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The marketplace for reusable furniture in Greater Sydney

Support for reuse and repair of Council kerbside bulky goods collections

Prepared for:
Southern Sydney Regional Organisation of Councils

About the authors

The **Institute for Sustainable Futures (ISF)** is a transdisciplinary research and policy institute at the University of Technology Sydney with over 100 research staff and students. Since 1997, ISF has been working collaboratively with governments, businesses, organisations and communities to create change towards sustainable futures. Our work in Australia and around the world aims to protect and enhance the environment, human wellbeing and social equity. We do this by developing transformative ideas into strategies that deliver impact and have a strong record of achievement in advancing circular economy and resource stewardship initiatives.

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Citation

Please cite as:
Braun, J. & Downes, J. (2019) *The marketplace for reusable furniture in Greater Sydney*. Prepared for SSROC by the Institute for Sustainable Futures, University of Technology Sydney.

Acknowledgements

The authors would like to acknowledge the support and guidance from Hazel Storey, Regional Strategic Coordinator, Resource Recovery at Southern Sydney Regional Organisation of Councils (SSROC) Inc., and the case study contributors for their time and participation, including staff/members from Goodwill, Kimbriki Resource Recovery Centre, Lifeline Harbour to Hawkesbury and Lifeline Macarthur, Resource Recovery Australia, Reverse Garbage, Salvation Army Eastern Sydney Area and Salvation Army Western Sydney Area, The Bower Reuse & Repair Centre and The Smith Family.

This project is a NSW Environment Protection Authority *Waste Less Recycle More* initiative funded from the waste levy. It builds on research conducted for a UTS/ISF student internship project undertaken for SSROC.

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Key terms

Items

The following terms are used in this report to describe the main types of items of interest to this study:

Bulky household items	Collective term for unwanted household items that are too large to be disposed of in kerbside bins, and which are frequently donated to charities and other reuse players, to be on-sold or redistributed to new owners.
Kerbside bulky goods	A subset of the above bulky household items representing those items that come direct from Councils' kerbside clean-up collections, and which make up a large proportion of the potentially reusable component of the entire kerbside clean-up stream; specifically furniture, bulky electrical items (such as whitegoods) and DIY renovation materials (particularly wood).

Players

The following terms are used in this report to describe the main roles of players identified in the Reuse Marketplace:

Last User	The most recent owner of an item which is no longer wanted but is considered to be in reusable or repairable condition.
Collector	Collects items from households and transports to Acceptors (often part of the Acceptor business). This role could potentially include sorting/triage of items to determine reusability (though no existing players in the Sydney reuse market currently offer this).
Acceptor	Accepts items directly from Last Users or via Collectors, and performs triage to determine suitability of item for reuse. Provides suitable items to Next Users, either via resale through retail outlets, or redistribution/donation through internal or external social services programs. Also responsible for recycling or disposal of other items not suitable for resale/reuse.
Repairer	Repairs broken items to restore item to previous functioning and returns items to the owner after repair works.
Upcycler	Performs activities to increase the value of unwanted items, either by improving quality/style or repurposing, generally for resale through retail channels. Activities can include repairing, cleaning, painting or otherwise adjusting items.
Next User	The new owner of an item, usually bought from a reuse retail outlet or received through a social service program.

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Executive Summary

Context

Southern Sydney Regional Organisation of Councils (SSROC) facilitates regional collaboration for its member councils by delivering coordinated, strategic projects and initiatives. SSROC prioritises waste management strategies at the top of the hierarchy: waste avoidance and reuse.

SSROC residents generate 670,000 tonnes of household waste per year (SSROC 2017), including 58,283 tonnes of bulky clean-up waste (EPA 2016). Only 16% of the clean-up waste was recycled in 2013–14. However, 7%, or 4,080 tonnes, of the clean-up stream is reusable furniture (APC 2014). Redistributing reusable furniture from the clean-up stream back into the productive economy through the reuse marketplace would divert tonnes from landfill in the immediate term by extending the life of products.

To support the diversion of reusable furniture from landfill, SSROC engaged the UTS Institute for Sustainable Futures (ISF) to investigate the reuse marketplace in Sydney. In particular its capacity to receive from SSROC Councils reusable bulky items frequently placed out for Council kerbside clean-up collections, especially furniture, large electrical items (such as whitegoods) and building materials (predominantly wood) ('kerbside bulky goods'). This project aimed to understand the size of, and key players in the reuse marketplace; the range of services offered; the flow of reusable bulky items through key players; and the capacity of the marketplace to accept reusable items through desktop research and interviews with available key players. The barriers and motivations of key players to accept reusable items from Councils were explored, as well as the opportunities and challenges that the sector and SSROC Councils face if the flow of reusable household items from the clean-up waste stream into the reuse marketplace was to increase.

Key findings

Nine key players in the Reuse market, concentrated in major charities: Nine (9) key Acceptors of reusable bulky household items in Greater Sydney were identified: five major welfare charities (St Vincent de Paul, Salvation Army, Lifeline, The Smith Family and Goodwill) with ~150 retail outlets between them, three social/environmental enterprises (Bower Reuse & Repair Centre, Reverse Garbage and Resource Recovery Australia) with five retail outlets in total, and one commercial enterprise backed by local government (Kimbriki Resource Recovery Centre).

Two main models: regional distribution 'hub' with retail 'spokes', and individual facilities: The major charities are mostly organised into regional groups with central sorting/distribution warehouses servicing multiple retail outlets in their local or regional area. The social/environmental and commercial enterprises more often operate individual facilities receiving and selling items.

Little diversity in services offered by key players: Most Acceptors provide the same services, accepting in-store donations and offering collection (mostly free) for bulky items, and then onselling donated items through retail stores. The exception is Kimbriki who operates a 'salvage from landfill' model rather than accepting donations. Few Acceptors offer 'Preparation for Reuse' services such as repair/upcycling, instead rejecting or sending to landfill any items that are not ready for reuse. The Bower is one such exception and also provides a 'Referral Service' listing additional potential Acceptors for donators to explore.

Items are generally received from the public and sold back to the public, mostly to fund social welfare missions: All acceptors (aside from Kimbriki) receive most items through donations from the general public, with no guaranteed volume or quality of supply. The bulk of items are sold back to the general public through retail stores. A small proportion of items received by charities are donated through their own welfare programs rather than sold, though this is generally less preferred to sales. This is a surprising finding and may not match the public's current understanding of the charity reuse market. For the major charities (representing most of the market) these sales generate profits to fund their social services, while for the few small enterprises revenue is generally used to cover costs of activities that divert the received materials from landfill. Across all Acceptors a noteworthy proportion of items are landfilled (or rarely recycled) as they are unusable, below saleable quality or outdated – estimated at 30% for the sector.

Throughput of materials to different end-points in current Reuse market could not be quantified: There is no commonly used method in Australia for measuring the throughput of materials and goods for reuse players who do not have a weighbridge. At best, these Acceptors categorise and record the number of items moving out of their organisation at the point of sale, often in aggregate without detail on categories or individual item types. Further, sales do not equal total outflows, as items may also be redistributed to internal or external welfare programs, or recycled/landfilled.

Uncertain capacity of current Reuse market to accept bulky household items from kerbside collections: The lack of data capture on throughput and inventory makes it difficult to quantify the capacity of the reuse marketplace to accept reusable bulky household items, and also makes Acceptors cautious of making commitments to accept kerbside bulky goods. Based on anecdotal evidence however, most Acceptors reported only a limited capacity to accept more items for sale through their current retail space. Furthermore, few Acceptors currently have plans to expand their operations due to challenges in establishing new profitable retail outlets or lack of financial support to cover expansion costs.

Acceptors do desire more 'quality' items: Virtually all Acceptors indicated a keenness to accept more items that met their quality/'saleability' standards. However it should be noted that an increase in quality items from kerbside collections could simply displace lesser quality items from donations (given constrained retail capacity). This might increase the amount Acceptors must send to landfill, and lead to no net positive diversion by Councils.

Implications and opportunities

The research found that supplying Acceptors with quality bulky household items from Councils presents opportunities for Acceptors to generate additional profit to fund welfare programs, employ more disadvantaged members of society in reuse operations, and divert more waste from landfill. These positive opportunities may increase the likelihood of collaboration between Acceptors and Councils.

There are, however, both barriers and challenges for Acceptors to receive reusable bulky household items from Councils. These include a lack of infrastructure or retail space to receive more items and a hesitancy to expand or invest in new infrastructure given uncertainty around the Next User market, and the quality of items in clean-up streams. Managing these barriers for existing Acceptors could be achieved through:

- Research to measure sales or quantify demand in the market for reusable bulky household items
- Financial support and assistance in finding appropriate facilities to expand Acceptors' infrastructure and retail space
- Engaging Acceptors in the triage process to assess the quality and condition of items, and suitability for acceptance as is, or the need for cleaning, repair works, upcycling, recycling or disposal
- Providing financial or human resources to allow cleaning, repairing and upcycling of items, increasing the quantum of materials that are marketable and therefore can be diverted from landfill.

Additional opportunities include incentives for new players to move into the market.

Conclusions

The capacity of the current Reuse marketplace to accept bulky household items from kerbside clean-up collections cannot be quantified, but it is unlikely to have sufficient demand to meet the present volume of potentially reusable bulky items in SSROC.

Given the predominantly social mission of most major Acceptors in the Greater Sydney reuse market and uncertainty over individual capacity to take and onsell greater volumes, it is considered unlikely that the market would proactively respond to any opportunities offered by SSROC/Councils. Instead it is more likely that SSROC/Councils would need to take the lead in developing and presenting ideas to the market for consideration, as well as providing support/incentives to encourage collaboration and partnerships.

Based on the research, two things are likely required in order to increase the volume of material through the Reuse marketplace in Greater Sydney:

1. SUPPLY: Increasing the ability and willingness of Acceptors to receive and redistribute goods (including internal systems, triage/storage space, truck fleet, incentives etc.)
2. DEMAND: Increasing the demand for reused goods (including greater sales through Op Shops, and other channels).

There are a number of options for supporting the supply side:

1. Work with existing large social reuse charities to increase the volume of goods they can receive and redistribute, either:
    a. through their existing business model (expanded facilities or new locations)
    b. by developing new business models that bring in additional profit to contribute to their social mission
2. Work with existing niche social/environmental enterprises to increase the volume of bulky household items they can receive and redistribute, by:
    a. expanding their existing facilities or expanding to new locations
    b. sharing their model with other/new enterprises
3. Incentivise new players to enter the market mimicking, adapting or innovating on existing models, by:
    a. Offering lucrative opportunities with clear benefits and support
    b. Continuing to lobby the State and Federal government to increase supply-side policies such as incentives/support for players operating in the reuse marketplace to make it more profitable.

Options for supporting the demand side centre around continuing to understand and support education/promotion of reuse, and continue to lobbying state and federal government to support demand-side policies such as regulatory standards/warranties for use, and tax incentives for customers

This study provides the first step in understanding what ideas may be worth further exploration, the various barriers and challenges that will need consideration and where further research could enhance understanding and ability of the Reuse marketplace in Greater Sydney to accept bulky household items from kerbside clean-up collections and increase overall diversion in the region.

Further options could be identified by exploring opportunities to redistribute items through charities' social services/programs and reviewing international best practice.

1 Context

About SSROC

Southern Sydney Regional Organisation of Councils (SSROC) is an association of councils in Sydney's south, comprising Bayside Council, Burwood Council, Canterbury Bankstown, City of Canada Bay, City of Sydney, Georges River Council, Inner West Council, Randwick City Council, Sutherland Shire Council, Waverly Council and Woollahra Municipal Council. Over 1.73 million people reside in this region, generating 670,000 tonnes of household waste per year as at 2015–16 (SSROC 2017).

SSROC facilitates regional collaboration for its members by delivering coordinated, strategic projects that extend beyond individual council boundaries, to achieve more sustainable results for the region. SSROC's 2014–2021 Regional Waste Avoidance and Resource Recovery Strategy demonstrates a commitment to waste management at the top of the hierarchy – prioritising waste avoidance and reuse.

SSROC and reuse

SSROC aims to support greater reuse in the Sydney metropolitan region through a number of initiatives. Notably this has included financial support for The Bower Reuse & Repair Centre's revamped online store, and seed funding for the development of Zero Waste Network-Sydney (ZWN-S). ZWN-S's purpose is to build community reuse, repair and circular economy pathways in Sydney to foster social, environmental and economic benefits (ZWN-S 2018).

SSROC councils offer a kerbside clean-up waste service for residents to manage household items that are too large to fit in kerbside bins. SSROC has now drawn its attention to this stream to assist with improving waste avoidance outcomes. SSROC is interested in the feasibility of recovering, for reuse and repair, a meaningful percentage of the bulky household items disposed each year.

SSROC residents generate 58,283 tonnes per annum (tpa) of bulky clean-up waste (EPA 2016). A regional audit in 2014 identified that on average only 16% is recycled[1]. The audit identified approximately 4,000 tpa of reusable furniture, 3,200 tpa of reusable or recyclable electrical items, and 1,750 tpa of reusable wood[2] (APC 2014). This presents an opportunity to reduce waste to landfill of another 15% by improving reuse pathways for reusable items.

SSROC also commissioned a series of focus groups in 2017 which revealed that SSROC residents support improved landfill avoidance for household items and more pathways for facilitating reuse. 39% of participants indicated they would be less likely to use Councils' clean-up service if they knew that most bulky household items were destined for landfill. Residents also want more avenues for donating, selling and exchanging unwanted reusable items (Elton Consulting 2017).

Following this, SSROC engaged the UTS Institute for Sustainable Futures (ISF) to conduct this study to investigate the extent to which the reuse marketplace in Sydney could receive and make beneficial use of reusable furniture from SSROC Councils.

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[1] Processors report varying resource recovery rates to individual Councils though industry average is around 10-15% (unless energy is recovered in which case the recovery rate is considerably higher). There are currently no formal systems in SSROC to recover reusable household items from this stream.

[2] APC defined 'reusable' as "anything that could be reused in its current condition, excluding white goods". Proportion of electrical items suitable for reuse (as opposed to recycling) is unknown, as whitegoods were excluded from definition of reuse and so fully classed as recyclable.

About this study

The overall objective of this study is to **understand the capacity of the reuse/repair marketplace to receive reusable bulky household items from SSROC Councils** over the next 3-5 and 7+ years, plus opportunities to expand this capacity.

Volume of reusable bulky household items from SSROC Councils

A 2014 regional audit of SSROC's clean-up stream identified the following focus items for potential landfill diversion through reuse. It is assumed that the current proportion is similar.

• Reusable furniture:	4,080 tpa	7% of the clean-up stream
• Recyclable/reusable e-waste:	3,200 tpa	6%
• Recyclable/reusable wood:	1,750 tpa	3%

Specifically, this study aimed to:

- identify **the number of players** in the Reuse market that accept bulky household items, particularly reusable furniture, bulky electrical items such as whitegoods and DIY renovation materials, particularly wood ('kerbside bulky goods'), **their motivations** and **their range of services**, in order to understand who is available to collaborate with Councils.
- capture **the current size** of major players in the Reuse market, **the current throughput of bulky household items** and their **capacity to receive more items**, in order to estimate overall sector capacity to handle more reusable household items.
- understand **what currently happens to items** that pass through this Reuse market, plus any past attempts to work with the clean-up stream and ideas for future opportunities.
- capture the **future plans** of the Reuse market to increase capacity to accept (or move into the marketplace for) reusable bulky household items in the next 7+ years, plus any **barriers/issues of concern** to expanding future capacity.
- understand what **opportunities and challenges** exist for Councils to divert reusable bulky household items from clean-up streams through the Reuse marketplace.

