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and Society

Closing the Loop on Waste

Community Engagement, Cultural Diversity, and Shared Responsibilities in Waste Management in Canterbury-Bankstown

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Image: A shopping trolley dumped near new high-rise apartments, Canterbury, 2019 Image: Abby Mellick Lopes

Cover image: Public compost bins, Cooks River, Canterbury, 2019 Image: Abby Mellick Lopes

Table of Contents

Executive Summary

OVERVIEW

Canterbury-Bankstown is a complex and rapidly changing municipal area, facing all the challenges of a suburban region in a world of increasing economic, ecological, political and cultural fracturing.[1] Demographic change, rapid densification, and increased pressure on basic infrastructure, are all characteristic of this and similar municipalities.

Cultural diversity and demographic change are defining features of Canterbury-Bankstown: both are significant challenges and two of its greatest assets. The Local Government Area (LGA) is home to one of the most diverse populations in Australia and the world. More than 44 per cent of residents are born overseas and almost two-thirds speak languages other than English at home. There is, in addition, an extraordinarily diverse range of NGOs in Canterbury-Bankstown (see Appendix 2). This creates both opportunities and challenges for developing programs that successfully engage with members of the community and meet their needs.

The city is comparatively dense. The city's population density stands at a relatively high 31.4 persons per hectare, compared to the South Sydney Region of Councils' 24.3 persons per hectare and Greater Sydney's overall 3.9 persons per hectare (see Appendix 2). In addition, there is a trend to multi-unit dwellings and multi-storey apartment living. This means that the pressure on infrastructure is increasing.

In this context, waste-management is critical and becoming increasingly complicated. Waste and recycling are essential services provided by the City of Canterbury Bankstown with major implications for impact on the safety, health, amenity and wellbeing of the residents of the LGA. Waste management is one of the most significant and most intensive services provided by the City of Canterbury Bankstown (21 per cent of its budget).

One of the key challenges facing all councils is that waste management is considered primarily to be an individual's responsibility, with a bias toward residents of houses, which is still the main dwelling type in Canterbury-Bankstown—though as noted this is rapidly changing. Residents tend to be treated and communicated with, mainly as individuals, with neighbourliness seen as an accident of circumstance and, when things go right, an added benefit. The City of Canterbury Bankstown does a lot in the broad area of community engagement, seeking to go beyond a delivery-of-information approach with great success. This community-engagement approach could be further leveraged in the waste-management area, and integrated fully into its approach.

Considering the rapid densification taking place in Canterbury-Bankstown, neighbourly relationships should be considered as structurally significant in terms of the effective management of waste. In collaboration with community leaders and strata managers. This is perhaps the key overall finding of this *Closing the Loop on Waste* report:

Council should ideally focus on engaging with communities as groups of people cohabiting in a location—particularly as residents of a new multi-unit dwellings—to facilitate a perception of waste management as a community responsibility.

Individuals both within Council and in the community, are currently working very hard to monitor and educate people to improve their waste-management practices. Nevertheless, the feeling of 'barely scratching the surface' is being conveyed in Council and community forums. An enhanced community-level approach might help to alleviate some of this burden on individuals including the wellspring of community advocates, creating a norm of civility and a shift in the cultural disposition toward waste management in Canterbury-Bankstown.

INSIGHTS

The key findings from the literature review, focus groups, critical issue workshop, and online survey are listed below:

1. Accessibility to a diverse range of co-research participants is critical for ongoing engagement in Canterbury-Bankstown over waste issues.

The demography of the survey, focus groups and critical issues workshop reveal that Council were not able to reach and recruit culturally and linguistically diverse residents for this research via their usual channels, including traffic to the website. This difficulty is not unusual and was exacerbated by a demanding time-frame.

2. Information and communication tend to be treated by councils as the same thing.

Councils tend to rely substantially on a diffusionist model of communication promoting the transfer of information from those who have knowledge to those who don't. The City of Canterbury Bankstown is no exception. However, the evidence suggests that good communication only happens under certain structured conditions where person-to-person relationships are developed with individuals and communities.

3. In responding to behavioural change, Councils tend to work with a behaviourist model.

There is a tendency in the waste-management literature and the strategies adopted by councils and municipalities to rely substantially on an attitude-behaviour-context model of behaviour change. The City of Canterbury Bankstown is no exception. Such a method may successfully foster an identity of environmental citizenship for a limited number of residents in the LGA, particularly based on

1 NB. The Council name is 'City of Canterbury Bankstown' and abbreviated to CBCity; the urban area is referenced as Canterbury-Bankstown; and 'Canterbury-Bankstown Council' is the legal name of the city.

waste recycling in certain community groups. However, this kind of governmentality, upon which the attitude-behaviour-choice model is predicated, tends to ignore the need for, and could potentially be inhibiting consideration of, broader societal change concerning urgent environmental issues involving consumption and waste.

4. Learning about waste is clearly culturally specific, however, this not necessarily in itself an explanatory basis for attributing problems of 'bad behaviour'.

The few participants in our focus groups who had come to Australia from countries other than Europe reported that in their country of origin, waste had little meaning. However, more importantly, our recycling system is complex and is by necessity becoming more complex, which demands ongoing attention to educational needs. Even committed recyclers were unsure about what could and couldn't be recycled, what the various symbols imprinted on products mean and what was still relevant or what was a legacy of the past. (See Chapter 3 on cultural diversity and responses to waste.)

5. Beyond the immediate questions of waste management there should be a stronger focus on issues of over-consumption.

Several recent studies highlight that the focus on waste management and how to get rid of waste efficiently and with minimal damage to our health and the environment is important, but the ultimate goal needs to be a focus on avoiding waste creation. The basic key in relation to resource management and sustainability for future generations is to counter over-consumption.

6. Working on picking up organic waste in green bins where the community do not see the outcomes (rather than practically encouraging local precinct-based composting), is possibly leading to a lack of engagement.

Because many migrants have a deep relationship with growing, sharing, or harvesting food, this might be an opportunity to introduce on site options including technologies for organics recycling (discussed in Chapter 1, Insight 6), which might be more conducive to the limited space available in multi-unit dwellings.

7. There is evidence that developing a positive approach to reuse and systematically working with local communities to manage and formalise informal kerbside exchange can mitigate waste production.

Dumping is undoubtedly a serious problem in Canterbury-Bankstown, with a range of risks. Following the recommendations of community participants, however, we suggest exploring the possibility that dumping is possibly a result of structural issues, which might yield further options for addressing the problem.

8. A significant kind of casual litter in Canterbury-Bankstown seems to be anonymous fast litter.

The material component of what we are calling 'fast litter' is mainly fast-food packaging. This suggests ways of responding to the problem, including working in partnership with the fast-food outlets to deliver litter reduction.

9. An inchoate but important second-hand culture and repair network exists in Canterbury-Bankstown.

An existing second-hand culture could be further promoted in Canterbury-Bankstown, as a first-choice option for all. This might involve campaigns that re-code second hand goods as desirable, resilient and often of a higher design quality than the 'fast' options available on the market.

10. Participatory communication and education is important, particularly where it promotes local leadership and diversity.

Shared responsibility on waste management is not best accomplished through public information sessions and presentations organised by industry, often in partnership with government. These tend to support individual-level responsibility in a largely top-down fashion. Such events need to be brought into a larger program of community engagement.

11. The first civic encounter that a newly arrived citizen in Canterbury-Bankstown experiences is critical.

There are significant problems with waste minimisation and recycling across new mixed-use and medium-density residential developments. When people arrive in Canterbury- Bankstown, whether from another council area or from another country, how do they first learn about Council services and their own responsibilities regarding waste management? Participants in the focus groups identified the need for a good 'first encounter', which goes beyond offering language option on the Council website.

Recommendations

SHORT AND MEDIUM-TERM RECOMMENDATIONS

Recommendation 1. That the Council escalate the importance of waste and recycling outcomes by incorporating these issues into Local Strategic Planning Statements and Local Environmental Plans.

This is required as part of the recent State government planning reforms to support *A Metropolis of Three Cities: The Greater Sydney Region Plan (from Appendix 1).*

Recommendation 2. That Council develop a policy and practice of transparently and comprehensively reporting back to its many communities.

This might include on the outcomes of the work of various waste-management subcontractors such as recycling companies (from Chapter 3).

Recommendation 3. That the Council emphasise face-to-face contact with building managers of multi-unit dwellings when implementing a successful trial program.

This might emphasise recovering and recycling polystyrene, soft plastic, cardboard, e-waste, clothing and mattresses (from Chapter 3).

Recommendation 4. That the Council considers ways of supporting the repair and re-use culture in Canterbury-Bankstown, including through working more closely with one or more of the reuse networks that operate in Canterbury-Bankstown.

A culture of reuse could be deepened considerably in the municipality by bringing different local organizations and community groups into association with reuse networks and kindred NGOs (from Chapters 1 and 3).

Recommendation 5. That the Council consider precinct-level organic waste recycling depots (possibly using new processing technology options), linked to precinct community gardens, where people can see the outcomes of their green-waste recycling.

This might well have been added to the next set of 'Complex and Long-Term Recommendations' for while the phenomenon of precinct community gardens has a long and successful history, setting up new gardens requires long-term planning and considerable commitment (from Chapter 1).

COMPLEX AND LONG-TERM RECOMMENDATIONS

Recommendation 6. That the Council consider moving beyond the usual emphasis on information distribution as a means to change people's behaviour.

Effective policy interventions should pay attention to both the material (everyday infrastructures such as bins, storage space, receptacles) and the social contexts (available time, face-to-face engagement, household composition) that shape practices of waste avoidance (reuse, repair), disposal, and recycling. Furthermore, there is a need to investigate potentially beneficial everyday habits of consumption and waste management, such as practices of repair and reuse, 'giving away' unwanted items, or simply consuming less goods. That is, the activities of Council should leverage already existing practices (from Chapter 3).

Recommendation 7. That the Council treat ongoing social research and dialogue with local people as basic to refining waste-management strategies.

It should be recognised that the present *Closing the Loop on Waste* report is based on minimal diversity engagement, and is only a first small step. This research and dialogue should take the following issues into consideration:

- Actively acknowledge diversity within different cultural groups, though without assuming that ethnic background is always causal in relation to social practices concerning waste-management;
- Harness existing networks and institutions, including religious and community centres;
- Pay special attention to the first generation of migrants;
- Give priority to face-to-face engagement;
- Test and refine communication materials and messages through face-to-face communication; and
- Recruit culturally diverse officers and/or train facilitators; and
- Treat community consultation as important from the beginning of any project.

(From Appendix 3 under the heading of 'Engagement Strategies in Culturally Diverse Communities').

Recommendation 8. That the Council should build upon systematically work with existing networks and institutions, including religious and community centres.

Building on existing networks and community groups not only offers better communication channels with culturally diverse groups. Crucially, approaching waste strategies in collaboration with these community hubs may provide the opportunity to leverage on informal practices of sharing, reusing, repairing and other social practices that, although in line with waste management goals, may be invisible for local authorities.

Recommendation 9. That the Council begin a process of collaborative co-design of new projects for local waste management.

This requires not only that the community is consulted in the early stages of a project and are part of the design of the project, but that communication channels remain open beyond campaign implementation to gather feedback in process, and to offer opportunities for the relevant communities to introduce ideas and collaborate with council in their aims to produce more relatable and effective outcomes. This approach to community engagement, which build on a long tradition of participatory design, opens the 'black box' of communication between a 'provider' (i.e. local council) and a 'recipient' (i.e., the community). Co-design is gaining traction in the public sector in Australia and all over the world (Hanckel *et al.*, 2016).

Recommendation 10. That the Council work with local communities to develop a protocol and process for welcoming new residents into the city of Canterbury-Bankstown, including a welcome orientation to waste management.

This would ideally involve working with established NGOs in the new-arrival and migrant-settlement space (from Chapter 1).

Recommendation 11. That Council explores ways of systematically addressing the problem of over-consumption through working with local groups and community organisations, schools and faith-based organisations.

This is a massive area of work, and perhaps the most difficult given the permeation of a generalized culture of consumption in Australian cities. It is ideally linked to work with small-scale producer groups to re-establish the relationship between production and consumption.

Introduction

This project seeks to support Council to engage with culturally diverse communities in its delivery of waste services and initiatives. In this section of the *Closing the Loop on Waste* report, we discuss key practices of waste management in Canterbury-Bankstown, that emerged from the focus group discussions we led as part of this project. We have analysed these discussions through the lens of our literature review on cultural diversity and waste (see Chapter 3 below), identifying where the perspectives and experiences of residents reflect key points in the literature.

Furthermore, we have enhanced our analysis with insights from previous research on cultural diversity, engagement and education conducted by the Institute for Culture and Society (ICS), to strengthen the findings emerging from the present modest engaged research project. This was important given that Council were not able to reach and recruit a higher proportion of culturally, linguistically and religiously diverse residents for this research via their usual channels. The findings reported below, provide critical insights into community attitudes toward waste and provide further evidence in support of our key recommendations for improving the effectiveness of community engagement methods around waste and waste services in Canterbury-Bankstown.

This *Closing the Loop on Waste* report contributes to a broader in-depth project being undertaken by Canterbury-Bankstown City and a range of partners that aims to deliver improvements in customer service and organisational efficiency for waste management. This project has four major milestones:

1. Build strong relationships with customers, partners, universities and community groups;
2. Develop data products using newly deployed technology devices to collect information on dumped waste, and contamination;
3. Collect and provide data to measure, benchmark and enable future service improvements; and
4. Innovate in conjunction with universities and other partners develop new products.

The contribution of this report is to collaborate with Council in the development of a community-engagement study focused around current community sentiments towards waste and Council waste-management services. This part of the project aimed to support Council to engage with culturally diverse communities and identify a range of platforms and engagement methods.

AIMS

The following milestones were agreed for the Institute for Culture and Society research team:

1. Provide advice to inform the community-engagement methodology;
2. Research the literature on the relationship between culture and waste;
3. Facilitate workshops and events; and
4. Provide a written report, including a review of engagement data, an executive summary, key findings and recommendations.

OUR APPROACH

Our approach is oriented around a number of principles associated with the Circles of Sustainability method: 1. that bringing together the knowledge of both local *and* external experts, as well as local constituents, is critical to understanding (hence the emphasis on co-design); 2. that social practices and ideas are dynamic and they therefore need to be understood in place and time; and 3. that the complexity of social life, and therefore any issue, including waste management, will have economic, ecological, political and cultural dimensions.

The questions we asked were developed using a social practices approach (see Chapter 3 below). We used this approach as daily household waste-management can be understood as a routinised form of behaviour shaped by material and social elements including place, resources and infrastructures, rules and information, personal know-how and social and cultural meanings. These elements of a practice are dynamic rather than fixed, and can change in response to certain disruptive events or at critical moments such as moving into or moving out of a home. Understanding household waste-management from a social practice perspective allows us to see how the interaction of elements influence the way a practice is performed, how it may endure or change, and how it could be strategically modified in the future.

As reported in Appendix 2, the less than favourable ergonomics of some types of dwelling, as well as short-term residency, impinge on waste-management patterns, and are probably more important in relation to problematic practices such as dumping than cultural background. Our position is that 'things' (bins, jars, cardboard boxes, wheelbarrows, plastic bags, reverse vending machines, fast food packaging, campaign materials, newsletters, fridge magnets etc.) and places (laundries, kitchens, workplaces, cars, garages, gardens, cul-de-sacs, kerbs, verges, etc.), are influential participants in human projects, forming an important part of the 'habitus' of people and playing a significant role in how they relate to their social and environmental contexts over time.[2] This approach could help in identifying practical ways that Council could better support residents to manage their waste in alignment with Council practices and requirements.

The purpose of the research design was to provide tools to examine the critical issues and shared values of responsibility-sharing between Council and residents around waste management and waste services. We designed the methodology in three complementary stages:

1. A literature review;
2. Two focus groups:
3. A Critical Issues Workshop and a Social Learning Workshop; and
4. An online survey of Canterbury-Bankstown residents.

2 *Habitus* is a term derived from sociology that describes a social space of interaction and engagement informed by how a person lives and understands the norms and values of that social space.

