

Clothing the Recycling Gap – Research Appendix

Appendix A: Competitive Product Survey

Stats:

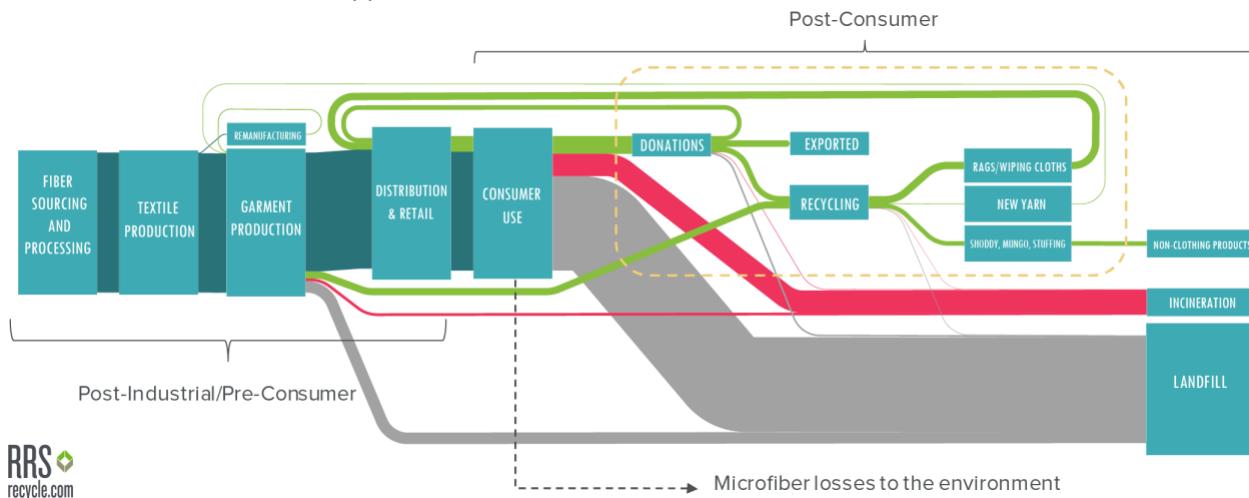
- In 2019, Americans will throw away more than 35 billion pounds of textiles, according to the Council for Textile Recycling. That's nearly double the number from 1999.
- In the U.S. alone, [10.5m tons of textiles](#) go to landfills each year
- Worldwide, less than 1 percent of the material used to produce clothes is eventually recycled, according to an Ellen MacArthur Foundation report, causing an annual loss of about \$100 billion of potentially useful textiles that are burned or buried in landfills
- 40% of Americans either don't have access to or don't sign up for curbside recycling, said Betsy Dorn, director of RSE USA, a sustainable-packaging consulting firm in Orlando
- Only ~20% of the clothing donated to shops like Goodwill and the Salvation Army actually gets sold in their stores, according to the LaPorte County Solid Waste District in Indiana. The rest is typically sold to textile recyclers, at 5-7 cents per pound, with the cash still benefiting the charities
 - “One of the easiest ways to get old clothing into the greater textile recycling stream is donating it, no matter how worn it might be”
 - The remaining recycled fabric goes into other production streams, and may end up as insulation, upholstery stuffing or ingredients in paper products

Sustainability Organizations:

- [Sustainable Apparel Coalition](#) - a global alliance of retailers, brands, suppliers, advocacy groups, labor unions and academics
 - Launched by Walmart & Patagonia in 2009
 - Brought together 175 members whose companies account for more than 40% of the global apparel industry
 - Goal: to create “an apparel, footwear and home textiles industry that produces no unnecessary environmental harm and has a positive impact on people and communities”
 - Building a set of three online tools, known as the [Higg Index](#) that measure the social and environmental impact of brands, manufacturing facilities and products
 - ~6,000 factories have provided information about their social and environmental impact to the Higg Index database
 - Problem 1: most coalition members have been slow to use the index + there's no evidence they are reducing – not merely reporting – their impact
 - Problem 2: none of the social and environmental data being collected is currently publicly available + companies aren't even permitted to release their own Higg Index data
- [Council for Textile Recycling](#) - devoted to creating awareness about keeping clothing, footwear, and textiles out of landfills
- [Product Stewardship Institute](#) - a national, membership-based nonprofit committed to reducing the health, safety, and environmental impacts of consumer products across their lifecycle with a strong focus on sustainable end-of-life management
 - 47 state environmental agency members
 - 100 corporate, business, academic, non-U.S. government, and organizational partners
 - North American focus

- **[Resource Recycling Systems](#)** - 30-year old sustainability and recycling consultancy

- Textile and apparel flows in the U.S. (from their website):



- **[Massachusetts Department of Environmental Protection](#)** - manages [MassDep Textile Recovery](#) program, among others
 - On-campus recycling initiative: 4 textile recycling boxes placed indefinitely on schools' campuses. Bins are accessible 24 hours a day for community members who want to donate unwanted textiles, everything from clothing and accessories to linens and rugs and stuffed animals
- **[Secondary Materials and Recycled Textiles Association \(SMART\)](#)** - promotes interdependence of the for-profit textile recycling industry segments and provides a common forum for networking, education and advocacy
- **[New York Product Stewardship Council](#)** - works to implement the principles of product stewardship in New York State and nationally

Current recycling options:

1. Fashion brands' facilitated recycling:

- **Eileen Fisher**: old garment buyback from customers at \$5/each, recycled materials reworked into new merchandize under the [Renew](#) brand (aka “upcycling”), which is advertised as “lightly used clothing”
 - The Renew program also conducts scientific research on fiber wear and clothing-construction techniques to generate performance data (e.g. how well a particular material holds up)
- **Patagonia**: [Worn-Wear program](#) - customer education tours to U.S. college campuses, ski resorts and international locations + customers buy “certified, pre-owned” Patagonia gear at discounted prices online
- **H&M Group**: drop off of unwanted textiles of any brand and in any condition at an H&M / Monki / & Other Stores locations to get rewarded with a voucher

- **UNIQLO**: drop off clean, gently used UNIQLO clothing at any UNIQLO store in the designated RECYCLE BOX, and they will work with local partners to provide family in need with cloths.
<https://www.uniqlo.com/us/en/special/sustainability/refugees/recycle/#prettyPhoto>

- 2. Internet-only sales platforms sponsored by traditional thrifts such as Goodwill and the Salvation Army:
 - [ThredUp](#) - world's largest online secondhand shopping destination

- 3. Clothing-rental companies:
 - [Rent the Runway](#)

- 4. Uniform-heavy corporate players' initiatives:
 - Airlines such as Southwest, [Jet Blue](#), [Delta](#) and [KLM](#) are recycling uniforms, blankets and cushion fabrics, which are turned into totes, luggage tags and stuffed animals
 - Many airlines partner with [Looptworks](#), a Portland-based business that upcycles or re-purposes abandoned, pre-consumer and post-consumer materials into limited edition products

- 5. Campus-based non-profits:
 - [Post-Landfill Action Network](#) - promotes plastic-free campuses, food recovery and composting programs, efforts to salvage items students discard when they move out at the end of the year and campus thrift stores
 - chapters at ~100 universities across North America

- 6. Local players (Washington state):
 - [Threadcycle](#) - a public education campaign of King County and Seattle Public Utilities
 - Pick-up and drop-off [options](#)

- 7. [Give Back Box](#) - provides vendor services to retailers and charities
 - Reuse of online shipping boxes or any other cardboard box
 - Prepaid shipping label
 - Partnered with Amazon, REI, Banana and many other retailers

Press:

- Seattle Times: [Fashion brands create programs to recycle, repurpose clothing](#) (September 2018)
- The Guardian: [Despite the Sustainable Apparel Coalition, there's a lot you don't know about that T-shirt](#) (June 2006)

King County System Research

[Post-Consumer Textiles: LinkUp Report 2014/2015](#)

Page 10: Resident Behaviors, Attitudes, and Perceptions

Page 23: [Post-Consumer Textiles Value-Chain graphic](#)

Contact: Kris Beatty LinkUp King County Solid Waste Division 206-477-4620 kris.beatty@kingcounty.gov LinkUp website: www.kingcounty.gov/linkup

Consumer Recycling Behavior and Awareness Profile

(Survey from 2013)

“An overwhelming majority of respondents (82%) said they would increase the amount of textiles donated, even when in poor condition, if they knew that condition was not an issue.”

Threadcycle

A public education campaign of King County and [Seattle Public Utilities external link](#).

“Give *all* your clothes, shoes, and linens for reuse or recycling.”

Damaged clothes and linens aren’t garbage anymore. Up to 95 percent of the clothes, shoes, and linens thrown in the garbage could have been reused or recycled.* Many local organizations want **all** your clothes, shoes, and linens for reuse or recycling – **even damaged items** – in any condition except wet, mildewed or contaminated with hazardous materials.

Thrift stores, drop boxes, and others want it all and they make it easy

In the past, thrift stores, drop boxes and collection sites only accepted “gently used” items. But markets have changed, and now many accept items that are stained, holey, or damaged, or “singles” of items that are normally paired, such as shoes, socks, and gloves – as long as they are not wet, mildewed, or contaminated with hazardous materials. Some are reused, and some get recycled into new products.

[Organizations that accept all clothes, shoes, and linens](#) throughout Seattle and King County are easy to find. ...even items that are stained, holey, or damaged. There are many places to give: collection boxes, thrift stores, and home pickup services. [See listings below.](#)

[Washington State Initiatives](#)

[Washington State Recycling Association](#)

[Zero Waste Washington](#)

Washington Recycles Every Day (WRED) event on October 30 at REI

[The Shirt Off Your Back – The State of Textile Recycling, Reuse, and Repair Today](#)

Life-Cycle of Secondhand Clothing

<http://www.weardonaterecycle.org/images/clothing-life-cycle.png>

[Recycle Colorado Webinar - Methods for Effective Residential and Stakeholder Outreach/Engagement](#)

October 31, 2018 | 12:00 to 1:15 PM PST

Hear results on effective outreach / engagement approaches that can be applied in your community. The webinar will cover surveys and sampling basics; focus groups, approaches for effective stakeholder engagement; ways to make your residential outreach more effective (including social marketing).