Scope

The focus of this study was on major players in the reuse market, such as charities and larger social enterprises, which were assumed to be the most likely organisations able to partner with Councils to receive reusable household items at the scale required to make any significant impact on the kerbside clean-up stream. The study excluded other smaller, potential Acceptors such as antique/retro furniture, boutique organisations undertaking reuse, repair or repurposing activities or retailers operating primarily online, owing to project constraints. They represent an area for future research.

Geographically this study investigated the Reuse marketplace within SSROC, plus surrounding regions, as it was found early that there were not sufficient players within SSROC borders. Surrounding regions include Macarthur Regional Organisation of Councils (MACROC), Northern Sydney Regional Organisation of Councils (NSROC), Shore Regional Organisation of Councils (SHOROC) and Western Sydney Regional Organisation of Councils (WSROC) as shown in Figure 2 further in Section **Error! Reference source not found.** below).

The understandings of what can be considered 'reusable', 'repairable' or 'preparable for reuse' vary greatly. For this study, the term 'reusable' is used to mean any item that might be considered by a household, Council or Acceptor as usable by another person.

Approach

This study was completed in two phases. The first phase sought to understand who the major players in the Reuse market were, how they operated and what their current capacity to receive bulky households items is. The second phase (concluding with this report) aimed to identify opportunities and barriers to increasing the capacity of the reuse marketplace and collaborating with councils to improve reuse and landfill diversion of reusable items.

The majority of research and analysis was conducted through a UTS student internship project, supervised by ISF on behalf of SSROC. On completion of the project, ISF worked with the UTS Student to undertake final analysis and compile the results into this report.

Limitations

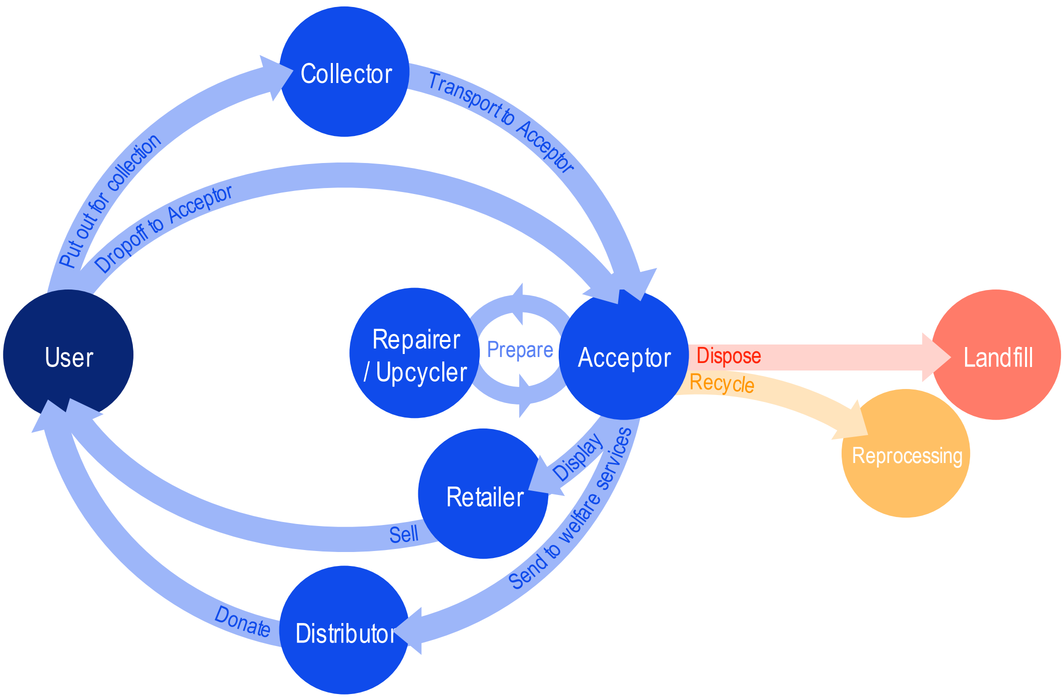
Due to limitations in the number of interviews able to be undertaken and interviewee knowledge, this study was not able to address all of the desired scope, including: quantifying the size of the reuse market in terms of weight/volumes of items received and sold/redistributed, gathering information on financial margins on Acceptors, understanding the redistribution of reusable items through charity social services/programs, or exploring 'secondary' Acceptors who receive donations of items from the Acceptors included in this study.

About the reuse marketplace

The reuse marketplace is made up of multiple players performing different functions (see below in Table 1). Together these players create a reuse cycle whereby items pass from their *last* User through the cycle to their *next* User, potentially multiple times (see Figure 1).

Items do not necessarily pass through all players every cycle. For example, items may be gathered by a Collector or pass straight to an Acceptor, where they are distributed or resold to their next user. Repair works or upcycling may be undertaken by a Repairer or Upcycler before they are sold. In practice, single organisations usually play many of these roles, eg. collecting, accepting and selling/distributing items.

Figure 1: Identified reuse cycles for household items[3]



[3] This diagram covers the reuse cycles identified in this study, and as such exclude other possible cycles such as online channels.

Table 1: Players in the reuse marketplace

Player	Function
User (Last)	The most recent owner of an item which is no longer wanted but is considered to be in reusable or repairable condition. Examples: General public with unwanted items, business with unsalable items or overruns.
Collector	Collects items from households and transports to Acceptors (often part of the Acceptor business). This role could potentially include sorting/triage of items to determine reusability (though no existing players in the Sydney reuse market currently offer this). Examples: Council day labour, collections contractor, Acceptors of items.
Acceptor (+Retailer/ Distributor)	Accepts items directly from Last Users or via Collectors, and performs triage to determine suitability of item for reuse. Provides suitable items to Next Users, either via resale through retail outlets, or redistribution/donation through internal or external social services programs. Also responsible for recycling or disposal of other items not suitable for resale/reuse. Examples: Charity retail shops, Op Shops, Antique/retro shops.
Repairer	Repairs broken items to restore item to previous functioning and returns items to the owner after repair works. May form part of 'preparing for reuse'. Examples: Repair businesses, Community repair hubs
Upcycler	Performs activities to increase the value of unwanted items, either by improving quality/style or repurposing, generally for resale through retail channels. Activities can include repairing, cleaning, painting or otherwise adjusting items. May form part of 'preparing for reuse'. Examples: Commercial upcycler for profitable resale, social enterprises that teach skills through employees/volunteers upcycling items for resale.
User (Next)	The new owner of an item, bought from a reuse retail outlet or received through a social service program. Examples: Customers purchasing items for personal use, clients of major charities, refugees setting up a home in Australia.

2 Findings

This section examines the size of Greater Sydney's current reuse marketplace for reusable furniture, large electrical items (such as whitegoods) and building materials (the key materials identified as reusable in SSROC's kerbside clean-up collection). These items are collectively referred to as 'bulky household items' in this study. The study is focused on Acceptors of these items who redistribute or resell items to their Next Users. Information on key Acceptors, the range of services they provide, and their current throughput are discussed, along with an indication of the flow of reusable items through the Acceptors in the reuse marketplace.

Nine key players accept reusable bulky household items, mainly to support social services

Acceptors of reusable bulky household items in Greater Sydney were identified through desktop research and reference the Zero Waste Network-Sydney's database of Community Reuse, Repair & Recycling Enterprises (ZWN-S 2018).

Nine (9) key Acceptors of bulky household items in Greater Sydney were identified (Table 2). Their locations across Greater Sydney are shown in Figure 2 below. Eight of the Acceptors are not-for-profits, mostly large charitable organisations (5), with a few small social/ environmental enterprises (3) and one (1) commercial enterprise.

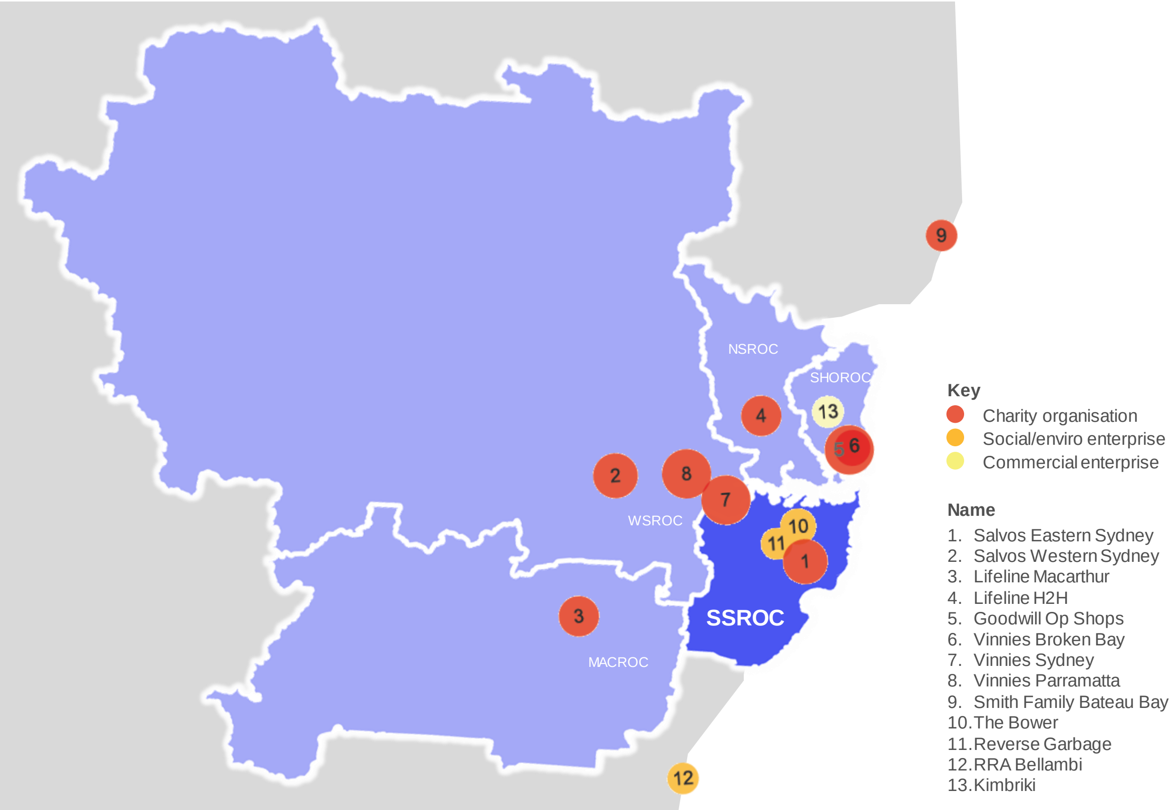
Table 2: Key Acceptors of reusable bulky household items, their commercial status and the number of retail outlets or facilities in Greater Sydney

Key Acceptor			Retail outlets		Commercial status
1	St Vincent de Paul	Broken Bay	24	92	Charity
		Sydney	43		
		Parramatta	24		
2	Salvation Army	Western Sydney	19	31	Charity
		Eastern Sydney	12		
3	Lifeline	Macarthur	7	10	Charity
		Harbour to Hawkesbury	3[4]		
4	Goodwill		2		Charity
5	The Smith Family		(11[5])		Charity
6	The Bower Reuse & Repair Centre		2		Environmental enterprise / charity
7	Reverse Garbage		1		Social enterprise
8	Resource Recovery Australia		2		Social enterprise
9	Kimbriki Resource Recovery Centre		1		Commercial enterprise

[4] Only three of LifelineH2H's five retail outlets stock furniture and other bulky goods.

[5] The Smith Family have 10 retail outlets (plus 1 warehouse) in Greater Sydney, none of which currently accept furniture. One Op Shop in Bateau Bay just outside Greater Sydney does accept furniture. They have been included to understand potential future opportunities.

Figure 2: Location of major acceptors of reusable bulky household items in Greater Sydney



The most common model is that of a charity with distinct geographic regions, each region with one to two collection/sorting warehouses distributing to a number of retail outlets servicing a local area (ranging from 2 to 92). This includes St Vincent de Paul (Vinnies), The Salvation Army (Salvos), Lifeline and Goodwill, who all accept reusable bulky household items at their facilities in Sydney. The Smith Family only handles textiles in Sydney, but their Central Coast facility in Bateau Bay accepts bulky household items. These charities combined make up the majority of the marketplace, in terms of retail stores. The primary motivator for these charity organisations in the reuse marketplace is to generate profits from sales to fund their social mission and welfare programs.

A small number of organisations occupy a niche in the reuse marketplace.[6] These are environmental/social enterprises who have at their core, a desire to divert waste from landfill by promoting a reuse culture and/or building repair skills in the community. This includes The Bower Reuse & Repair Centre (The Bower), which onsells donated bulky household and other items, sometimes after repairing/upcycling; Reverse Garbage, which onsells donated items that can be used for creative purposes (bulky household items feature less frequently), and Resource Recovery Australia (RRA), which while only accepting mattresses in Sydney, has a facility in Bellambi, near Wollongong, which accepts reusable bulky household items for resale through the onsite Op Shop. RRA also have a social mission alongside their environmental motivation, which is providing employment for disadvantaged persons.

Kimbriki is an exception, being the only player in the Reuse marketplace operating as a commercial enterprise. However its shareholders are local Councils, and so its primary mission is still for the common good. Kimbriki generates revenue through provision of waste management services, and also operates a Buy Back Centre to divert reusable items and materials from landfill.

Each of the 9 key Acceptors is described in boxes over the page. Further detail on Acceptors' operations and future plans is included in Appendix B: Acceptor Descriptions.

[6] There is also the ReCreate Hub in Point Claire (near Gosford) which upcycles second-hand furniture for sale but this was considered too far for consideration in this study.

Numerous other small acceptors exist in the marketplace, such as independent Op Shops, vintage/antique dealers, etc., but their decentralisation/fragmentation renders them less useful to Councils and so were excluded from this study. A few of these were identified as potentially interesting for future research and are also included in the Appendix B.

Insights and implications

- A small number of organisations make up the bulk of the market, at least in number of retail outlets. These are all large social welfare charities, who mostly receive donations through public-drop-off (via bins, drives or shopfronts) and generally utilise a hub and spoke model with a central warehouse (or regional hubs) that sort and distribute items to local retail outlets. This allows a level of strategic sorting and stocking of outlets, which helps ensure that not too many of one item land in one place, allows gaps to be filled on the shelf as they appear. Most operate numerous small retail outlets across their regions, reaching a wider market compared to having larger and fewer outlets.
- Interestingly, no standard for-profit businesses operate in the Reuse marketplace in Greater Sydney. The only commercial enterprise is a joint venture between Local Councils. Further research into the reasons for this may benefit SSROC.