FOCUS GROUP 1

In total, 18 residents participated in Focus Group 1 (FG1), with one participant not completing the demographic survey. The results discussed in Chapter 1 are based on the analysis of 17 participants (8 male and 9 female). The age of participants was between 25 and 80 years old, and they were recruited via Council channels. Around 40 per cent participants were within the age between 55 and 69 years old, while the other three groups each made up around 20 per cent. Most participants (75 per cent) have lived in Canterbury-Bankstown for more than ten years, followed by 19 per cent who have lived there between one and five years, and 6 per cent between five and ten years. Nearly half participants live in Bankstown and Yagoona. Others come from seven different suburbs such as Campsie, Panania, Punchbowl and Earlwood. Over two-thirds of participants live in single houses, compared to 24 per cent living in medium-size blocks. Nearly half of the participants (47 per cent) hold a postgraduate degree, and 29 per cent have completed secondary school. Most participants (76 per cent) are English speakers. Other participants are speakers of Arabic, Vietnamese, Cantonese, Italian and Swiss.

FOCUS GROUP 2

The second Focus Group (FG2) was composed of 11 Council workers who reside in the Canterbury-Bankstown LGA (four male and seven female). All who completed the survey exhibited similar demographic characteristics as FG1, with the exception of a slightly more diverse residential spread (half in medium or high-density blocks), slightly higher levels of education and higher levels of English as the main language spoken at home. Three residents in this group were born overseas in countries other than Europe, but none had been in Australia for less than 12 years. Two spoke Vietnamese at home. In total, the focus group demography is not representative of the diverse Canterbury-Bankstown community, a factor that participants themselves noticed and remarked upon, with one describing the focus group as 'preaching to the converted' (John).

Nearly half of participants were between 40 and 54 years old; 36 per cent were over 70 years-old. Eighteen per cent of participants come from an age group of 25 to 39 years-old. Over half of the participants (55 per cent) had lived in Canterbury-Bankstown for five to ten years, followed by 36 per cent who had lived there for over ten years. Only one participant (9 per cent) reported living there between one and five years. Four participants came from Padstow and the others were from seven different suburbs within the LGA, such as Condell Park, Milperra and Picnic Point. Over half of participants (55 per cent) live in houses, three times more than the groups living in large (18 per cent) or medium-size (18 per cent) blocks of units. One participant reported living in a small-sized block of units. The majority of participants (82 per cent) hold undergraduate or postgraduate university degrees compared to 18 per cent finished their secondary schools. Most participants (82 per cent) were English speakers. Other participants are speakers of Vietnamese and Cantonese.

CRITICAL ISSUES WORKSHOP

Thirteen residents (six male and seven female) attended the workshop on 7 May 2019. Despite one participant who did not report their age, the majority of participants (84 per cent) were over 55 years old. Nearly half of participants (46 per cent) had lived in Canterbury-Bankstown for over 20 years, followed by 39 per cent who had lived there for ten to 20 years. Two participants reported living in the LGA between five and ten years. Two groups of three participants are from Panania and Sefton, and the others are from five different suburbs within the LGA, such as Bankstown, Bass Hill, Campsie and Wiley Park. Seven (54 per cent) of participants reported living in houses while 6 (46 per cent) in units. Over half of participants (57 per cent) hold undergraduate qualifications compared to 24 per cent have trade training and 19 per cent finished their secondary schools. Most participants (85 per cent) were English speakers. Two other participants, married partners, were Cantonese speakers.

Most of the participants in the Critical Issues Workshop and Focus Groups appeared to be relatively well-informed and committed to ecological sustainability, possibly making them an unrepresentative sample of the population of Canterbury-Bankstown. Again, to repeat the same point made above, this was a factor that participants themselves noticed and remarked upon.

While participants sometimes reinforced assumptions about culturally diverse communities not in the room (particularly that practices such as incorrect recycling or dumping were related to ignorance, laziness, a lack of awareness or care), they did have particular insights into how waste-management practices had changed over time in their area. They had strong familiarity with and views about Council, confidence in their understanding of correct waste management practices and a number of ideas about how things might be improved.

SOCIAL LEARNING WORKSHOP

This workshop was held at Council on 20 May and involved 12 participants from Council, including the Manager of Sustainable Futures, six staff from Education Resource Recovery, the Manager of Customer Experience, two staff from Customer Service and two staff from Waste and Cleaning.

The aim of this workshop was to deepen the research team's understanding of how Council perceives the communities it engages with in relation to waste services, and to create a space within the project for Council participants to explore the operative concepts, cultural assumptions and 'group think' (or unquestioned organisational 'truths') currently informing perception and practice. Through the workshop, we hoped to identify opportunities for implementing some of our recommendations emerging from other aspects of the project.

ONLINE SURVEY

The online survey *The Future of Waste* and You was implemented between 9 April and 10 May through the 'Have Your Say' Canterbury-Bankstown website platform. A total of 605 respondents (437 female and 167 male) completed the survey.3 Around 35 per cent of participants were in the 40-to-54 years bracket, followed by 30 per cent in the 25-to-39 years bracket. Almost half of the respondents were families with children (48 per cent). Nearly 80 per cent indicated they lived in houses (including single houses, semi-detached, duplex or granny flat, and nearly two thirds of participants have lived in Canterbury-Bankstown area for more than 10 years (see Appendix 4).

The survey results should be interpreted with care, particularly for responses from residents in medium (n=71, 12 per cent) and large blocks of units, villas or townhouses (n=18, 3 per cent).

Usually the units, villas or townhouses are under Strata Title Management, so the residents do not take direct responsibility to manage waste and recycling, nor would they contact Council directly regarding the waste management issues. From this perspective, many of the survey questions were not relevant to this group of participants.

Cultural background is an implied category based on the first language at home as reported by participants. This may not fully represent how participants identify their ethnicity, as some migrants (e.g. second generation) may use English as their first language at home but identify themselves to a specific ethnic group. It is recommended that future surveys of this kind should include a question of ethnicity identification.

Over 35 per cent participants were between 40 and 54 years old, followed by 28 per cent in 25-to-39 year-old range, and almost half are families with a couple and children (47 per cent). Nearly 80 per cent living in houses (including single houses, semi-detached houses, duplex or granny flats, and two-thirds of participants have lived in Canterbury-Bankstown area over ten years. Their educational level ranges from primary school to postgraduate degree with 66 per cent holding university or college degree. There are 270 participants (53 per cent) residing in the suburbs previously in the City of Canterbury and 237 (47 per cent) in the prior City of Bankstown.

The focus group and workshop methods were developed by Western Sydney University researchers with Council advice. The content of the questionnaire was developed by WSU within directions, parameters and guidelines set by Council. The methods were all initially designed as an approach to provide the opportunity for collective self-reflective inquiry of the lived realities of waste practices (both by council workers and a diverse sample of community members) and to highlight critical issues and shared social learning around the shared responsibility of waste management.

While, as expected, group interactions in focus groups and workshops enabled discussion and identification of a range of issues that would have likely not come out in individual interviews or participant observation, the social demographic of the participants recruited however (as was the case with the online survey too) did not present the ideal opportunity for engaging with the full diversity of the residents of Canterbury-Bankstown, leaving out important community-based knowledge around waste management.

Image 1. Resident of Multi-Unit Dwelling in Lakemba displays a sign stating, 'This is RESIDENTIAL AREA. If anyone found dumping rubbish or illegal materials will be handed over to Council, security and hidden cameras. WARNING!!'.
Image: Shuman Partoredjo.

3 One participant was excluded from analysis because he/she skipped all survey questions except the demographics.

Image 2. Dumping or gifting a chicken coop, Earlwood, 2019 Image: Abby Mellick Lopes

Image 3. Rubbish, 2019 Image: Paul James

1. Practices of Waste

In this section of the *Report,* we discuss key practices of waste management in Canterbury-Bankstown that emerged from the focus group discussions. We have analysed these discussions through the lens of our literature review on cultural diversity and waste (see Chapter 3 below), identifying where the perspectives and experiences of residents reflect key points in the literature. Furthermore, we have enhanced our analysis with insights from previous research on cultural diversity, engagement and education conducted by the Institute for Culture and Society (ICS). This was important given that Council-ICS research team were not able, in the time-frame available, to reach and recruit a representative proportion of culturally, linguistically and religiously diverse residents for this research via the Council's usual channels. The findings reported below, provide critical insights into community attitudes toward waste and provide further evidence in support of our key recommendations for improving the effectiveness of community engagement methods around waste and waste services in Canterbury-Bankstown.

THE FRAMING QUESTIONS

The Meaning of Waste?

We began the focus groups by asking what does waste mean to you? Responses varied from those who took issue with the very concept, for example Bel who described it as 'two degrees from insanity' or Gabriel as 'a flaw of design', to Nan who described waste simply as 'stuff that I've finished with', or Tu as 'something you don't want in the house' or Anna 'what ends up in landfill'. In the main, participants understood waste not a material category, but rather as attribution of value: the remainder, the unwanted, that which can't be recycled. As Vera described it 'waste is not just things that have no use to you anymore, but also things that people don't want anymore, because they don't value them anymore'. It is worth noting that most participants moved very quickly in their response to reattributing value and life to the unwanted, as though they saw waste as itself a transient concept. 'I recycle everything', remarked Bel. And Jim said 'there is good waste and bad waste; … good waste is waste that is no good to me, but may be useful to another'.

Changes in Practice over Time?

Participants remembered a lot less waste flowing through their homes and lives when they were growing up. Valentine, who had lived in Australia for 36 years noted that 'back in India we didn't have a huge amount of waste compared to now. Every element of, let's say a cauliflower … was used. We didn't worry too much about fumes (during incineration) because we didn't have that much plastic at that time. Modern amenities bring more waste'. This was consistent with the experiences of Duong, who had been in Australia for 12 years. 'Back in Vietnam everything got used. Not much waste. Now it's different'. 'Coming from (Vietnam) you try to use everything, no waste. You try to maximise whatever you have. In Australia you have to learn the culture of dealing with waste, recycling, composting.' This was in sharp contrast to Natalie, the youngest participant at 21 years, who was born in Australia and had been inducted into recycling culture at school.

Participants all shared a perception that single-use plastics were a key driver of normative change. They referred to 'the disposable society' (Kathy) or 'the throwaway society' (John) and older participants in particular had noticed changes in how people valued and maintained things, as well as in the overall practical know-how of communities. Duncan said 'DIY doesn't exist anymore' and Vinh said (in the past) 'when things broke people just fixed them.'

Many older participants also recalled practices of backyard incineration and that growing up, a visit to the tip was a highlight and a fun experience. Kathy said, 'we used to scavenge at the tip and were allowed to take stuff.'

There was a strong perception amongst participants that transience had increased in Canterbury-Bankstown, and that there were many more new residents, who moved more frequently. It was this transience, coupled with language barriers that seemed to underpin many of the problems people saw with the waste practices of newly arrived, culturally diverse communities in their area. This very much correlates with the literature on cultural questions in a social context, explored in Chapter 3 below.

RECYCLING

Participants were, in the main, highly motivated to 'do the right thing' and recycle, and enjoyed being recognised as doing so. Nina said 'we have received a smiley face for our bins. It's good to receive them, it's a happy thing to get, you know. We'll keep doing things this way'. It was noted that this feedback might not connect with the newly arrived, as there may be an issue with the basic legibility of our three-bin system. Jim remarked that 'The colours of the bins work, but people do not know what goes in them.' And Anna: 'I like the three colours (of bins) because I grew up with it. I think there's a lot of people in my area who haven't grown up with it and don't know … Why don't we have big stickers on the top which have photos of what goes in what bin?'.

Participants described unique and sometimes quite complex domestic waste-management infrastructures, which had been tailored for their own lives and living spaces. Availability of space was important for effective recycling, with laundry, kitchen and a space 'out the back' described as the key sites for sorting bins. As Dan put it, 'suddenly you need all this space; and we don't have a very well-designed kitchen … we'd like to remodel it'. Many participants living in houses acknowledged how fortunate they were to have a garage or garden space. Such spaces were a crucial part of their personal waste management infrastructure, functioning as a 'holding bay' or 'storage area' until the next collection day. Nan said 'I have an awful lot of green waste which sits in a wheelbarrow and I wait for two weeks before a collection.' A place 'out the back' was important also for tools, maintenance or repair projects.

Participants indicated that waste management in the home was a 'collaborative process' with certain family members functioning as 'educators' of the others. Charlotte said 'I have three adult children who are like toddlers. It's constant work and hard training them about what can and cannot

go in the bins'. She said she has to check the recycling bin, as 'the Uber Eats paper bags sometimes have food inside.' Despite having a good level of knowledge and commitment to recycling, there was still significant confusion about recycling symbols on products and what they all mean. What is a legacy of the past and what is relevant now?

Across both groups there was a concern about recycling in multi-unit dwellings, where limited space and capacity were understood to exacerbate bin confusion. Distance from communal recycling bins was also a pressure point for effective recycling, with one resident Michelle saying that driving her recycling to work was easier than attempting to carry it 200 metres to the communal bins.

Soft plastics were still seen as an important resource to assist household waste management, with many participants using plastic bags for bin-lining, sorting, storing, collecting and carrying. Some remarked on their scarcity and sought out shops that still provide single-use plastics. Jason said 'we use plastic bags from Asian shops to carry recycling materials to the bin'. Nina remarked 'I used to double bag red rubbish, now only single bag because plastic bags are scarce'.

Across both groups there was a relatively high awareness of the community of recycling businesses and services, and knowledge about and access to this community incentivised participants' recycling. People were in the main happy to 'take this task off Council' (Dan). As Gabriel described, 'we have a little jar for all the batteries — we go to Aldi or Ikea … In the garage, we collect old electrical items … and take them to Council recycling collection'. Nonetheless, there were calls for Council to provide more up-to-date and accessible information on recycling businesses and community recycling centres, with participants suggesting a booklet or fridge magnets as options that could easily enhance knowledge and use of these services.

There was good participation in the relatively new 'Return and Earn' Container Deposit Scheme, which was seen as a great incentive for kids to collect litter and see value in things. Jason described this system as also being good for his retired parents: 'I taught them to return and earn. They even sometimes go for a walk with plastic bags and pick up bottles and cans from the street. That money is used for petrol and other expenses.' Community members who collect cans were variously described as 'good Samaritans' who walk around and 'clean up' everyday, to 'bin chickens' who 'scavenge'' for, or 'help themselves to' cans. The distinction here appeared to be in relation to transgressing the boundary between public and private property, with the yellow bin itself seen as a contested space. It was noted that the free 'Return and Earn' wheelie bins ('blue bins') were in high demand, with a six-month waiting list (as of Jan 2019).

People had had problems with the reverse-vending machines 'jamming' and with people leaving plastic bags around the machines. Kathy had noticed that the system exacerbates littering. 'There needs to be a yellow bin next to the red bin at the return and earn site, for things the machine doesn't accept.' Most (though not all) participants were aware of the commercial REDcycle bins in the supermarkets. Some participants were able to explain to others the distinction between hard and soft plastics, using the 'scrunch test'.

There was a deep dissatisfaction with Council's provision of information about where materials go after the recycling bin is collected. People were worried they were 'wasting time' with their careful recycling, expressed suspicion about where materials went and a desire for proof that materials actually do get recycled: 'I don't think there's enough disclosure by Council as to what happens to household waste' remarked Kathy. 'And I don't think there's enough education.' Everyone had heard of the 'China ban' and were aware of the need to rethink our recycling system. However, people seemed to want to know what it meant for recycling in more practical terms. 'We don't really have a mature recycling industry', remarked Gabriel, and Duncan said 'There's a code of secrecy about where it all goes'. Dan described the community's relationship with Council as a 'contract', implying a need for reciprocity: 'It's like a contract, so we (the community) as a group we've contracted to do our part. And yet the contract's been broken. We don't know what's happens after that. We know we're doing our duty.'

Gio said 'We want facts, we want statistics … whether its volume (in cubic metres), what was actually recycled, or what is stockpiled. And, you know, just the truth. That's all we need, the stark truth.' There was also a desire to see how recycling rates improve, charting quantifiable progress over time. Kathy remarked that the water bill has a graph which shows usage, and wondered about something like that for recycling rates. 'If recycling does cost a lot to the … rate-payer, I'd also like to see how Council puts back into the community from the money that they've made.' There were so many questions about the recycling lifecycle that a Council member who was present held an *impromptu* information session at the end of the focus group.

