Flatpack: Repacked

Trash as Treasure

PlaceLab Zine

RMIT PlaceLab

RMIT PlaceLab is an urban initiative that fosters connections within the community, shapes place, and takes a radically different approach to doing research.

Connecting local government, industry, and community, RMIT PlaceLab facilitates site-based research to support the co-creation of new ideas, partnerships, and systems that grow positive impact and opportunity.

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Furniture Waste in the City of Melbourne

Despite its significant role in our lives, the sustainability of furniture has not garnered as much attention as other consumer product industries. In the City of Melbourne (CoM), the disposal of furniture and large household items in hard rubbish surged from 230 tonnes in 2009-10 to 940 tonnes in 2016-17[1].

A trend towards 'fast furniture' has seen an increase in short-lived furniture items ending up in hard rubbish[2]. This is due to the increasing use of lower quality materials and designs by manufacturers. Opting for cheaper materials, such as reconstituted woods and plastics over solid woods and metals, significantly shortens the lifespan of furniture[3].

In response to the rising challenge of hard rubbish waste and broader waste disposal concerns, the City of Melbourne has laid out its Waste and Resource Recovery Strategy 2030[4]. This strategy aims to guide the municipality toward a circular economy that prioritises "reuse, recycling, and recovery," with the ambitious goal of diverting 90% of waste from landfill by the year 2030.

Flatpack: Repacked Research Project

Flatpack: Repacked is an RMIT PlaceLab Research Project focusing on hard rubbish within the City of Melbourne and responding to the pressing issue of furniture waste.

[1] *Internal City of Melbourne waste services contract data (unpublished).*

[2] *Cummins, E. (2020). Fast furniture is an environmental fiasco. The New Republic, 14 January. Available at: https://newrepublic.com/article/156208/fast-furniture-environmental-fiasco*

[3] *European Environmental Bureau (2017). Circular Economy Opportunities in the Furniture Sector. Report produced for the EEB by Eunomia Research & Consulting Ltd. Available at: https://eeb.org/library/circular-economy-opportunities-in-the-furniture-sector/*

[4] *City of Melbourne (2019). Waste and Resource Recovery Strategy 2030. Available at: https://www.melbourne.vic.gov.au/SiteCollectionDocuments/waste-resource-recovery-strategy.pdf*

Long Story Short

We investigated how residents of the City of Melbourne furnish their homes, the opportunities to minimise waste, and the potential to rethink furniture lifecycles.

What We Explored

Flatpack: Repacked explored the lifecycle of furniture in the City of Melbourne, determining the mechanisms and motivations that shape the purchasing and disposing of furniture in urban settings. Utilising a circular economy framework, we narrowed in on potential short and long term interventions to help to reduce furniture waste in the city.
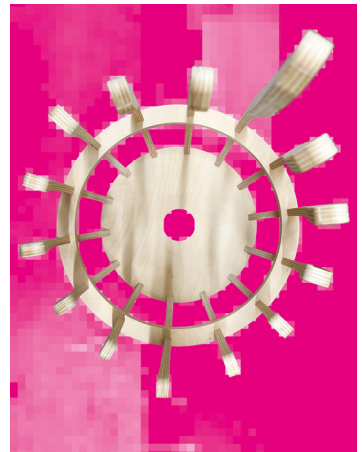
What is a Circular Economy?

A circular economy is an economic system designed to increase the sustainability of products and materials by minimising resource consumption and waste. Unlike a traditional linear economy that follows a 'take, make, dispose' approach to products, a circular economy aims to close the loop of life cycles by encouraging the continuous use, recycling, and regeneration of materials.

There are numerous circular economy frameworks with different numbers of interventions that aim to close the loops at different stages of a product or material's lifecycle. Some of these interventions are focused on consumers, some on producers, while others are for both. The original 3R model of Reuse, Recycle, and Recover as featured in the City of Melbourne's *Waste and Resource Recovery Strategy 2030* is commonly applied by governments to their waste strategies.