Social welfare charities

St Vincent de Paul

St Vincent De Paul (Vinnies) is a charity that assists people in need and aims to combat social injustice. Vinnies operates Australia wide and has 267 Op Shops in New South Wales, with 92 in Greater Sydney. Vinnies is organised into regional groups, with three (3) operating in Greater Sydney, including Parramatta Central Council, Sydney Archdiocese Central Council, and Broken Bay Central Council. Vinnies Parramatta has 24 Op Shops and is serviced by a central warehouse in Wentworthville, Sydney has 43 Op Shops and is serviced by a warehouse in Auburn, and Broken Bay has 24 Op Shops and is serviced by warehouses in both Brookvale and Mt Ku-ring-gai. Profits generated from the Op Shops are put towards internal charitable activities (St Vincent de Paul Society NSW 2018).

Salvation Army

The Salvation Army (Salvos) is a charity that is dedicated to building healthy communities and working for justice. Salvos operates Op Shops (Salvos Stores) in New South Wales, Queensland and Victoria. Salvos Stores are organised into regional groups. Salvos Stores in Greater Sydney are organised into the Eastern Sydney Area and the Western Sydney Area. Eastern Sydney is serviced by a central warehouse in Tempe and Western Sydney by a warehouse in Minchinbury. Profits from Salvos Stores support Salvos' welfare programs (Salvos Stores 2018).

Lifeline

Lifeline is a charity that runs counselling and crisis support services. Lifeline operates a number of Op Shops around Australia with proceeds funding Lifeline's support services. Independent Lifeline organisations service local regions and coordinate local Op Shops. Within Greater Sydney, there are five (5) independent Lifeline organisations. Only two (2) accept bulky household items: Lifeline H2H and Lifeline Macarthur (Lifeline 2018). Lifeline H2H has a central warehouse in Asquith (Lifeline H2H 2018). Lifeline Macarthur operates a central warehouse in Narellan (Lifeline Macarthur 2018).

Goodwill

Goodwill operates two Op Shops in Sydney to generate profits which are donated to various charities, including Royal Far West, Starlight Children's Foundation, and others (Goodwill Op Shops 2018a). Goodwill's 'flagship' Op Shop is located in Brookvale with a second Op Shop in Lane Cove (Goodwill Op Shops 2018b).

The Smith Family

The Smith Family assists disadvantaged children to get the most out of their education. The Smith Family operates 19 Op Shops across NSW and the ACT, 10 within Greater Sydney. The Smith Family's primary reuse focus is textiles, and Op Shops in metropolitan Sydney only stock textiles, bedding and accessories. The Smith Family Op Shop in Bateau Bay on the Central Coast (1 hour north of Sydney) accepts furniture. Proceeds generated from stores support The Smith Family's administration costs, allowing financial donations from supporters to be directed predominantly to programs for disadvantaged students (The Smith Family 2018). Despite not currently accepting furniture, The Smith Family was included in this study at the request of SSROC to investigate future plans to participate in the bulky household items reuse marketplace in metropolitan Sydney.

Social/environmental enterprises

The Bower

The Bower Reuse & Repair Centre (The Bower) is a not-for-profit social enterprise, registered as an environmental charity. The Bower is an established Acceptor, Repairer and Upcycler in the reuse marketplace, beginning operations in 1998. The Bower's headquarters/main facility is located in Marrickville, which functions as both a collections/sorting warehouse and a retail outlet. The Bower also operates a retail outlet in Parramatta, an online store plus two community/repair centres: The Woodworks, Redfern (which runs carpentry workshops and upcycles items for sale in The Bower's retail outlets) and Banga Community Shed, Green Square (which is a space to share electronics repair skills and accepts drop-off of electrical items) (The Bower 2018).

Reverse Garbage

Reverse Garbage is a social enterprise promoting creative reuse. It was established in 1975 and is located in Marrickville. Reverse Garbage is focussed on accepting materials from commercial and industrial sources that can be reused for arts, craft and creativity, though it also accepts some building materials (including doors, windows, pavers and timber) and has accepted furniture in the past (Reverse Garbage 2018). Reverse Garbage also holds workshops on creative reuse techniques in their 'Makerspace' (Reverse Garbage 2018).

Resource Recovery Australia

Resource Recovery Australia (RRA) is a national social enterprise providing reuse, repair, recycling and disposal services to local governments, the corporate sector and communities. RRA operates reuse shops, transfer stations, community recycling centres, upcycling studios, landfills and problem waste mobile community recycling services in NSW, ACT and QLD. RRA's parent company Community Resources also operates Soft Landing, a national social enterprise that recycles mattresses. RRA aims to employ people who experience barriers entering the open labour market, and so facilities are predominantly located outside metropolitan areas, where barriers are more concentrated. Soft Landing facilities service NSW, WA, VIC and the ACT, and are located within and outside metropolitan areas (Resource Recovery Australia 2018). Soft Landing does not provide reuse services, though the Bellambi facility (located outside Greater Sydney) does have an RRA Op Shop on site. Soft Landing's Sydney and Bellambi facilities were included in this study at the request of SSROC to investigate RRA's future plans to participate in the reuse marketplace within Sydney.

Commercial enterprise

Kimbriki

Kimbriki Resource Recovery Centre (Kimbriki) is a waste management centre located in Terrey Hills in the north of Sydney. The facility includes a landfill, recycling aggregation point, a retail outlet called the Buy-Back Centre, and an education centre. Kimbriki Resource Recovery Centre is a commercial enterprise owned jointly by the Northern Beaches Council and Mosman. Kimbriki Resource Recovery Centre aims to be a centre of excellence for resource recovery and community education (Kimbriki 2018). Kimbriki's Buy-Back Centre is located after the weighbridge and has carved itself as a niche player for reusable building materials – the majority of their stock are building materials (such as doors, timber, sinks). Tradespeople and the general public doing renovations are a large part of their sales market. Furthermore, Kimbriki has limited undercover space, therefore stocking mostly weatherproof items is more practical (Kimbriki 2018).

Social mission, not diversion, is the primary motivation for most Acceptors

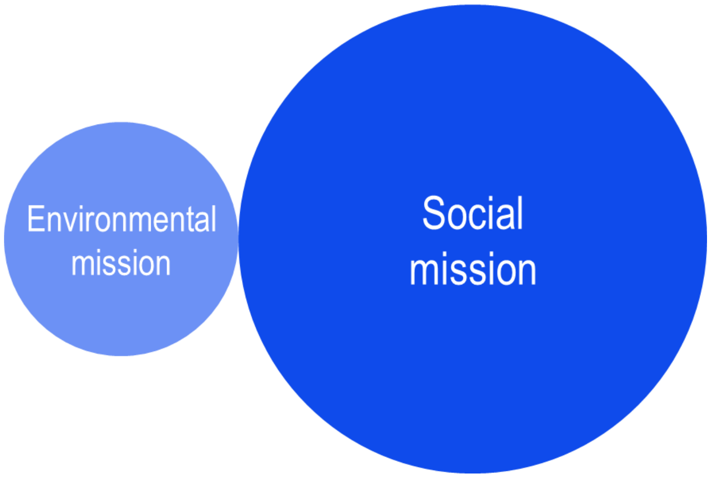
The motivations for accepting reusable items may impact on the willingness of an organisation to receive items from Councils in the future. Motivations of key Acceptors to receive items was investigated through desktop research and telephone interviews.

As noted above, the majority of Acceptors (specifically the charitable organisations) are primarily motivated to participate in the reuse marketplace (including accepting and selling reusable bulky household items) in order to generate a profit to achieve their *social* mission by funding their welfare programs or other charities.

Only a few Acceptors have an *environmental* mission where their primary motivation is to divert waste from landfill through the distribution of reusable items and fostering of repair skills to extend the life of repairable items.

One Acceptor (RRA) identified a dual focus on social and environmental outcomes. This organisation aims to achieve their social mission of providing jobs for people experiencing barriers to accessing employment in the open labour market, by delivering an environmental service of diverting waste from landfill through reuse, repair and recycling activities.

Figure 3: Primary motivations of Acceptors to receive reusable item



Insights and implications

- The social focus or mission is a far stronger driver for most Acceptors than any resource recovery or reuse objectives. This suggests that the majority of Acceptors will likely need to be convinced of the benefit to their own organisation from collaborating with Councils to divert bulky household goods from kerbside collections. Charities would likely require a certain amount of profit from any arrangements to cross-subsidise other activities, as the purpose of their reuse operations is to generate funds for their social services.
- Only a small number are likely to be intrinsically motivated by helping increase diversion. These social/environmental enterprises may be more accepting of models that are just 'cost neutral' (ie. meeting all operational and workforce costs) because the environmental and social (employment) outcomes are their core business missions.
- It would be important for Councils to keep the differing primary motivations top of mind when communicating with Acceptors, to ensure that any communications about regional/Council strategic waste objectives and potential partnerships are couched in language aligning with each Acceptors' mission.

Most Acceptors offer similar standard collection and onsell services

The range of services offered by key Acceptors were explored to identify services that could be engaged by Councils or residents. Company websites and annual reports were reviewed for publically available information on service offerings. Structured telephone interviews with key Acceptors were undertaken to understand service offerings and operations in greater detail. Key Acceptors were selected to be interviewed in a prioritisation workshop with SSROC. Interviews took place between 19th Sept and 10th Oct 2018. See Appendix C for more details.

The research found little diversity in both the items accepted and the services offered by Acceptors, as shown in Table 3**Error! Reference source not found.**. All Acceptors receive furniture (though not always within Greater Sydney as noted above), while just under half accept electrical items and building materials. Acceptors who don't accept electrical items advise that it is because they don't have the ability to test electrical items for safety. It should be noted that Kimbriki does not directly accept *donations*, but receives reusable items in their mixed waste drop-off zone (for the same fee as non-reusable waste).

Most acceptors provide collections services for bulky household items and accept drop-off at warehouses or retail outlets. For the majority of Acceptors, items that meet their quality standards are accepted for free through drop-off at their warehouses or retail outlets or via a collections service for the local area. Some organisations offer online booking systems in addition to accepting calls to book collections. With the exception of The Bower, the cost of the collection service for bulky items is free, covered by revenue from the business[7].

The Bower is also the only Acceptor that performs some repair works/upcycling prior to sale. RRA similarly offers repair works, upcycling and repair workshops at facilities outside Greater Sydney but does not repair donated items for resale.

Table 3: Acceptance of reusable bulky household items and services offered by key Acceptors in Greater Sydney

	Items accepted			Services provided				
	Furniture	Electrical items	Building material	Accept drop-off	Collect	Salvage from landfill	Repairs	Upcycling
1. Vinnies	✓	✓		✓	✓			
2. Salvos	✓	✓	✓	✓	✓			
3. Lifeline	✓			✓	✓			
4. Goodwill	✓			✓	✓			
5. The Smith Family	*			✓	✓		✓	
6. Bower	✓	✓	✓	✓	✓		✓	✓
7. Reverse Garbage	*		✓	✓	✓			
8. RRA	*	*		✓				
9. Kimbriki	✓		✓			✓		

** Don't currently accept within Greater Sydney, but did historically, or do outside Greater Sydney.*

7 The Salvation Army charges a service fee for collections of non-bulky items, e.g. textiles or books.

Kimbriki is the only Acceptor within Greater Sydney that does not accept donations of bulky household items for reuse, but instead salvages reusable items from those dropped off to landfill. This means they receive a gate fee for these items, in addition to the revenue from onsale. RRA has also adopted this model to stock their tip shops outside Greater Sydney.

The Bower offers its collection service to the public on a pay per collection basis, but also offers a unique subscription collection service for Councils, whereby participating Councils pay an annual fee to enable The Bower to provide free collections service to residents (provided that The Bower feels that they can onsell or home the item donated). A unique service offered by The Bower is their Referral Service which has recently been made publically available. This means anyone can look up and find a range of potential Acceptors they can contact directly who may like to take the item/s available for rehoming/donating.

Insights and implications

- All Acceptors bar one accept free on-site drop-offs and the majority have free collections services. Many also utilise these collection trucks to redistribute items between regional 'hub' warehouses and local retail outlets. This has a number of implications:
  - Council drivers are currently unlikely to be able to drop off kerbside bulky goods directly to retail outlets as existing Council fleet configurations have few box/flatbed vehicles, and the quantities are likely to be too large for a single shop to receive in one go.
  - Councils drivers could potentially drop-off of goods to regional warehouses for Acceptor fleets to redistribute to retail outlets, though sufficient vehicle access would need to be confirmed with individual Acceptors. Councils could also consider flat bed or box trucks when reviewing fleet composition (as some member councils are already doing), or (if they have access to space to 'triage materials') consider the use of smaller vehicles so that smaller loads can be donated direct to Acceptors' retail outlets.
  - Acceptors may also be able to arrange collection services from central Council storage space, or potentially even conduct pass throughs of booked collections prior to Council clean-up services, particularly if Clean-up booking forms were revised to include an option to tick 'I have items that could be reused or repaired'.
  - Alternatively, if Councils adopted/setup Council-subsidised or funded reuse collection services such as the subscription service currently offered by The Bower, then Booking forms could include a box for residents to tick saying they are not disposing of any item that could be repaired for reuse (as is currently done on some drop-off forms for e-waste[8]) to prompt/encourage use of the separate Reuse collection service.
- Most drop-off/collection services are currently free which suggests that costs are (mostly) being covered through the resale of items. The exception is the Bower, whose collection service is pay per use.
- The number of Acceptors providing repair/upcycling services is relatively small. More research is needed to understand why this is the case, particularly whether it relates to the financial business case (ie. cost vs benefit) or if there are any structural barriers to providing these services (eg. lack of appropriately skilled workforce).

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[8] Residents must, as part of their online booking of a clean-up collection confirm that they are not putting out e-waste -which is then not collected if it is still placed on kerbside. Instead the resident is reminded of their agreement and where to drop off the e-waste safely.

- The salvage from landfill model of Kimbriki/RRA could potentially be replicated at the landfills/transfer stations where current clean-up collections are taken, creating a co-located, one-stop-shop for the reusable and disposable components of the clean-up stream. In this case, triage of items would happen after the weighbridge and therefore all items would need to be dropped at facility uncompacted, which would require more truck journeys. However this may be balanced by less double-handling/transportation of items donated for reuse that turn out to be unsaleable / non-repairable and so need to be disposed of. Similarly Councils could incentivise the co-location of repair services at the transfer stations of the commercial waste service providers to increase the proportion of bulky household items suitable for reuse. However as almost all SSROC member councils send clean-up collections to landfills outside SSROC, these options would reduce the possibility for local reuse cycles.
- Recent publication of The Bower's Referral Service[9] may provide additional opportunities for SSROC/member Councils to divert reusable kerbside bulky goods, and should be considered as part of any further research.

[9] Since the initial drafting of this report

Most items are received from and sold back to the general public

Desktop research and interviews were undertaken to understand the flow of materials into and out of Acceptors in the reuse marketplace in Greater Sydney. Most players only had anecdotal records of the proportion of materials flowing into their organisation and out to different markets, landfill or recyclers.

All Acceptors receive items donated from the general public and businesses. Items are meant to meet Acceptor's quality standards before being taken in. Quality is usually assessed with a physical sighting or via photos. In addition, Kimbriki receives some clean-up waste from its shareholder Councils. All Acceptors facilitate reuse by displaying collected items for resale, mostly back to the general public. Despite the quality assessment, Acceptors also reported needing to send a notable proportion of goods to landfill due to being unusable or unsellable.