DUMPING

Dumping was the most significant problem that participants experienced in their neighbourhoods. 'Paint, oil, furniture, electricals, washing machines, you name it — it's out on the footpath (dumped) in the middle of the night' … 'why don't the garbos report it. They drive past it every time they come around.' (Vera). People found dumping an insult to their efforts to do the right thing, and described feelings of powerlessness. 'I do everything I can … yeah (but) sometimes you feel defeated', said Kathy: 'We have a canal behind our unit block, and there is a resident that will open her balcony door and throw out over the back fence into the canal. So, there's a lot of education [needed], I think.'

Again, short-term residency was seen as a factor relevant to dumping. Valentine had noticed a deterioration with new multi-unit developments and new people coming in. 'Many of these new developments become dumping grounds. 'Most people were in agreement with negative impact of higher density on waste. Participants were unsure about the motivations for dumping: whether it was linked to low awareness of Council services or simply to 'not caring'. Natalie said '(new residents) don't know about clean ups and they just assume Council will collect it. We have these two collection clean ups a year and people don't know about it.'

It is certain that time pressures may have a role to play, with people stuck needing to move and simply not knowing what to do with their unwanted items. Perhaps dumping could be usefully understood at least in part as a breakdown in communication. There was general agreement across both focus groups that there should be more education targeting renters and new residents.

Another factor which was discussed later in the focus group, is that one person's 'dumping' is another's giveaway, so there is also a possibility that some people may have good intentions, desiring to share the utility in their unwanted items with others who might make use of them.

LITTERING

Quite distinct from dumped items, which tend to be large and heavy, participants discussed a ubiquitous variety of waste we might term 'fast litter', derived from fast-food restaurants and designed to be consumed on the fly, in cars. A study conducted by the Werribee River Association in Melbourne called 'Circles of Litter' found litter concentrated in distinct circles around fast-food restaurants, most probably dropped by people in motor vehicles. A branded litter study commissioned by the National Packaging Covenant Industry Association found that McDonald's packaging made the most significant contribution to the national litter stream, and was on the rise.

The relationship between litter and fast food was strongly identified by the focus groups. 'There is always MacDonald's packaging all over the verge … mostly young people, 18 to 20, they've all got P-plates on their cars. They just dump stuff, they don't care', said Dan. In Michelle's words: 'I live on a main road and there's lots of littering on the front yard. Slurpee cups, soft drink cans. Take away containers. McDonalds. Lots of take away rubbish.' Anna said the litter inhibited her walking with her child to the library, for fear of broken glass. Duong lives near a school and had noticed kids sometimes have a snack and leave packaging on the street.

There was general agreement in Focus Group 2 that 'lots of local papers becomes litter. Weekly papers are forever at the front, people don't pick them up'. Litter was concentrated near parks, fast food shops and bus stops. Jason said he thought there were a lack of public bins. However, Anthony said people also need to take responsibility: 'if there is no bin in a park take the rubbish with you. It's easy to blame Council.'

Bel from Focus Group 1 had noticed that a local park that had been full of litter and broken glass had been converted to a dog park, and that this had changed how people relate to and care for that environment. 'It's great that dogs have this … there should be more of those.'

The mechanism underpinning 'Return and Earn' that encourages people to collect litter was appreciated. Bel said '(I)f we could (have Return and Earn system) for McDonalds rubbish, because what you notice is people go round and they have trolleys and they pick up all the bottles and cans that other people don't have. If everyone could just go around and pick up those McDonald's containers and then (I don't know how much) you'd get back, … but people would go and pick it up, and put it in the bin.'

COMPOSTING

Many participants actively recycled their organics, with several households having compost bins and worm farms. Composting however went together with gardens. While there was a desire to compost, people living in multi-unit dwellings felt that the design of their environment meant composting organics was impossible. John said, 'I live in a unit block, a bit tricky in a unit block at the best of times, as you may know, the new ones. Ah, so I take (organics) to work where we have a community garden. So I put it there' and Kathy (also in a unit): 'we don't compost because we don't have the facilities.' Nan raised compost collection, asking couldn't the green bin be a compost bin?

WASTE AVOIDANCE AND REUSE

Many participants described being careful not to 'buy waste'. Duncan suggested, 'The easiest way to not have rubbish in the house is not to buy it.' Some participants used personal Facebook accounts to 'advertise' stuff they no longer want, and several participants tried to re-circulate things by 'putting outside on the kerb with a 'free' or 'working' sign. Even cans, people can take them for return and earn' (Jason). This was done in a spirit of generosity, which was a long way from the assumed mind-set of illegal dumping, and was certainly not perceived as illegal dumping within the focus groups. People had developed their own rules for how long things should be left on the kerb before they were brought back into a person's property, from less than a day to 'two days max' (Valentine). Apart from a possible difference in intention, these practices differ from illegal dumping as people were taking responsibility for taking these items back and disposing of them correctly if they are not taken by other people. This was 'good waste' to use Jim's term.

Amin remarked that '(In Blakehurst) Everyone has two Council Clean-ups a year. And what you get is the guys who come through actually collect all the metal; people come through, and you know, collect it all and sell it on Gumtree and stuff. Whereas when it's just one house, on one street, every however many months, no-one sees it.'

Natalie suggested there was possibly a stigma in the community about reusing second-hand goods. Valentine had taken advantage of second-hand furniture when she moved to Australia, but it was seen very much as an interim measure until her family got on their feet and 'didn't need' it as they were in a better financial position. She said she was very involved in paying it forward and donating to charity (including Salvo's, Smith family or nearby church communities) however she saw second-hand very much within the frame of helping the less fortunate.

REPAIR

Repair skills were widespread amongst participants, with people actively involved in extending the life of their things through maintenance and repair. Duong said, 'I try to repair everything, I find a way to fix stuff.' People discussed routine clothing repairs and furniture maintenance to more extensive furniture restoration and repurposing, though fixing electrical and electronic products was

considered a challenge. One participant's husband actively shared his repair skills with the broader community. People described tool sheds, and a range of activities that suggested repair practices were also attached to available space as they included sanding, spraying, restoring and storing.

INITIAL INSIGHTS

The findings reported above, provide critical insights into community attitudes toward waste and provide further evidence in support of our key recommendations for improving the effectiveness of community engagement methods around waste and waste services in Canterbury-Bankstown. Here we have collated those insights into a series of discussion points.

1. Accessibility to a diverse range of co-research participants is critical for ongoing engagement in Canterbury-Bankstown over waste issues.

The demography of the survey, focus groups and critical issues workshop reveal that Council were not able to reach and recruit culturally and linguistically diverse residents for this research via their usual channels, including traffic to the website. This difficulty is not unusual and was exacerbated by a demanding time-frame. As reported in Chapter 3 below (Lakhan, 2015, 2016; Perry and Williams 2007), and in previous research commissioned by the NSW Office of Environment and Heritage (CIRCA, 2014) participation in Council projects amongst culturally, linguistically and religiously diverse communities is low, and requires culturally sensitive design and particular attention to accessibility needs. In light of the intent of this project to improve the effectiveness of community engagement methods, this suggests that regardless of engagement purpose, Council needs to explore alternative ways to engage culturally, linguistically and religiously diverse communities in the LGA. This includes young people; the majority of our research participants were over 40 years old which is again not representative of the City (see Appendix 2).

2. Information and communication tend to be treated by councils as the same thing.

Councils tend to rely substantially on a diffusionist model of communication promoting the transfer of information from those who have knowledge to those who don't. Canterbury-Bankstown is no exception. However, the evidence suggests that good communication only happens under certain structured conditions where person-to-person relationships are developed with individuals and communities.

3. In responding to behavioural change, Councils tend to work with a behaviourist model.

There is a tendency in the waste-management literature and the strategies adopted by councils and municipalities to rely substantially on an attitude-behaviour-context model of behaviour change. Canterbury-Bankstown is no exception. Such a method may successfully foster an identity of environmental citizenship for a limited number of residents in the LGA, particularly based on waste recycling in certain community groups. However, this kind of governmentality, upon which the attitude-behaviour-context model is predicated, tends to ignore the need for, and could be potentially be inhibiting consideration of, broader societal change concerning urgent environmental issues involving consumption and waste.

4. Learning about waste is clearly culturally specific, however, this not necessarily in itself an explanatory basis for attributing problems of 'bad behaviour'.

The few participants in our focus groups who had come to Australia from countries other than Europe reported that in their country of origin, waste had little meaning. Jason, for example, said that 'In Australia you have to learn the culture of dealing with waste, recycling, composting.' This suggests that a basic understanding of 'waste', a highly familiar concept for a section of committed long-term residents adapting to the 'disposable society', may not be so for the newly arrived, suddenly greeted with a culture within which 'waste creation' is a norm. Participants noted that Council's feedback programs like the bin smiley faces were nice to receive, but that these might not connect with the newly arrived, as there may be a much more basic issue with the legibility of our three-bin system. Our recycling system is complex and is by necessity becoming more complex, which demands ongoing attention to educational needs. Even committed recyclers were unsure about what could and couldn't be recycled, what the various symbols imprinted on products mean and what was still relevant or what was a legacy of the past.

5. Beyond the immediate questions of waste management there should be a stronger focus on issues of over-consumption.

Several recent studies highlight that the focus on waste management and how to get rid of waste efficiently and with minimal damage to our health and the environment is important, but the ultimate goal needs to be a focus on avoiding waste creation, which was a point many participants identified and felt committed to. The basis key in relation to resource management and sustainability for future generations is to counter over-consumption. Everything in our culture pushes in that direction from the prevalence of advertising and the production methods of mass consumption of goods to the emphasis on home remodelling and renovating. For example, when Dan put it, 'suddenly you need all this space; and we don't have a very well-designed kitchen … we'd like to remodel it', he may have been expressing the dominant cultural view that forgets that remodelling itself makes waste.

6. The current work of picking up organic waste in green bins where the community do not see the outcomes (rather than practically encouraging local precinct-based composting as part of a community-based activity), is possibly leading to a lack of engagement.

Organics in landfill is a significant problem, however among the focus group participants composting of organics was largely confined to private gardens, or to memories of

what parents did when they were young. Knowledge of the art and science of composting among even these ecologically minded participants was not strong.

Because many migrants have a deep relationship with growing, sharing, or harvesting food, this might be an opportunity to introduce other options beyond those reported in Chapter 3 below, including technologies for organics recycling such as dehydration technologies, which might be more conducive to the limited space available in multi-unit dwellings.

The NSW EPA has many trials related to organics recycling underway such as small-scale dehydration systems which radically reduce the volume and weight of organic waste. In collaboration with Sydney Water and the Institute for Sustainable Futures, the NSW EPA has produced a technical report on a precinct approach to organics management. Such an approach may be worth considering given the densification of Canterbury-Bankstown identified in Appendix 2, where cultural diversity, dwelling type, socio-economics and community structures are significant factors. Given that the proportion of multi-unit dwellings is increasing in Canterbury-Bankstown, and with this possibly also an increase in occupants per dwelling, it seems important for Council to consider waste-management options that move away from the norm of the individual household to precinct-level approaches.

7. There is evidence that developing a positive approach to reuse and systematically working with local communities to manage and formalise informal kerbside exchange can mitigate waste production.

Dumping is undoubtedly a serious problem in Canterbury-Bankstown, with a range of risks. Following the recommendations of community participants however, we suggest exploring the possibility that dumping is possibly a result of structural issues, which might yield further options for addressing the problem. What if people are dumping because of larger social forces:

1. Giving the increased mobility of rental situations with the increasing intensification of multi-unit dwellings, they are stuck, out of time and money, or are following the example of others—a situation perhaps exacerbated by the structural anonymity of their neighbours in a rapidly changing city.
2. They do not understand the options available to them and believe Council will collect these materials.
3. They see utility in their unwanted items and dump them in the hope they may be seen as 'good waste' by others.

Rather than the punitive approach such as 'You Are Being Watched', which seems to offend the civic pride of participants, it was thought Council could tap into the enormous amount of good will and social incentive around the reuse economy. This could potentially offset some of the illegal dumping practice. One example of Council operating in a responsive and agile way in relation to the recirculation of goods, was reported by Bulkeley and Gregson (2009). The City of London coordinated reuse schemes that sold outgoing students' goods to incoming students or donated to charities a few weeks before their moving out date. This resulted in many goods being diverted from landfill (or potentially illegal dumping) (see Chapter 3).

As reported, some participants regularly put items out on the kerb with a 'free' sign, but took responsibility for these items if they weren't collected within a short period of time (one-to-two days). In these cases, participants were operating under the assumption that recirculating things and diverting them from landfill was both good and responsible, and had no conception that in the current schema this was illegal dumping. Anna for example reported a feeling of dissonance when arguing with a colleague about the 'You Are Being Watched' campaign. It was clear they were seeing the same thing from two completely different perspectives, where her colleague saw 'dumping' she saw a recycling measure and an opportunity for a second life. As reported in our literature review, re-use is an important 'first task' in transitioning to a circular economy (see Appendix 1). Could some of these existing informal practices be leveraged to promote waste avoidance, such as offering a grace period on kerbside materials if participants adhere to certain safety concerns (protective sheeting, staying out of gutters and driveways etc) or by offering free collection days where everyone has a chance to place things outside their homes for recirculation or disposal? As Amin reported, '(In Blakehurst) Everyone has two Council Clean-ups a year. And what you get is the guys who come through actually collect all the metal; people come through, and you know, collect it all and sell it on Gumtree and stuff. Whereas when it's just one house, on one street, every however many months, no-one sees it.'

8. A significant kind of litter in Canterbury-Bankstown seems to be fast litter.

This was represented in the focus groups, but also in a previous Council study analysing community littering in which some young people indicated that they littered their takeaway containers to get rid of evidence, because they did not want their parents to know they had been eating fast food before going home for dinner (Curnow and Spehr, 2013). This suggests that fast-food outlets in Canterbury-Bankstown need to brought into the conversation. As many a community campaign to resist further fast-food licensing in their communities have argued, fast food as an assemblage of restaurant, car, driveway, coupled with always open culture and so on, brings litter. Participants had seen examples (such as the transformation of a pocket park into a dog park) where the nature of a place had changed and littering had ceased.

Fast food companies deny this of course, arguing that it is an individual's responsibility to use the bins they provide at the exit of the drive-thru to dispose of rubbish 'responsibly' (noting much of it is recyclable). We suggest that as part of an overall community effort to reduce waste, fast-food restaurants could be held to be far more accountable for their packaging, as they have been in other parts of the world. Acting on behalf of the community who desire a cleaner city, Council could encourage them to take an 'extended producer responsibility' approach and perhaps offer an incentive to people to return their waste, as suggested by Bel in our

focus groups, reflecting on the mechanism of 'Return and Earn'.[4]

9. An inchoate but important second-hand culture and repair network exists in Canterbury-Bankstown.

While low socio-economic status might incentivise modes of recirculation of goods, a second-hand culture could be further promoted in Canterbury-Bankstown, as a first-choice option for all. This might involve campaigns that re-code second hand goods as desirable, resilient and often of a higher design quality than the 'fast' options available on the market. A campaign could identify the network of physical charity stores and op shops in the area, as well as many of the digital platforms for the recirculation of goods identified in Chapter 3 below. Like composting, the discussion about repair practices in Canterbury-Bankstown was tied to rare spaces, such as private garages. As identified by participants and in our literature review, repair practices offer a good opportunity for engagement and skill-sharing. This might travel one-way, such as in the case of the community 'handy man' but might also be harnessed as an opportunity for skills development and potential future employment, in line with the NSW Government's Circular Economy Policy and Discussion Paper (2018) (discussed in Appendix 1 below). The literature also shows that repair practices promote a sense of personal accomplishment and well-being (see Chapter 3).

The Repair Café https://www.facebook.com/RepairCafeAustralia/ is one such initiative that build on these social benefits, harnessing repair as a platform for community engagement and skills sharing. The basic principle is that community members with repair skills teach others how to repair their own items. All that is required to facilitate this initiative is a publicly accessible room and appropriate promotion.