To build on “Consumer Recycling Behavior and Awareness Profile” findings some ideas on how might we address feedback on issues that would “motivate [Residents] to donate more clothing, shoes, or household linens.

Donation bin/drop box closer to home (What if we created a map that compiles all donation dropbox locations)

King County Solid Waste Division - Where to give

<https://kingcounty.gov/depts/dnrp/solid-waste/programs/ecoconsumer/threadcycle/threadcycle-locations.aspx>

Big Brothers Big Sisters Puget Sound - Dropbox Containers

<https://www.google.com/maps/d/u/0/embed?mid=1DtxlckVpOJGpF1T0QPaZcYTat0bcEhcQ&ll=47.55952665234208%2C-122.21994003539817&z=10>

Goodwill Donation

<https://www.goodwillwa.org/donate/locations/>

Big Blue Truck

<http://www.bigbluetruck.org/content/collectionlocations>

The Salvation Army

https://westernusa.salvationarmy.org/usw_thq/location_search?location=98115

Goodwill

https://seattlegoodwill.org/locations?utf8=%E2%9C%93&location=&location_type_ids%5B%5D=0&location_type_ids%5B%5D=2&location_type_ids%5B%5D=0&location_type_ids%5B%5D=0&location_type_ids%5B%5D=0

ValueVillage

https://stores.savers.com/search?vertical_tabs%5Bselection%5D=tab_1&q=98115&op=Find&site=savers

US Again

<http://www.usagain.com/find-a-collection-bin>

You can also get a collection bin

Receive information about how to schedule donation pickup

Donation Town - Free pickup for salvation army

<http://donationtown.org/washington-donation-pickup/seattle-wa.html>

Acceptable items

<https://kingcounty.gov/depts/dnrp/solid-waste/programs/ecoconsumer/threadcycle/threadcycle-acceptable.aspx>

Research Paper

Consumer Textile Recycling as a Means of Solid Waste Reduction

<https://onlinelibrary-wiley-com.offcampus.lib.washington.edu/doi/epdf/10.1177/1077727X99281001>

Appendix B: Historical Analysis

1. Consumers' clothing disposal behaviour – a synthesis of research results (2014):

<https://onlinelibrary.wiley.com/doi/full/10.1111/ijcs.12088>

Summary: The study sought to summarize and extend what is known about consumers' clothing disposal behaviour based on empirical literature published during the past 30 years.

Notes:

- Clothing recycling behaviour differs from general recycling behaviour
- 3-factor categories influence consumers' disposition choices: psychological characteristics of the decision maker (personality, attitudes, etc.), factors intrinsic to the product (condition, style, etc.) and situational factors extrinsic to the product (storage space, financial situation, etc.)
- Many consumers prefer to deliver clothing for reuse rather than to dispose of them, but convenience is paramount
- Common disposal reasons for apparel were wear and tear, poor fit and fashion or boredom, in addition to lack of storage space
- Survey methods are most common, which indicates the need of other research designs that preferably include the clothing items in method triangulation
- Studied samples are dominated by young women and students, and research on more heterogeneous samples is needed
- **The most common decisive factor for deciding whether to recycle or not is convenience, which is related to availability of recycling stations, collection systems or other organized infrastructures**
- **Another reason for binning textiles was that some respondents felt that they had too small amounts of textiles to deliver for recycling**
- **Throwing away was also mostly connected to specific types of clothing, such as underwear and socks, as well as damaged, worn out, stained, unfashionable or cheap clothing**
- **Reasons for donating clothing included not wanting to waste usable garments, helping the needy and, to a minor degree, also environmental considerations**
- It is more common to give children's clothing to acquaintances than adults' clothing, and women's clothing is swapped more often than men's clothing
- **Some studies showed that older age was related to increased recycling behaviour, at least related to donating to (religious) charitable organizations. Younger respondents and fashion innovators were more likely to give to friends or family**

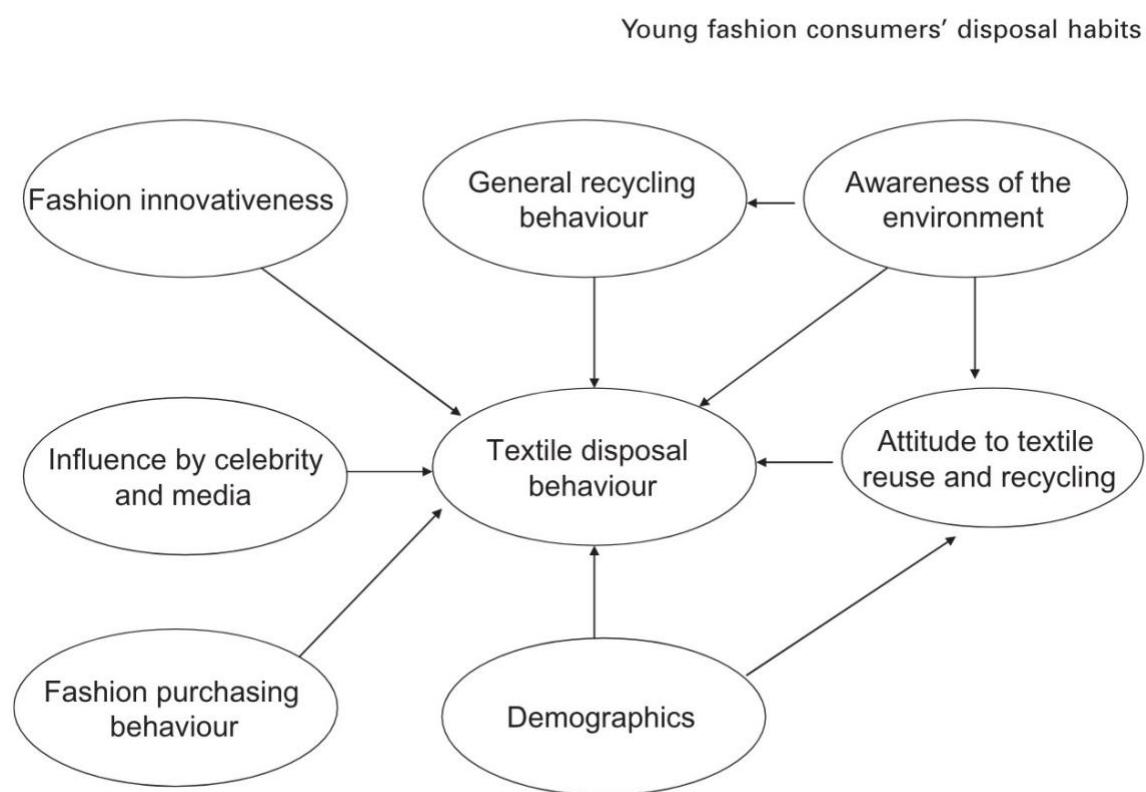
2. An investigation of young fashion consumers' disposal habits (2009):

<https://onlinelibrary.wiley.com/doi/full/10.1111/j.1470-6431.2009.00756.x>

Summary: This study identifies consumers' lack of understanding of how this behaviour affects the environment and suggests ways of addressing the growing problem of textile waste and how fashion consumption could become more sustainable.

Notes:

- Young fashion consumers' disposal model:



- The findings of this study reveal that young female consumers are unaware of the need for clothing recycling
- The research also highlighted that young fashion innovators were particularly disinterested in recycling. However, some were used to "swapping" their clothing with friends because they only wanted to wear fashion clothing a few times or handed them on to other family members
- **While respondents were mindful of the greater quantities of clothing being produced and sold, they had little interest in the potential social, environmental or ethical impact and felt that any steps they took to try to reduce their fashion consumption or disposal behaviour would be insignificant in the grand scheme of things**

3. Factors motivating and influencing clothing disposal behaviours (2011):

<https://onlinelibrary.wiley.com/doi/full/10.1111/j.1470-6431.2011.01048.x>

Summary: This study investigated four different clothing disposal options (resale, donation, reusing and discarding) and examined five motivational factors (environmental, economic, charity and convenience concerns and information unavailability). The influences of attitudes towards the environment and subjective norms of family and friends on clothing disposal behaviours also were examined.

Notes:

- It is believed that, like purchasing behaviour, consumer disposal behaviour is influenced by reference groups such as family and friends
- **Respondents indicated that the most frequently used charities for clothing items were the Salvation Army and Goodwill**
- Information about a recycling programme significantly increases the likelihood of consumer participation in the program
- Respondents indicated they did not participate in recycling because they did not have local recycling programmes and did not know other options
- Today's consumers are aware of various clothing disposal options, yet may choose to discard textile products anyway
- Findings indicated that attitude towards the environment was related to donation but not to resale behaviours
- Those motivated by convenience tend to discard unwanted textiles

Appendix C: Secondary Analysis



Yeva Tynkova <ytynkova@gmail.com>

IMP: UW Grad Students conducting a study on Clothing Recycling Habits in King County

1 message

Prateek Mehra <pmehra@uw.edu>

To: karen.may@kingcounty.gov, kris.beatty@kingcounty.gov

Cc: mcdevmc@uw.edu, Phedca Louie <phecdalouie@gmail.com>, ytynkova@gmail.com

Fri, Oct 26, 2018 at 2:41 PM

Hello!

We are a group of four graduate students studying Human Centered Design and Engineering at the University of Washington, Seattle working on understanding the problems households in King County face while recycling clothes.