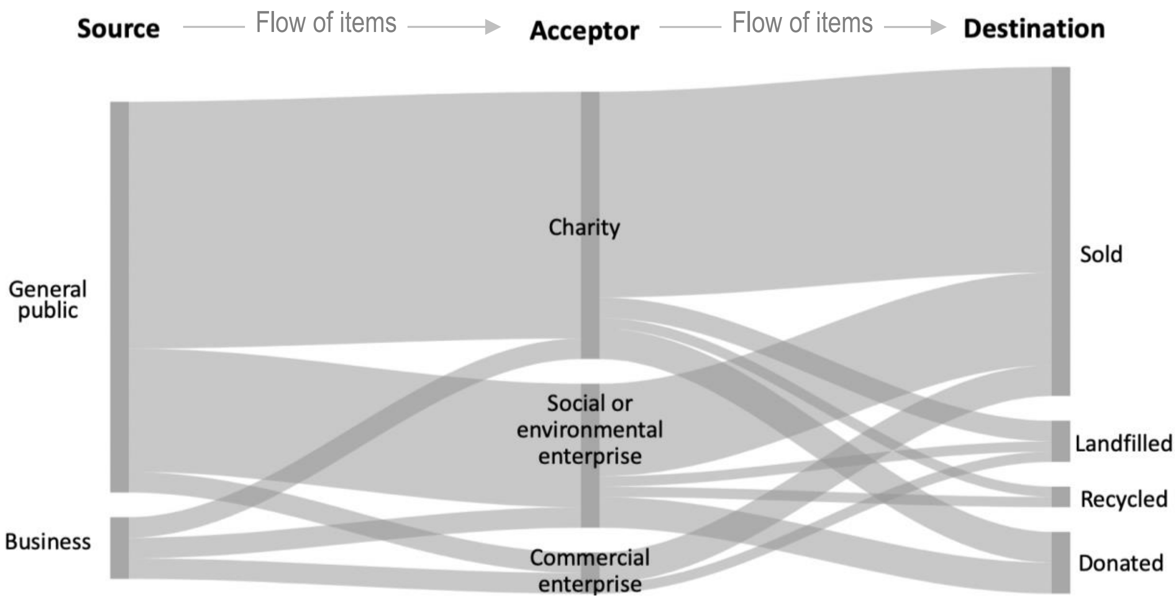
Table 4: Inflows and outflows of reusable bulky household items through key Acceptors

	Inflows		Outflows			
	Public	Business	Sell	Donate	Recycle	Dispose
1. Vinnies	✓	✓	✓	✓	?	✓
2. Salvos	✓	✓	✓	✓	✓	✓
3. Lifeline	✓	?	✓		?	✓
4. Goodwill	✓	?	✓		?	✓
5. The Smith Family	✓	✓	✓		?	✓
6. Bower	✓	✓	✓	✓	?	✓
7. Reverse Garbage	✓	✓	✓	✓	?	✓
8. RRA	✓	✓	✓	✓	?	✓
9. Kimbriki	✓	✓	✓		?	✓

Key: ✓ Confirmed, ? Unconfirmed

The rough proportions of materials that flow into and out of the key Acceptors from each source and destination are illustrated in Figure 4. This shows that large majority of goods come from the general public and are mostly sold back to the general public, via retail outlets.

Figure 4: Indicative material flows through Acceptors of reusable items in Sydney



As noted in the table above, the two charities, Vinnies and Salvos donate/redistribute some of their reusable bulky items directly to their own clients through welfare programs, however both prefer to sell rather than donate bulky items, possibly because of logistics costs of distributing bulky goods, or because they generate more revenue as sales[10]. Any redistribution is done by other arms of the organisations and so little was known by the about this pathway for reuse.

The social/environmental enterprises also redistribute goods, to other charities/enterprises organisations that use or distribute items amongst their own clients. For example, The Bower donates approximately half their furniture to these charities, Reverse Garbage donates an unknown proportion of bulky items to social enterprises that upcycle items for resale, and RRA donates a very small amount to charities. Again little is known about this pathway, as the redistribution is done by other charities.

Approximately 30% of all items donated to charity Acceptors for reuse can't be used/sold and are usually landfilled, at a collective cost of $13 million per year (NACRO 2018) This is despite most Acceptors undertaking a quality assessment process, either by last users emailing photos, or physical visual assessments when items are brought into store. (It is possible that some of this is unusable donations illegally dumped at charity facilities outside hours, etc, but again this is unquantified). What proportion of the 30% landfilled is bulky household items is unknown.

Items reported that usually have to be sent to landfill include broken or soiled: furniture, toys, bicycles and white goods; plus unusable items such as gas bottles[11], bbqs and mattresses. Some of these items could potentially be reusable if cleaned or repaired first, though the quantities of such are unknown. More detail on acceptable quality of items in provided below.

The Salvation Army recycles metal items (for example metal bed frames or white goods) rather than landfilling where possible). It is the only Acceptor who mentioned doing so when discussing unsaleable items, though Kimbriki also reported selling some unsaleable metal items to scrap metal dealers.

[10] Greater volume of textiles are donated compared to bulky items, for example 60,000 tpa of used textiles are exported from Australia charities (ABS 2017/17).

[11] While some interviewees indicated that gas bottles were one of the items often 'sent to landfill' it is assumed that they meant generally needing to be disposed of, and that gas bottles are in fact sent to appropriate disposal services. This may need to be clarified in future research.

Insights and implications

- Receiving items from the general public is the predominant source of items, and the predominant method for redistributing is selling items back to the general public. The level of public demand for reusable goods is therefore likely to be intrinsically linked to the capacity of Acceptors to receive and onsell greater volumes of bulky household items. It is acknowledged that SSROC and Acceptors are already delivering education and communication programs reminding people to take from the reuse economy as well as donate to it, but greater traction of this message would likely be needed in order to meet the substantial volumes of kerbside bulky goods in SSROC.
- The cost imposition on the sector of disposing of the 30% of unsalable items ($13 million collectively) is considerable and its importance for the sector's bottom line cannot be understated. Acceptors need to minimise these disposal costs, and therefore try to enforce strict quality standards for acceptance. They would be likely to have similar strict quality standards for kerbside bulky goods so Councils would have to develop/agree a quality control system with any Acceptor prior to any trial or pilot arrangements.
- Even with current strict quality control at drop off locations, the sector still suffers from having items that don't meet their quality standards due to the use of unmanned collection stations in public places (such as charity bins) and illegal dumping on doorsteps after hours. Any Council initiatives/collaboration that could assist the sector to meet their quality control standards and decrease their disposal costs would likely substantially increase the interest of Acceptors in working more closely with local government to help reuse kerbside bulky goods in the future.
- One such opportunity to reduce Charities' disposal costs is recycling, which seems to have minor uptake with Acceptors. There may be an opportunity for a reverse logistics model to act as an incentive for Acceptors to take on Councils reusable items, for example quality kerbside bulky goods could be brought from Councils to Acceptors and any recyclable unsaleable donations then taken away from Acceptors to be recycled through Councils' existing recycling contracts, potentially offsetting Charities' disposal costs.
- Another opportunity would be to take savings from current landfill fees of kerbside clean-up collections and use this to 'pay' Acceptors to take reusable items, guaranteeing Acceptors a minimum revenue, which they could increase if they were able to onsell items. This amount should cover any disposal costs of kerbside bulky goods (if required) but could also potentially subsidise disposal costs from donated items, particularly if Acceptors were getting both an 'acceptance fee' and sale revenue from the kerbside bulky goods.
- More research is needed on the redistribution of donated items to social service clients, enterprises and people in the community (ie. pathways for reusable items aside from sales through retail shops). This research should cover quantities currently redistributed, preferred types of items for redistribution, geographical limits for redistribution, etc. This research could also explore other pathways for reuse, such as making reusable items available to community groups / organisations, eg. childcare, etc via Acceptors for free or at a subsidised cost.

Most Acceptors don't measure the flow of reusable items

This study aimed to capture the throughput of items into and out of Acceptors in the Greater Sydney reuse marketplace and compare the quantity with that of reusable bulky household items from Councils' clean-up streams. The throughput of Acceptors was primarily investigated through interviews with Acceptors.

Overall, no published information was available and little could be gleaned from the interviews. This is because the majority of Acceptors are charities operating Op Shops with no weighbridge or comprehensive systems for keeping track of inflows and outflows (or other useful data such as time of items on the shelf before, and additional storage/shelf capacity) – see a discussion of this below.

A few Acceptors have mechanisms for weighing throughput. Kimbriki captures data via their weighbridge to provide EPA reporting for levy rebates. The Bower's collections trucks may have scales to allow for quarterly reporting to Councils who have subscribed for the collection service but this could not be confirmed in time for this report. The Smith Family also have a weighbridge at their central warehouse in Villawood, Sydney, however only textiles are currently processed at this facility. One Acceptor reported currently investigating a comprehensive data collection system, but did not want to be named until the system was approved and operational.

Only three organisations provided *verified* data on tonnages received/sold: The Bower, Reverse Garbage and Kimbriki. The Bower provided tonnage of furniture *received* plus that referred to other channels, ReverseGarbage provided tonnage of all items *received* and number of furniture items *sold* from the last year when they accepted furniture (2016-17), and Kimbriki provided tonnages of all items *sold*.

Other organisations provided *estimates* of total number of items or number of specific types of items moving out of their organisation at the *point of sale* (eg. excluding items leaving through other channels, such as redistributed to internal or external social service programs, or recycled/landfilled), as shown in the table below. Of these, Salvos was the only charity Acceptor that would estimate data on throughput.

From discussions with ZWN-S, the lack of data capture appears to be due to various reasons, including:

- Difficulty categorising items – items do not have standard dimensions or characteristics
- Inflows and outflows are unpredictable – donations can be received from municipal or commercial and industrial sources with no advance notice
- No options for inventory management systems that don't create administrative burden – for example every item is different and entering unique items into the system would require too much time
- Lack of infrastructure for weighing or measuring items
- Lack of funding for optimising operations – profits are focused on cross-subsidising other activities or business model does not create sufficient funds for investment in such systems management.

Discussions with Zero Waste Network (ZWN) revealed that early stages of work are underway (in-part funded by SSROC) to collate standard weights for common items that pass through the reuse network, to estimate tonnage of throughput from item counts. This will, in time, help Acceptors quantify throughput and allow greater knowledge for the sector as a whole about the extent to which they, specifically, are diverting waste from landfill.

It is standard practice in Australia for waste service providers to measure waste and diversion in weight. Calculating the throughput of reuse players in weight is possible by converting the number of reusable items sold to weight with reference to WRAP's (UK) inventory of items & weights[12]. ZWN-S is also developing an Impact Measurement Tool based on reusable items moving through a sample of reuse players in NSW. The tool will provide Australian reference weights for an average pallet of reusable items.

[12] WRAP UK, A methodology for quantifying the environmental and economic impacts of reuse (Table 8.1) http://www.wrap.org.uk/sites/files/wrap/Final%20Reuse%20Method.pdf

Insights and implications

- The lack of data on the number/quantity of inflowing item categories and outflows (via sales or distribution to social service programs, plus recycling and landfill) means it is not possible to estimate current throughput of bulky household items through the Reuse marketplace, and therefore also impossible to estimate the capacity of the reuse marketplace to handle more bulky household items in the next 3-5 years.
- Acceptors report little/low level knowledge of their overall capacity to store and move items which understandably raises concerns for them about being able to cope with the likely increase in either quantum or flow of items from kerbside bulky goods collections. This is discussed in more detail in the next section.
- The deficit in data also reflects the lack of standardised measurement systems for quantifying the reuse marketplace in Greater Sydney, further reinforcing the strategic and operational value of the work already commenced by ZWN-Sydney and their national partners.

Existing market for kerbside bulky goods is unknown

Because of the lack of data capture discussed above, the majority of Acceptors indicated high levels of uncertainty around the present sales of bulky household items, not just overall quantities but also what type of items are more or less in demand (popularity), which have longer or shorter shelf-lives (movability) and which Acceptors have unmet capacity to receive. Acceptors could only offer anecdotal experience as to which types of items sell easily and how quickly they sell.

The quantity moved through Acceptors with known or estimated throughputs ranges from 600 items per annum to 610 tonnes per annum (see Table 5 below, and Appendix A for more detail).

Table 5 Annual throughput of reusable bulky household items through key Acceptors in Greater Sydney

Acceptor		Annual throughput (sales)		
		Furniture	Electrical*	Building materials
Vinnies		Unknown	Unknown	N/A
Salvos	Western	40,000 items^	26,000 items^	Unknown
	Eastern	All items: >1,560 tonnes *(furniture, textiles, books, etc.)*#		
Lifeline		Unknown	N/A	N/A
Goodwill		Unknown	N/A	N/A
The Smith Family		N/A	N/A	N/A
The Bower		177 tonnes received^ +168 tonnes referred^	Unknown	Unknown
Reverse Garbage		Furniture: 4,560 items^	Unknown	Unknown
		All items: 208 tonnes received.#		
RRA		270 items^	330 items^	N/A
Kimbriki		All **bulky** items: 610 tonnes received (excl. electrical)^		

** Note: Electrical here does not refer specifically to white goods, but may include all electrical and electronic items.*
^ recorded by Acceptor, # estimated by interviewee

Given the lack of data on throughput, other potential proxies of capacity are included in Appendix A.

In general, Acceptors implied that the overall existing supply of reusable bulky household items (mostly donated from households) seems to exceed retail demand for such items. However this is in part due to the low quality of many items being donated which are not in demand – apparently there is more demand for high quality items (eg. quality material, new/modern style, clean, etc) than are received. (See below for further discussion of quality.)

Further, sales markets are very geographically distinct The general feeling amongst Acceptors is that their Retail Outlets reach fairly localised sales markets. Other areas may also have untapped markets, but there are challenges in determining where, as discussed further below.

Other markets

Two of the charities indicated that they redistributed a small proportion of furniture through their social services/programs, but did not capture data on the quantity of items being redistributed. (As noted above, this channel is not a priority for the organisations, as retail sales provided greater benefit back to the organisations in terms of revenue.) Anecdotal comments also suggest that there is a distinct separation between Retail/Op Shop divisions and social service/program divisions, which might act as an internal barrier to greater uptake of this channel, and that there may be interest from on-the-ground social workers in accepting reusable household items. This would need to be confirmed.

Some Acceptors mentioned potential other markets outside Retail Outlet sales, such as refugees newly settled in Australia, victims fleeing domestic violence, etc. However, there are barriers to accessing these markets, which are discussed at the end of this Section (see p.35).

In addition, the Bower has a database of redistributors to which it sends almost half the furniture it receives, and it has recently made this list public.