10. Participatory communication and education is important, particularly where it promotes local leadership and diversity.

Participants wanted to see more educational leadership from Council. There was general agreement across both focus groups that there should be more education targeting renters and new residents; that current education strategies needed to be expanded and broadened, and the communication channels diversified. Even in this modest snap shot of residents' perceptions and practices, education was a constant theme and took place on a number of levels; between family members, between neighbours, by talking, disclosing, demonstrating and modelling behaviours—often on a very basic and practical level. There is no doubt Council is 'doing a lot', but what it is doing, how it is speaking to residents, might need rethinking from a perspective in which diversity is the norm rather than the exception. Our literature review shows that community engagement underpins effective education, and that acknowledging diversity within cultural groups will afford the development of more targeted, nuanced and specifically tailored campaigns, including waste engagement campaigns.

It is crucial to build upon existing community structures which provide useful in-roads and potential leverage. To quote from *Social Change in Canterbury-Bankstown (see Appendix 2):*

> Indeed, those places, platforms, and forums where social meaning, cultural and religious identity, recreational pursuits, social causes, and formal and informal learning, etc., are constituted and negotiated, fostered and advanced, potentially provide more impactful touchpoints for social messaging. This is more likely to be so when key messages are couched in the discourse and terms of the social group concerned. In so doing, the mainstream message and mass communication method are likely to be reinforced. Note that the issue here is not exclusively a 'language other than English' one, but one which might consider or incorporate ideas, symbols, memes, images, and archetypal personas/scenarios, associated with the sub-culture. Here a community engagement approach at the deeper end is required, in order to be appropriate and effective.

Participants also remarked on the importance of 'educating up'. Charlotte said, 'I have a daughter who is in kindy and she is learning about waste and recycling. And she comes home and really puts her dad in his place. I think it is really helpful to start education at a younger level. Even if there are family members from NESB, then the kids can take that home'. It was not only the new, culturally diverse residents who were seen to need education. In response to changing understandings of waste and the desire the predominantly long-term English-speaking residents we spoke to had to act on the waste problem, people wanted more support from Council. They saw themselves in a social contract with Council, and that they were doing their part but that their efforts were not being reciprocated, remarking that there seemed to be 'a code of secrecy' about where their carefully collected material resources go. They wanted to know more about the lifecycle of materials and the community of recyclers, and saw Council as responsible for sharing that information.

A part of this was a desire for more feedback. Participants of the focus groups and survey respondents were keen to see how Canterbury-Bankstown as a community were travelling, with suggestions for quantitative reporting, information graphs, dashboards and so on that could demonstrate improvement in recycling rates over time. This suggests that 'feedback mechanisms' of various sorts, which have already proven effective for Council (e.g., smiley bin tags, and pledges), could be used beyond the individual householder to support a more environmentally conscious community identity. This is also suggested by the 75 per

4 For example, Birmingham City Council in the UK developed a voluntary litter-reduction agreement with McDonald's, committing them to regularly pick up litter in the streets around 18 fast-food outlets in the city. https://www.greaterbirminghamchambers.com/latest-news/news/2016/7/29/mcdonald-s-vows-to-keep-city-streets-clean-after-signing-litter-agreement/

cent of survey respondents who thought it important or very important to receive updated information from Council about changes in amounts of City waste going to landfill or being recycled.

11. The first civic encounter that a newly arrived citizen in Canterbury-Bankstown experiences is critical.

There are significant problems with waste minimisation and recycling across new mixed-use and medium-density residential developments. When people arrive in Canterbury- Bankstown, whether from another council area or from another country, how do they first learn about Council services and their own responsibilities regarding waste management? Participants in the focus groups identified the need for a good 'first encounter', which goes beyond offering language option on the Council website. Jason underscored the importance of working with community leaders in their language, as 'people who don't listen to Council may listen a community leader.' This may involve a face-to-face welcome by a community leader representing Council, but also a 'welcome pack' which might contain within it information that extends on what was said in person, such as biodegradable pictorial information or stickers related to waste management practices that could be peeled off and stuck on the fridge or on bins in the household, or a 'Waste Collection Calendar' marked up to show collection days.

Given that multi-unit residents are particularly challenged by correct recycling practices, this might also include recycled PET kitchen caddies or dedicated portable bins, to aid transfer of materials from the unit to the communal recycling bin in ways other than in plastic bags—a key contaminant in the recycling system according to the leading waste-management and recycling service companies. This suggestion is supported by findings from the Southern Sydney Region of Councils Regional Waste Avoidance and Resource Recovery Strategy 2017–2021. NSW, discussed in Chapter 3 below.

The significance of involving an appropriate cultural interlocutor in first but also ongoing encounters was also something the Institute for Culture and Society has identified in previous research with newly arrived Mandarin-speaking communities. It was clear that these participants did not necessarily trust government and, in some cases, preferred to get their local information from international news sources rather than the relevant local authority.

Another option related to first encounters is partnering with community initiatives such as the Welcome Dinner Project https://welcomedinnerproject.org/. This initiative has had excellent results in making new neighbours feel 'at home', and is an easy initiative to promote to new residents. The Welcome Dinner Project already has a number of Council partners in culturally-diverse areas of Sydney with highly transient populations. It could help reduce the anonymity which appears to be a result of a high population influx and turnover, and as was noted by Anthony, knowing your neighbours comes with a 'peer pressure to maintain your street'.

A more substantively focussed and resourced NGO operator in the new-arrival and migrant-settlement space is Settlement Services International (SSI) together with its network of place-based NGO partners. SSI is the consortium-lead contracted by the Federal Government to implement the Humanitarian Settlement Program[5] (of which SSI and three of its twenty-two NGO partners operate in Canterbury-Bankstown)[6] and the Settlement Engagement and Transition Support[7] program. Furthermore, the Settlement Engagement and Transition Support program is also run by Canterbury-Bankstown-based NGOs other than SSI—*namely,* the Lebanese Moslem Association (Lakemba), Islamic Women's Association of Australia (Condell Park), Chinese Australian Services Society Ltd (Campsie), Asian Women at Work Inc (Bankstown), and United Muslim Women's Association Inc. (Lakemba). SSI together with these other NGOs proffer valuable partnership opportunities to Council in furthering waste-management initiatives. These NGOs are engaged with newly arrived and settling migrant communities at critical junctures of the migration journey and experience. They are well connected and networked to communities, civic life, and public agencies. They are natural interlocutors of in-bound and out-bound issues, and they have a track-record as community-development initiators and operators.

5 The Humanitarian Settlement Program (HSP) provides support to humanitarian entrants to build the skills and knowledge needed to become self-reliant and active members of the Australian community. The HSP is delivered on behalf of the Australian Government by five service providers in 11 contract regions across Australia. Participation is voluntary and services are delivered to clients through a needs-based case management approach, supporting clients to achieve outcomes in the following areas as a foundation for successful settlement: Employment, Education and Training, Housing, Physical and mental health and well-being, Managing money, Community participation and networking, Family functioning and social support, Justice, and Language services. From the Department of Social Service website, https://www.dss.gov.au/settlement-services-programs-policy-settlement-services/humanitarian-settlement-program [accessed June 2019]

6 SSI operates this program in Canterbury-Bankstown together with local partner NGOs, being the Lebanese Community Council of NSW (Bankstown), the Melkite Catholic Welfare Association (Greenacre), and Metro Assist (Campsie). Ref. the 'NSP Partnership' in https://nsp.ssi.org.au/ [accessed June 2019]

7 The Settlement Engagement and Transition Support (SETS) program aims to equip and empower humanitarian entrants, other eligible permanent migrants and their communities to address their settlement needs, in order to improve social participation, economic well-being, independence, personal well-being and community connectedness. The SETS program fills an important gap in the post-arrival period for eligible clients who do not have family and other community supports to rely on. The program is complementary to the Humanitarian Settlement Program (HSP) and other Commonwealth support to humanitarian entrants and for other vulnerable migrants. From the Department of Social Service website, https://www.dss.gov.au/settlement-services-programs-policy-settlement-services/settlement-engagement-and-transition-support-sets-program [accessed June 2019]

Image 4. Reusable bag and trolley, 2019 Image: Abby Mellick Lopes

Image 5. Feeding ibises, 2019 Image: Abby Mellick Lopes

2. Making Waste Public: Shared Responsibility through Ongoing Engagement

In Australia, as is mostly the case internationally, local governments have little power to regulate the quantity, heterogeneity, and material composition of the products consumed and discarded by their citizens. Local councils can mostly decide on which waste-management technologies and strategies to implement, but the contemporary global waste predicament is also evidenced in an industry failure, with manufacturers primarily determining the material composition of their products and packaging—therefore making them complicit with the general waste problem.

What motivates people to recycle is today one of the fundamental waste-management concerns. A range of recent research on best practices to encourage recycling reveal that people are motivated to recycle for many reasons that range from personal beliefs, to social status, economic situation, and knowledge and level of concern with environmental benefits. As a range of case studies in Australia and internationally show, people are often positively motivated by direct economic benefits (for example, the South Australian refund system) and other relevant factors, such as availability of recycling infrastructure (for instance, recycling bins and centres), policies and regulations (landfill bans, landfilling levies), and socio-cultural factors are also significant contributors to achieving more efficient recycling. (See Chapter 3.)

Recent studies point out the need to identify the behaviours that we would like to see, then arrange rewarding environments, or disincentives for undesirable behaviours by creating social norms as an important aspect of waste and behaviour-change programs. An example is Compost Revolution, an initiative that assists councils to create a composting social norm. First undertaken together with Waverley, Randwick and Woollahra Councils in Sydney, the initiative was aimed at understanding and developing new products around behaviour-change principles, aiming for residents to show social proof they were composting by putting Compost Revolution stickers on their bins. In principle, neighbouring residents would see these stickers when putting their bins out, possibly leading to the creation of a social norm. It was assumed that this would increase the number of people adopting this practice of composting. However, there are other views that provide a different perspective.

In their work on making waste-management public, Hird *et al.* (2014: 442) argue that unless there is a change or proposed change, waste management is usually 'so routinised that it does not garner or sustain the public's attention as an issue, and thus does not become political'. In this case, waste management is governed in such a way that does not engender public interest. Waste becomes a matter of public interest and becomes an issue when the infrastructure fails or the management systems collapses, and thereby compromise human health and/or the environment. As such, waste does not become an issue or matter of concern (Latour, 2004) unless it is brought (back) into view and members of the public invest waste with particular meanings. These meanings have to do with known, unknown, and unknowable risks, health, consumerism, trust in science, property values and taxes, labour, environmental justice, and so on (Hird *et al.,* 2014).

MAKING WASTE PUBLIC

This form of governance, Hird, *et al.* argue, 'leads to the configuration of waste management as a technological issue supported by norms and practices of individual responsibilisation' (2014: 443). That is, waste management is largely structured as a matter of responding to individual citizens' waste 'needs' through industry and technology, rather than, for instance, as a socio-ethical issue requiring forms of democratic deliberation on issues of over- consumption and economics based on relentless growth. As part of this Report, we think this is an important insight to be considered when designing best practices aimed at understanding residents' motivations towards waste disposal and recycling (or not) and supporting participatory approaches towards a sense of shared responsibility and ongoing engagement between Council and the residents it serves.

Framing waste management solely as a technological issue can lead to an instrumentalisation of particular publics in relation to waste, one that conceptualises waste at the individual level and to be resolved with downstream techno-scientific innovations. This in turn leads to differential assessments of waste-management risk among scientists, members of the public, community group members, government officials, and so on. It is crucial not to make assumptions about why people litter, and what will change their behaviour.

If a key goal of councils is long-term sustainability, then locally relevant outcomes of working with communities in development and planning, and in building the capacity of a community to lead engagement processes is crucial. In this regard, perhaps the most important aspect to truly approaching participatory community engagement is how individuals and social collectives understand and appreciate various forms of knowledge, in this case knowledge about waste disposal practices.

WORKING TOGETHER

Our preliminary data suggests that the City of Canterbury Bankstown relies substantially on an attitude-behaviour-choice model of behaviour change that to a large extent is successfully fostering an environmental citizenship identity on an important number of residents in the LGA, particularly around waste recycling practices in certain community groups. (See Chapter 1.) The governmentality approach upon which the attitude-behaviour-choice model is predicated tends to ignore the need for, and could be potentially be inhibiting consideration of, broader societal change concerning urgent environmental issues involving consumption and waste.

Shared responsibility on waste management is not best accomplished through public information sessions and presentations organised by industry, often in partnership with government, which support individual-level responsibility in a largely top-down fashion. It is likely to yield better results through processes of knowledge co-creation, which means involving project participants in the 'domains of action' around waste management and governance to collectively generate knowledge outcomes. Important knowledge outcomes can be, for instance, how to consume less. Several

recent studies highlight that the focus on waste management and how to get rid of waste efficiently and with minimal damage to our health and the environment is important, but the ultimate goal needs to focus on avoiding waste creation, resource management and sustainability for future generations where the key problem is to counter over consumption. Domains of actions can include planning and definition of project goals and activities, or something like partaking in the implementation and evaluation of these activities (Cornish, 2006). Within a participatory waste-management program, individuals can reflect on and better understand current systems and are more capable of performing alternative actions to those systems. Spaces and processes need to enable participants to recognise and use their agency, branching into everyday spaces and transforming exclusive spaces into common spaces (Gutberlet 2015).[8]

This framework is important when we correlate with some of the data coming out of the workshops and focus groups facilitated in May 2019 and the Online Survey implemented in April–May 2019. For instance, in a social learning workshop with 12 Council employees, the facilitators asked the question: What word would you use to describe the people Council serves? Out of the 36 single-word responses from the group of employees it is interesting to note how the negative descriptions outweigh the positive neutral descriptions.

Some of the views were replicated in the Critical Issues Workshop held with 12 participants (residents of Canterbury-Bankstown) to have a more nuanced understanding of what residents think about how can Canterbury-Bankstown reduce its waste production while improving its management of all kinds of municipal and consumption waste. To the question of what are the main issues for waste management two or three participants quickly answered 'roadside dumping'. When asked why they think people dump stuff on the street, the first answers were that 'people are lazy'. This was in response to the identification that kerbside dumping was a critical issue in the LGA.

Participants demonstrated a high level of concern with illegal dumping but little knowledge on how Council are cracking down on illegal dumping. A tension was present in perceptions of the problem between lack of knowledge and lack of care. (See Chapter 3.)

- 'People don't want to pay tip fees'; and
- 'No consequences for dumping on the road. Council doesn't do anything when it is reported, there is a lack of follow through'.

It is interesting to note how participants shift responsibilities away from the community and on to Council. The handbook *Illegal Dumping Prevention and Clean-Up* produced by the NSW Office of Environment and Heritage provides relevant recommendations to improve knowledge of who is responsible for dealing with illegal dumping. Research carried out by the Department of Environment and Conservation (DEC) in 2004 found that councils described the unwillingness of offenders to pay, an uncaring attitude and convenience as factors that motivated illegal dumpers. Almost 15 years later, the situation has not changed. Householders continue to place unwanted items on footpaths or back lanes in the hope that someone will take them or council will remove them. While evidence suggests that undertaking safe clean-up activities, establishing tailor-made measures in place to prevent and deter illegal dumping and developing partnerships to tackle illegal dumping can have a positive impact. The participants in this Critical Issues Workshop seemed to agree that what is needed is more monitoring and punishment (through fines).

- 'Government does not enforce regulations. No justice or legal response to dumpers'; and
- 'More monitoring needed. Nothing happens if you use plastic bags for your recycling'.

Establishing and maintaining working partnerships involving stakeholders and community organisations early in the development of an illegal dumping program ensures ownership of the program, which is more likely to result in support and promotion of the program. This is important when, for instance as participants in the Critical Issues Workshop indicate, there is a significant change in the demography of the LGA. While until a decade ago most people were owners, today many residents are migrants to the LGA and short-term residence. Transience is crucial. People are not familiar with the procedures.

- 'Charities receive unwanted items, often rubbish or broken items'.
- 'In the past it was possible to obtain good items, but not anymore. Products are not designed to last, bad quality. In the past people use to repair things, not any more'.
- 'Some participants consider that people who dump actually know that what they are doing is wrong. They dump at night to avoid being seen'.