The interventions of Recycle and Recover have not been considered in this study as data is not currently available on the recycling of materials disposed in hard rubbish for the City of Melbourne, and recover is an intervention undertaken by manufacturers, not consumers. These have been replaced by the more relevant interventions of Refuse and Repair for this study.
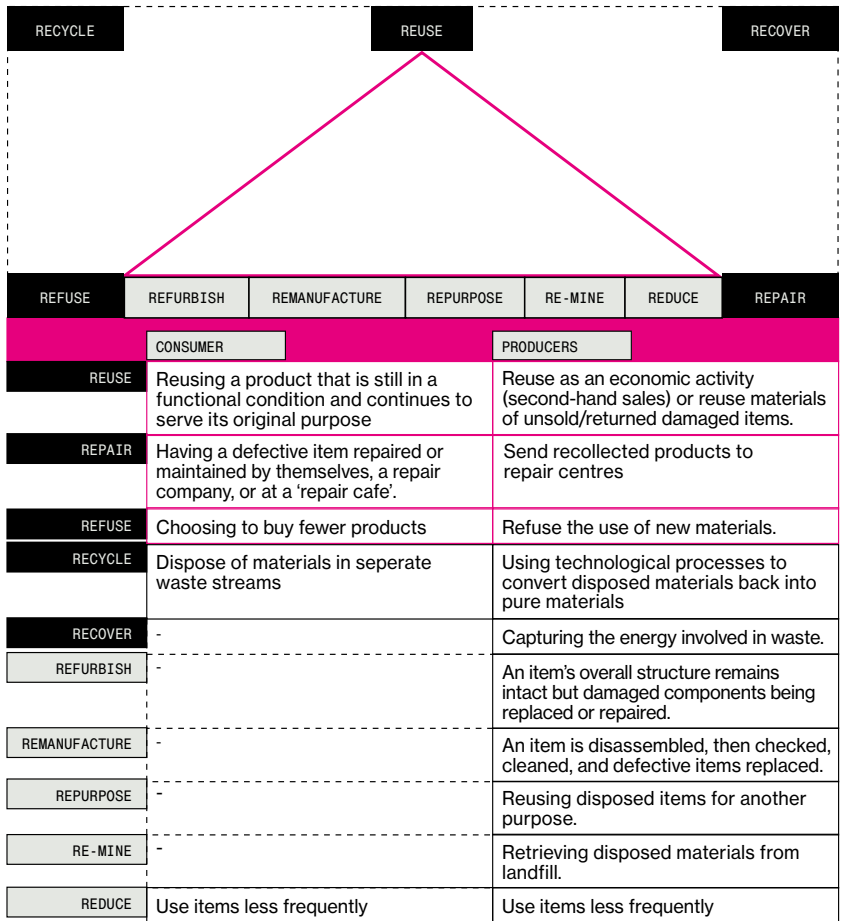
Economics involves understanding how individuals utilise resources and make decisions related to those resources. Consequently, to assess the implementation of the Circular Economy system for furniture in the City of Melbourne, it is essential to initially understand the behaviours and decision-making processes of residents concerning the entire lifecycle of furniture, including acquisition, maintenance (or usage), and disposal.

The following outlines the Circular Economy interventions applied in Flatpack: Repacked, as well as those interventions not included, as they relate to consumers and producers[1].

[SOURCE] *RMIT PlaceLab*

[1] *Vermeulen, W. J., Reike, D., & Witjes, S. (2019). Circular Economy 3.0; Solving confusion around new conceptions of circularity by synthesising and re-organising the 3R's concept into a 10R hierarchy. Renewable Matter, 27, 12-15.*

	RECYCLE		REUSE			RECOVER

	REFUSE	REFURBISH	REMANUFACTURE	REPURPOSE	RE-MINE	REDUCE	REPAIR

	CONSUMER	PRODUCERS
REUSE	Reusing a product that is still in a functional condition and continues to serve its original purpose	Reuse as an economic activity (second-hand sales) or reuse materials of unsold/returned damaged items.
REPAIR	Having a defective item repaired or maintained by themselves, a repair company, or at a 'repair cafe'.	Send recollected products to repair centres
REFUSE	Choosing to buy fewer products	Refuse the use of new materials.
RECYCLE	Dispose of materials in seperate waste streams	Using technological processes to convert disposed materials back into pure materials
RECOVER	-	Capturing the energy involved in waste.
REFURBISH	-	An item's overall structure remains intact but damaged components being replaced or repaired.
REMANUFACTURE	-	An item is disassembled, then checked, cleaned, and defective items replaced.
REPURPOSE	-	Reusing disposed items for another purpose.
RE-MINE	-	Retrieving disposed materials from landfill.
REDUCE	Use items less frequently	Use items less frequently

Flatpack: Repack Research Questions

This RMIT Placelab Research Project aimed to ask the following questions:

1. How do City of Melbourne residents acquire, maintain, and dispose of their furniture?

2. How do these activities complement or contrast with the Circular Economy interventions of Reuse, Refuse and Repair?

3. How can the circulation of furniture products and materials be increased through the interventions of Reuse, Refuse and Repair in the City of Melbourne?
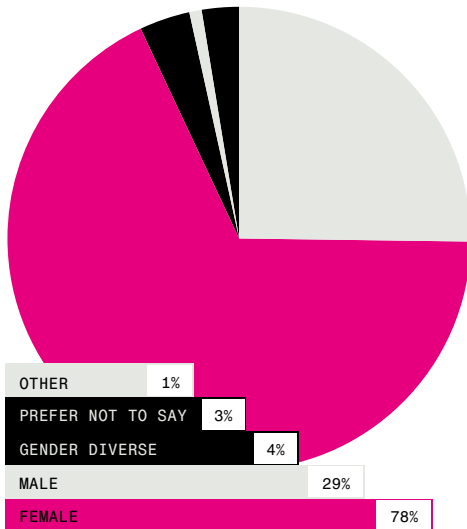
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What Did We Do?