While trying to understand existing literature and solutions around the problem of clothing recycling we came across a [study](#) done in 2013 by King County and LinkUp. We are looking to get updated statistics so we designed and circulated a [survey](#) which already has close to a hundred responses in under 24 hours! :)

We think this survey could really help gain more insights as to where the *real* problem lies. It would be invaluable if we could get our hands on any study done after 2013 or any specific projects or innovations that could enrich our knowledge on the subject. If no new information is available on the subject matter, we would greatly appreciate if you could help us circulate the survey online amongst households in King County.

We are also interested to attend the Washington Recycles Every Day (WRED) [event](#) by WSRA on 30th October if you or your team at ThreadCycle would be present for the same.

Hoping that the synergy of our association with you could contribute to the greater good!

Best,

--

Colleen McDevitt

Phedca Louie

Prateek Mehra

Yeva Tynkova

Appendix D: Online Survey

Survey Questions

Demographics:

1. What is your age?
2. What is your gender?
3. What is your highest level of education? Include schooling in-progress:
4. How many adults (18 and above) live in your household?
5. How many children (below 18) live in your household?
6. What is your combined household annual income?
7. What is your zip code in King County?
8. How long have you lived in King County?

Questions relating to the topic:

9. In the last year, when you or someone in your household had unwanted clothing, what did you do?
10. When was the last time you donated clothing?
11. What things are important to you when getting rid of clothing items you no longer want?
12. Of the options below, which clothing do you think CAN'T be donated?
13. For the purpose of this survey, "Clothing recycling" refers to converting clothes into reusable fibers, which is different than donating or reselling clothes. With this in mind, did you know you could recycle your clothes?
14. Are you aware of any clothing recycling drop boxes within King County?
Please specify the location of the clothing recycling drop-box(es) you are aware of within King County:
15. Are you aware of any thrift stores that recycle clothing within King County?
Please specify the thrift store(s) you are aware of that recycle clothing within King County:
16. Are you aware of any home pick up services that recycle clothing within King County?
Please specify the home pickup service(s) you are aware of that recycle clothing within King County:
17. Are you aware of any retail store(s) that recycle clothing within King County?
Please specify the retail store(s) you are aware of that recycle clothing within King County:
18. Are you aware of any donation organizations that recycle clothing within King County?
Please specify the donation organization(s) you are aware of that recycle clothing within King County:
19. Of the options below, which clothing do you think CAN'T be recycled?
20. What keeps you from recycling clothing that can't be donated, sold or passed on?
21. Are you aware that you could recycle old underwear, used bras, or holey socks?
22. Have you ever recycled old underwear, used bras, or holey socks?
23. Think about the last time you were getting rid of your old underwear, used bras, or holey socks. What kept you from recycling these items?
24. Do you have suggestions on encouraging households to recycle their unwanted clothes? (Optional)

Survey Distribution

University of Washington affiliated Slack channels:

MS@HCDE ▾ Jump to...

Phecka

#study-recruitment

☆ | 230 | 1 | Add a topic

Thursday, October 25th

All Unreads

All Threads

Channels +

- # advising
- # general
- # incoming-students
- quadfecta
- # random
- # study-recruitment**

Phecka 9:49 AM Hey Class,

Our design agency is looking to survey King County residents to better understand you and your household's habits around recycling and disposing of clothes.

If this sounds interesting (or you know someone who might be interested), share your thoughts by filling out this quick survey.

Bonus Points: If you have feedback to share on the survey, feel free to leave a comment on this post. As an incentive, if you share feedback on our survey, I would totally be down to share my feedback on your design agencies survey too.

<https://docs.google.com/forms/d/e/1FAIpQLSc-NTxB4-FvSuQSoUe3VwB6HMT7xkgCBxNXZDLX44pJr-Mc8A/viewform?fbclid=IwAR0kW4dE6drqZ-KjKbFB2P4S8kYWCqojfFv2AeJg2XNS4SBwt7ghwzZcUNk>

✓ 1

University of Washington affiliated Facebook groups:

Phecka Louie shared a link.
October 24 at 11:16 PM

Hey Class,

Our design agency is looking to survey King County residents to better understand you and your household's habits around recycling and disposing of clothes.

If this sounds interesting (or you know someone who might be interested), share your thoughts by filling out this quick survey.... See More

Clothing the Recycling Gap

Thank you for taking time out of your busy day to help with our project, we really appreciate it!

We're a group of Human-Centered Design & Engineering (HCDE) Masters students from the University of Washington looking to learn more about you and your household's habits around recycling and disposing of clothes.

This survey should take about 2-5 minutes to complete

DOC GOOGLE COM
Clothing the Recycling Gap

Save

Thank you for taking time out of your busy day to help with our...

Like Comment

Mamiko Hirose Hi, good job on the survey! I took it on my desktop and I thought the navigation was very clear and easy to follow. I really liked the use of images. Just one question I had... one of the questions educates the users on what recycling clothes is and ... See More

Like Reply 3d · Edited

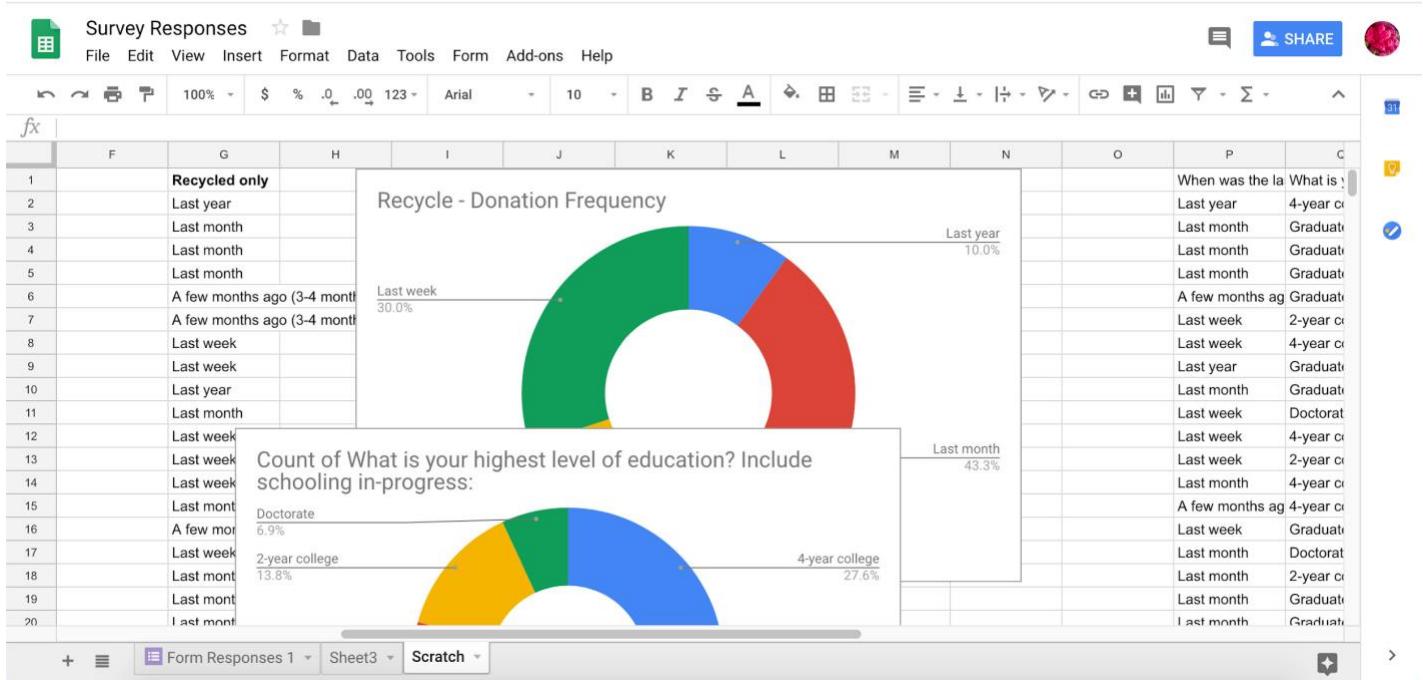
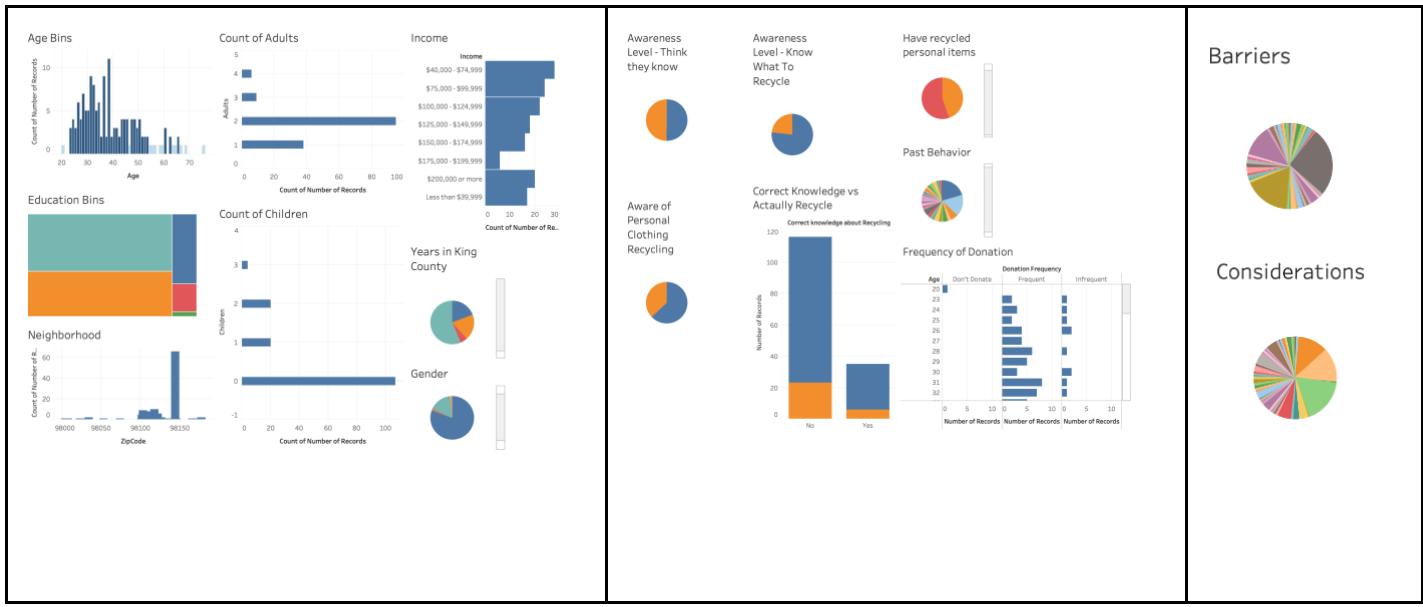
Write a comment...