Partnering with the community through prevention and clean-up projects work best when they are supported by active community participation. Community partners include youth groups, bushcare groups, chambers of commerce, business operators and community organisations such as Clean Up Australia, Keep Australia Beautiful, Landcare, Greening Australia and Conservation Volunteers Australia. Educational institutes such as schools, TAFE colleges, and universities may let their students participate in clean-up events and working bees or may even be interested in including clean-up projects as part of their curriculum.[9]

NEIGHBOURLINESS

Relationships with neighbours amongst focus group participants was quite often confined to a tight geography. While 'polite acknowledgement' seemed to be the norm with 'the rest of the street', many close neighbours actively shared clean ups and bin space, watched out for each other (for example for young children and elderly residents) and each other's properties, mowed each other's verges, and fed each other's animals. A few participants were related to their neighbours, for example Jason (FG2) lives next door to his parents and described how they share organic produce from their garden with their neighbours.

8 See for an interesting example Crystal Tremblay's work on inclusive waste management in Brazil (2013); and Tremblay and Gutberlet, (2010).

9 Other interesting initiatives worth looking at that have been undertaken internationally include ZmapujTo, a smartphone/tablet GIS reporting application which is intended to fight against illegal waste dumps in the Czech Republic with the use of geographic information systems (GIS). This freely available mobile application makes it possible to report illegal dumps and also overloaded containers of municipal waste.

Participants reporting living in highly multicultural neighbourhoods, which they saw as an asset, and mostly had very good relationships with their neighbours. John said 'I live in a block of 18 units… It's a bit like the United Nations in many respects: you start off with a great idea … We're not quite "community", but we're getting there.'

Gabriel said, 'I think it's absolutely wonderful, I love this multicultural place. I live in a duplex here, the people next door they are almost like our next family. When there are birthdays, celebrations we're invited there … And behind us in the same block we have a Lebanese. We saw their kids grow up. And, when we are on holidays these two neighbours actually look after our house. And the person next door is an Italian, lived there for 4 years, he does the same thing. So, it's absolutely beautiful.'

According to Mel, 'If you want to get to know your neighbours, volunteer! 'Cause I'm a community JP and I know everybody on the street.' Valentine concurred. Her husband 'is the handyman for all neighbours; people across the road or other neighbours often ask him to help with fixing stuff. The annual strata meeting happens in our house, so it's a way to get to know each other.'

What was an educational challenge within families also related to neighbours. Gio said: 'I became involved (in the executive committee). I started to get to know the people, and also because I'm interested in waste and recycling. I'd like to educate, but mostly by example… you have to negotiate with the end goal in mind.' There was a familiar tension around trees. As explained by Gio 'I've been trying for about five to eight years to repopulate this area with native trees … A tree's got leaves, (but the neighbours say) "Oh I don't want them in my gutter!"' John: '(the neighbours) don't fully understand what'll happen if you took the tree away. You get the sun, and get stinking hot in the middle of summer.'

Claire also took on an informal educator's role. 'I try to educate my neighbours. I live in a small block of townhouses, four townhouses. So, I would let them know about the appropriate process.' It was noted that you need time to build a natural relationship with neighbours, but these can also be quite fragile. As Marie remarked: 'Sometimes I have commented about (neighbours) not disposing waste properly by saying "not sure if that's supposed to go in there", but that wasn't received very well. I don't engage with them anymore.'

A neighbourly good will was common amongst participants. It was noted also that with knowing your neighbours comes a 'peer pressure to maintain your street' (Anthony, FG 2).

RESIDENTS' PERCEPTIONS OF COUNCIL'S RESPONSIBILITY

There was little awareness of many of Council's 'educational' campaigns, and particularly negative views about 'You are Being Watched.' Bel said 'I think that ('You are being Watched' poster) looks absolutely horrifying, and I'm getting a little bit sick-to-death of being controlled. And all of those eyes looking at us, as if we are all criminals. I think it's over the top'. This was echoed by Nina who said 'it feels like 1984 Orwell. But people wouldn't want to dump with these guys. Neighbours made comments about surveillance and been afraid because of potential penalties.'

Anna had seen the posters in her area and had discussed this campaign with a work colleague. 'We both got really fired-up… I was saying it was ridiculous, because I love going around and collecting all the junk, … [otherwise] it's going straight to landfill. And he was saying, he hates doing this. Whereas I sort of said it's a recycling measure and an opportunity for a second life. So, it was really interesting, because …we both were so fired-up about it'

In response to a lack of knowledge about Council services among new residents, participants from both groups thought Council could do more to support communities, demonstrate educational 'leadership' and set an example (Anthony, FG2). Said Claire (FG2) 'There's not enough communication from Council around recycling and clean up. It should be up to Council to do this. Maybe a welcome pack for new residents. We have a lot of people who are new to the street and to the country. It should be up to the Council to engage with them more.'

WASTE IS A SHARED RESPONSIBILITY

The culturally, linguistically and religiously diverse community members we had hoped to be involved in a discussion about waste were mostly not in the room, and therefore unexplored areas remain. However, focus group participants were highly knowledgeable about their communities and experts in relation to their own practices, reporting experiences, raising questions and making suggestions that reinforce a number of findings derived from our literature review on cultural diversity and waste and our previous research in this area. A key question emerging from this research is: *How can material infrastructures, resources and communications be better helpmates and allies to culturally diverse communities living in Canterbury-Bankstown, particularly new residents?* The focus groups have helped to identify problems, many of which are known to Council, but also opportunities and leverage points for change in their communities. These draw attention to waste as a shared responsibility that needs to be renegotiated in relation to the rapid changes in population, demography and built environment taking place in Canterbury-Bankstown now and into the future.

COMMUNICATION

Participants in the online survey were surveyed about whether they would like to receive reminders or notifications from Council regarding their waste management (Appendix 4). As over 60 per cent of participants do not expect a reminder service from Council regarding placing the bins (66 per cent selected 'No') or the types of bins (61 per cent selected 'No') to be placed for collection. However, the majority of participants (over 80 per cent) prefer to receive notification from Council regarding the reason why their bin(s) were not collected.

A follow up question (Appendix 4) with respondents that indicate they wish to be notified when their bin(s) were not collected asked how they would prefer to be notified by Council. Clearly, SMS was the preferred way of receiving notification from Council about different bin collection issues. Around two-

thirds of residents would like to be notified by SMS if their bins were unable to be accessed by the collection truck (71 per cent) or were too heavy (59 per cent). For placing the wrong items in the bins, around 40 per cent residents would like to be noticed by SMS, followed by via bin tag, chosen by one-third of residents. The preferable ways of receiving notification for placing the wrong items in the bins (Notifications 3–5) were further examined across different residential types and cultural background. Notification 1 and 2 were not included for further analysis, because SMS remains the most preferred way of receiving notification among residents from different residential types and cultural background (see Appendix 4). A highly consistent pattern of preferred ways of receiving notification was found across three situations of placing the wrong items in the bins. Over 40 per cent of residents in houses and large blocks of units prefer Council to notify them through SMS compared to that around 60 per cent residents in small blocks and over 40 per cent in medium blocks prefer bin tag as the way of contact.

A question during the Critical Issues Workshop asked employees to name the three top issues/challenges around waste with culturally diverse communities in their local government area. Of the 39 responses, it was clear there is a serious problem of communication. The employees mentioned language (9); cultural understanding (4); communication (4) and education (4) as main factors. This is indicative of how a sense of responsibility over the key issues/challenges is shifted to the communities.

Preliminary results from the online survey (n=605) indicate that the City of Canterbury Bankstown website ranks top as the channel for residents to receive info about waste and recycling collection in the past year. However, email and bin tagging are selected as the preferred ways for Councils to send notification to residents. This preference differs among the types of household: around 60 per cent respondents contacted council last year regarding their waste and recycling service, and phone (76 per cent) was their method of contact; Phone call and phone apps are reported as the preferred way for residents to contact Council, yet this preference differs depending on the types of residency and cultural background.

Participatory Communications, Design Thinking, Education for Sustainability

Communication and its role in local governments engaging with citizens is still poorly understood and supported, despite decades of innovative practice and positive outcomes. Gaps between discourse and action, outdated evaluation methods, short timeframes, red tape, and power relations, combined with vertical and externally-driven communication models, and confusion between information and communication (Gumucio-Dagron 2009), all prevent the development of social processes in which community groups and residents with common interests, for instance around waste practices, jointly construct a message oriented towards improvement of their waste management practices.

The simple distinction between one-way (information) and two-way (communication) doesn't seem to be part of the very elaborate strategies when engaging with diverse communities and residents. Communication is participation. The concepts are entangled. The word 'communication' has a clear meaning: sharing, being part of, entering into dialogue. Communication can be described as a complex process of creation, transmission, maintenance and transformation of information and ideas, using a mix of interpersonal and mediated channels, which are sustained by political, economic and social structures (Melkote and Steeves, 2001).

A participatory communications framework where residents and Council authorities can work together as equal partners can be a suitable collaborative approach to problem solving. Community-based participatory research as a tool for policy change has been widely used in a range of contexts to build community capacity and help bring about contributions to policy changes.

A successful waste-management program is the one that becomes sustainable over the years, after the external inputs have ceased and when communities are involved and take ownership of the social change process. Therefore, alongside an attitude-behaviour-context model of behaviour change, which may bring important positive outcomes for Council, enabling community members to identify issues in need of change, or translate research-based findings into action and advocacy for policy level change can be an important way of turning waste a political issue and developing community governance of waste management in collaboration with Council. Instead of telling people what to do, design thinking and participatory communication frameworks can be more efficient than attempts that try to find solutions by informing people or applying fines. Allowing operational staff to think creatively and not always rely on ready-made solutions to understand the problem and test the solution.

Examples

Georges River Combined Councils Committee (GRCCC) litter program tested four or five hypotheses on what actions they could take to reduce litter in the river catchment areas before implementing a solution. GRCC found that mobilising volunteer groups was a good, if indirect way to reduce littering. In this case litter reduction was an indirect outcome of large-scale litter collection and demonstrating to river-reserve visitors that littering is not a norm.

Cleanaway worked closely with Canterbury Council on increasing recycling recovery rates in multi-unit dwellings. This project included undertaking research to design and test a program and infrastructure in response to these insights.

Many of these findings build on the first step of equity of access to information and resources. This does not mean adding even more information to the Council website. Equity of access requires a suite of communication tools to cater for Australia's growing number of residents with diverse cultural, linguistic and religious backgrounds. The social capital existing within networks and high adaptive capacity of migrants are enablers in this adaptation process (Hansen *et al.,* 2013, p.1). Participants in the focus groups were keen on the 'Council Combi' as an engagement tool, but beyond getting out into the community more, the ways Council communicates requires diversification and a more nuanced cultural approach.

Image 6. Women moving meat packaging waste, Campsie, 2019 Image: Abby Mellick Lopes

Image 7. Mosque, 2019 Image: Abby Mellick Lopes

3. Cultural Questions in Social Context

There is growing awareness that cultural drivers such as ethnicity, religious beliefs and food traditions, for example, play a role on how waste is generated and disposed. However, few studies have addressed in a systematic way the possible impacts that cultural identity may have on waste management, and we still know very little about exactly how culture matters. Acknowledging cultural diversity is crucial for waste management campaigns and effective engagement strategies. But as we show in this report, research indicates that community attitudes towards waste are shaped by multiple social, economic and cultural factors; it would be too simplistic to single out cultural identity as a strong determinant of how people participate in waste management regimes. As Klocker and Head remind us, it is important to avoid 'essentialising tendencies and reductive thinking when bringing ethnic diversity into environmental debates' (2013: 47).

While there is an urgent need for more research in this field, there are some relevant contributions internationally and in Australia that provide useful insights for developing waste management strategies in Canterbury-Bankstown.

WHAT IMPACT DOES CULTURAL DIVERSITY HAVE ON ENVIRONMENTAL VALUES AND PRACTICES?

There is a growing body of literature about the impact of culturally diversity on environmental values, attitudes and knowledge. Research has for example focused on how ethnicity shapes environmentally significant values and practices, including water consumption (Yan, McManus, and Duncan, 2018), transport choices (Kim, 2009; Klocker, *et al.*, 2015), visits to natural parks (Johnson, *et al.*, 2004) and participation in recycling schemes (Martin, Williams, and Clark, 2006; and Perry and Williams, 2007).

Studies in environmental psychology, a highly influential paradigm in policy circles (as noted by Gregson and Crang, 2015), have tended to assume that Anglo-European individuals are more likely to show concern for ecological issues than other culturally identified cohorts. However, recent research indicates that such assumptions are based on a narrow definition of 'pro-environmental behaviour', typically focused on recycling, environmental activism, environmental reading, green consumerism and nature participation (Klocker and Head, 2013; Head *et al.*, 2019). Because environmental psychology and related approaches often overlook non-Anglo/European forms of engagement with the environment, other studies have sought to broaden the range of practices identified as ecological. In particular, some scholars have paid attention to the actual outcomes of diverse lifestyles, and highlighted the inadvertent environmentalisms (Hitchings *et al.*, 2015) and vernacular capacities (Gibson *et al.*, 2013) that, although beneficial for the environment, may not be captured by narrower approaches on ethnicity and ecology. This line of work emphasises a turn from mental processes and individual choice to the "actually existing sustainabilities" that result from grounded social practices and ways of living (Hitchings *et al.*, 2015: 372).

FROM THE 'ABC' FRAMEWORK TO CONSIDERING SOCIAL PRACTICES ON THE GROUND

In a study on governing household waste management in Canada, Lougheed *et al.* (2016) discuss how policies concerned with defining and encouraging pro-environmental behaviours are typically informed by social-psychological theories such as the 'Planned Behaviour and the Theory of Rational Action' approach (Ajzen, 1991; Cheung *et al.*, 1999; Davies, *et al.*, 2002).[10] These theories are colloquially known as the ABC model: Attitude, Behaviour, and Context (Ajzen, 1991; Stern, 1999; Evans, 2011). In summary, these theories posit a causal relationship between attitudes and behaviours where behaviour is conceptualised as a linear, rational decision-making process, and anti-environmental behaviour is considered mostly as a result of maladaptive reasoning (Hargreaves, 2012). We are skeptical of such approaches.

As a way to attempt to standardise behaviour and counteract what is perceived as 'maladaptive reasoning', contemporary governmentality deployed by local governments attaches responsibilities to individuals, and largely rely on one-way informational and education campaigns and/or economic incentives (McKenzie-Mohr *et al.*, 1995; McKenzie- Mohr, 2000; Stern, 1999; Vicente and Reis, 2008). However, the evidence suggests that providing educational materials, including in a range of languages for diverse communities, does not consistently and directly translate into individuals making behavioural choices consistent with the intentions and planning strategies of governing authorities (Darier, 1996a).

Lougheed *et al.* (2016) further argue that economic interventions such as limiting the amount of waste that can be placed at the curb for free, for example, or fines for improper sorting of recyclables/organics for instance, can further rationalise pro-environmental behaviours. These strategies, Lougheed *et al.* (2016) observe, attempt to normalise some behaviours while rendering others abnormal (Shove, 2003). Establishing norms and standardised behaviour in turn produces identities to which people may aspire (Darier, 1996a). In this way of governing, environmental citizenship is linked to general notions of risk through which individuals are purportedly empowered to reduce their potential exposure and the exposure of others to these risks (Hobson, 2006). Crucially, desirable behaviours are those that minimally impact the prevailing standards of living and ultimately maintain or increase mass consumption (Shove, 2003).

While literature has tended to focus on the attitudes, behaviours and choices of individuals —what has been termed the 'ABC framework'—a growing body of research is moving towards social practice approaches on waste generation and disposal. Research

10 The aim of this study was to better understand attitudes and experiences associated with waste, waste management and waste-management governance in Kingston, Ontario. Through ABC-informed policies such as the one-free-bag limit, public education, and promotional campaigns such as the Remarkable Recyclers, the City of Kingston and its private industry consultant have encouraged individuals to engage in self-regulation, 'voluntarily adopting predefined environmental practices' (Darier, 1996b: 66) in the form of recycling and composting, and ultimately bearing responsibility for meeting the City's sustainability goals. However, as we suggest, engendering this type of environmental citizenship undermines the critical consideration of more profound societal or structural changes and circumscribes critical engagement in deliberations on such matters.

following this line maintains that waste-related practices are not simply a matter of individual choice based on ethical motivations or economic pursuit. Rather, they are shaped by processes of collective normalisation that emerge in the interaction between routines, infrastructures and institutions (Evans, 2011, 2012; Gregson and Crang, 2015; Lane and Watson 2012;). In this perspective, waste is not so much an innate property of particular materials but the result of varied routines and practices of everyday life, such as shopping, parenting, cooking or cleaning.