To answer our research questions, we undertook the following behavioural examination research activities:
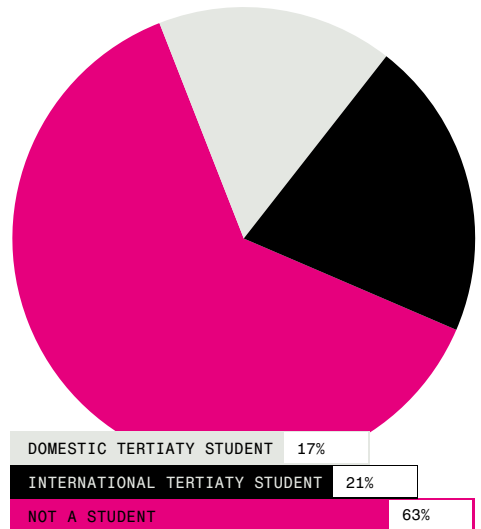
Surveys

An online survey was hosted from 03/07/23 - 27/08/23. Participants were recruited through RMIT Placelab Instagram advertisements, word of mouth, posters and flyers around RMIT and the CBD, and via a QR code on the window at PlaceLab Melbourne.

Largely multiple choice, the survey asked respondents about their experiences and motivations when acquiring, maintaining, and disposing of furniture.

RESULTS GENDER

RESULTS STUDENT STATUS

OTHER	1%
PREFER NOT TO SAY	3%
GENDER DIVERSE	4%
MALE	29%
FEMALE	78%

| DOMESTIC TERTIATY STUDENT | 17% |
| INTERNATIONAL TERTIATY STUDENT | 21% |
| NOT A STUDENT | 63% |

Interviews

To examine the experiences and motivations of City of Melbourne residents in further detail, 13 interview participants were recruited from the survey sample for further in-depth discussion.

Field Survey

RMIT PlaceLab Melbourne's home suburb of Carlton was chosen for the field study area. This suburb incorporates more quiet residential areas as well as busy built-up areas. Four field studies were conducted on Carlton's designated hard rubbish collection days, which occur every second Monday. Data collection included the number of furniture items, the materials used in the production of these items, and the volume of each hard rubbish pile[1].
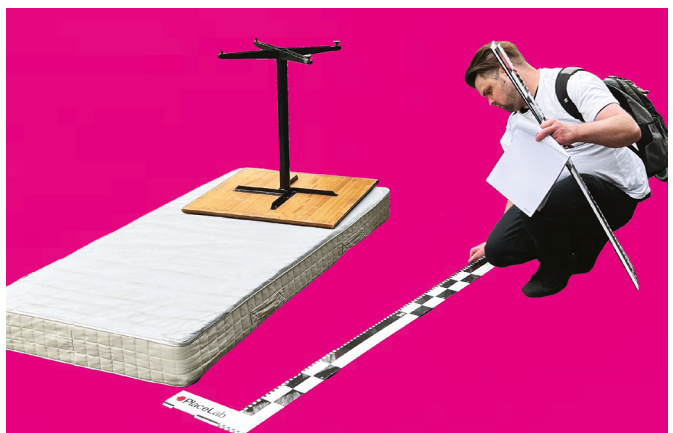
[SOURCE] *RMIT PlaceLab: A PlaceLab researcher collecting data during the field study*

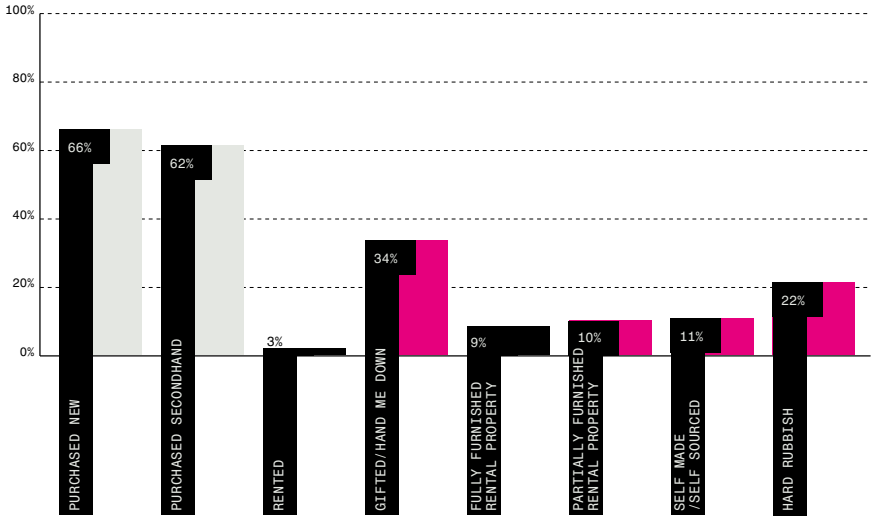[1] *Refer to last page for field survey documentation*

Participants obtain furniture from diverse sources, including both first- and second-hand options, with a common pursuit of specific attributes. Some interviewees noted that they opted for new items primarily for the sake of convenience, especially those who had recently relocated to Melbourne.