Distributed among graduate students residing at the University of Washington Student Housing

Distributed among graduate students at the Human-Centered Design & Engineering department of the University of Washington

Buy Nothing Project Facebook page

Select Survey Analysis

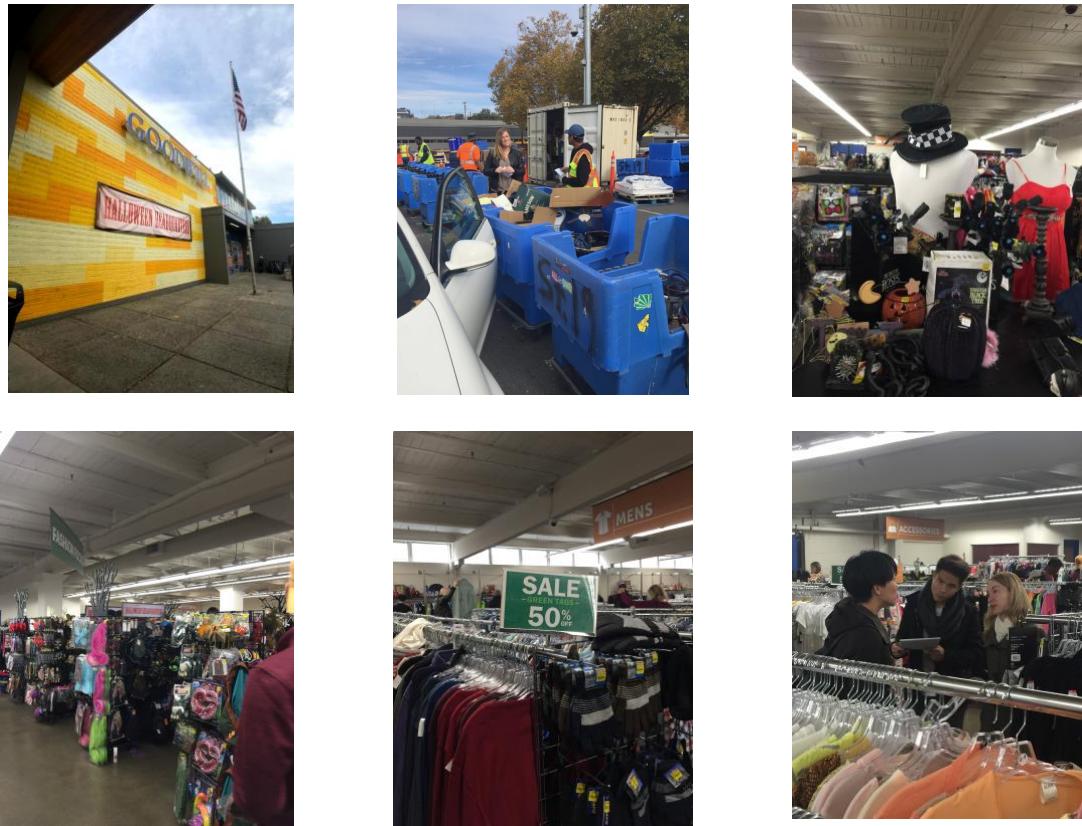


Appendix E: Contextual Inquiry

Goodwill Stores Visit

On October 27, 2018, during a busy Saturday afternoon, the entire team visited a Goodwill store located in the Dearborn neighborhood of Seattle, WA, and a Goodwill Outlet, located nearby. The team assessed the location, observed and documented the donation process, examined the interior of both stores, and interviewed select shoppers.

Goodwill



Goodwill Outlet

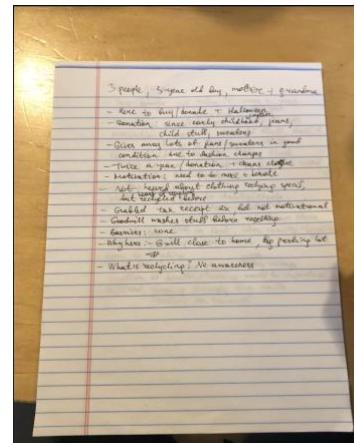
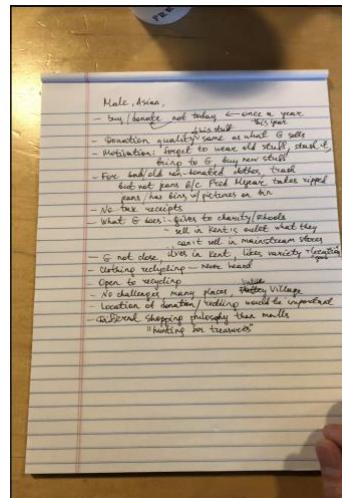
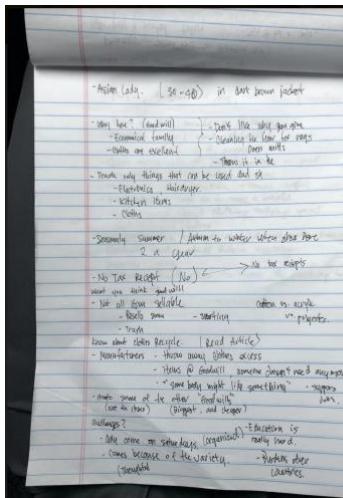
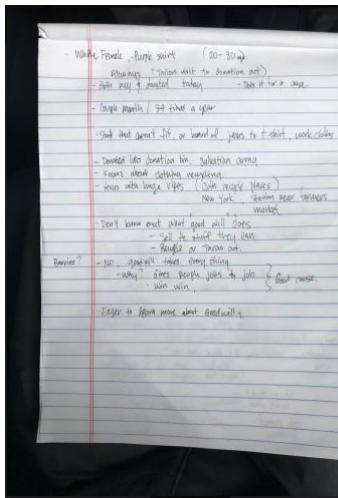


Contextual Inquiry Interview Questions

<Introduce yourself and project>

1. I see you dropping items at Goodwill, what are you dropping off? Why did you choose these items? (Clothing? Take photos!) If no, have you dropped off clothing in the past?
 2. How often do you come here? When was the last time you dropped off your items?
 3. Why do you bring your items here?
 4. When you drop off items, do you usually get a tax receipt?
 5. What do you think Goodwill will do with your clothes?
 6. Have you ever recycled clothes? If yes, where/how? If no, why? [since you have a bag of clothes with you now]
 7. What challenges have you encountered today or in the past while donating/recycling clothes?

Contextual Inquiry Interview Notes



Interview 1: Female shopper



- Shopper was both buying clothes and donating clothes today
- She always tries to tailor her visit when she's actively donating
- She mentioned she donates every couple of months or 3/4 times a year
- She typically donates clothes that doesn't fit, or that she's board of. Things like jeans, t-shirts, and work cloths
- She knows about donation bins that the salvation army has throughout the city
- She knows about clothing recycling and thinks its different than donating
- She knows that jeans with huge rips can sometimes be recycle. She wasn't able to name a place in Seattle that does this but knows of a place in New York near a farmer's market that does this recycling
- She says she doesn't know exactly what Goodwill does with the clothes that are donated but things they do the following:
 - Sells the stuff they can sell
 - Recycles or Throws out the rest
- When asked if she has barriers to recycling clothes, she was quick to say no. Since Goodwill takes everything she donates
- She like donating for the cause and how it gives people jobs that give being clothes, which is a win win situation
- She is eager to learn more about what Goodwill does with their clothes

Interview 2: Female shopper



- When asked what she chooses to come to Goodwill, she mentioned that its economical for families and the clothes are always in excellent condition
- When asked what she donates, she doesn't donate anything she wouldn't buy herself.
- She mentioned she tries to keep old clothes and turns them into rags to clean floor or make them into oven mitts. Otherwise if they get to the end of their life she throws them away.
- She likes to mostly donate things that can still be used, like electronics, hairdryers, kitchen items, sometimes clothes.
- She donates clothes seasonally, around summer and again around autumn/ winter time, so around twice a year she donates
- She's not motivated by tax receipt and didn't collect any this time around.
- When asked what she thinks Goodwill does with the cloths people donate, she says she thinks they resell some, sort some, and trashes most.
- She thinks cottons are easy to recycle, but things like acrylic or polyester can't be recycled
- She knows about clothes recycling from reading an article
- She also knows that manufacturers, throw away excess clothes and burden many other countries. She supports Goodwill because she likes their slogan "Somebody might like something you don't want"
- She sometimes goes to other "Goodwills" (when asked about if she goes to any other donation centers). But this Goodwill was the biggest and cheapest also have a wide variety, even though it's not the closet.
- When asked about challenges, she mentioned she could only come on Saturdays
- She mentioned how education for this topic is really hard

Interview 3: Shopping family of 3 - grandmother, mother and a 3-year old son. Mother was interviewed



