
- Tested a system for more advanced guidance on repair with QR codes videos
- Recruited more general volunteers

Communication

- Renamed the program to create a more defining and exclusive name
- Developed a more expansive communication plan, e.g., providing furniture donors updates on what items were repaired, where those items went; using a system to communicate with fixers and volunteers to provide them with project updates
- Initiated development of a strong online presence and outbound communications plan
- Recruited a communications advisor to create communication strategy

Recommendations for further development

As the project moves forward, we would like to:

Operations and Logistics

- Design and build out storage solutions, work flow, and operations protocols
- Develop transportation partners
- Test charging partners a fee for donated items to help offset costs of consumables needed for repair
- Minimize program waste by recycling or preventing it in the first place
- Develop solid and predictable ongoing repair with regular repair events

- Focus on just-in-time inventory
- Develop a robust inventory management system, including furniture donations, supplies, and tools
- Implement results of the toxicity of materials research

Workflow, HR, and workforce

- Implement QAQC practice in repair process
- Secure additional skilled fixers to pass on knowledge
- Create more corporate group volunteer team building events
- Implement a system for more advanced guidance on repair with QR code videos across all general jobs
- Explore employment opportunities and opportunities to provide workforce development elements to refugee populations

Communication

- Develop strong brand guidelines a templates
- Define mission and vision and bases for telling our stories and our impacts
- Develop and implement a more strenuous communication plan, e.g., giving furniture donors updates on what items were repaired, where those items went; having a system communicating with fixers and volunteers providing them with project updates
- Create strong online presence and outbound communications plan