While most interview participants expressed a preference for functionality over fashion, a significant portion of survey respondents indicated a desire to select their own furniture rather than residing in a pre-furnished space. This inclination aligns with the characteristics highlighted by survey participants, emphasising factors such as comfort, style, and appearance.
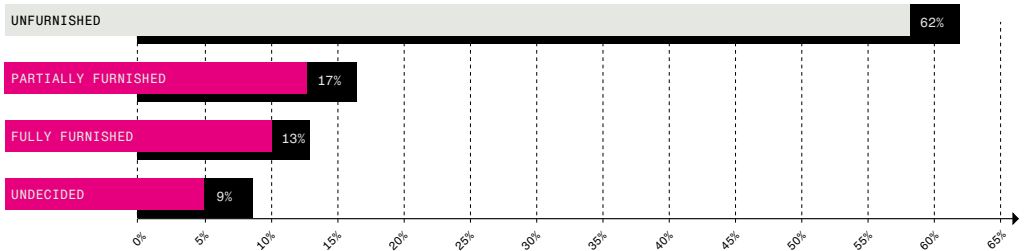
> *"It's nice to see things come up on Facebook Marketplace or Gumtree or on the side of the road, and know that I have the ability to put a bit of imagination on it and be like, OK, it's not perfect the way it is now, but what can I do to make it perfect?"*
> *- Interview Participant*

The acquisition of second-hand furniture, particularly through online platforms and hard rubbish collection, is motivated by various factors. While cost is a driving factor for some individuals, many participants, as exemplified by the quoted participant above, engage in this practice due to their recognition of the potential in previously cherished furniture. Additionally, others are motivated by a desire for styles and materials that are challenging to find in contemporary furniture retail outlets.
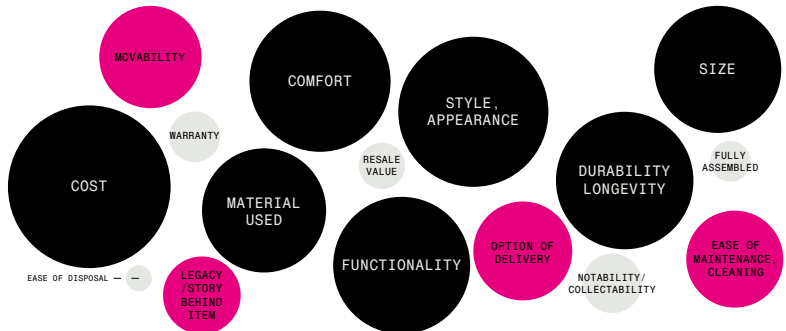
Chart [1]: Bar chart showing how main furniture items were acquired.

- PURCHASED NEW — 66%
- PURCHASED SECONDHAND — 62%
- RENTED — 3%
- GIFTED/HAND ME DOWN — 34%
- FULLY FURNISHED RENTAL PROPERTY — 9%
- PARTIALLY FURNISHED RENTAL PROPERTY — 10%
- SELF MADE /SELF SOURCED — 11%
- HARD RUBBISH — 22%

[2] HOW FURNISHED WOULD YOU LIKE A NEW DWELLING?

- UNFURNISHED — 62%
- PARTIALLY FURNISHED — 17%
- FULLY FURNISHED — 13%
- UNDECIDED — 9%

[3] WHAT CHARACTERISTICS AND SERVICES DO YOU PRIORITISE WHEN ACQUIRING FURNITURE?

Bubble chart with labels:
MOVABILITY, COMFORT, STYLE, APPEARANCE, SIZE, WARRANTY, COST, MATERIAL USED, RESALE VALUE, DURABILITY LONGEVITY, FULLY ASSEMBLED, FUNCTIONALITY, OPTION OF DELIVERY, EASE OF MAINTENANCE, CLEANING, EASE OF DISPOSAL, LEGACY /STORY BEHIND ITEM, NOTABILITY/ COLLECTABILITY

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Functionality remained the predominant consideration once an item became a part of someone's life. Although durability emerged as the most frequently cited concern among survey participants, those interviewed highlighted items crafted from low-quality materials, notably reconstituted wood, as the primary culprits. Some interviewees indicated that these items were only intended as a short-term solution.

"The armchair was in pieces and falling apart, so I reupholstered it. I had to sand all the wood down, redo all of its supports, like dowel the wood and everything and it ended up being a really fun project I did with my dad."
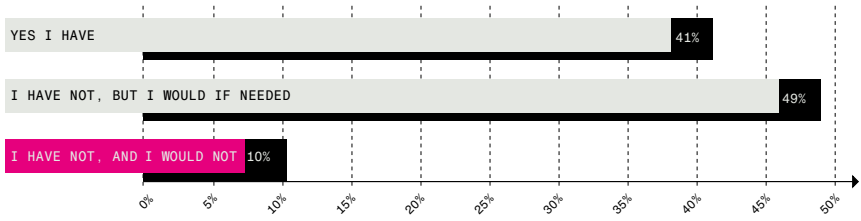*- Interview Participant*