- Attended the store to donate/buy new clothes and Halloween-themed merchandise
- Was encouraged to donate clothes since early childhood
- Donates many jeans, sweaters, kid clothes in good condition to change in fashion trends
- Donation frequency is twice a year, roughly corresponding to a desire to clean her closet
- Expressed a desire to donate more ("I totally should")
- Haven't heard of clothing recycling, but familiar with recycling in general
- Grabbed a tax receipt twice for her donations, but tax benefit wasn't a primary motivation
- Aware that Goodwill washes the clothes before giving them away
- Not aware of any barriers to recycle
- Goodwill store is close to home and has a big parking lot
- Suggested to raise awareness about clothing recycling

Interview 4: Male shopper



- Attended the store to buy new clothes
- Typically donates before shopping; donated once this year
- Donates quality clothes comparable with the quality of the clothes sold at Goodwill
- Donations motivated by desire to change clothes: get rid of old things and buy new ones
- Keeps a pile of old clothes at home to be donated
- Throws away clothes in bad condition aside from jeans, which he donates at a Fred Meyer's store because they accept jeans in all conditions
- Fred Meyer makes it easy to donate by having large donation bins with pictures
- Has never gotten a tax receipt
- Aware that Goodwill distributes clothes to schools and charities
- Also knows that Goodwill sends the hard-to-sell merchandise to its outlet in Kent, WA
- Lives in Kent, but doesn't mind driving to Seattle's Goodwill because of a greater clothing variety
- Not aware of clothing recycling, but open to it
- Not aware of any barriers to recycling, in fact pointed out to many places (e.g. Value Village) where one could potentially recycle clothes
- Believes the location of a recycling facility would be important
- Enjoys finding hidden treasures in thrift stores

Interview 5: Female shopper



1. I see you dropping items at Goodwill, what are you dropping off? Why did you choose these items? (Clothing? Take photos!) If no, have you dropped off clothing in the past?
 - a. Yes, She has dropped off clothes in the past.
 - b. Usually she donates at Value Village but not clothing.
 - c. She prefers to **donate at the elementary school** she works at because she wants to give somewhere where people don't have to "buy" it or pay to get the "donated clothing"
 - d. Also recycles **jeans** at **Madewell**
2. How often do you come here? When was the last time you dropped off your items?
 - a. She comes here **often**
 - b. Last time she came **a few months ago (<6 months)**
3. What do you think Goodwill will do with your clothes?
 - a. Either **sells** or **trashes**
4. Have you ever recycled clothes? If yes, where/how? If no, why? [since you have a bag of clothes with you now]
 - a. No, she wasn't aware of clothing recycling

Interview 6: Female shopper



1. I see you dropping items at Goodwill, what are you dropping off? Why did you choose these items? (Clothing? Take photos!) If no, have you dropped off clothing in the past?
 - a. Yes, dropped off clothing in the past.
2. How often do you come here? When was the last time you dropped off your items?
 - a. Couple of times a year (~quarterly)
3. What do you think Goodwill will do with your clothes?
 - a. **Sell or Trash**
4. Have you ever recycled clothes? If yes, where/how? If no, why? [since you have a bag of clothes with you now]
 - a. Said she recycles worn out clothes
 - b. Meant she **reuses them for rags/dusters etc.**
5. What challenges have you encountered today or in the past while donating/recycling clothes?
 - a. Awareness about what can be recycled
6. What can help motivate people to recycle?
 - a. Coupons for clothing recycling

Interview 7: Shopping couple



1. I see you dropping items at Goodwill, what are you dropping off? Why did you choose these items? (Clothing? Take photos!) If no, have you dropped off clothing in the past?
 - a. Yes, at **Goodwill Ballard**
 - b. How often do you come here? When was the last time you dropped off your items?
 - c. **She does it once a year; He does it quarterly, as needed**
2. Why do you bring your items here?
 - a. Easy (GW at Ballard) - close to her place - doesn't like to stack clothes at home once she clears her closet.
3. What do you think Goodwill will do with your clothes?
 - a. **Trash or wash and sell**
4. Have you ever recycled clothes? If yes, where/how? If no, why? [since you have a bag of clothes with you now]
 - a. **No**
 - b. Wasn't aware of the possibility of recycling clothes
5. What challenges have you encountered today or in the past while donating/recycling clothes?
 - a. Unsure about what can be recycled vs donated
6. What can help spread awareness or motivate people to recycle?
 - a. Facebook video
 - b. Information about clothing recycling on the SPU utility bill

Appendix F: Individual Interviews

Individual Interview Questions

1. What are the reasons that contribute to your decision of disposing clothing?
2. How frequently do you dispose your clothes?
3. How do you dispose your clothes?
4. Do you donate clothes?
5. What makes you donate your unwanted clothes?
6. Talk about the last time you donated clothes. What was the process like? What were some challenges?
7. When you hear the term “clothing recycling”, what does it make you think about?
8. Have you ever recycled clothes? Why or why not?
9. What clothing recycling options are you aware of?
10. What motivates you to recycle clothes?
11. Do you have any suggestions on how your community could be educated about clothing recycling?
12. If you could
 - a. drop off
 - b. mail using pre-paid shipping label
 - c. exchange at a retail store for a voucher
 - d. schedule a pick-up

...for your clothing recycling, which option(s) would you go with? Why?
13. Why don't you recycle clothes more often?
14. Would you be open to testing out our design(s) in a couple of weeks?

Interview Summaries

Interview 1: Female UW graduate student



1. What compels you to dispose your clothes? [Triggers]
 - a. Doesn't throw away because it's too old but because it's been worn by her often - wants to update her closet based on changing fashion trends
 - b. Disposed clothes look fine, but take too much space in her closet
 - c. Not worn out
2. How frequently do you dispose your clothes? In what ways?
 - a. Once in 2 years
 - b. Moving contributes to her disposing clothes
 - c. Swaps clothing with cousins/relatives
 - d. Throws away otherwise
3. Do you donate clothes? Why? [Those who donate are far more likely to start recycling too]
 - a. She donates school uniforms; done that more than once
 - i. Community organised donation collection after graduation ceremony
 - ii. Easy process/no challenges
 - b. More effort to donate in Korea; less convenient in the U.S.
 - c. In Korea, there's a system for donating school uniform but not for other clothes
4. Can you talk more about the last time you donated clothes? What was the process like? What were some challenges?
 - a. No challenges while donating uniform; parents of the students at school organized it
 - b. Easy drop off after graduation ceremony at bins
5. When you hear the term "clothing recycling", what does it make you think about? [Probing for feelings, associations, emotions]

- a. Freitag - A swiss brand/ Upcycling - high-end fashion brand
 - b. Giving to poor people; donating - low-end, but for a good cause
6. Have you ever recycled clothes? Why?
- a. Her mom reuses/reforms clothing - “recycling” to her is clothing reuse
7. What clothing recycling options are you aware of?
- a. Can’t think of any creative ways to recycle
 - b. It’s hard to imagine or trace how to recycle - barriers
8. What motivates you to recycle clothes?
- a. To give to a good cause
 - b. Feels bad about disposing clothing in good condition
 - c. Wasn’t aware of recycling clothing
 - d. Convenience
9. If you had to educate your community about clothing recycling, how would you go about it? [User-driven ideation]
- a. Call them and tell them about it if it’s convenient
10. If you could
- a. drop off
 - b. mail using pre-paid shipping label
 - c. exchange at a retail store for a voucher
 - d. schedule a pick-up
- c>d>a>b
11. for your clothing recycling, which option(s) would you go with? Why? [Assessing potential solutions]
- a. Korea has dropboxes for textiles at bus stops
 - b. Incentives for recycling - Germany - Plastic bottles -> In machine -> Incentives
12. What makes it hard to recycle clothes? Why? [Assessing barriers]
- a. Awareness
 - b. Great to have incentives for recycling
13. Would you want to test out our design(s) in a couple of weeks? Why?
- a. Yes, she’s happy to understand what could solve the problem.

Interview 2: Female UW graduate student

Asked not to photograph her closet.

1. What compels you to dispose your clothes? [Triggers]
 - a. Doesn't fit anymore
 - b. Haven't worn it in a long time
 - c. Worn out
2. How frequently do you dispose your clothes? In what ways?
 - a. Once every 2-3 years
 - b. Mostly donates
 - c. Trash it, if it's in bad condition
3. Do you donate clothes? Why? [Those who donate are far more likely to start recycling too]
 - a. It's easier to donate; knows and easy to find ways to donate and prefers over trashing
 - b. Feels bad about trashing since in good condition
 - c. Building she used to live in would facilitate it - convenience
 - d. Large donation big - couple of blocks away
4. Can you talk more about the last time you donated clothes? What was the process like? What were some challenges?
 - a. (mentioned above?)
 - b. Challenges -
 - i. All pretty smooth
5. When you hear the term "clothing recycling", what does it make you think about? [Probing for feelings, associations, emotions]
 - a. Don't know how different it is from donation/reuse
 - b. She knows that some people might repurpose old clothing to make new things out of them
6. Have you ever recycled clothes? Why?
 - a. Doesn't know how it happens - hasn't recycled
 - b. Didn't know it existed
7. What clothing recycling options are you aware of?
 - a. Stores that would take old clothes - H&M
 - b. Maybe something like city recycling organisations, but not aware
8. What motivates you to recycle clothes?
 - a. Not wanting to be wasteful
9. If you had to educate your community about clothing recycling, how would you go about it? [User-driven ideation]

- a. Word of mouth - personally
- b. Would be nice to build from her apartment complex example - Recycling days/weeks - "Bring it to the front office" - Would be simple and convenient

10. If you could

- a. drop off
- b. mail using pre-paid shipping label
- c. exchange at a retail store for a voucher
- d. schedule a pick-up

c>d>b>a

(c - not best depending on value or brand)

11. For your clothing recycling, which option(s) would you go with? Why? [Assessing potential solutions]

- a. Not sure, see the answer above

12. What makes it hard to recycle clothes? Why? [Assessing barriers]

- a. What clothes to donate vs recycle
- b. Sorting 2 different bags for donation and recycling vs 1 for both together
- c. Why not drop everything off at donation place?