A relevant insight emerging from these studies is that rather than focusing on 'raising awareness' and disseminating information, waste policies could be improved by connecting infrastructures to everyday practices of consumption and disposal, as well as attending to critical moments such as moving houses, house clearance, and periods of home refurbishment or improvement (Bulkeley and Gregson, 2009).

Focusing on the everyday practices of consumption and waste disposal also turns the attention to the devices and infrastructures that shape household waste management and recycling. Current campaigns on household food-waste, for example, are targeting key everyday activities driving food-waste generation such as planning, shopping, storage, preparation and consumption of food (Arcadis, 2016). Our literature review indicates that, in addition to information and education campaigns such as *Love Food, Hate Waste*, councils should pay more attention to practical infrastructure solutions with potential to encourage food-waste recycling and composting. In their research on food-waste regimes in the UK, for example, Metcalfe *et al.* show how the distribution of small indoor food caddies, larger outdoor food-bins and complementary biodegradable bags resulted in a 'huge reduction in the proportion of municipal solid waste (MSW) sent to landfill' (2012: 139). In the same line, Turner (2017) emphasises that focusing on infrastructure may be crucial for reducing food waste:

> While care for the environment is rarely front and centre in people's decision-making about food waste (being secondary to health considerations), my research suggests that people will happily use schemes to keep food waste out of landfill, as long as they are simple, efficient, and mess-free.
>
> Such schemes could include regular collection of food waste by local councils, including provision of receptacles that fit into kitchens and minimise mess and smell through the use of biodegradable bags (see the recent successful trial by Lake Macquarie Council: www.lakemac.com.au/closing-the-loop; see also the more ambitious trial for collecting food and organic waste by the Melville City Council: www.melvillecity.com.au/waste-and-environment/3-bin-food-organics-garden-organics).

This is consistent with recent evidence from the Bankstown area showing that a high proportion of Vietnamese families are already composting or using a worm farm, even when living in apartments. In addition, research indicates that many who were not already composting were nevertheless very interested in participating in composting initiatives (however, composting was significantly lower among other ethnic minorities) (Cultural Partners cited in Arcadis, 2016: 18).

Importantly, as Bulkeley and Askins (2009) show, policy initiatives and interventions that make space for face-to-face contact between government-facilitators and residents may be better able to reshape day-to-day practice.

In summary, social practice approaches to waste indicate that effective policy interventions should pay attention to both the material (everyday infrastructures such as bins, storage space, receptacles) and the social contexts (available time, face-to-face engagement, household composition) that shape practices of waste avoidance (reuse, repair), disposal, and recycling. Furthermore, there is a need to investigate potentially beneficial everyday habits of consumption and waste management, such as practices of repair and reuse, 'giving away' unwanted items, or simply consuming less goods. Leveraging on already existing practices.

WHAT IS THE RELATION BETWEEN CULTURAL IDENTITY AND HOUSEHOLD WASTE-MANAGEMENT?

Research has found some correlation between ethnicity and participation in recycling schemes. However, ethnicity alone is not enough to explain people's recycling behaviour. In general, the literature tends to favour social factors such as income, age, storage-space and short/long-term residence (Martin *et al.* 2006; Perry and Williams, 2007, Robinson, 2013), and in some cases access to information, taking into account language barriers and social networks (Perry and Williams, 2007).

Along this line, Robinson observes that 'it has been suggested that ethnic minorities recycle less than the majority white British community … in part because of the greater tendency for minorities to occupy multi-family dwellings, such as high-rise flats, where recycling rates are lower than for other types of property. However, this research has neither tended to consider individual ethnic groups nor to focus on possible factors affecting low recycling rates relating to specific ethnic and cultural traditions, attitudes and behaviours' (2013: 293).

Similarly, a study by Martin *et al.* (2006) suggests that the relative economic vulnerability among the British Asian population was the main reason for low recycling rates in this group, but otherwise their attitudes towards household waste-management were similar to those of the majority. Timlet and William (2009) focus on transience and short-term residence as key determining factors of participation in recycling schemes.

While culturally or linguistically diverse backgrounds can contribute to explaining lower participation in recycling and council-prescribed practices—perhaps due to language barriers, lack of knowledge on waste management practices, etc—it is not clear to what extent this is a determining factor. Overall, most studies tend to highlight the importance of multiple factors: socio-economic status, age group, type of dwelling, transience/length of residence and culturally

or linguistically diverse background (Martin *et al.*, 2006; Miafodzyeva, Brandt and Andersson, 2013; Robinson, 2013).

However, the NSW Office of Environment and Heritage's commissioned research (CIRCA, 2014) into culturally and linguistically diverse communities in the Sydney metropolitan area and their engagement with environmental issues is also noteworthy. The study's key finding was that a wide range of organisations had been involved in delivering environmental projects that engaged people from CALD backgrounds and that a diverse array of projects had indeed been implemented, covering a diversity of environmental topics. It also found that many of the culturally and linguistically diverse organisations consulted had been involved in sustainability and environmental projects, but for most the level of involvement was limited (CIRCA, 2014: 3). Its recommendations to better and successfully undertake sustainability initiatives with CALD communities in the Greater Sydney Metropolitan region included the following.[11]

1. Help establish and develop collaborative partnerships, in order to deliver projects that engage CALD communities.
2. specifically targeting community organisations working with CALD communities in order to encourage and increase participation, and build capacity, in environmental projects.
3. Ensure projects are relevant and tailored to culturally diverse audiences. That is, recognise the importance of project planning within project funding guidelines and support organisations to consult with community and plan appropriately.
4. Make grant funding processes accessible to potential grantees.
5. Include accessibility principles in the design of the project.
6. Support community-sector stakeholders and grantees in project management.
7. Network, share information and collaborate with councils and other government agencies, in order to tap into other funding streams, such as urban development and health and wellbeing programs.

An important tenor cross-cutting these recommendations (clearest in Point 3) is the importance of initiatives or projects offering a social element and delivering social outcomes, which were seen to encourage participation and facilitate environmental outcomes, particularly when working with new and emerging communities. As such, these recommendations concur well with a Social Practices approach whereby normalising into communities' social routines and/or intervening during 'critical moments', say, of migration, settlement, and integration, are prefigured and incorporated.

WHAT IS THE RELATION BETWEEN CULTURAL IDENTITY AND KERBSIDE DUMPING?

The evidence on kerbside dumping in Australia indicates some correlation between illegal dumping and culturally and linguistically diverse backgrounds. However, the data is insufficiently detailed and inconclusive as to whether cultural diversity is the determining factor. A recent study conducted in Brisbane, for example, found that people who spoke English as a second language were most likely to be dumpers than those who speak English as a first language. However, the study points out, 'the association was not significant' (Comerford, *et al.*, 2018: 492). More relevant factors seem to be type of dwelling—dumping is particularly high near multi-unit dwellings—short-term residency and being a student.

A survey conducted in 2004 in NSW found that, those residents who admitted to dumping were more likely to be slightly younger, have lower white-collar jobs, be from a non-English speaking background; be short-term residents (less than three years), and be renters of flats, units or apartments (and not townhouses or villas) (DEC, 2004).

This brief overview suggests potential intervention points or actions:

→ Recent evidence from Brisbane and NSW suggests that culturally diverse residents have lower awareness on the illegality of kerbside dumping (Comerford *et al.*, 2018, NSW EPA 2015). Similarly, evidence indicates that this group has a lower overall awareness of the available disposal options and of council clean-up collection services. Waste campaigns raising awareness on these issues should include face-to-face contacts with target subgroups—renters, multi-unit dwellings' residents and students—and with key stakeholders: strata managers at multi-unit dwellings, culturally diverse community groups or "community champions" (OEH, 2015). Indeed, the Council relied on face-to-face contacts with building managers when implementing a successful trial program for recovering and recycling polystyrene, soft plastic, cardboard, e-waste, clothing and mattresses at multi-unit dwellings. While initial contacts proved difficult, managers were easily engaged once a first personal contact was established (SSROC, 2017: 24). Another key finding from this program was that flyers were not an efficient way of engaging with MUD residents, given than residents are often inundated with promotional materials and flyers *(Ibid.)*.

→ Explore options for supporting the practice of managed kerbside goods exchange. There is solid evidence that, for many residents, kerbside dumping and gleaning are a means of sharing and reusing goods (Comerford, *et al.*, 2018; Lane, *et al.*, 2009; Lane, 2011, Lewis, *et al.*, 2014). This suggests that the practice could be supported by setting up designated special days, offering transport services to opportunity shops, among other practices.

→ Support other extended practices of reuse and exchange among residents. For example, Bulkeley and Gregson (2009) refers to the city of London coordinating reuse schemes that sold outgoing students' goods to incoming students or donated to charities a few weeks before their moving out date. This resulted in a large amount of goods being diverted from landfill (or potentially illegal dumping).

11 NB. Its recommendations mainly sought to inform the NSW Office of Environment and Heritage's change in strategic direction from operating on a single partnership with a peak CALD body, *viz the NSW Ethnic Communities Council, towards direct partnerships with a diverse range of CALD communities in the metropolitan Sydney CIRCA 2014: 17)*

WHAT ARE THE SALIENT LOCAL ATTITUDES TOWARDS WASTE IN CANTERBURY-BANKSTOWN?

Satisfaction with Waste-Collection Services and Community Concerns Around Waste

A community satisfaction survey conducted in 2016 by Bankstown Council showed that there was a moderate to high level of satisfaction with waste-collection services. However, residents expressed some concerns around two key areas: removing illegally dumped rubbish and encouraging recycling. Removal of dumped rubbish was one of the top three priorities for residents (together with traffic flow and the availability of car parking). While encouraging residents to recycle was not a top priority, results indicate that residents do give importance to this issue and it has gained relevance since the previous survey (conducted in 2014). Despite the increasing importance attributed by the residents, there was a decline in the levels of satisfaction in this area.

Importantly, a large proportion of residents (87 per cent) showed some degree of concern about local waste going to landfill, with women respondents being significantly more concerned. In addition, 97 per cent of respondents said they were supportive of Council trialling alternative methods for managing waste (Micromex, 2016).

Culturally Diverse Communities and Key Target Groups

Given that recycling systems differ between council areas, transient populations –recent migrants, tertiary students, renters– are more likely to be confused about what can and cannot be recycled in their local area, what are the available clean-up and collection services, and what are the available alternative options for unwanted items –such as charity donations, selling second-hand goods online, etc. Importantly, research also shows that renters often do not receive annual waste calendars or other service information from councils when they move to a new area (SSROC, 2017)

Material Context

A higher proportion of culturally diverse residents live in multi-unit dwellings, which have several implications for everyday waste practices. For example, research indicates that a significant proportion of people (over 40 per cent) tend to carry recyclable items loose to the recycling bin. For residents living in multi-unit dwellings, recycling bins are often located at a distance from their unit, which makes it difficult to carry loose items. This may contribute to carrying recyclables in plastic bags (SSROC, 2017).

Likewise, considering that bins are usually shared between units/apartments, the capacity of bins and the frequency of collections is sometimes a barrier for multi-unit dwellings' residents. Therefore, this increases the likelihood of throwing recycling excess in the garbage, as well as disposing excess garbage in the recycling bins (SSROC, 2017). Similarly, the lack of storage space inside apartment/units may result in lower recycling rates. Research shows that people living in apartments are less likely to have a recycling bin in more than one room of the house, which makes it difficult to recycle from other rooms (such as materials from the laundry, bathroom, etc.) (SSROC, 2017).

WHAT ARE THE MOST EFFECTIVE WASTE-MANAGEMENT INNOVATIONS?

Gleaning, Sharing and Re-use of Goods

Scholarly research and policy reports indicate that informal gleaning and resource recovery from the kerbside are extended practices in Australia (Lane *et al.*, 2009; Lane, 2011, Lewis *et al.*, 2014). While the actual outcomes of gleaning may entail some associated costs for local councils (increased costs due to decrease in contractors' revenue), the literature suggests that gleaners operate within a cultural economy that has the potential to be formally built on and leveraged to improve waste management strategies.

Motivations among gleaners are varied, including intergenerational values (family experiences associated with gleaning), financial constraints (first home rentals, long-distance moving, etc.) as well as broader social and political values (gleaning is often related to other practices such as saving energy and/or water; growing vegetables at home; using sustainable forms of transport; and volunteering or doing community work) (Lewis *et al.*, 2014).

Lewis *et al.* (2014) strongly suggests that waste-management strategies at the city level should encourage rather than restrict practices of hard-rubbish sharing and reuse. Potential options include sponsoring council-led 'market' days (second-hand items), providing local depots for the storage, share and repair of hard rubbish, and, crucially, revisiting contractors' pick-up arrangements. Some local experiences in this regard include the following:

Garage Sale Trail

One of the main goals of the event is waste minimisation and awareness. Additionally, the event provides the opportunity to connect with neighbours and build stronger community ties (see Eddison-Cogan, 2018). CBCity participated in Garage Sale Trail for a number of years, however it was a very costly program to be involved in. It was resource intensive and with minimal community take up (70 households). Council cost their involvement at $238 per property, excluding staff working-time.

Reverse Garbage

Reverse Garbage at the Addison Road Community Centre, Marrickville, receives second-hand items and materials typically considered 'hard rubbish'. The main goals of the centre include waste minimisation and reuse of goods to protect the natural environment. The centre also implements a range of education programs including workshops with primary and secondary schools; workshops with childcare centres; and professional learning workshops for teachers and child care workers, etc.

Freecycle Network

The Freecycle Network is a web-based global movement geared towards 'people ... giving (and getting) stuff for free in their own towns

and keeping good stuff out of landfills'.[12] The Freecycle Network is a non-profit organisation registered in the State of Arizona, USA, and as a platform started in 2013 with 'about 30 or 40 friends and a handful of non-profits in Tucson'. It now claims around 9 million individual members and more than 5000 place-based groups, world-wide.

In Australia there are 192 such groups with just under 150,000 individual members. And, in the Sydney metropolitan area[13] there are 15 groups; with around 45,000 individual members, (as at 4 April 2019). At that moment in time there was a total of 1,658 transactions, of which 70 per cent of them were 'offers' of free goods, whilst 30 per cent were posts for 'wanted' items.[14]

Canterbury-Bankstown's uptake into the Freecycle Network comprised 4.3 per cent of the metropolitan area's, with only 1,940 individual members. This is similar to figures for some of Sydney's western suburbs, such as Blacktown (4.7 per cent; 2,112 members), Penrith (3.9 per cent; 1,776 members), and Campbelltown (3.8 per cent; 1,698 members). Indeed, this obviates the City of Canterbury Bankstown's comparatively much lower figure to Sydney's central, eastern and northern areas where memberships, respectively, numbered from around 5,000 to 8,000, that is corresponding to figures between 11 per cent and 18 per cent, each.[15]

Clearly, there is room for a greater uptake of the Freecycle Network (or other similar platforms) in the Canterbury-Bankstown area that promotes greater re-circulation of goods—unwanted by some but wanted by others—in and around the locale, and ultimately some alleviation of pressure upon landfill. The Freecycle Network, potentially provides a broader and complementary channel to private-giving (through personal networks), to charitable giving (per NFPs and charities), and to Council Pick-ups. It also provides an alternative to illegal dumping and periodic visits to rubbish tips. As a platform it is inexpensive (no membership fees, no financial transactions), is simple to use, and reinforces locality and sociability. Furthermore, it is a platform that already exists and functions fit-for-purpose, in terms of both the practicality and the principles of managing unwanted goods in accordance with sustainability considerations. Therefore, Council and community initiatives that build upon and around the Freecycle Network (e.g., with a promotion, information, and utilisation strategy) augur results with minimal inputs.