Insights and implications

- The lack of data captured by Acceptors on their current sales makes them wary of making plans to expand. Further, without knowing specifically what types of items move quickly or slowly (other than those in better condition), Acceptors cannot determine what types of items they might be willing to take from Councils. This would also make it difficult for them to demonstrate impact and make a case for future government/EPA funding.
- Efforts to increase demand for reusable items could increase Acceptor's willingness to receive bulky household items from Councils. This could include marketing to the general public on both: 1) reasons to buy second-hand items, and 2) reasons to buy good quality items in the first place (that can have an extended life after their first ownership, providing higher quality items to the reuse marketplace that have better market demand), and/or lobbying state/federal governments to provide incentives/support for both supply and demand in the reuse market. Many Councils are already devoting effort in this direction.
- The major charities that have distribution warehouses may have capacity to receive drop-off of sizable volumes of kerbside bulky goods by large trucks, and similarly RRA. However the Bower and Reverse Garbage probably cannot receive large volumes in one go due to site restrictions.
- As noted earlier, further investigation into redistribution of furniture through Charity welfare services could help quantify the potential capacity of this channel, and confirm what incentives are needed to increase uptake of this alternative to retail sales. This may require research directly with the social service arms of the Charities, including on-the-ground social workers/support groups and/or with senior executives to explore cross-division opportunities.

Acceptors would take more quality items, but not necessarily increased overall quantities

This section presents Acceptors view of their capacity to receive and onsell greater volume of bulky household items, from interviews with five of the nine Acceptors.

Quality of bulky household items

In general, all Acceptors would happily receive more high quality items than they currently do, as these items generate solid sales revenue. A quality item was described by most players as being made from good materials (such as natural wood instead of MDF or chipboard), having few scratches or dents, no stains, serving a contemporary function (for example TV units that only fit analogue TVs are seldom accepted), and being attractive or modern looking. Items are therefore assessed for both functionality (being in working condition) and quality (meeting 'marketability'/'saleability' standards).

As noted above, all Acceptors report currently having issues with the quality of items donated from the public. Even with quality control systems in place, all Acceptors still have to send a noteworthy quantity of items to landfill.

Because of this, most Acceptors had concerns about the quality of items in Council kerbside clean-up streams, both in terms of functionality (being in working condition) and quality (meeting 'marketability'/'saleability' standards[13]), as well as the potential damage to items from being exposed to weather/contamination while sitting on the kerb. This translated to the worry that they may receive unsaleable items which they would then have to pay to dispose.

All Acceptors showed a low desire to receive items that do not meet their quality standards, because (as discussed above) low quality items create a disposal burden for Acceptors when the items proved unsalable. However a few Acceptors indicated that collaboration with Councils could open up extra resources for cleaning, repairing or upcycling items which could increase the marketability of items that would otherwise not be accepted.

A key consideration for Acceptors was the level of autonomy they would have in assessing the quality of kerbside bulky goods from Councils and rejecting items as desired, particularly if Acceptors were contracted to guarantee acceptance of items. Most expressed the view that for a supply model from kerbside clean-up collections to work, the Acceptor would need autonomy over the triage stage.

It should also be noted here that safety concerns over quality of electrical items is responsible for many retail outlets refusing to receive/sell any electrical items. While not discussed directly with interviewees, it was gleaned that views of the cost of having in-house capability to test and tag electrical items were mixed, with some Acceptors believing it worth the cost, and others not. These views would clearly affect Acceptors' willingness to receive electrical kerbside bulky goods.

[13] As noted, Acceptors anecdotally reported that items which are modern and 'attractive' are the easiest and quickest to sell. Items which have minor damage; are unclean or perform an outdated function are more difficult to sell, and these are common enough that they are often refused or have to be sent to landfill. However no data exists on what proportion of items are refused for 'quality' reasons.

Quantity of bulky household items

In terms of receiving a greater overall quantity of items, responses were mixed.

Salvos Western indicated that their large warehouse (4,000m^2 footprint) has room to take more donations and, as long as they are high quality, would accept as many items as possible.

Salvos Eastern, RRA, and Kimbriki indicated they could accept a limited quantity of additional bulky items in their current facilities, but could not quantify exactly how much, but would need to expand retail space to accept any significant amount from kerbside bulky collections.

(Retail space was also a reason cited by some Acceptors not currently accepting furniture in Greater Sydney, specifically The Smith Family and Red Cross. RRA was the only exception; their reason for not having retail space in Greater Sydney is because fulfilling their social mission generally requires them to be outside metropolitan areas. Challenges to expanding retail space were noted and are discussed further below.)

For example Salvos Eastern noted that their sorting/retail Tempe facility cannot be expanded any more, as it has reached its' plot limit. Similarly, RRA's Soft Landing Smithfield site could be used as a sorting space, but whilst it's a great location to receive, sort and break down mattresses (and potentially kerbside bulky goods), it is not appropriately located to have a customer facing bulky reuse store, and so additional retail space would be required. (As noted in the following section all three have plans to expand facilities which would allow them to receive a greater quantity of bulky household items. For example Kimbriki says they could sell "a bit more" at their current site, but would have nearly double capacity at their new planned facilities.)

The Smith Family indicated that if it did decide to expand into the bulky household items market in metro Sydney, then it had capacity to take more bulky household items at its existing warehouse in Villawood (which currently only accepts textiles).

The willingness/capacity of other Acceptors (Vinnies, Goodwill, Lifeline, The Bower and Reverse Garbage) to accept increased quantities of bulky household items was unable to be confirmed as they could not be interviewed.

Insights and implications

- Overall willingness to accept large quantities of reusable bulky household items (such as the present volumes collected in SSROC kerbside clean-up collections) under current models of operation is moderately low. This suggests that Acceptors would need incentives/support to collaborate with SSROC/member Councils, whether to expand their current operations or adopt new models that co-exist with current operations.
- Acceptors' focus on quality means that in any collaboration they would need to play a key role in the 'triage' process, discerning which kerbside bulky goods were of value for onsale/redistribution. This would also allow them to respond to buyer feedback and measured demand about which items are in more or less demand at any time, as well as unpredictable surges in donations of particular goods. In addition, any collaboration would need to cover any disposals costs of the Acceptors that did result from accepting kerbside bulky goods.

- Despite the universal desire for more quality items, given the existing limited space at most Acceptors, it is possible that accepting more high quality items might simply displace lower quality items (meaning more are rejected ,or accepted but eventually sent to landfill after remaining unsold for some period of time[14]), potentially leading to no net positive diversion by Councils. Therefore any collaborations designed to increase diversion should proceed on the basis that an Acceptor has capacity to take and sell/redistribute more items in total, so efforts don't just substitute high quality kerbside goods for lower quality donated items in the reuse market.
- Acceptor comments suggest that cleaning, repairing and upcycling may perform an integral function in the reuse marketplace to increase diversion from landfill, but its potential would need to be estimated based on quantifying the proportion of items rejected/landfilled that could have been repaired/upcycled, or implementing a small trial to test what increased diversion could be gained. It seems that if Councils could subsidise/incentivise 'preparation for reuse' activities such as repair, cleaning and upcycling functions, so that items which would otherwise be unacceptable become quality items that are acceptable, they could potentially improve the sales market.
- The types of items and level of quality acceptable appears to different at least slightly, in some cases greatly (eg. electricals) between Acceptors, which could cause complications if SSROC/member Councils were to pursue collaborations with multiple players. Discussions around consistent quality standards that suit all Acceptors across the Greater Sydney region may be of benefit.
- Building on article three of the European Waste Directive (2008/98/EC)[15] it may be helpful for the maturing of the sector (including NSW local councils, state government and reuse organisations) to begin to use more specific terminology around reuse and levels of quality, including differentiating between reuse activities and 'preparation for reuse' activities[16]. This would mirror progress made in Europe and aid conversations about who is responsible for undertaking any preparation, and/or how much preparation an Acceptor is willing to do in order to onsell/redistribute an item between both the Reuse sector and the general public, and between local Councils and their particular reuse partners.

  This could potentially be progressed by dialogue between SSROC/member Councils and key players in the Greater Sydney reuse market (ie. a bottom-up approach) or through advocacy by SSROC/member Councils to the state government as part of its current circular economy policy development (ie. a top-down approach). In either case, adoption of such terminology may also assist in positioning the sector's role in the emerging circular economy.
- Another initiative which might benefit the reuse/charity sector and therefore collaborative SSROC member Councils would be a state- or nation-wide quality standard/warranty scheme, such as that introduced in Scotland[17] which again, SSROC/member Councils could support through dialogue/advocacy.

[14] By raising the quality standards of what Acceptors are prepared to take: for example if a kerbside bulky goods partnership resulted in a sufficient number of unscratched furniture items being received, Acceptors might start rejecting donations of *any* scratched furniture (compared to now when they accept minor scratches), or customers might pass over lightly scratched in favour of unscratched leaving the lower quality item unsold. This could lead to those rejected or unsold donation items ending up in landfill in the place of the kerbside-collected furniture, leading to little or no *increase* in overall diversion. In fact it might see these rejected items ending up on kerbside clean up collections, increasing the total volume of kerbside furniture collected by Councils. It should be noted that in such a scenario, any landfill costs would at least be incurred by Councils and therefore residents, rather than the charities. Increase in overall quality of items would also likely provide other benefits to Acceptors, such as increased profit from sales, etc regardless of impact on diversion.

[15] WRAP UK, A methodology for quantifying the environmental and economic impacts of reuse (page 8) http://www.wrap.org.uk/sites/files/wrap/Final%20Reuse%20Method.pdf

[16] Article 3 of the 2008 European Waste Framework Directive (2008/98/EC) distinguishes reuse and preparation for reuse and provides the following definitions of reuse and preparation for reuse: Re-use means any operation by which products or components that are not waste are used again for the same purpose for which they were conceived; Preparing for re-use means checking, cleaning or repairing recovery operations, by which products or components of products that have become waste [or cannot be reused in present condition] are prepared so that they can be re-used without any other pre-processing.

[17] https://www.zerowastescotland.org.uk/revolve

Acceptors’ actual plans to expand in near future are mixed

This section presents an overview of the future plans of key Acceptors in the reuse marketplace in Greater Sydney. Insights were gained through telephone interviews with key players.

Three of the nine Acceptors have current plans to expand operations, one is considering whether to expand, and one has no current plans but is open to discussions with Councils. The future plans of five were unable to be verified.

Salvos Eastern has concrete plans to open more retail outlets, as they generally find them to profitable operations (contrary to the experience of other Acceptors noted above). They reported they are always looking for more retail space, and particularly so in the last 3-6 months[18]. They have no particular plans relating to acceptance of furniture or bulky household items, so it is likely they would continue their current model.

Both RRA and Kimbriki have plans to redevelop current sites to expand capacity. RRA is hoping to develop their Bellambi site to accept more goods and increase the range of services offered, including education workshops and a reprocessing facility to produce a mixed product usable as an input in furniture production. They already have the development application, engineering designs and architectural designs completed, and support from their property owners. However they do not currently have the finances to proceed. They have applied for one grant but were unsuccessful. They are ready to begin as soon as financial support can be secured. RRA also indicated openness to considering facilities within metropolitan Sydney if sufficient support could be mobilised. Kimbriki has a definite plan to relocate the Buy Back centre to before the weighbridge on the same complex in approx. 6 months’ time[19] (there is already a building there to use), which would mean donors would no longer have to pay a tipping fee to donate (considered an economic deterrent to donations of quality items accepted for free by other Acceptors). They plan to do an open procurement process to operate the facilities and work with ZWN to put together the offer.

The Smith Family is considering whether to expand services to accept bulky household items in metro areas (and also to expand the acceptance of bulky items at their Central Coast facility) in the future, because of the success of the Central Coast op shop. Neither are solid plans yet but could happen within 1-3 years. They indicate they would need to do research into locations for retail outlets, availability of products and consistency of supply before making a decision.

Salvos Western has no current plans to expand operations, but is open to dialogue with Councils about a trial to receive kerbside bulky goods.

The extent to which other Acceptors have planned for growth or expansion over the coming years count not be confirmed as they were unable to be interviewed. SSROC are particularly advised to maintain close contact with Reverse Garbage and The Bower in this regard.

One interviewee indicated that there has been some talk in the sector that one of the Acceptors in this study may stop accepting furniture in the near-future but despite this being a potentially major disruption in the reuse market, this could not be confirmed.

[18] Disclosed at interviews conducts in Sept/Oct 2018

[19] Disclosed at interviews conducts in Sept/Oct 2018

Insights and implications

- It appears from the number of Acceptors planning to expand operations that there is currently some unmet demand for reusable items in parts of Greater Sydney. However because of the lack of data captured (highlighted above), Acceptors are uncertain whether this specifically includes unmet demand for furniture and other kerbside bulky goods.

  This suggests that most if not all Acceptors would need to begin any collaborations with SSROC member Councils with (potentially Council supported) further research/data capture, or exploration of small trials to determine viability of any potential schemes. It is unlikely that many could respond to open tender processes with proposals for services to divert kerbside bulky goods to reuse with or on behalf of Councils – only RRA and The Bower made any indications of such.

- It seems that the first step in any potential kerbside reuse initiative would need to be further dialogue with individual Acceptors, potentially with SSROC/member Councils bringing one or more draft proposals to particular Acceptors for consideration and discussion.

  Kimbriki, as a local, Council-sponsored initiative, is probably less likely to consider working directly with/for Councils in SSROC but could have a viable model and learnings to offer for consideration to Councils who could partner with their landfill service provider to add/expand diversion for reuse services.

- The rumour of a potential reduction in acceptance of furniture by at least one major player, though currently unsubstantiated, is noteworthy as it speaks to the various problems surrounding the acceptance and onselling reusable bulky household items and indicates a possible future scenario if the problems cannot be mitigated to all or some extent, further highlighting the importance of assisting Acceptors to reduce the incidence/cost of donation of unsaleable items.

Expanding retail space specifically for bulky goods would be challenging

As noted above, most Acceptors indicated anecdotally that they could accept a little more furniture to sell via existing retail outlets but would need to expand retail space to accept any significant amount from kerbside bulky collections. As noted above, while some Acceptors have plans to expand retail outlets others don't.

Regardless of future plans, a number of Acceptors indicated that expanding retail space to increase capacity to accept kerbside bulky goods from Councils would be challenging. Retail space is considered expensive and not always profitable once operational[20]. This would be a particular concern for Acceptors if the expansion was predominantly for kerbside bulky goods(which would obviously require more space per item than other categories of goods). For example, Salvo Eastern reported that it feels like furniture takes up to 50% of retail space but generates only approx. 20% of retail revenue.

Further, most Acceptors indicated that finding the right location or facility to expand their capacity to accept kerbside bulky goods from Councils could be difficult, costly and take a long time. Finding a location that gave access to a sufficient market for selling items, was the right type of facility and fell within budget was of primary concern.

For example, Salvos Eastern have opened retail outlets in areas where the sales market was not adequate and had to close. They indicated they would be more careful in future in selecting locations for new stores. Similarly, The Smith Family indicated they would have to undertake research on the demand for second-hand bulky items in Greater Sydney before moving into the bulky reuse marketplace in Sydney. The research would inform which geographic areas have good markets for bulky items, in which they could try to locate facilities for retail outlets.

Again, the local market is particularly important for furniture, which is mostly a premeditated purchase choice. That means that there must already be people in the local area who wish to buy furniture second-hand, as Op Shop customers don't just buy a couch if they see a nice one in the store one day, the way they will often do for clothes or smaller items. Alternatively, as noted above, the communication and marketing campaigns encouraging people to buy bulky household items second-hand would need to gain a strong level of traction in areas with new retail outlets.