Repairing furniture garners considerable interest, with interviewees showcasing a spectrum of repair activities, spanning from minor fixes to creative reimagining of items. As seen in the participant quoted above, for some, furniture repair has evolved into a passionate hobby cultivated over time, with skills acquired from parental guidance. Another interviewee, drawing on engineering expertise developed during their studies, applied a systematic approach to address damaged furniture. Meanwhile, others adopt a more pragmatic approach, doing whatever is necessary to ensure the continued functionality of an item.
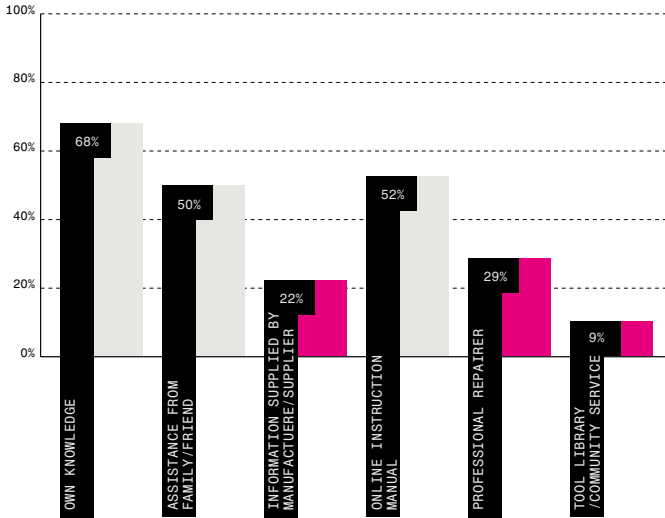
"The trunk has a special meaning for me, because it's the chest that my parents came to Australia with when they immigrated in the 50s. I will never, under any circumstances, ever sell that". - Interview Participant

A substantial number of participants develop strong attachments to their furniture. 48.7% of the survey respondents reported that at least one of their items carries sentimental value. Typically, these items have a history of ownership, with some even being crafted by grandparents. Alternatively, some individuals feel a deep connection to the first piece of furniture they acquired upon moving away from their parents, creating sentimental ties rooted in significant memories for both sets of reasons.
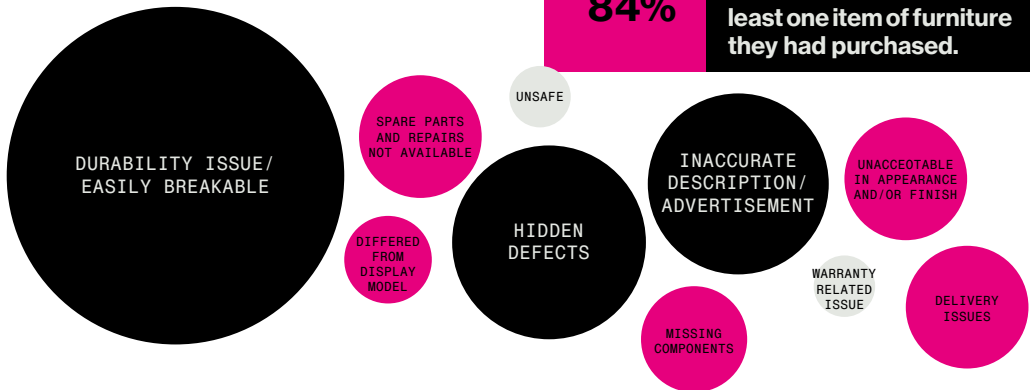
HAVE YOU REPAIRED FURNITURE?

YES I HAVE — 41%

I HAVE NOT, BUT I WOULD IF NEEDED — 49%

I HAVE NOT, AND I WOULD NOT — 10%

0% 5% 10% 15% 20% 25% 30% 35% 40% 45% 50%

[2] HOW DID OR WOULD YOU REPAIR FURNITURE?

- OWN KNOWLEDGE — 68%
- ASSISTANCE FROM FAMILY/FRIEND — 50%
- INFORMATION SUPPLIED BY MANUFACTUERE/SUPPLIER — 22%
- ONLINE INSTRUCTION MANUAL — 52%
- PROFESSIONAL REPAIRER — 29%
- TOOL LIBRARY /COMMUNITY SERVICE — 9%

100%
80%
60%
40%
20%
0%

[3] WHY WERE PARTICIPANTS DISSATISFIED?

84% of survey participants were dissatisfied with at least one item of furniture they had purchased.