13. Would you want to test out our design(s) in a couple of weeks? Why?

- a. Yes!

Interview 3: Male UW graduate student

Asked not to photograph his closet.

1. What compels you to dispose your clothes? [Triggers]
 - a. Clothes are too old
 - b. Don't fit anymore
 - c. Torn
 - d. Never gave it that much thought
2. How frequently do you dispose your clothes? In what ways?
 - a. Every 3 years
 - b. Last time: 2-3 months ago
 - c. Gives it to domestic help
 - d. Trash torn clothes
3. Do you donate clothes? Why? [Those who donate are far more likely to start recycling too]
 - a. Only donated in India
 - b. Donation to a blind school
4. Can you talk more about the last time you donated clothes? What was the process like? What were some challenges?
 - a. No challenges - lots of people in need in India - You'll always find takers
5. When you hear the term "clothing recycling", what does it make you think about? [Probing for feelings, associations, emotions]
 - a. Refurbishing of clothes - like devices and plastic
 - b. In case of donation - Someone is going to use them the way they are
6. Have you ever recycled clothes? Why?
 - a. No, but I have donated clothes
 - b. Because donation was the easier option; and even for bad clothing, you know these people and you know they are in need
7. What clothing recycling options are you aware of?
 - a. No
8. What motivates you to recycle clothes?
 - a. Too many clothes
 - b. More money -> More clothes -> Force to recycle
 - c. Ease of service

9. If you had to educate your community about clothing recycling, how would you go about it? [User-driven ideation]

- a. Send out mailers at work/universities
- b. Collection boxes

10. If you could

- a. drop off
- b. mail using pre-paid shipping label
- c. exchange at a retail store for a voucher
- d. schedule a pick-up

c>d>a>b

11. for your clothing recycling, which option(s) would you go with? Why? [Assessing potential solutions]

- a. See the answer above

12. What makes it hard to recycle clothes? Why? [Assessing barriers]

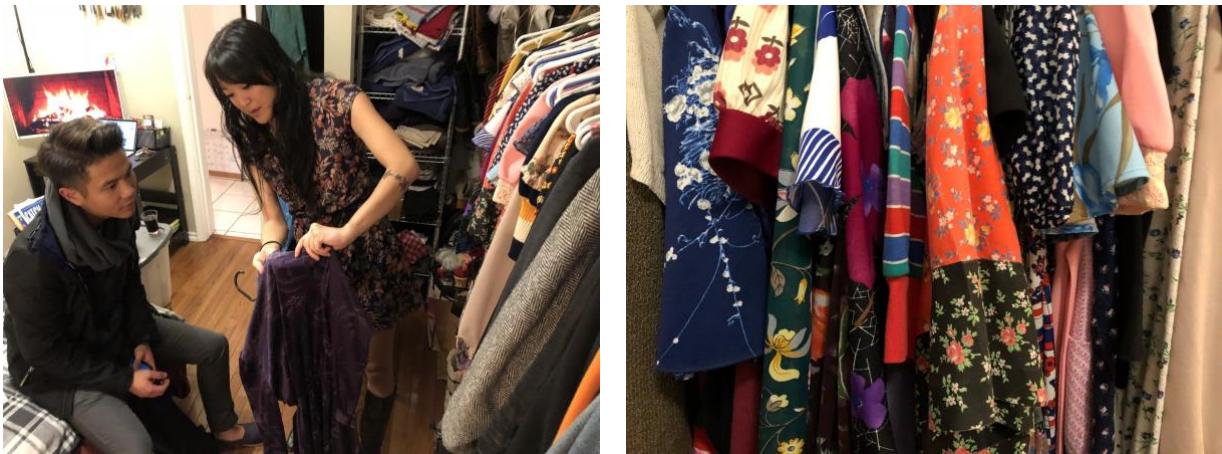
- a. Inconvenience
- b. Lack of awareness

13. Would you want to test out our design(s) in a couple of weeks? Why?

- a. Yes!

Appendix G: Extreme User Interview

Interview 1: Hiromi, conscious Vintage clothing collector, sells clothes on Ebay



Background:

"I've been buying second-hand clothing since I was a teen. My dad was embarrassed because he thought it made him look poor, but to me the pieces feel like one-of-a-kind."

Used to sell vintage clothing on Ebay with her sister in L.A. for three years as a side business.

How do you dispose of your clothing?

"Each piece of clothing has its own path, depending on its condition and whether it would match what I see on vintage racks."

In this order she tries:

1. Tries to sell on eBay, Offer-Up, etc.
2. Tries to give to a friend.
3. Donates if it won't get a good price.
4. Trashes or reuses fabric in sewing projects.
5. Does not recycle --didn't know she could.

"I always have two backs going in my car. One for donation, and one for reselling. It helps me with my lack of storage space at home." She takes them to donate once they are full, and while she is en-route to something else.

"It's convenient to give to Goodwill on Dearborn."

Motivations: What makes you think about clothing this way?

"I don't like waste, so I buy primarily second-hand, vintage clothes, usually on ebay."

Storage: Lives in a house, but keeps to her small bedroom. Closet protrudes into her bedroom area along one entire wall. "My small space keeps me aware of my consumption habits, and I'm always trying to decrease what I consume."

Her car is a second storage space.

Thinking about the difference between donation and recycling, how can we educate others to recycle clothing?

Didn't know it existed.

Try making an app with locations to donate and recycle.

"It would tell you where to take things like the old oily rags from working on my car."

Consider convenience, like old non-profit pickups

Podcast about recycling since people don't do the research

What challenges do you have in disposing your clothes?

"Everyone knows how and where to donate, but there needs to be recycle bins as well to integrate the two."

Currently throws out underwear/socks, but wouldn't have a problem adding a third bag in her car trunk for recycling.

Better labeling about what can be recycled and where --same goes for plastic recycling. "People think they are recycling everything, but every recycling center has their own rules and people at the plant are throwing out a lot of what they take. Recycle centers are for-profit, not the environmental champions we wish them to be."

Even the path from Goodwill to the Bins, "Everyone is trying to get that last \$1 before they recycle the clothing." Then clothing from Goodwill ends up in places like what her friend saw with the Goodwill tags in piles and what she saw in India with a boy wearing a Girl Scouts of America T-shirt.

Appendix H: Empathy Tools - Goodwill Donation

To develop greater empathy for our users, the team collected unwanted garments, drove to a Goodwill store in the Dearborn neighborhood of Seattle, WA, and donated several bags of clothes. In the process, we assessed the following:

- Storage method in trunk
- Previously tried to sell items
- Store's location
- Store's exterior
- Parking lot size

- Ease of finding a parking spot
- Steps involved in finding a donation station
- Wait time to donate
- Donation receipt
- Employee friendliness / helpfulness
- Clarity of instructions
- Visual aids (signs, posters, color codes)