An overlooked feature of online classified and community websites, such as Gumtree.com.au, are its facility to post and filter for goods offered for 'free'. These potentially provide an avenue to recirculate unwanted goods that would otherwise be dumped or trashed. A purview of Gumtree, during April 2019, showed approximately 5,700 'free transactions' across the Sydney metropolitan region, of which 95 per cent of them were 'offers' for free. The majority of the items offered freely related to 'home and garden' (56 per cent), 'miscellaneous goods' (11 per cent), 'baby and children' (7 per cent), and 'pets' (6 per cent). These are not uncommon items found dumped at curbsides across suburbs. Of these 'free' transactions, 366 (6.4 per cent) emanated from Canterbury-Bankstown. Council and community initiatives that capitalise on these already popular online platforms also augur results with minimal inputs.

Repair Services and Infrastructure

While kerbside gleaning and modalities of sharing and reuse can make important contributions to improve waste management strategies, there is a limit to waste avoidance strategies via selling or donations of second-hand goods. Indeed, recent evidence from Australia shows that charitable donation is an escalating form of 'dumping' unfit goods (Caulfield, 2016). According to the National Association of Charitable Recycling Organisations (NACRO), charitable recyclers in Australia have reported a rise of unwanted, unsalable and damaged goods appearing in donation bins with almost a third of 'donated' items in 2015-16 being unfit for charitable reuse (Caulfield, 2016:1).

A recent report prepared by Western Sydney University (Sidoti, 2018), suggests that local councils can leverage on existing 'cultures of repair' to address issues around dumping and waste disposal, shifting towards a more circular economic model. Significantly, the report found that, despite extensive policy discussion about waste reduction and avoidance, repair, refurbishment and remanufacturing of goods are mostly absent from environmental policies (Sidoti, 2018: 13). It is only very recently that the government has paid more attention to the role of repair and refurbishment (see the recent discussion paper 'Too Good to Waste', published in October 2018 by the NSW Environmental Protection Authority).

While there is a lack of research specifically focused on repair and cultural diversity, previous studies provide some valuable insights for community engagement strategies. Importantly, as Terzioglu *et al.* found, repair is not just a matter of fixing things but 'a generative process that is motivated by complex emotional drivers and behavioural aspects. It gives a sense of accomplishment, teaches how things are made and informs their material qualities' (cited in Sitodi, 2018: 6). This suggests that the role of repair extends beyond addressing environmental issues; thus, it can serve as a platform for designing community engagement activities and campaigns. In addition, repair refurbishment and remanufacturing activities can contribute to the creation of new skills and employment opportunities (Schroeder, Anggraeni, and Weber, 2019) These two aspects of repairing (sense of accomplishment and employment opportunities) are highly relevant when considering engagement strategies with culturally diverse communities.

Some relevant experiences in this regard include The Bower and Recompute:

12 Freecycle website Background page, https://www.freecycle.org/about/background [accessed March–May 2019].

13 That is, 'Sydney - Bankstown, Sydney - Blacktown, Sydney - Campbelltown, Sydney - Central, Sydney - East, Sydney - Fairfield, Sydney - Hornsby, Sydney - Hurstville, Sydney - North West, Sydney - Parramatta, Sydney - Penrith, Sydney - Pittwater LGA, Sydney - South, Sydney - Willoughby, and Sydney Richmond NSW.'

14 Freecycle website Australia page, https://www.freecycle.org/browse/AU [accessed March–May 2019].

15 That is, Sydney - Willoughby (17.7 per cent; 7,980), Sydney - Central (13.8 per cent; 6,210), Sydney - East (11.6 per cent; 5,221), and Sydney - Hornsby (10.8 per cent; 4,872).

- *The Bower* is a reuse and repair organisation committed to reducing landfill. It provides workshops on reuse/repair of goods as well as free collection of unwanted items (including furniture, kitchen appliances, books, etc). Canterbury-Bankstown already partners with The Bower; residents can book free collection service of a wide range of materials.
- *Recompute* is a local business in Canterbury-Bankstown which focuses on refurbishing and selling computers. It provides a prime example of e-waste avoidance by remanufacturing and ex-government and ex-corporate laptops, desktops and computer accessories. The business has over fifteen years of experience; interestingly, part of its marketing strategy focuses on "why reuse and repair is better than recycling" (see www.recompute.com.au/blog/why-reduce-and-reuse-is-better-than-recycling-the-case-for-refurbished-laptops/). See also Officeworks (accepts computer parts and other electronics). Also www.green-connect.com.au/who-we-are/ (waste recovery and employment opportunities for refugees and vulnerable populations)

Food Waste, Community Gardens and Composting

In NSW, food waste makes up to 38 percent of the total rubbish in household bins, making it central to local waste management strategies. The City of Canterbury Bankstown already implements very successful garden waste collection programs such as 'Wheelie Good® Compost' and 'Wheelie Good® Mulch'. Our review indicates that similar initiatives could be implemented for food waste management and composting programs.

Currently, food waste campaigns such as *Love Food, Hate Waste* are predominantly centred on waste avoidance. However, as pointed out in a recent report commissioned by SSROC (Arcadis, 2016), most households will never achieve avoidance of 100 per cent of avoidable food waste, which makes necessary implementing complementary composting programs to divert food waste from landfill. This requires clear linkages between food-waste avoidance and composting programs, helping residents clearly differentiate between avoidable and unavoidable food wastes, acknowledging that not all food waste will be avoided, and that home composting is preferable to disposing (Arcadis 2016).

Importantly, as mentioned earlier in this report, evidence from Canterbury-Bankstown shows that a high proportion of Vietnamese families are already composting or willing to participate in composting initiatives (Arcadis, 2016). However, current practice and interest in household composting is significantly lower among other culturally diverse groups, particularly when living in apartments. This suggests that composting programs may need to be tailored differently to various cultural groups and key target sub-groups (considering home size, garden space, etc). For some groups, it may be important to centre on food waste avoidance campaigns because uptake of home composting may be less likely.

- Compost Revolution started in 2010 as a joint workshop-based education-initiative led by three neighbouring councils, Waverley, Randwick and Woollahra. Over the last seven years the Compost Revolution program has grown to become Australia's largest community of composters and worm farmers with over 43,000 households joining the initiative to date. The platform provides education materials, online tutorials and household equipment for composting. It works with 33 Councils across Australia. City of Canterbury Bankstown directs residents to the Compost Revolution website as a supplier of compost bins and worm farms. However, it seems that there is no further engagement with the initiative. Website: https://compostrevolution.com.au/

- Share Waste is a free initiative and web app that aims to connect people and support urban composting. It allows people to easily find if anyone in the local area has a compost heap that can take food scraps. Over 26,000 people in Australia have already joined the platform, including residents from the Canterbury-Bankstown LGA (see https://sharewaste.com/).

  A purview of the website-app, during April 2019, showed 268 addresses (mainly households, but also some community gardens) across the Sydney metropolitan area, as ready recipients of compostable waste from the public. Such waste sought was mainly in the form of kitchen scraps (i.e., fruit, vegetables, coffee grounds, and egg shells), as well as garden litter (i.e., hedge and lawn clippings). The addresses in turn were associated with a total of 1,311 persons (or 'members') connected, in varying numbers, with each of the locations. One location in Waterloo, for example, was connected with 43 persons whom would deposit their compostable waste there. Of the 268 addresses, this represented a location with the highest number of connections. The average number, however, was 6 connections.

  As regards the number of locations situated in the Canterbury-Bankstown area there were only 14 addresses (5 per cent of the total addresses), which were associated with 72 connected members (5 per cent of the total number of members). These locations comprised the suburbs of Ashbury, Belmore, Bexley, Canterbury, Clemton Park, Earlwood, Milperra, Panania, and Riverwood.

  Clearly, there is also room for a greater uptake of Sharewaste.com (or other similar platform) in the Canterbury-Bankstown area that promotes greater re-distribution of compostable waste in and around the locale, and ultimately some alleviation for Council garbage waste disposal systems. The Sharewaste.com platform is also inexpensive (no membership fees, no financial transactions), is simple to use (esp. its integration with OpenStreetMap), and reinforces locality and sociability. Furthermore, it is a platform that already exists and functions fit-for-purpose, in terms of both the practicality and principles of managing compostable waste in accordance with sustainability considerations. Therefore, Council and community initiatives that build upon and around the Sharewaste.com platform (e.g., with a promotion, information, and utilisation strategy) also augur results with minimal inputs.

Image 8. Furniture on street, Earlwood, 2019 Image: Abby Mellick Lopes

Image 9. Woman retrieving street furniture in pram, Earlwood, 2019 Image: Abby Mellick Lopes

APPENDIX 1.

Coming Policy Shifts and the Circular Economy Challenge

The coming period presents great challenges for Canterbury-Bankstown in relation to waste management. It is affected by changes that link the global to the local. For example, until recently, China was a major importer of recyclable materials, receiving large amounts of Australian plastic, paper, cardboard and metals every year. In January 2018, China began implementing its National Sword policy, which imposes restrictions on the type of materials it accepts. While the restrictions impact all recyclable materials, two key streams of household waste have a specific impact for Australia: plastic and paper. In 2017 Australia exported approximately 29 per cent of all recyclable paper and 36 per cent of plastics to China (Downes and Dominish, 2018). In this context, local councils in Australia are faced with the urgent need to find new solutions to waste management, leveraging on existing innovative experiences and effectively engaging with all members of the community.

Closer to home, the most significant recent change in the area was the State Government's forced merger of the Canterbury and Bankstown municipalities resulting in the City of Canterbury Bankstown Local Government Area.

A second major change has been The Greater Sydney Commission's five District Plans which have been developed as a guide for implementing the Commission's *A Metropolis of Three Cities: The Greater Sydney Region Plan,* at a District level. These 20-year plans are designed to be a bridge between local and regional planning in urban infrastructure. The District Plans are aimed at informing local strategic planning statements and local environmental plans at Council level, as well as assessing planning proposals and community strategic plans and policies. The goals of the District Plan is to assist Council to plan for and support growth and change, and align their local planning strategies to place-based outcomes.

The District Plans have acknowledged a diminishing capacity for land filling in Greater Sydney. As a response, they have identified planning priorities, objectives and actions, focused on managing waste efficiently, highlighting the need for innovative solutions to reduce the volume of waste and reduce waste transport requirements, as well as protecting and identifying new locations for waste recycling and management.

The District Plans clearly identify waste and recycling as an important component of Sydney's growth, in terms of urban development and waste facility infrastructure protection and provision. The release of the District Plans has now also highlighted a significant gap within the planning policy framework. Councils previously relied on Development Control Plans to implement waste and recycling outcomes. However, there is now a real opportunity for councils to escalate and incorporate waste and recycling objectives into their Local Environmental Plans to strengthen the consideration of waste and recycling design requirements early in the development assessment process to ensure that future operational waste management is appropriately planned.

Councils are called to escalate the importance of waste and recycling outcomes by incorporating them into Local Strategic Planning Statements and Local Environmental Plans as part of the recent State government planning reforms to support *A Metropolis of Three Cities: The Greater Sydney Region Plan* and District Plans.

This has consequences for Canterbury-Bankstown. Mandated by changes to the NSW Planning legislation – Local Environmental Plans must give effect to the District Plans (which specifically identify waste and recycling objectives/actions).

- The process has commenced and is due for completion in June 2020. However, the consideration of waste and recycling objectives needs to be undertaken and implemented prior to the finalisation of the Local Strategic Planning Statements (which is currently under preparation) and the Planning Proposal to support the Local Environmental Plan Review (due to commence March 2019). If this opportunity is missed, it could be several years before changes could be incorporated in Council's LEP.
- Waste outcomes that are safe, efficient, cost-effective, maximise recycling, and that contribute to the built form and liveability of the community. This is supported by well-planned waste infrastructure that is responsive to future needs, and provides equitable access to waste, reuse and recycling services.

The Independent Pricing and Regulatory Tribunal of NSW (IPART) was tasked to assess each of the 144 councils under consideration for merger as either 'fit' or 'not fit' against the Fit for the Future criteria established by the NSW Government in 2014. These criteria related to a council's 'scale and capacity', 'sustainability', 'infrastructure and service delivery', and efficiency'. The NSW Government then decided whether a council 'stood alone' or 'merged' with another. This process saw only two proposals from Greater Sydney councils which volunteered merging, with most councils resisting (many taking legal action).[16] Bankstown Council and Canterbury Council did not propose their mutual merger. Both Councils submitted that they remain as 'stand alone' councils. Under the IPART process, Bankstown Council was considered 'fit' whilst Canterbury Council considered 'unfit'. Their eventual merger created the largest Council in NSW with over 339,000 residents.[17] The rationale for the state government's merger initiative included the following:

- A merged entity would have greater scale and strategic capacity to better partner with other levels of government in providing key infrastructure and social services.
- A merged entity could better integrate planning and development, resulting in

16 That is, the proposed merger of Auburn, Burwood, and City of Canada Bay, on the one hand; and, on the other, Waverly and Randwick.

17 On 27 July 2017, the NSW Government, under Premier Gladys Berejiklian, announced abandoning the forced council amalgamations. As a result, metropolitan local Governments, including Mosman, Willoughby, North Sydney, Lane Cove, Hunters Hill, Ryde, Strathfield, Canada Bay, Burwood, Ashfield, Ku-ring-gai, Hornsby, Woollahra, Randwick and Waverley were no longer forced to merge. In Greater Sydney the number of councils was reduced from over forty to just thirty-three. These new councils ranged in size from Hunters Hill, with just 14,000 people, to Councils like Blacktown and Canterbury-Bankstown with over 300,000 people.

improved planning decisions and enhanced economic growth.[18]

How this delivers for waste management across an LGA as populous (the highest in NSW) and as complex (in terms of its demography, cultural diversity, community structures, socioeconomic status composition, civic life, and built environment, etc.) as the City of Canterbury Bankstown, is a matter this Project will likely experience first-hand.

A CIRCULAR ECONOMY APPROACH FOR CANTERBURY-BANKSTOWN

Other changes are occurring at a national or state-based level, with consequences for policy and practices in Canterbury-Bankstown. For example, in October 2018, the NSW Government launched a new Circular Economy Policy consultation process, building on precedent waste-reduction programs including 'NSW Waste Less, Recycle More', 'Love Food Hate Waste' and the 'Australian Packaging Covenant', and aims to update the National Waste Policy to include circular economy principles. The Circular Economy Policy and Discussion Paper is also part of the NSW Government's short, medium and long-term responses to China's National Sword policy. This policy defines the Circular Economy as systems of production and consumption that are transformed to restore and maximise the value and use-life of products and materials through innovative design, maintenance, repair, re-use, sharing, product-service systems, remanufacturing, recycling and regeneration, while minimising resource use, emissions and waste (NSW EPA, 2018, p.14). It is also seen as an opportunity for job creation and innovation.

Amongst the first tasks in transitioning to a circular economy is to identify and support informal economies of resource circulation at the community level, including re-use, repair and share. These 'demand-side' initiatives are perhaps even more important than industrial culture transitions in a Council context as they touch communities more directly, both in terms of participation and distribution of benefit. The second-hand economy is potentially a significant contributor to change in an Australian context, not least because it offers ways of creating an intervention into the problem of illegal dumping, cited as one of the main waste problems experienced by CBCity's waste management team.

According to a recent report by Gumtree (2018), the second-hand economy has significant potential in Australia. It includes forms of collaborative consumption (Botsman and Rogers, 2010) such as informal exchange of goods through garage sales, swaps and exchanges, markets, donation, buying second hand as well as the sale and exchange of goods and services via digital platforms. An example that has gained considerable community traction is The Garage Sale Trail. This started as an initiative to 're-brand' kerbside dumping and now involves 15,000 garage sales being held over a weekend in October, supported by 146 Councils. These sales are attended by 350,000 Australians, with the average household making over $300, community groups raising an average of $650 and schools making $1500 (Garage Sale Trail https://www.garagesaletrail.com.au/about/our-story).