DURABILITY ISSUE/ EASILY BREAKABLE

SPARE PARTS AND REPAIRS NOT AVAILABLE

UNSAFE

INACCURATE DESCRIPTION/ ADVERTISEMENT

UNACCEOTABLE IN APPEARANCE AND/OR FINISH

DIFFERED FROM DISPLAY MODEL

HIDDEN DEFECTS

WARRANTY RELATED ISSUE

DELIVERY ISSUES

MISSING COMPONENTS

"I see the hard waste collection being misused a lot and so it's not my first choice for a disposal method. I think we can do better". - Interview Participant

"I just feel like it's hard to get rid of things. I feel bad throwing away something that's not old and worn". - Interview Participant
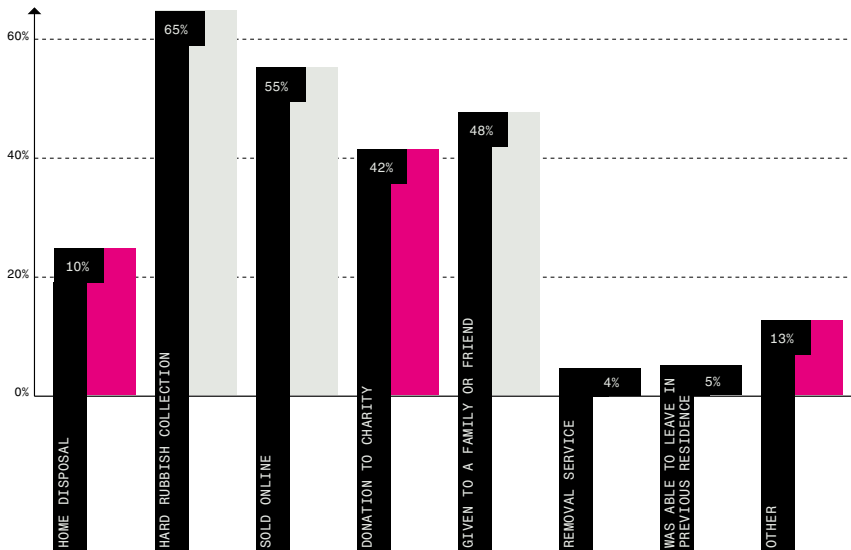
Many interview participants indicated that hard rubbish disposal was their last resort for disposing items, and was usually reserved for items that were no longer functional or easily repairable. A prevalent sentiment among these participants was a feeling of remorse when unable to extend the lifespan of a particular item.

Although convenience stood out as the most frequently cited factor influencing disposal methods, some participants viewed selling or giving away items online as comparably straightforward to disposing of them in hard rubbish. Many interviewees found satisfaction in giving away items for free, utilising platforms like Facebook Marketplace or the Good Karma Network, driven by either altruistic motives or the sheer convenience of the process.
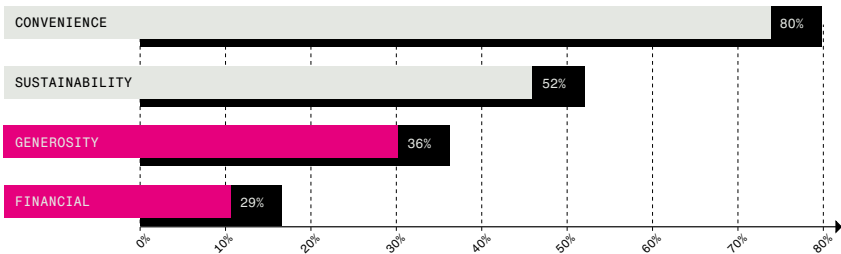
[1] HOW DID THEY DISPOSE OF FURNITURE?

82% **of participants had previously disposed of furniture**

- HOME DISPOSAL — 10%
- HARD RUBBISH COLLECTION — 65%
- SOLD ONLINE — 55%
- DONATION TO CHARITY — 42%
- GIVEN TO A FAMILY OR FRIEND — 48%
- REMOVAL SERVICE — 4%
- WAS ABLE TO LEAVE IN PREVIOUS RESIDENCE — 5%
- OTHER — 13%

For one interview participant, disposing of furniture in a bonfire represents a symbolic ritual with family, highlighting the importance of furniture in many people's lives.

"We have a bonfire every year. It's symbolic, put the old furniture onto the bonfire, then you ready for the furniture. It has a ritual feel to it, but it's also practical". - Interview Participant

[2]   WHY DID THEY CHOOSE THIS METHOD OF DISPOSAL?

[3]   WHERE DID THEY OBTAIN INFORMATION ON HOW TO DISPOSE OF FURNITURE?
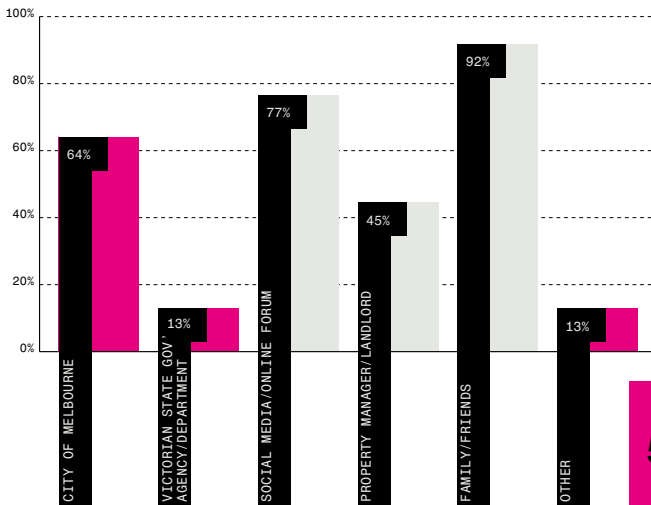
50% of participants had previously disposed of furniture explored different options.