[20] Thought to relate to the local area within which it is situated according to Salvos Western

Insights and implications

- Expanding retail space specifically to accommodate kerbside bulky goods is likely to be challenging for some Acceptors, as these bulky household items are not always efficient when comparing sale revenue generated to cost of required retail floorspace. This means that Council collaborations seeking to use existing retail models in new areas may require some form of funding/additional guaranteed revenue to subsidise additional retail space. This could for example be direct payments from Council out of savings from landfill fees for accepting kerbside bulky goods, or creation of new profit streams / profit generating activities to cross-subsidise new retail space (for example being paid to prepare/repair/upcycle kerbside bulky goods for reuse). Alternatively, some form of underwriting of the risk by Council may be acceptable to Acceptors.
- Other support to identify untapped local markets for bulky items and appropriate facilities within these areas may accelerate organic or specific expansion of retail space This could include, for example, SSROC/Council led or supported research into demand in local markets, research on existing appropriate facilities, identification of any Council facilities that could be shared/operated by Acceptors, etc. RRA suggests that good locations for any Acceptor would need a physically appropriate and affordable ‘customer facing’ facility with good access to a strong local sales market. For models such as their own, the facilities would also need to be able to act as a community hub to engage the community and host repair/reuse workshops, etc. In addition, for RRA specifically, the location would need access to an employment market that would benefit from RRA’s employment opportunity and provide social inclusion.

Some Acceptors lack funding and ability to access funding to expand

As noted above, profitability of new retail space is uncertain and Acceptors must have the financial resources to not only cover the initial expansion costs but also to bear any losses that might occur. The major charities seem to be mostly financially self-sufficient with reuse operations and might have such resources[21], given they are generating profits to fund their social services that they may be able to reinvest to generate future profit, or utilise other 'arms'/funding streams of their business to initially cross-subsidise or provide investment capital.

However the social/environmental enterprises are less likely to have such resources. Most of the small enterprises run their reuse operations specifically to divert goods from landfill, while one (RRA) also aims to ensure a decent wage to people who otherwise may not be able to access employment. This potentially means that large profit margins are less of a focus in their operations, compared to charities aiming to cross-subsidise their social services. It is also appears that for at least some of these organisations, commercial viability is difficult to obtain. For example, both The Bower and Reverse Garbage operate in facilities with heavily subsidised rent and are concerned about the very real possibility of (at time of writing) facing large increases in rental costs (increasing to equivalent to 80% of market value[22]). That even a 20% discount is considered unaffordable suggests that such operations cannot afford facilities at normal market value and would need either subsidised facilities or direct financial support to expand to new facilities. At the same time, the threat of eviction reported also suggests that they have been unable to access sufficient funding/subsidies to support the increased rent.

On the other hand, Kimbriki is a commercial enterprise that receives much of its revenue from gate fees. While it may have the financial resources to expand, it would need to be co-situated with a landfill to operate its current model. RRA is one of the few Acceptors that reports being very willing to expand their role in the Reuse market to cater for kerbside bulky goods if there was a good opportunity for a partner to provide financial support. As noted above, they have to date been unable to access funding to expand their existing facility.

Implications and opportunities

- As noted earlier, Charities may only be willing to collaborate where such activities generate profit to help fund their welfare programs. However given their existing large scale operations and potential access to financial resources, they may be best equipped to initiate and administer operations sizeable enough to handle the volume of kerbside bulky goods generated in SSROC. This suggests the challenge in collaborating with Charities may be convincing them of the benefits of a collaboration and supporting their expansion efforts.
- Conversely, the smaller enterprises are likely to be more willing to partner with Councils simply in order to see greater diversion achieved, and may also be open to cost-neutral models that are financial self-sufficient but don't generate much profit. At the same time they are likely to be initially less well equipped to run large-scale, geographical spread operations and would probably need more support to cover the initial expansion. This could be in the form of direct funding or support to access grants, etc. but could also be support to access subsidised facilities (including, eg. under-utilised Council facilities) or support for collection infrastructure (eg. Trucks/fleet from expired waste contracts/landscape maintenance?) that offset other costs. As noted above, using savings from avoided landfill fees for bulky household items in the clean-up stream could enable Councils to provide Acceptors with financial support through direct fee-for-service funding, subsidies, grants or loans.

[21] Not confirmed in interviews, except for Salvos Eastern which confirmed it is looking to expand

[22] https://www.smh.com.au/national/nsw/conflict-of-interest-what-s-behind-marrickville-stoush-over-the-bower-20181123-p50hzu.html

Past initiatives can provide learnings for future efforts

During interviews, a number of past initiatives known to interviewees were highlighted that illustrated some of the barriers and challenges to developing new initiatives to increase throughput of donated goods, or divert kerbside bulky goods to reuse. Information about these initiatives were unable to be verified with those directly responsible for the initiatives, and so have not been included as detailed case studies. However the following is a list of some models that appear to have been attempted in the past with potential contacts for more information, followed by a summary of learnings that could inform future initiatives.

Model 1: Acceptor responsible for triaging items over the phone and collecting reusable bulky goods direct from Council kerbside collection. Council provided sorting facility for Acceptor use. Never commenced. More information: Sutherland Council/Salvos Eastern.

Model 2: Council triages items and takes to Acceptor warehouse for onsale by Acceptor. Never commenced. More information: Liverpool City Council.

Model 3: Council triages items and takes to Council warehouse for selection and onsale by Acceptor. Currently operating. More information: Zero Waste Network–New Zealand.

Model 4: Council partnered directly with Housing NSW to redistribute restored/upcycled furniture. Operated for five year before closing. More information: Blacktown City Council / Mount Druitt TAFE.

Model 5: Acceptor partners directly with refugee organisations to redistribute furniture to newly arrived residents. Status unknown. More information: The Bower.

Learnings

- Coordinating communications and collection logistics between Council clean-up operations and Acceptors can be complicated.
- Revenue generated from onsale of reusable kerbside bulky goods may not cover costs, so funding may be needed to cover initial or ongoing shortfalls.
- There may be different understandings of what is ‘reusable’ (or sellable) between residents, Council staff and Acceptors. Training of Council staff can be problematic, particularly where high turnover is common, resulting in sub-optimal ‘triage’.
- Use of volunteers to prepare bulky items for reuse may be an important factor in profitability of initiatives, but may not provide sufficient capacity to move significant volumes of kerbside bulky goods.
- Guaranteed markets for repaired/restored items (such as through contracts for acceptance of items) can drive success of initiatives.
- Intended recipients of redistributed bulky goods may have personal or cultural reservations about receiving or using second-hand furniture.

3 Conclusions

Summary of key implications

The Reuse market in Greater Sydney is dominated by a few major welfare Charities with similar hub+spoke models of operation, augmented by a small number of unique enterprises. The majority of Acceptors are outside SSROC boundaries. No mainstream commercial businesses currently operate in the marketplace.

This suggests:

- Only a small number of Acceptors are likely to have sufficient individual capability/systems to deal with the potential volume of kerbside bulky goods from SSROC. Multiple partnerships or multi-partner collaborations are likely to be needed to significantly increase diversion rates of SSROC's kerbside clean-up stream through reuse.
- The hub+spoke model of most Charity Acceptors means they are already operating central warehouse facilities for sorting reusable items, and a fleet for collecting items and transporting between warehouses and retail outlets. This suggests Charities have sufficient capability or foundations to operate initiatives large enough to cater for the volumes of reusable kerbside bulky goods found in SSROC clean-up streams.
- Kerbside bulky goods from SSROC member Council clean-up streams may need to travel some distance outside SSROC to be utilised by Acceptor's full network. Financial/environmental costs and logistical complexities of such freighting of goods was not in scope for this study and would need to be explored further.
- The normal/organic profit margins from reuse operations may not be sufficiently large enough to tempt mainstream commercial players to operate in this space, and indeed may not be revenue neutral even for not-for-profit enterprises, meaning that any expansion/replication of current operations may need subsidising by Council.

Diverting waste from landfill is not the primary motivation of most large Acceptors in the Reuse market. Social mission is the primary driver for the key players who are charity Acceptors.

This suggests:

- Any communications to Acceptors should be tailored to their individual missions rather than couched in the language of council strategic waste objectives.
- Collaboration/partnership models that clearly and assuredly provide desired benefits back to Acceptors may need to be developed by SSROC/member Councils and presented to Acceptors for consideration, rather than the reverse.
- Most Acceptors would likely need to be convinced of both the alignment and benefits to their own mission, and the mitigation of financial risks of any collaboration before proceeding.

Most business models of Acceptors are remarkably similar. Only a few unique elements exist in the greater Sydney reuse marketplace, offering additional services such as salvage or repair.

This suggests:

- More research is needed to understand if the 'uniqueness' of these additional services is related to difficulties in make such activities profitable, a lack of support for innovation/expansion needed to adopt these additional services, or other barriers.

Most reusable items are currently received through donations from the general public and are sold back to the general public. The size of the market for kerbside bulky goods is unknown however, as little data is captured by Acceptors on the throughput of items, even overall let alone by category type, or popularity / movability of items. Anecdotal evidence suggests the supply of donated bulky household items exceeds current demand, though this may be due to the large proportion of poor quality donations received by Acceptors.

This suggests:

- Increasing demand for reusable bulky household items amongst the general public, including small-to-medium businesses, could strengthen the market for kerbside bulky goods. Current communication efforts by Acceptors, Councils/governments and environmental organisations on both donating and buying back second-hand items may not be gaining sufficient traction, at least not for bulky goods, as it is felt by Acceptors that current supply of donated items exceeds demand.
- Exploring alternative channels for redistributing bulky household items, including through charity Acceptors' own social services/programs, but also through local community groups etc, may provide additional markets for kerbside bulky goods – as these channels seem under-utilised compared to community expectations. Careful consideration would need to be given to any individual, social or cultural stigmas attached to 'second-hand' goods.
- Without data on current throughput, demand and unused capacity, Acceptors will likely be wary of making commitments to receive either specified or uncapped volumes of kerbside bulky goods in any collaboration with Councils. Beginning any potential collaborations with support for further research/data capture or small trials may help assure the viability/profitability of any schemes for both Councils and Acceptors.
- Acceptors may need support to develop/implement data capture systems if good data is required to design, contract or report on collaborations around diverting kerbside bulky goods to reuse. Work in progress by ZeroWasteNetwork-Sydney on standardised measurement systems could be particularly useful in development of data capture systems for charity/environmental organisations that do not have weighbridges.

Because the current capacity of the bulky household items market is not quantified, most Acceptors are wary of general commitments to receive kerbside bulky goods from Council clean-up streams (in volumes proportional to the total SSROC clean-up stream). However all Acceptors would happily receive more 'high quality' bulky items (providing they are part of the quality assessment), as they currently receive greater than desired volumes of low(er) quality items. Most have at least some additional storage space to facilitate this.

This suggests:

- Any collaboration should provide Acceptors with sufficient control over the quality assessment ('triage') process, to mitigate the risk of disposal costs associated with unsalable items, and/or cover/offset any disposal costs associated with accepting kerbside bulky goods. Triage processes could be supported/complemented by efforts to introduce consistent terminology to the Reuse sector around levels of quality, etc. as well as efforts to improve consistency of quality standards/criteria.
- Care will be needed to ensure that any Council initiatives aiming to increase diversion from landfill do not simply substitute high quality kerbside bulky goods in the place of low(er) quality donations from the general public in existing retail space, but instead increase overall volumes of bulky household items sold through the Reuse marketplace, otherwise there may be no net positive diversion. Ways to achieve this could include supporting the expansion of retail space, and/or incentivising Acceptors to become (more) involved in 'preparation for reuse' activities that transform lower quality items into attractive, saleable items.

Acceptors were more willing to consider receiving kerbside bulky goods if they received support to expand their retail space to deal with the greater volumes. Acceptors currently face a number of challenges to expansion, including identifying the right locations, accessing sufficient initial funding and ensuring ongoing profitability. Only one Acceptor currently has concrete plans to expand, and this is conditional on identifying the right locations.

This suggests:

- Partnership models that provide Acceptors with some form of guaranteed revenue (ie. direct funding) or risk underwriting (ie. coverage of any shortfalls during an agreed time period), or direct support for expanding facilities (eg. research, subsidised facilities, grants/loans, etc) in return for receiving kerbside bulky goods are likely to be more attractive than models where Acceptors shoulder the risks of attempting to generate profit from sales of kerbside bulky goods. Councils could use the savings from reduced landfill fees arising from diversion of bulky goods in the clean-up stream to provide these incentives.

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Potential models for consideration

The following models were conceived either through conversations with Acceptors or conversations within and between the ISF and SSROC project teams, and seem worth further exploration. Other models may exist/be conceived that are also worth further consideration.

1. **SSROC/Councils supports existing Acceptors to expand their current operations/retail space in order to cope with increased quantities of bulky household items, sourced from kerbside clean-up collections.**

   Possible logistical models utilising existing Acceptor business models include:

   a. Council triages items (eg. through booking forms, photos and/or visual inspections of items on street) and takes reusable items directly to retail outlet/warehouse(s) of partner Acceptor(s) using Council fleet. Acceptor is responsible for disposing of any unsalable items.

   b. Council triages items (eg. through booking forms and/or visual inspections of items on street) and takes reusable items to a central Council-run warehouse using Council fleet, for inspection by Acceptor who then transport selected items to their own operations using own fleet. Council (or Council's waste contractor) is responsible for disposing of any unselected items.

   c. Council or Acceptor triages items (eg. through booking forms, photos and/or phone calls) and arranges for Acceptor to collect items directly from resident kerbside and take to their own operations using own fleet. Acceptor is responsible for disposing of any unsalable items.

Potential support could include:

- Provision of research support to identify appropriate new retail / warehouse locations
- Provision of Council-subsidised facilities or fleet
- Direct funding/subsidies from Council from savings on landfill fees for kerbside bulky goods.
- Risk-underwriting by Council to cover any shortfalls in operations for agreed period of time.

2. SSROC/Councils support existing or new Acceptors to replicate existing models in new locations.

Possible models to replicate include:

a. Social/environmental enterprises that accept, repair/upcycle and onsell reusable kerbside bulky goods, financed through sale revenue with financial support from Council(s). Example: The Bower.

b. Co-location of repair capability and 'tip shop' retail outlets at transfer stations/landfill sites used by SSROC member Councils that 'salvage' (sort) reusable items from deposited 'waste', financed through gate fees and sale revenue. Example: Kimbriki.

c. Holistic service model, involving reuse, repair and onselling, plus infrastructure taking mixed inputs and producing an output that can be used in new furniture] Example: RRA planned expansion.

3. SSROC/Councils support existing or new Acceptors to adapt / develop new business models.

Possible ideas to explore include:

a. Supporting Acceptors to expand their role in the Reuse marketplace by becoming (more) involved in 'preparation for reuse' activities, such as cleaning, repairs and upcycling, enabling them to onsell/redistribute a greater proportion of unwanted bulky household items, including those from kerbside clean-up collections.

b. Developing partnerships/joint initiatives directly between waste management contractors and Acceptors to develop triage/salvage processes that see any repairable/reusable items diverted from landfill, including kerbside bulky goods.[23]

Potential support could include:

- Offering lucrative opportunities with clear benefits and support
- Continuing to lobby the State and Federal government to increase supply-side policies such as incentives/support for players operating in the reuse marketplace to make it more profitable.