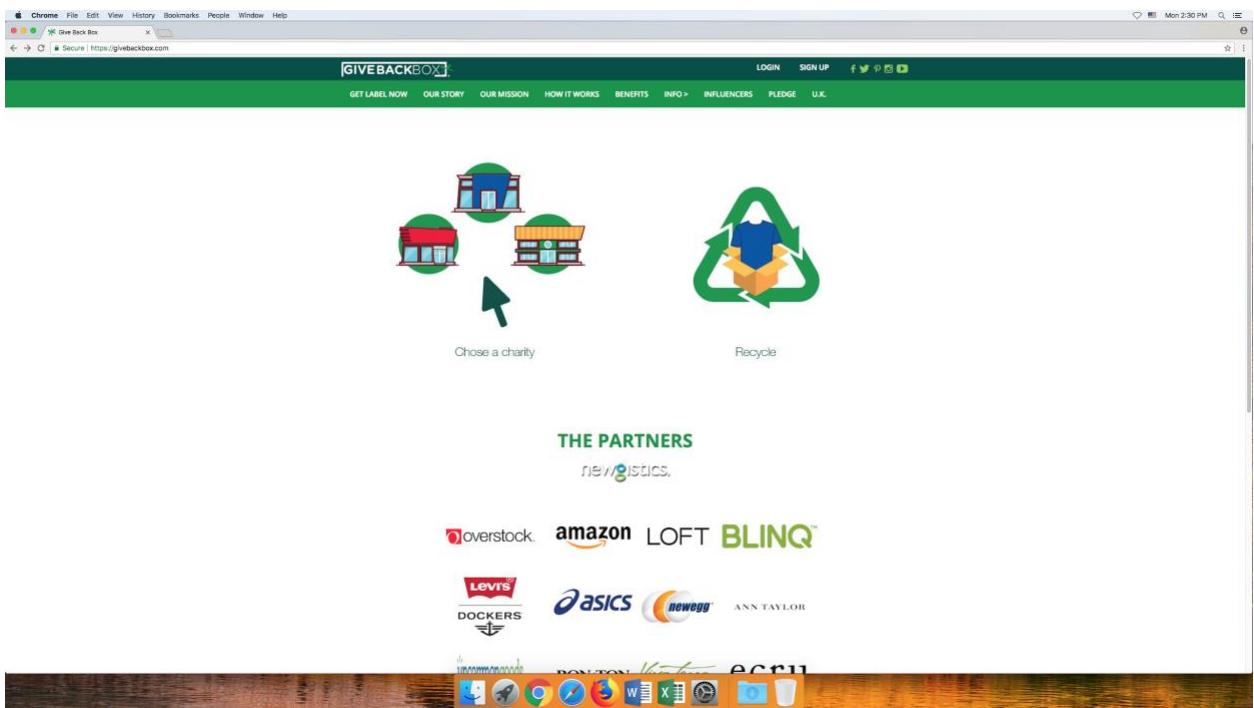


Appendix I: Empathy Tools - Give Back Box Recycling

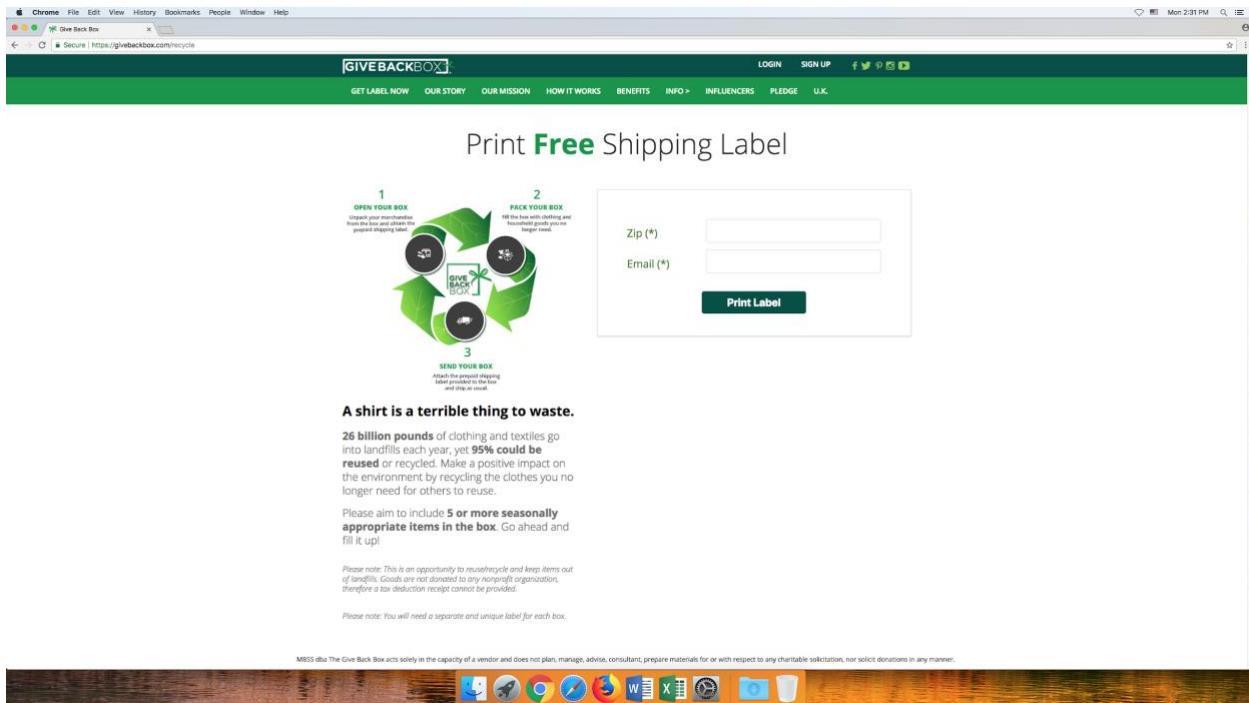
To further our empathetic understanding of our users, we followed the Give Back Box process to recycle a garment.

Give Back Box is a Los Angeles-based online platform founded in 2012 by a digital retail entrepreneur Monika Wiela to minimize textile waste. The premise of the company is simple: people would recycle their unwanted textiles by re-using boxes from online purchases. A pre-paid shipping label is provided. Once delivered, both the textiles and the box itself are recycled.

Step 1: Going on the Give Back Box website



Step 2: Getting to the *print free shipping label* screen



Step 3: Filling out contact information

Print Free Shipping Label

A shirt is a terrible thing to waste.

26 billion pounds of clothing and textiles go into landfills each year, yet 95% could be reused or recycled. Make a positive impact on the environment by recycling the clothes you no longer need for others to reuse.

Please aim to include 5 or more seasonally appropriate items in the box. Go ahead and fill it up!

Please note: This is an opportunity to reuse/recycle and keep items out of landfills. Goods are not donated to any nonprofit organization, therefore a tax deduction receipt cannot be provided.

Please note: You will need a separate and unique label for each box.

MESS dba The Give Back Box acts solely in the capacity of a vendor and does not plan, manage, advise, consult, prepare materials for or with respect to any charitable solicitation, nor solicit donations in any manner.

Step 4: Generating the printing label and a tracking number

View Order

Order 783495396722 made on October 29, 2018 .

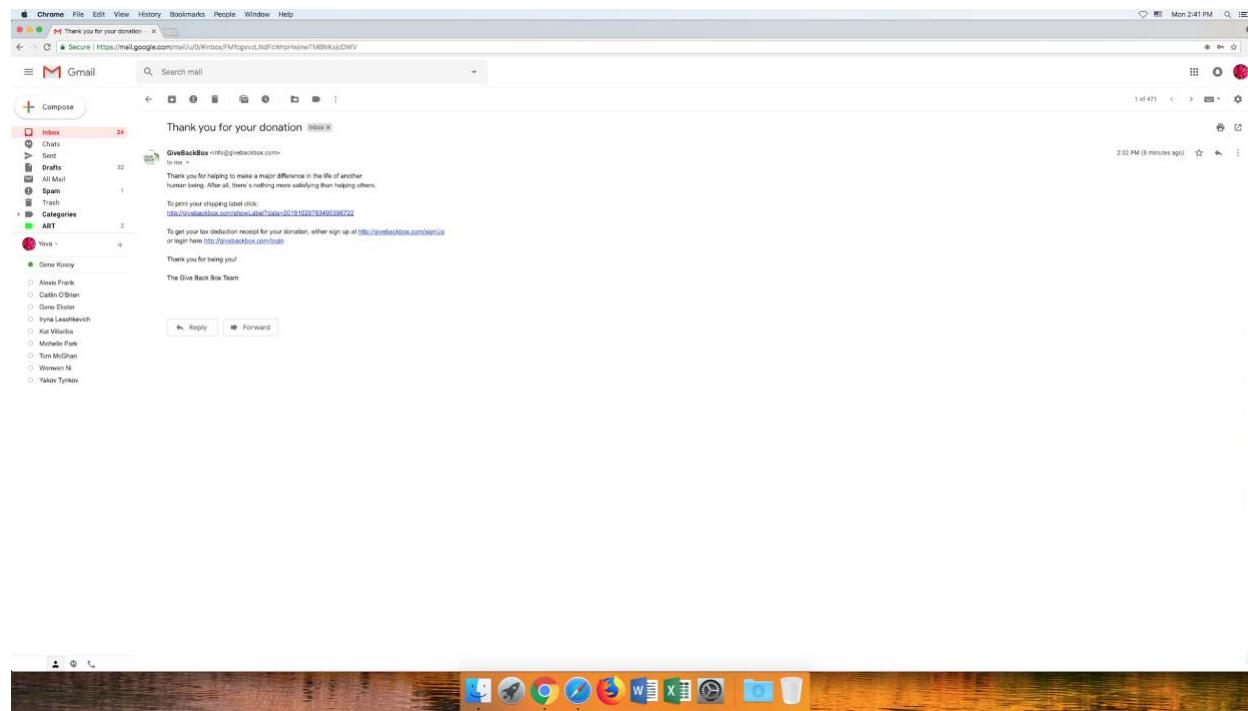
| Package | Tracking Number |
|---------|-----------------|
| 1 | 783495396722 |

Please click here to print label

To get your tax deduction receipt for your donation you need to SignUp

Privacy Policy | Terms of Use | Subject Information

Step 5: Getting the confirmation email and a tax deduction receipt



Step 6: Finding a box to ship the textiles via FedEx

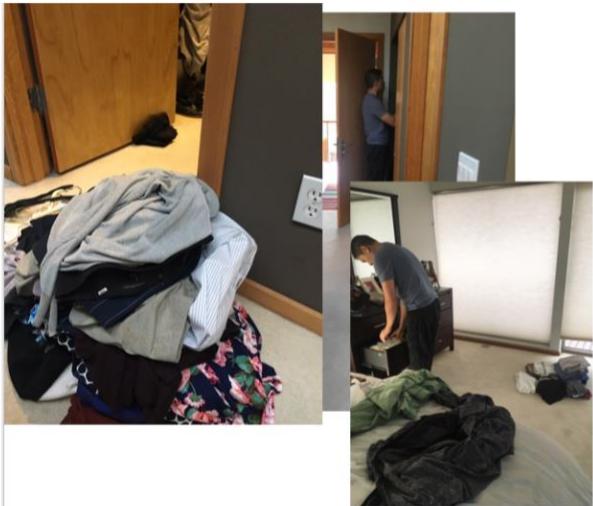
Potential barrier: FedEx accepts only a certain kind of boxes. Our box was rejected twice, first due to its nature (a shoe box) and second on the grounds of being too big for the item.

Step 7: Shipping the textiles and collecting a shipping receipt



Appendix J: Still Photo Diary

Sorting and Organizing



- Got my husband to also sort through his stuff. He has some really worn undershirts that are rag quality but my upcycle rag bag is pretty full still. I would usually just toss but would love to do something?
- While it might not look like it I also try to be aware of what I buy too and use things like Rent the Runway or Le Tote and not just buy a bunch of junk.

Cleaned out closets, now what?



- So many choices, can be over whelming I like to break it down into
 - Gift (e.g. buy nothing)
 - Consign (e.g. ThredUp, because its online and I don't have to go anywhere, make a trip)
 - I have done local consignment but really just don't have time and find process frustrating
 - Donate
 - Usually I use Goodwill just because its not too far and habit
 - Upcycle/mend etc
 - Patch pants, elbows, repurpose into rags or alteration/sew (granted I have a mend pile that needs attention)
 - I have even made dog beds out of scraps but it just takes up space, clutter
 - Then there is the rest (garbage ? but would love to recycle!)
- But I worry about burdening Goodwill with items that they can't resell and then have to pay to dispose of..... I have seen the news stories about the expense they bear and don't want to be part of the problem.....