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Circular Economy: Current State

The following summaries provide an indication of the current landscape for Circular Economy interventions for consumers in the City of Melbourne with relevant issues that are currently limiting adoption of the intervention.

Refuse

As furniture constitutes the acquisition of sizable household or outdoor items, our findings indicate that furniture is typically obtained on a need-to basis. However, notable exceptions arise when individuals are in the process of relocating properties, especially those making the move to Melbourne or transitioning from their childhood home for the first time. During such significant life changes, individuals are more inclined to acquire items that might have been refused under different circumstances.

Barriers to 'Refusing'

Participants in the interviews frequently identified their sofa as their least preferred piece of furniture, expressing sentiments that it was underutilised and considered a wasteful investment considering its cost and size. Notably, individuals residing in single dwellings often mentioned a preference for consuming visual media on their bed using a laptop or phone, rather than in the conventional setting of a sofa in front of a TV.
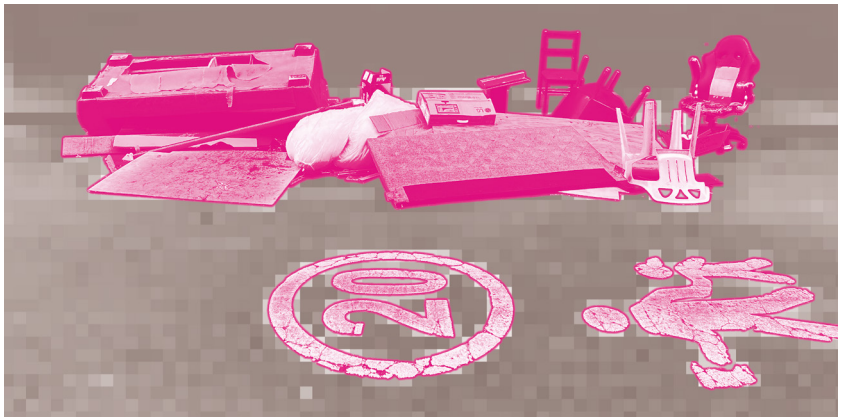
Reuse

The predominant Circular Economy intervention identified in our findings is Reuse. According to the Flatpack: Repack survey, 68.7% of respondents have acquired at least one item through Reuse, whether by purchasing second-hand, gleaning from hard rubbish, or receiving the item(s) as gifts from friends and/or family. When it comes to discarding furniture, residents overwhelmingly choose Reuse as their preferred method. A substantial 90.4% of respondents who have disposed of at least one furniture item report participating in Reuse practices. This includes activities such as selling online, donating to charity/second-hand stores, giving away, or leaving the furniture in a previous dwelling.

Barriers to 'Reusing'

"I had to transport my dining table on public transport. I bought it second hand and then I had to take the legs off the table. I bought it and then I took it back home by using the trams. It was a bit embarrassing at the time". - Interview Participant

"The thing that prevents me from getting furniture is how am I going to get to it and how am I going to actually load it when I'm there? Especially in the City of Melbourne. It's a nightmare." - Interview Participant

Difficulty in transportation of second-hand items from online sources and hard rubbish was commonly reported by interview participants. With 45.3%[1] dwellings not owning a vehicle in the City of Melbourne, and many others possibly without access to a vehicle large enough to transport large furniture, the transportation of furniture is often a limiting factor for Reuse.

Many participants expressed difficulty in knowing the condition of items in hard rubbish and either refused to take the item or didn't know until they had gotten furniture home that there was unseen damage.

Obtaining reused furniture items by means of a physical store in the City of Melbourne is limited by a lack of such a thrift store in central City of Melbourne catering to furniture items. While there is a demand from consumers to personally assess furniture for comfort and aesthetics, establishing a physical store faces challenges, given the perception that prices at second-hand furniture stores are deemed exorbitant based on our interview findings.

[1] *Australian Bureau of Statistics (2021). Melbourne City. 2021 Census All persons QuickStats. Available at: https://www.abs.gov.au/census/find-census-data/quickstats/2021/20604*

Repair

In the Flatpack: Repack survey, 40.9% of the sample reported repairing furniture, while 48.7% of respondents had not repaired any furniture but said they would if needed. Of those respondents that had repaired furniture, existing knowledge was the most common source of information on how to repair the furniture (76.6%), with 8.7% reporting assistance from a tool library or community service. For some, the Repair and Reuse interventions were related, with interviewees using hard rubbish as an opportunity to find damaged pre-used furniture that they saw as a solid base for repair projects.