[23] This could, for example, mimic ideas in the food waste sector of waste management companies partnering with food rescue charities to divert edible food to 'reuse' as part of food waste recycling contracts. (From ISF's 'Food waste opportunities within food wholesale and retail sectors' https://opus.lib.uts.edu.au/bitstream/10453/115674/1/Lewisetal2017EPA_Food_waste%20report_2017-08-23.pdf)

Overall conclusions

The capacity of the current Reuse marketplace to accept bulky household items from kerbside clean-up collections cannot be quantified, but it is unlikely to have sufficient demand to meet the present volume of potentially reusable bulky items in SSROC.

Given the predominantly social mission of most major Acceptors in the Greater Sydney reuse market and uncertainty over individual capacity to take greater volumes, it is considered unlikely that the market would proactively respond to any commercial opportunities offered by SSROC/Councils. Instead it is more likely that SSROC/Councils would need to take the lead in developing and presenting ideas to the market for consideration, as well as providing support/incentives to encourage collaboration and partnerships.

This study provides the first step in understanding what ideas may be worth further exploration and the various barriers and challenges that will need consideration. The study also suggests where further research could enhance understanding and ability of the Reuse marketplace in Greater Sydney to accept bulky household items from kerbside clean-up collections and increase overall diversion in the region.

APPENDICES

A Summary of known capacity

Table 6: Indicators of current capacity and information on operations for key acceptors in the reuse marketplace in Sydney.

Key: Inflows: Drop-off (D), Collection (C). Outflows: Sales to customers (S), Redistribution to businesses, charities or internal welfare programs (R)

Acceptor	Retail outlets		Distribution centre(s)	Throughput (t pa)*	Collections trucks	Collections service (t pa)**	Warehouse footprint	Sales revenue ($)***	In flows		Out flows	
	Total	Accepting furniture										
Vinnies Sydney	43	43	Auburn	-	-	-	-	67,700,000 *(All NSW)*	D	C	S	R
Vinnies Broken Bay	24	24	Brookvale Mt Ku-ring-gai	-	-	-	-		D	C	S	R
Vinnies Parramatta	24	24	Wentworthville	-	-	-	-		D	C	S	R
Salvos Eastern Sydney	12	12	Tempe	-	15	37,500	>1,500 m^2	-	D	C	S	R
Salvos Western Sydney	19	19	Minchinbury	-	8	-	4,000 m^2	-	D	C	S	R
Lifeline H2H	5	5	Asquith	-	-	-	-	1,469,677	D		S	
Lifeline Macarthur	5	4	Narellan	-	2	-	-	-	D	C	S	
Goodwill	2	2	Brookvale	-	1	10,500	-	-	D	C	S	
The Smith Family	10	(1)	Villawood (Bateau Bay)	-	-	-	-	10,000,000 *(NSW+ACT)*	D	C	S	
The Bower	2	2	Marrickville Parramatta	177 (345)	1	-	-	786,921	D	C	S	R
Reverse Garbage	1	1	Marrickville	208	18 trips/ wk	-	-	890,670	D	C	S	R
RRA	2	1	N/A	-	N/A	N/A	N/A	-	D		S	R
Kimbriki	1	1	Terrey Hills	610	N/A	N/A	-	-	D		S	

- unknown
** throughput of furniture or all items in tonnes per annum (tpa)*
*** maximum annual capacity of collections service based on truck size and movements*
**** revenue from all op shops in the organisation, including all items sold, not just furniture.*

B Acceptor descriptions

This sections presents summary information collected from publically available information on all 9 key Acceptors. It also includes more detailed information from a sample of the key Acceptors that were interviewed to gain a deeper understanding of their operations, motivations and future plans.

Interviewees were selected through a prioritisation workshop with SSROC and included RRA, Salvos Eastern Sydney, Salvos Western Sydney, The Smith Family, and Kimbriki. St Vincent de Paul was selected but unable to be interviewed. Interview questions were developed in consultation with SSROC and supplied to interviewees in writing prior to interviews (see Appendix C for more information on the process).

Acceptors are listed in the same order

<table>
<tr><th colspan="3">Key Acceptor</th><th colspan="2">Retail outlets</th><th>Commercial status</th></tr>
<tr><td rowspan="3">1</td><td rowspan="3">St Vincent de Paul</td><td>Broken Bay</td><td>24</td><td rowspan="3">92</td><td rowspan="3">Charity</td></tr>
<tr><td>Sydney</td><td>43</td></tr>
<tr><td>Parramatta</td><td>24</td></tr>
<tr><td rowspan="2">2</td><td rowspan="2">Salvation Army</td><td>Western Sydney</td><td>19</td><td rowspan="2">31</td><td rowspan="2">Charity</td></tr>
<tr><td>Eastern Sydney</td><td>12</td></tr>
<tr><td rowspan="2">3</td><td rowspan="2">Lifeline</td><td>Macarthur</td><td>7</td><td rowspan="2">10</td><td rowspan="2">Charity</td></tr>
<tr><td>Harbour to Hawkesbury</td><td>3[24]</td></tr>
<tr><td>4</td><td colspan="2">Goodwill</td><td colspan="2">2</td><td>Charity</td></tr>
<tr><td>5</td><td colspan="2">The Smith Family</td><td colspan="2">(11[25])</td><td>Charity</td></tr>
<tr><td>6</td><td colspan="2">The Bower Reuse & Repair Centre</td><td colspan="2">2</td><td>Environmental enterprise / charity</td></tr>
<tr><td>7</td><td colspan="2">Reverse Garbage</td><td colspan="2">1</td><td>Social enterprise</td></tr>
<tr><td>8</td><td colspan="2">Resource Recovery Australia</td><td colspan="2">2</td><td>Social enterprise</td></tr>
<tr><td>9</td><td colspan="2">Kimbriki</td><td colspan="2">1</td><td>Commercial enterprise</td></tr>
</table>

[24] Only three of LifelineH2H's five retail outlets stock furniture and other bulky goods.

[25] The Smith Family have 10 retail outlets and 1 warehouse in Greater Sydney, none of which currently accept furniture. One Op Shop in Bateau Bay just outside Greater Sydney does accept furniture and so has been included here.

St Vincent de Paul

St Vincent De Paul (Vinnies) is a charity that assists people in need and aims to combat social injustice. Vinnies operates Australia wide and has 267 Op Shops in New South Wales, with 92 in Greater Sydney.

Vinnies is organised into regional groups, with three (3) groups operating in Greater Sydney, including:

- Parramatta Central Council: 24 Op Shops and is serviced by a central warehouse in Wentworthville,
- Sydney Archdiocese Central Council: 43 Op Shops and is serviced by a warehouse in Auburn,
- Broken Bay Central Council: 24 Op Shops and is serviced by warehouses in both Brookvale and Mt Ku-ring-gai.

Profits generated from the Op Shops are put towards internal charitable activities (St Vincent de Paul Society NSW 2018).

Types and sources of items accepted

Vinnies Op Shops accept furniture and electrical items at select stores. Items are received through in-store donations to retail outlets or central warehouses, or through a collections service. The number of trucks, truck sizes and movements are not known.

Destination of items

Regional warehouses receive and sort items, before redistributing to local retail outlets for resale to the general public, or to welfare services for distribution/donation to clients. Some unusable/unsellable material is also sent directly to landfill. It is not known what proportion of accepted items are sold, donated, recycled or landfilled.

Throughput of bulky goods

Vinnies operates the most charity retail shops in Australia (NACRO 2016). Two billion items were sold from NSW Vinnies Op Shops in the 2016–17 year, however, the throughput of bulky household items through Vinnies shops is not known. Annual revenue was $67.6 million (St Vincent de Paul Society NSW 2017).

Salvation Army

The Salvation Army (Salvos) is a charity that is dedicated to building healthy communities and working for justice. Salvos operates Op Shops (Salvos Stores) in New South Wales, Queensland and Victoria. Salvos Stores are organised into regional groups. Salvos Stores in Greater Sydney are organised into the Eastern Sydney Area and the Western Sydney Area. Eastern Sydney is serviced by a central warehouse in Tempe and Western Sydney by a warehouse in Minchinbury. Profits from Salvos Stores support Salvos' welfare programs (Salvos Stores 2018).

Types and sources of items accepted

Salvos Western Sydney accept furniture, white goods and electrical items. Items are received through in-store donations to their central warehouses or retail outlets, or through a collections service for select areas. The warehouse operates eight 5.5t trucks doing eight collections per week, so approx. 64 collections per week in total (Salvos Western Sydney 2018). They

Salvos Eastern Sydney accept furniture, near new renovation materials (e.g. bathroom vanity) and electrical items at select stores. Items are received through in-store donations to the warehouse or retail outlets, or through a collections service for local areas. The warehouse operates six trucks together doing 23 jobs or up to 44m^3 worth of items per day, 5 days per week, so doing over 100 collections per week (Salvos Eastern Sydney 2018).

Salvos Stores receive items from the general public, and commercial sources. Salvos Western Sydney reports they receive approximately 80% of items from the general public and 20% from businesses (Salvos Western Sydney 2018).

Destination of items

Both Salvos Stores areas distribute bulky household items to Next Users through in-store purchases and donations through The Salvation Army's Doorway Program. Approximately 95% of reusable items are sold from Salvos Stores Western Sydney, and 90% are sold from Salvos Stores Eastern Sydney. Approximately 5% of reusable items are donated from Salvos Stores Western Sydney, and 10% are donated from Salvos Stores Eastern Sydney (Salvos Eastern Sydney 2018, Salvos Western Sydney 2018).

Salvos Stores Western Sydney estimates that 52 tonnes per year of soiled furniture have to been landfilled, although it is not known what proportion this is of the total furniture accepted (Salvos Western Sydney 2018). It is not known what proportion of accepted items are not reusable and are recycled or landfilled from Salvos Stores Eastern Sydney (Salvos Eastern Sydney 2018).

Throughput of bulky goods

Salvos has the largest retail footprint of all charity shops in Australia (NACRO 2016). The total throughput of Salvos Stores Western Sydney is not known. However, 40,000 furniture items and 26,000 electrical items were sold in the last year (Salvos Western Sydney 2018).

The throughput of bulky household items through Salvos Stores Eastern Sydney is not known. However, approximately 1,560 tpa of all accepted items (bulky household items, textiles, books, etc.) are disposed to landfill each year. A larger quantity of items are sold than are disposed. Therefore the throughput of all accepted items must be larger than 1,560 tpa (Salvos Eastern Sydney 2018).

Annual revenue from sales of goods in Salvos Stores is not publically available.

Lifeline

Lifeline is a charity that runs counselling and crisis support services. Lifeline operates a number of Op Shops around Australia with proceeds funding Lifeline's support services. Independent Lifeline organisations service local regions and coordinate local Op Shops. Within Greater Sydney, there are five (5) independent Lifeline organisations. Only two (2) of these five[26] accept bulky household items: Lifeline Harbour to Hawkesbury (H2H) and Lifeline Macarthur (Lifeline 2018).

Types and sources of items accepted

Lifeline Macarthur and Lifeline H2H run 18 Op Shops that fall within the study area. Only seven (7) of these accept furniture.

Lifeline Macarthur receives furniture via in-store donations and offers a collections service. There are two collections trucks, and Lifeline Macarthur operates a central warehouse in Narellan (Lifeline Macarthur 2018). The size and daily movements of the trucks are unknown.

Lifeline H2H receives furniture via in-store donations to Naremburn Op Shop, the largest Lifeline Op Shop in the region (Lifeline H2H 2018), as well as through a separate central warehouse for Lifeline H2H. Three of their five stores sell furniture.

Destination of items

Lifeline Macarthur and Lifeline H2H distributes saleable furniture to Users through in-store purchases only (Lifeline H2H 2018, Lifeline Macarthur 2018). It is not known what proportion of accepted items are sold or landfilled, and whether any unsellable material is recycled.

Throughput of bulky goods

Neither throughput of furniture nor annual revenue for Lifeline Macarthur Op Shops is publically available.

The throughput of furniture through Lifeline H2H is not known. 2016–17 annual revenue for all Lifeline H2H Op Shops was $1,469,677 (Lifeline H2H 2017).

[26] The other Lifeline organisations are Lifeline Sydney and Sutherland and Lifeline Western Sydney, which do not operate Op Shops, and Lifeline Northern Beaches whose Op Shops accept only clothes and books, not furniture or homewares.

Goodwill

Goodwill operates two Op Shops in Sydney to generate profits which are donated to various charities, including Royal Far West, Starlight Children's Foundation, and others (Goodwill Op Shops 2018a). Goodwill's 'flagship' Op Shop is located in Brookvale with a second Op Shop in Lane Cove (Goodwill Op Shops 2018b).

Types and sources of items accepted

Goodwill Op Shops accept furniture as well as any other household items that are not damaged and are saleable. Both retail outlets accept in-store donations, and the Brookvale outlet also has one (1) truck that collects items from donors in the local area and primarily brings them back to Brookvale. The truck is 4.2 tonnes and performs 10–15 jobs per day (Goodwill Op Shops 2018b).

Destination of items

Items are sold in-store to Users. It is not known what proportion of accepted items are sold or landfilled, and whether any unsellable material is recycled.

Throughput of bulky goods

The throughput of bulky household items through Goodwill Op Shops is not known. Based on the information provided, the maximum capacity of the collections service for the Brookvale outlet is calculated at 10,500 tonnes per annum[27]. However, it is highly unlikely that there is sufficient retail footprint to accept this tonnage at present.

Annual revenue for the Op Shops is not publically available, however Goodwill donates a minimum of $10,000 per year to each of its two major charities (Goodwill Op Shops 2018a). To date, the Goodwill Op Shops have donated more than $260,000 to the Charities it supports (Goodwill Op Shops 2018b).

[27] The calculation is based on the assumptions that the weight of the truck provided refers to the payload, the truck is at full capacity each movement, the truck does 10 trips per day, and operates five (5) days per week, 50 weeks of the year.

The Smith Family

The Smith Family assists disadvantaged children to get the most out of their education. The Smith Family operates 19 Op Shops across NSW and the ACT, 10 within Greater Sydney. The Smith Family's primary reuse focus is textiles, and Op Shops in metropolitan Sydney only stock textiles, bedding and accessories. The Smith Family Op Shop in Bateau Bay on the Central Coast (1 hour north of Sydney) accepts furniture. Proceeds generated from stores support The Smith Family's administration costs, allowing financial donations from supporters to be directed predominantly to programs for disadvantaged students (The Smith Family 2018). Despite not currently accepting furniture, The Smith Family was included in this study at the request of SSROC to investigate future plans to participate in the bulky household items reuse marketplace in metropolitan Sydney.

Types and sources of items accepted

The Op Shop at Bateau Bay accepts furniture through in-store drop-offs and a collections service for the local area. Staff perform minor repair jobs or set up flat packs as required (The Smith Family 2018b).

The Smith Family's textiles operation has adopted a different model. Items are received through in-store donations or deposits into clothing bins. Stores are stocked through a central distribution centre in Villawood. The distribution centre has a weighbridge (The Smith Family 2017).

Destination of items

All reusable furniture is sold from the Bateau Bay Op Shop to Next Users through in-store purchases (The Smith Family 2018b). It is unknown what proportion of furniture is sold, recycled or landfilled.