Gift

Megan clothes

Ask: I lost quite a bit of weight lately and don't fit into my clothes anymore. Does anyone have any small-medium clothing and size 27-28 band/m pants? Would love some work appropriate items and casual items as well. Thank you!

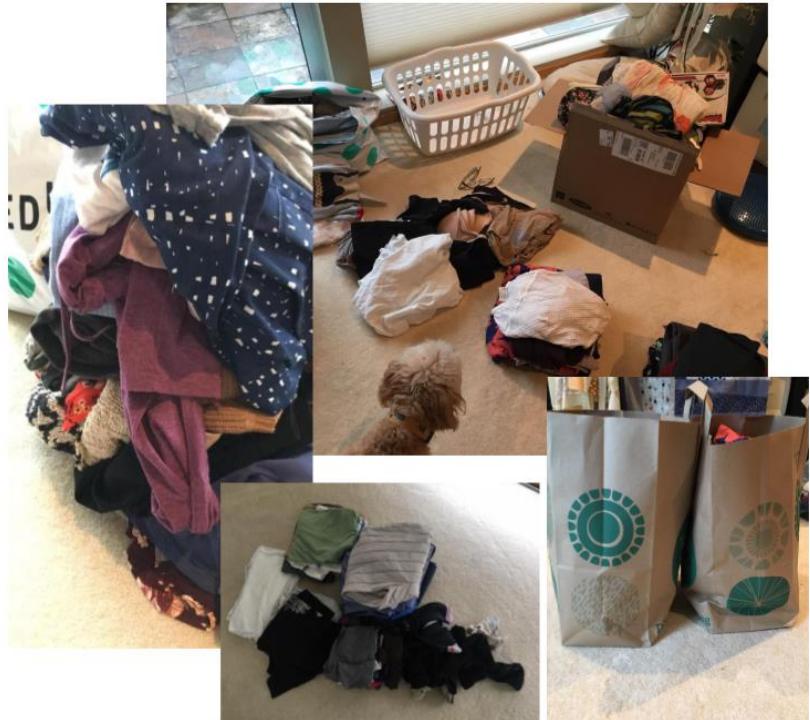
I'm smaller in the waist but probably can pull out a few things.

GIFTED: [REDACTED] clothes, some in good condition some not. [REDACTED] and Megan [REDACTED] generously gave us so many things. [REDACTED] our [REDACTED] are not what we do need and are passing the rest on. Please pick up near Pied Apple by West, but preference to who can pick up soonest.

- People ask in BN group, go to the piles or closet, take a look for items
- Clothes are passed along
- Request to borrow or share clothing like specific coats/formal wear
- Takes me time to sort it out and some extra effort but I know it is appreciated and would rather gift to a neighbor than do consignment.
- This does mean that what I ultimately donate is more worn or lower quality, which again, worries-bothers me

Sorting!

- There is the ThredUp bag – I am not looking to make money, just simplify cleaning/organizing
- Interestingly, while I was sorting and organizing my piles, a commercial came on → Topic Clothing Recycling! The more you know.....
<https://www.ispot.tv/ad/w0rp/the-more-you-know-environment-featuring-savannah-guthrie>



Garbage?



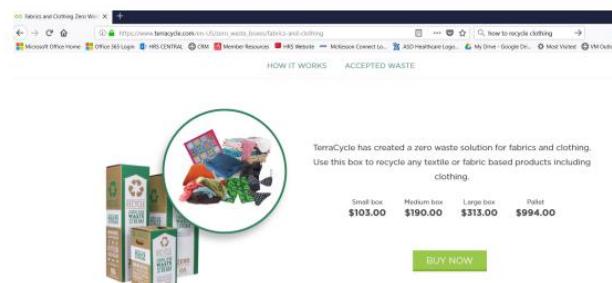
- I am also a sewer/quilter so I make a lot of fabric scraps and save and use what I can but there is always some that are just too small for me and I lack room to store. I would love to recycle this but usually just bag up and throw away? Its frustrating but at least I know I tried to use as much as possible to not waste.
- In the photo you can see where I patched a pair of my son's pants, TWICE and they really are just rag quality now (wouldn't want to pass them along) but fabric is not that absorbent so garbage or can I recycle.... .hmmmm, let me go research.....

How to recycle clothing

A screenshot of a Google search results page for "how to recycle clothing". The top result is a link to "How To Recycle Old Clothing (Even Ratty Ass Underwear)" from [trashforblessing.com](http://trashforblessing.com/how-to-recycle-old-clothing/). The snippet from the website reads: "Jun 7, 2018 - The Bra Recyclers An organization that will find a way to recycle, reuse or repurpose bras. You can find a drop-off station or mail old bras directly to them. Council for Textile Recycling: Find clothing donation drop-offs and textile recycling resources all across the US." Below this, there is another snippet from Earth911.com: "How to Recycle Clothing & Accessories | Earth911.com" and a snippet from Threadcycle: "Threadcycle - give all your clothes, shoes and linens for reuse and ...".

- Start with Google!
- Click on first link, because
 - It's listed first
 - Uses term 'ratty ass underwear', which is in the pile.....

- This seems like a legit, informed site except last media updates were 2012?
- I love infographics, but not sure what to do next
- So I looked for a location near me and it says the Goodwill on Dearborn? Hmm. now I



October is traditionally dedicated to Breast Cancer and Domestic Violence Awareness. In an effort to support these powerful causes, The Bra Recyclers wanted to offer women and men nationwide the opportunity to support these causes in a 'green' way-by recycling gently used or unused bras.

Bra Recycling is an economical and environmentally friendly way to assist families worldwide that are survivors of cancer, domestic violence, human trafficking or life's everyday challenges. The U.S. citizen throws away 70 lbs. of clothing each year, but 95% of textiles, worn or torn, can be recycled and donated to families in transition.

Join our BRA-volution and help us exceed our goal of collecting 25,000 bras during October!

Donations under \$100 during October will include:

- Interesting but too spendy, seems more community oriented?
- <https://www.barecycling.com/bra-recycling-month>
- Not mailing worn out bras to Arizona....

Ok, back to Google for something more specific to Seattle

A screenshot of a Google search results page for the query "how to recycle clothing". The results include links from websites like Threadbare, Earth911.com, and Green Action Centre, each providing information on recycling old clothes, shoes, and linens.

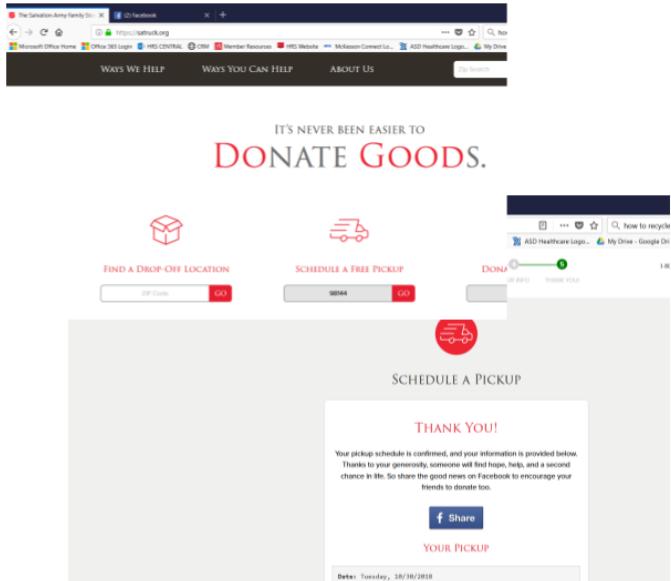
- Either local and not far from my home drop off to recycle (not donate) OR mail in option (yeah, I know fossil fuels.....)
- Wait, #3 on the list King County... time to click

A screenshot of the King County Solid Waste Division website. It features a yellow bulldozer graphic and a navigation menu for "Natural Resources and Parks" and "Solid Waste Division". A table lists donation options for various organizations, including Big Brothers Big Sisters, Goodwill, Northwest Center, and The Salvation Army, detailing whether they accept drop-off, drop-box containers, or home pick-up services.

| Organization / Business | Drop-off | Drop-box containers | Thrift stores | Schedule online | Schedule by phone |
|---|----------|---------------------|-----------------------|-----------------|------------------------------------|
| Big Brothers Big Sisters Puget Sound | Yes | Find a drop box | Value Village partner | Yes | Schedule a pick-up |
| Goodwill (South King, Pierce & Thurston counties) | Yes | Find a drop box | Yes | Yes | Schedule a pick-up |
| Northwest Center | Yes | Find a drop box | Value Village partner | Yes | Schedule a pick-up 800-992-2060 |
| The Salvation Army | Yes | Find a drop box | Yes | Yes | 1-800-SATRUCK |

- What?! Schedule a pick up? Nice.
- Wait, clicked the Goodwill link it and read and its not really an option, free if you have furniture etc. Grr.
- Scrolling, Salvation army is an option, I know there is one close to me down by SODO/Stadiums. (off to investigate their pick up option)

Score!



- Created an account and scheduled a pick up for some items with Salvation Army.
- Took 3 minutes!
- This is amazing and a big advantage over Goodwill.
 - If in fact it is real....
 - I am no feeling confident that they could take the 'garbage' fabric pile or sewing scraps though.... I split the difference and put in the clothing but not fabric scraps. I would love to know more or have a bag to clearly denote what should be recycled vs. resell. Seems like this would help out the nonprofit/organization too?

Progress

- Interestingly, while I was sorting and organizing my piles, a commercial came on → Topic Clothing Recycling! The more you know.....
<https://www.ispot.tv/ad/w0rp/the-more-you-know-environment-featuring-savannah-guthrie>