Barriers to 'Repairing'

*"I just don't have the tools or the skills to use a drill or
a saw or anything like that." - Interview Participant*

Some participants reported not having the skills or tools available to repair furniture. Some felt the investment required for such resources meant they were better off replacing a damaged item.
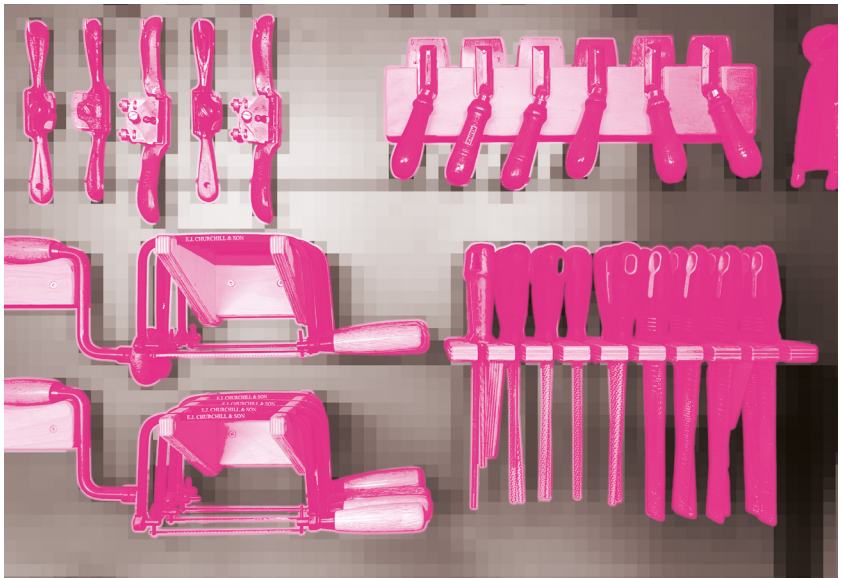
Recommendations to Enhance Interventions

Refuse

To increase the Refusal of unnecessary furniture, individuals arriving in Melbourne could benefit from receiving information about the experiences of others. For instance, tertiary education providers might advise incoming international or interstate students to postpone purchasing a sofa for their accommodation until a few months after their arrival to determine if needed. This proactive guidance could contribute to more informed and practical furniture decisions.

Reuse

A participant suggested that to increase the acquisition of second-hand furniture items, online platforms, such as Facebook Marketplace, could introduce a delivery option for second-hand items. This could involve collaborating with an existing delivery service, such as Uber, but with the necessary expansion of larger vehicles to accommodate transporting larger furniture items.

To assist gleaners in knowing the condition of furniture items in hard rubbish, the City of Melbourne could introduce a sticker system that those putting out hard rubbish items could affix to items that are still functional and without damage. Stickers could be distributed annually to properties and could lower hard rubbish collection costs by increasing gleaning.

To facilitate an affordable and centrally located thrift store, the City of Melbourne could use an existing council property to host a second-hand furniture store. In conjunction with the sticker system mentioned previously, the contractor tasked with collecting hard rubbish furniture in the area (CityWide), could transfer the items from hard rubbish that are adorned with the sticker indicating that the item is still in good, working condition.

Repair

[1] *Kensington Repair Hub, https://participate.melbourne.vic.gov.au/kensington-neighbourhood-portal*

[2] *Richmond Repair Corner, https://rclc.org.au/shop/sustainability/richmond-repair-corner/*

[3] *Brunswick Tool Library, https://www.brunswicktoollibrary.org/*

An additional tool library or repair café within the City of Melbourne could greatly increase the repair of residents' furniture items. There are currently intermittent pop-up Kensington Repair Hub events taking place[1] but a more central and frequent repair café would likely increase accessibility and participation. Such a facility would allow more resident volunteers to share their skills with others who are provided with an equipped space to repair their furniture while learning new skills. Currently, the alternative nearest repair cafés are in Richmond[2] and Brunswick[3].

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Conclusion

These Flatpack: Repacked research findings highlight a population that is very engaged in sustainable practices and minimising waste. A limitation of this study is the likely self-selection of participants who are already engaged with sustainability practices, and future research may benefit from recruitment strategies that mitigate this type of bias.

Those we engaged with exemplified a range of skillsets and attachments to their furniture, with some viewing it not only as a functional necessity but also as a form of self-expression. Although residents express good intentions in minimising furniture waste, they believe they would significantly gain from the implementation of additional systems and mechanisms for reusing and disposing of furniture.

This study suggests that there is sufficient support from residents for additional Circular Economy-inspired initiatives, like those in the recommendations, to succeed in closing the furniture loop in the City of Melbourne.

Acknowledgements

RMIT PlaceLab Melbourne wishes to extend their appreciation for the assistance and knowledge generously provided by the individuals listed below:

All of our research survey respondents and interviewees, and the everyday citizens of Carlton for putting out their furniture for us to study and others to glean.

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RMIT PlaceLab team:
Kiri Delly, Brock Hogan, Frances Gordon , Dani Francisco

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MATERIAL KEY — FABRIC ⬭ | HARDWOOD ⬡ | RECONSTITUTED HARDWOOD ⬡ | METAL ▪ | PLASTIC ▲ | GLASS ●

4 collection days
1.8 km²
34 hard rubbish piles
73 furniture items
100.2 m³

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