In metropolitan Sydney, textiles items are distributed to Next Users through in-store purchases and donations in Australia and overseas (The Smith Family 2017).

Throughput of bulky goods

The Smith Family processes over 10,000 tonnes per annum of all accepted items, primarily clothing, bedding and accessories (The Smith Family 2017). At this stage furniture is not accepted by The Smith Family in metropolitan Sydney due to limited retail space (The Smith Family 2018a). The Smith Family's Central Coast retail outlet in Bateau Bay accepts furniture (The Smith Family 2018a), however the throughput of furniture is not known. Annual revenue in 2016–17 was $1.5 million (The Smith Family 2017).

The Bower

The Bower Reuse & Repair Centre (The Bower) is a not-for-profit social enterprise, registered as an environmental charity. The Bower is an established Acceptor, Repairer and Upcycler in the reuse marketplace. The Bower's headquarters and main facility is located in Marrickville and began operations in 1998. Marrickville functions as both a collections/sorting warehouse and a retail outlet. The Bower also operates a retail outlet in Parramatta (opened in 2016), an online store (opened in 2015) and two community and repair centres: The Bower Woodworks, Redfern, and Banga Community Shed, Green Square (The Bower 2018). In addition, it runs 'Repair Cafes' in various locations within Greater Sydney, where items can be dropped off at certain times and repaired for a fee, plus regular repair workshops to teach repair skills to the community.

A unique service offered by The Bower is their Referral Service which has recently been made publically available. This allows anyone to lookup and find a range of potential Acceptors they can contact directly who may like to take the item/s available for rehoming/donating.

Types and sources of items accepted

The Bower accepts donations of furniture, electrical appliances, white-goods, building materials, bikes, bric-a-brac and others. The Bower accepts in-store drop-offs and provides a paid collections service for reusable bulky items. Goods are received from the general public, and commercial and industrial sources.

The Bower has also partnered with 21 Councils (many of whom are members of SSROC) to offer a "Collection and Rehoming Service". Participating Councils pay an annual fee to The Bower which provides a collections service to residents for free, as and when they require. The Bower has one (1) truck operating this service.

The Bower is also active in the repair space. Some wooden items are repaired and upcycled at The Bower Woodworks for sale in The Bower's stores. The Bower Woodworks also holds weekly furniture repair cafes where one can bring in broken items for free advice on how to repair them. The Parramatta Store holds monthly repair cafes, and the Banga Community Shed is a hub for skill sharing and repairs of electronics. It also accepts drop-off of electrical items.

Destination of items

Approximately half of the furniture received at The Bower is sold at the Marrickville or Parramatta stores. The other half is referred to organisations or charities that redistribute items to persons in need (The Bower 2018). Some items accepted into The Bower are used in their workshops, their 'Tiny House' program or donated to members of the community through their 'House 2 Home' and 'Subsidised Goods' programs (The Bower 2018). It is not known what proportion of accepted items are recycled or landfilled.

Throughput of bulky goods

In 2017–18 the Bower received 177 tonnes of furniture, and referred a further 168 tonnes of furniture to other organisations who could accept reusable furniture, so a total of 345 tonnes of furniture (The Bower 2018). In the prior year, The Bower received a total of 380–400 tonnes of donated goods, including all accepted items. Annual revenue for 2016–17 was $786,921 (The Bower 2017).

Reverse Garbage

Reverse Garbage is a social enterprise promoting creative reuse. It was established in 1975 and is located in Marrickville. Reverse Garbage is focussed on accepting materials from commercial and industrial sources that can be used for arts, craft and creativity, though it also accepts some building materials and has accepted furniture in the past (Reverse Garbage 2018). Reverse Garbage also holds workshops to educate on creative reuse techniques in their 'Makerspace' (Reverse Garbage 2018).

Types and sources of items accepted

Reverse Garbage primarily accepts industrial off-cuts, over-runs, arts and craft materials, stage props, and knick-knacks from commercial and industrial sources that can be creatively reused. Some building materials, including doors, windows, pavers, timber and plywood are also accepted, and furniture has been accepted in the past.

Items are received via in-store donations may capture some items from municipal sources. A collections service for very large donations is offered. This service averages 18 truck movements per week (Reverse Garbage 2018). A truck movement is defined as one return trip between an organisation's warehouse and the location of the goods being donated.

Reverse Garbage receives materials predominately from commercial and industrial sources, although some household items may be captured.

Destination of items

Goods are distributed to Next Users through in-store and online sales, and donations to charities or businesses, such as Palatable Furniture who upcycles items for resale (Reverse Garbage 2018). It is not known what proportion of accepted items are sold, donated, recycled or landfilled.

Throughput of bulky goods

Reverse Garbage processed a total of 208 tonnes of materials in 2017–18 (Reverse Garbage 2018). It is not known what proportion of this tonnage was bulky household items, although it is estimated that it would have been a small proportion based on Reverse Garbage's prioritised acceptance of arts and crafts materials. However, 4,555 items of furniture were reportedly sold in 2016–17 (Reverse Garbage 2016). Annual revenue for 2016–17 was $890,670 (Reverse Garbage 2017).

Resource Recovery Australia

Resource Recovery Australia (RRA) is a national social enterprise providing reuse, repair, recycling and disposal services to local governments, the corporate sector and communities. RRA operates reuse shops, transfer stations, community recycling centres, upcycling studios, landfills and problem waste mobile community recycling services in NSW, ACT and QLD. RRA's parent company Community Resources also operates Soft Landing, a national social enterprise that recycles mattresses. RRA aims to employ people who experience barriers entering the open labour market, and so facilities are predominantly located outside metropolitan areas, where barriers are more concentrated. Soft Landing facilities service NSW, WA, VIC and the ACT, and are located within and outside metropolitan areas (Resource Recovery Australia 2018). Soft Landing does not provide reuse services, though the Bellambi facility (located outside Greater Sydney) does have an RRA Op Shop on site

Soft Landing's Sydney and Bellambi facilities were included in this study at the request of SSROC to investigate RRA's future plans to participate in the reuse marketplace within Sydney.

Types and sources of items accepted

The Op Shop at Bellambi accepts a range of items including clothing, bric-a-brac, homewares, furniture, electrical items and other items that are in an acceptable condition that can be sold for re-use. The Op Shop has been running for six months. It receives items via drop-off and is currently trialling a collections service that relies on volunteers (Resource Recovery Australia 2018). RRA's Bellambi Op Shop accepts items from the general public, and commercial and industrial sources.

Destination of items

Approximately 98% of reusable items are sold to the general public, and 2% donated to charity. It is not known what proportion of accepted items are landfilled or if any are recycled.

Throughput of bulky goods

RRA's Bellambi Op Shop sells approximately 270 furniture items, 330 electrical items per year[28] (Resource Recovery Australia 2018). The Op Shop is run by three part-time staff members and volunteers. Forecast annual revenue for the Op Shop is $265,000.

[28] Extrapolated from 4 months' of data.

Kimbriki

Kimbriki Resource Recovery Centre is a waste management centre located in Terrey Hills in the north of Sydney. The facility includes a landfill, recycling aggregation point, a retail outlet called the Buy-Back Centre, and an education centre. Kimbriki Resource Recovery Centre is a commercial enterprise owned jointly by the Northern Beaches Council and Mosman. Kimbriki Resource Recovery Centre aims to be a centre of excellence for resource recovery and community education (Kimbriki 2018). Kimbriki's Buy-Back Centre is located after the weighbridge and has carved itself as a niche player for reusable building materials – the majority of their stock are building materials (such as doors, timber, sinks). Tradespeople and the general public doing renovations are a large part of their sales market. Furthermore, Kimbriki has limited undercover space, therefore stocking mostly weatherproof items is more practical (Kimbriki 2018).

Types and sources of items accepted

Kimbriki staff salvage items from their landfill to sell in the Buy-Back Centre. Select furniture is salvaged, however their focus is on building materials, industrial and quirky items. There is limited undercover space at the Buy-Back Centre so it is more practical to stock weatherproof items, and a large part of their sales market is tradespeople, resellers such as scrap metal dealers and the general public looking for building materials for renovations. Kimbriki does not have the ability to tag test electrical items so they do not salvage these (Kimbriki 2018).

Items are dropped-off at Kimbriki's landfill. Donors drive over the weighbridge and incur the tipping fee for their whole load, regardless of whether some items are salvaged or not. Kimbriki does not offer any collections service.

Destination of items

Items are sold to Next Users in-store. It is not known what proportion of items that have been salvaged from landfill return to landfill if they have not sold after a period of time in the Buy-Back Centre.

Throughput of bulky goods

Kimbriki's throughput of all bulky items in 2017-18 was 610 tonnes (Kimbriki 2018). The proportion of this that is furniture or building materials is unknown. However as Kimbriki has made a niche for itself in building materials, the tonnage of furniture is likely to be a small proportion. Annual revenue in 2017-18 was $2.7 million (Northern Beaches Council 2018).

Other players

Preliminary research identified other players who were not included in this study.

Australian Red Cross

The Australian Red Cross (Red Cross) operates Op Shops across Australia. Seventeen (17) shops are located within greater Sydney. Red Cross stores stock new and second hand clothing, as well as second hand accessories and homewares. Items are received through in-store donations and collections services in select areas.

Furniture and other bulky kerbside goods are not accepted at Red Cross stores at this stage due to insufficient space at retail outlets (Australian Red Cross 2018). Therefore the Red Cross was not included in this study.

Annual revenue from sales of goods across all stores was $27.9 million in 2016–17 (Australian Red Cross 2017).

Players outside the study area

Three (3) players outside the study area were noted, including:

- ReCreate Hub in Point Claire – social enterprise upcycling second hand furniture for resale, located near Gosford, approximately one (1) hour north of Sydney;
- Revolve Reuse Shop and The Tinkerage in Dunmore – reuse store and repair studio, located near Kiama, approximately two (2) hours south of Sydney; and
- The Reviva Shop in Moss Vale – reuse store, located near Bowral, approximately two (2) hours south-west of Sydney.

The Revolve Reuse Shop and The Reviva Shop are taking part in ZWN-S's Impact Assessment Tool pilot study (along with The Bower and Reverse Garbage in Sydney) (ZWN-A 2018). These players may be of interest for future research focused outside greater Sydney.

C Methodology

Phase 1

Acceptors in Sydney were identified through desktop research and reference to a previous investigation into 'Community Recycling Enterprises' in Sydney as at March 2017 undertaken by Zero Waste Network-Sydney (ZWN-S 2018).

Desktop research was then undertaken to investigate accepted materials, operations, throughput capacity and redistribution of furniture by acceptors. Publically available information was sought from players' websites, annual reports, strategy reports and media articles. Where information was not publically available, targeted phone calls and emails were undertaken (see Appendix C).

An exploratory exercise was undertaken to calculate the footprint of reuse players' facilities as a proxy for capacity using the software: Quantum Geographic Information System. However, there was inadequate knowledge about the use of individual plots and buildings to develop a sufficiently accurate estimation of facility size. Therefore, the results are not reported here.

Phase 2

The second phase commenced with a workshop between ISF and SSROC to understand the key findings and gaps from Phase 1, a prioritise stakeholders to be contacted for interview in Phase 2. From this a list of stakeholders was developed (see following section).

Semi-structured interview questions were then developed in close consultation with SSROC, which focused on clarifying and understanding:

- Acceptance of furniture, electrical items or renovation materials
- Inflows and outflows of materials
- Current capacity to accept items, and whether they could accept more items in current infrastructure/systems
- Future plans to accept more materials, expand business or facilities
- Opportunities and barriers to accept materials from SSROC

Contact was then made with stakeholders to request and arrange interviews. In total XX stakeholders were contacted. Five telephone interviews were arranged with key stakeholders that agreed to be interviewed. Consent information and interview questions were provided by email prior to the confirmed interview. Interviews were conducted by phone between 20/09/2018 and 10/10/2018.

Responses from interviews were summarised with public available information to create the Acceptor Descriptions above. All interviewees were given the opportunity to review this information and all consented to its inclusion in the study and report. Information was then synthesised with the results of Phase 1, to address the research questions as presented in this report.

Stakeholder contact

Stakeholder research was conducted in two phases as outlined above. The first stage sought to understand who the major players in the market were that accept bulky household items, how they operate and what their current capacity is. The second stage sought to go deeper, understanding players' responses to the idea of accepting kerbside bulky goods and identifying barriers and opportunities to this.

Stage One

The first stage involved contacting a large number of organisations through targeted emails and phone calls made to the head offices. Despite much effort, only half eventually responded, as shown in Table 7.

Table 7: Phase 1 Correspondence actions made to the head offices of reuse organisations.

Organisation	Email(s) sent	Email(s) received	Phone call(s)	Outcome
The Bower	8-Aug	31-Aug	8-Aug	Info provided
Reverse Garbage	8-Aug		8-Aug	Info provided
Lifeline	8, 22-Aug	25-Aug	8, 22-Aug	Partial info
Salvation Army	8, 15-Aug	9-Aug	8, 22-Aug	Partial info
St Vincent de Paul			8, 15-Aug	No response
Goodwill	8-Aug		8, 22-Aug	Info provided
Red Cross			8, 22-Aug	Partial info
Save The Children	8-Aug		8, 22-Aug	Info provided
Mission Australia	8-Aug		8, 22-Aug	No response
Anglicare			8-Aug	Partial info
Young Adult Disability Association			8, 15-Aug	No response
Sydney Used Furniture	13-Aug		15-Aug	No response
Retro Funk & Junk	13-Aug		15-Aug	No response
Mitchell Road Antique & Design Centre	14-Aug			No response
Retail Therapy Vintage	14-Aug			No response
Fairhaven Shopping Centre	8-Aug		8-Aug	No response

Stage two

The second stage involved setting up a number of more in-depth interviews according to the prioritised list agreed with SSROC. The majority of organisations agreed to interview, as shown in Table 8. Interviews were held with operational managers, retail general managers or other senior staff at these organisations.

Table 8: Phase 2 Correspondence actions with acceptors

Organisation	Interview	Effort to secure interview
RRA	20/09/2018	SSROC provided email introduction to Community Resources Manager (5/9). agreed to interview.
Smith Family	26/09/2018	SSROC provided email introduction to a contact at Smith Family (12/9). The Smith Family considered and advised most appropriate contact. Emailed Operations Manager Recycling (26/9). Agreed to interview.
Salvos Western	3/10/2018	Requested and received a contact from NSW EPA (12/9). Emailed Western Sydney Area Manager (13/9). Agreed to interview.
Salvos Eastern	10/10/2018	Western Sydney Area Manager provided Eastern Sydney Area Manager contact (3/10). Called and requested interview (4/10). Agreed to interview.
Kimbriki	10/10/2018	SSROC provided email introduction to contact (3/10). Kimbriki considered and advised most appropriate contact. Agreed to interview.
Vinnies	N/A	Called NSW Head Office, directed to and left voice messages for NSW Retail Development Manager (8/8, 15/8), no response. Requested and received introduction email from NACRO to NSW Retail Development Manager (8/10), no response. Emailed NSW Retail Development Manager directly (9/10), no response. No further follow up.
Lifeline Macarthur	N/A	Email Retail and Distribution Operations Manager (12/9), no response. Not prioritised for follow up.
Goodwill	N/A	Emailed generic info email address (12/9), no response. No prioritised for follow up.

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