The Gumtree report indicates that we are a nation of hoarders, with 89 per cent of households standing to earn $4,200 on the second-hand market from unused though still functioning items (an average of 25 items of unwanted clothing, books, DVDs and CDs, games and toys, electronic goods and furniture per household). If these items are not held onto, they are donated to charity (effectively a form of dumping), given to family and friends or go into the bin. Charitable donation is one of the key ways people divest themselves of unwanted items, with 72 per cent of Australians most likely to give items to charity. Illegal dumping is a significant problem for charities in Australia, with the National Association of Charitable Recycling Organisations (NACRO) estimating that a third of 'donated' items cannot be reused (Caulfield, 2016: 1). Charities incur substantial expense due to the recovery, sorting and disposal of these unsalable goods and having to pay increasing landfill fees. This clearly represents a significant problem, but also an opportunity for the second-hand economy and repair to find a place in waste avoidance programs. The Gumtree Report usefully identifies *when* Australians consider the second-hand economy, i.e. when spring cleaning, moving to a new house, downsizing, or moving overseas (Gumtree, 2018: 4).

Clearly, there is space for the second-hand economy in Council's waste avoidance programs. This requires Council to discover more about what communities are already doing, which may align with these economic practices even if they are not understood within those communities as forms of waste management or 'pro-environmental behaviour' (Hargreaves, 2011). This creates a significant opportunity for Council to educate communities about circular economy principles through new forms of engagement, 'closing the loop' in terms of communication and mutual understanding.

18 *Assessment of Council Fit for the Future Proposals* (2015), Independent Pricing and Regulatory Tribunal of New South Wales, p. 2.

APPENDIX 2.

Social Change in Canterbury-Bankstown

In this appendix we examine key social changes that bear on questions of cultural identity in social context that are relevant for understanding the City of Canterbury Bankstown. While we do not draw explicit connection in this appendix to the implications for waste management. Rather they are drawn back in the body of this document based on work done here. The following overview of key features of Canterbury-Bankstown aims to provide contextual considerations for possible challenges and prospects in exploring for innovative and improved modes of waste disposal.

Indeed, *cultural diversity*—relating to the languages spoken, English-language proficiencies, practices and norms, the differing stages in the settlement journey, and the institutional development of communities, etc.—impinge significantly on Council's initiatives. That is, in the community consultation and co-design exercise; communication modes (print, radio, press, digital, and events) in the social marketing exercise; and the execution and implementation of program initiatives (e.g., community education).

The different *types of dwellings* that people reside in, from separate houses, to medium-density, and high-density dwellings, and where each of those dwelling types are concentrated in, impinge on different patterns of waste production and disposal. For example, the less favourable ergonomics of medium and high-density living such as distance to recycling bins, the transient nature of tenancy as a factor. The nature of the building also affects the physical and social strategies possible for exchange, re-use, collection, recycling, and disposal of unwanted goods. It also has consequences for logistical options, not just regarding collection and disposal but also for venues or platforms for exchange, re-use, repair, and also re-sale.

Furthermore, identifying *high and low socioeconomic status of areas* may suggest opportunities and modes for the recirculating of (unwanted or surplus) goods to areas where they are needed or wanted, be it in the form of wealth redistribution in the charitable mode, or in the form of social enterprise, or social business.

Also, social change strategies require the effective engagement of communities for which *community structures* or institutions provide useful and important in-roads and potential leverage. Indeed, those places, platforms, and forums where social meaning, cultural and religious identity, recreational pursuits, social causes, and formal and informal learning, etc., are constituted and negotiated, fostered and advanced, potentially provide more impactful touchpoints for social messaging. This is more likely to be so when key messages are couched in the discourse and terms of the social group concerned. In so doing, the mainstream message and mass communication method are likely to be reinforced. Note that the issue here is not exclusively a 'language other than English' one, but one which might consider or incorporate ideas, symbols, memes, images, and archetypal personas/scenarios, etc., associated with the sub-culture. Here a community engagement approach at the deeper end is required, in order to be appropriate and effective.

Apart from the importance of community structures as the many loci of *civic life* of residents of an LGA, so too is the formal participation of the community-at-large in municipal elections. A purview of this may estimate the degree of engagement the community-at-large has with those higher level issues and concerns that become the policy platforms of candidates of Local Government. It may also estimate a deeper engagement (i.e. beyond the simple act of voting) with the electoral process itself when the composition of candidates for public office reflect the diversity of its community-at-large. Here the prospect of elected officials becoming effective champions and advocates in their various and overlapping constituencies for, say, better waste management initiatives, is promising.

DEMOGRAPHIC CHANGE

At the time of the 2016 Census, the estimated resident population across Canterbury-Bankstown's 110 square kilometres was 361,862 persons.[19] This was a 7.7 per cent increase from the 2011 Census count, or nearly 26,000 persons. As of 30 June 2017, the city increased by a further 1.7 per cent, officially becoming 368,045 persons.[20] Thus the city's population density stands at a relatively high 31.4 persons per hectare, compared to SSROC's 24.3 and Greater Sydney's 3.9 persons per hectare. The LGA's population density figure also showed a significant rise from its 2011 Census figure of 28.9.

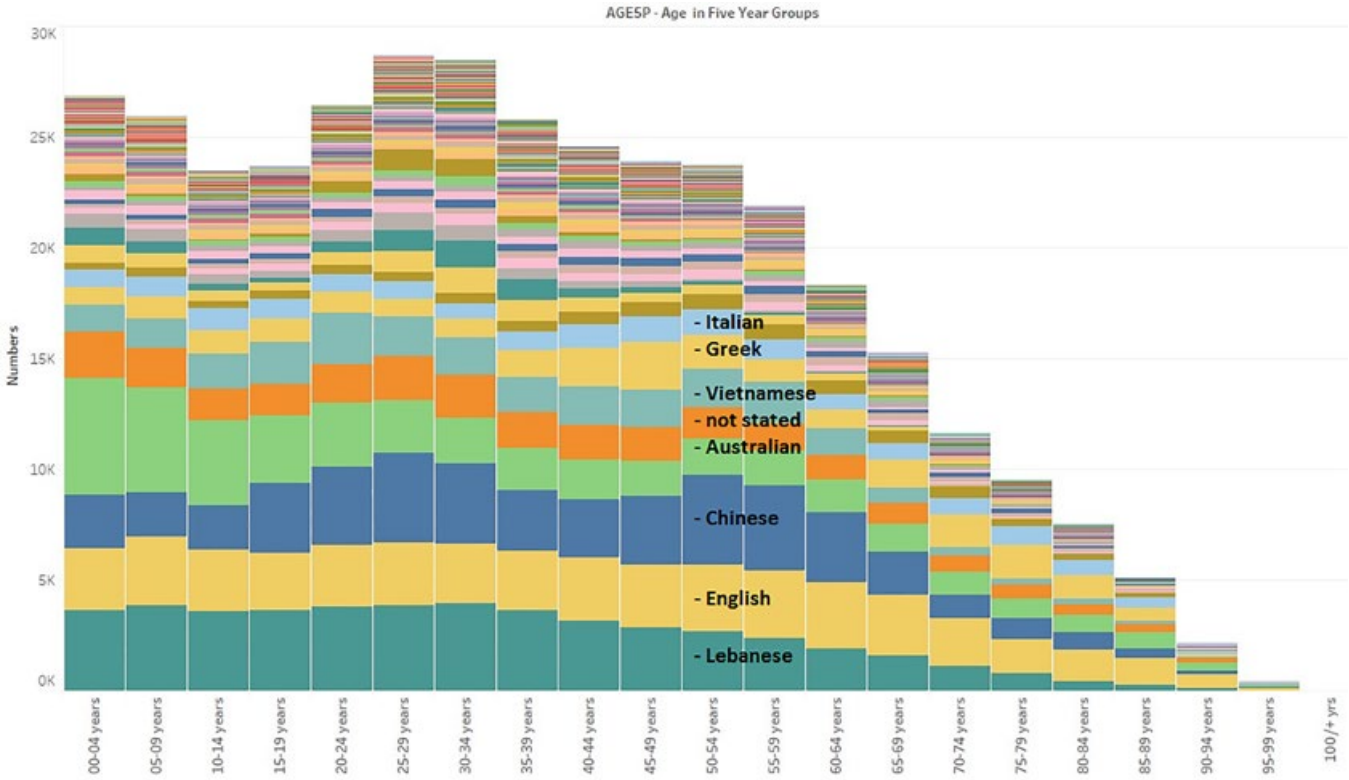
The median age in Canterbury-Bankstown is 35 years as with the previous Census (2011); but, represents a slightly younger age to the Greater Sydney median age of 36 years, and more so compared to the 38 years for the rest of the state and the nation. 'Couples with children' comprised 40 per cent of the LGA's households, while 'single parent families' comprised 13 per cent, 'older couples without children' households comprised 8 per cent, and 'lone person households' comprised 19 per cent.

Overseas-born persons made-up a significant 44 per cent of Canterbury-Bankstown's population, as compared with Greater Sydney's 37 per cent and NSW's 28 per cent. Unsurprisingly, then, a 60 per cent majority of the LGA's resident population indicated speaking languages other than English at home, compared with Greater Sydney's 36 per cent and NSW's 25 per cent. This underscores Canterbury-Bankstown's diversity, which is a result of its overseas migration history, and subsequent settlement pattern. Figure 1, below, graphically displays the number of persons in Canterbury-Bankstown across the different age brackets (in five-year intervals), and grouped by ethnicity (I.e. 'ancestry') shown in colour-coded bands. The colour-coded ethnicity bands are arranged where those with the larger total numbers in the LGA are towards the bottom of the chart. The top eight ethnicities in descending order, hence, are Lebanese, English, Chinese, Australian, 'Not Stated', Vietnamese, Greek, then Italian.

19 https://profile.id.com.au/canterbury-bankstown/population. Note that the raw figure was 346,302, per http://quickstats.censusdata.abs.gov.au/census_services/getproduct/census/2016/quickstat/LGA11570?opendocument. This figure accounted for those whom were overseas or were missed in the Census.

20 https://profile.id.com.au/canterbury-bankstown/population-estimate.

Figure 1. Age Distribution (in Five-Year Groups) by Ethnicity (Ancestry) in Canterbury-Bankstown



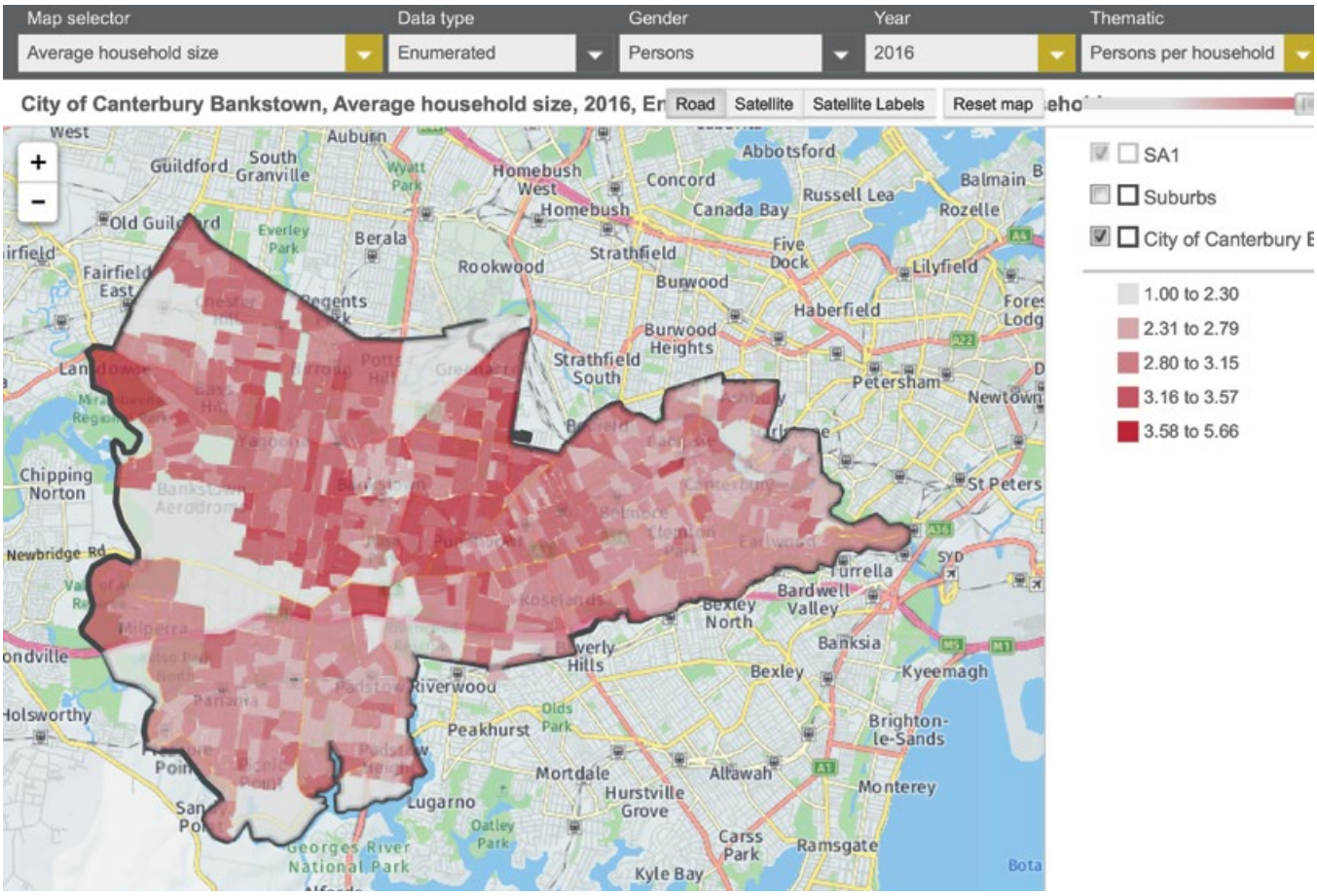
The proportion of persons aged 15 years and over, in Canterbury-Bankstown, with 'no qualifications' was 47.9 per cent. This was far higher than the Greater Sydney figure of 37.7 per cent. However, the figure for trade qualifications in the LGA was 14.2 per cent, which was close to Greater Sydney's 15.1 per cent. Regarding university qualifications 19.7 per cent of persons aged over 15 years in the LGA were graduates. While this was less than the 28.3 per cent figure for Greater Sydney, it did constitute an increase from its 15.6 per cent figure at the 2011 Census. Furthermore, the percentage of those in the LGA participating in education (primary, secondary, post-secondary, and tertiary) was 15.7 per cent, which was slightly higher than that of Greater Sydney's 15.4 per cent. Those engaged in post-school studies (i.e. university, TAFE, and other) across the LGA was 8.9 per cent, slightly lower but comparable to Greater Sydney's 9.1 percent.

HABITAT AND SETTLEMENTS

The dwellings occupied most by the LGA's household types were 'separate houses' (56 per cent) and 'medium density' and 'high density' dwellings (42.9 per cent, combined). Compared with 2011, these medium and high-density dwelling percentages represented a notable increase from 38.5 per cent previously. The observed increase in 2016 corresponds to the population density rise already noted. Most households rented the dwellings they lived in (34.8 per cent), with the remainder being equally split between those who were paying-off a home mortgage (28.2 per cent) and those who fully owned their homes (28.7 per cent).

The average household size in Canterbury-Bankstown in 2016 was three persons, which was a slight increase from the 2011 figure of 2.93 persons. Across both Census periods, Canterbury-Bankstown's figures for average household size was higher than that of Greater Sydney (i.e. 2.12 persons in 2016, and 2.69 persons in 2011). The average household sizes for small areas, show that the central, northern, and northwestern areas of the LGA housing above average figures of '3.16 to 3.57' and '3.58 to 5.66' persons per household. The southern and eastern areas of the LGA show the lower ranges of '2.80 to 3.15', 2.31 to 2.79', and '1.00 to 2.30' persons per household. The notable exceptions, however, being small areas in Campsie (south of the train line and east of Beamish Street) where it is at the highest range of '3.58 to 5.66' persons per household; and, in Canterbury (north of the train line and along the western banks of the Cooks River till Beamish Street) and parts of Ashbury (at the eastern-most boundary with the Inner West LGA) where it is at the higher '3.16 to 3.57' persons per household.

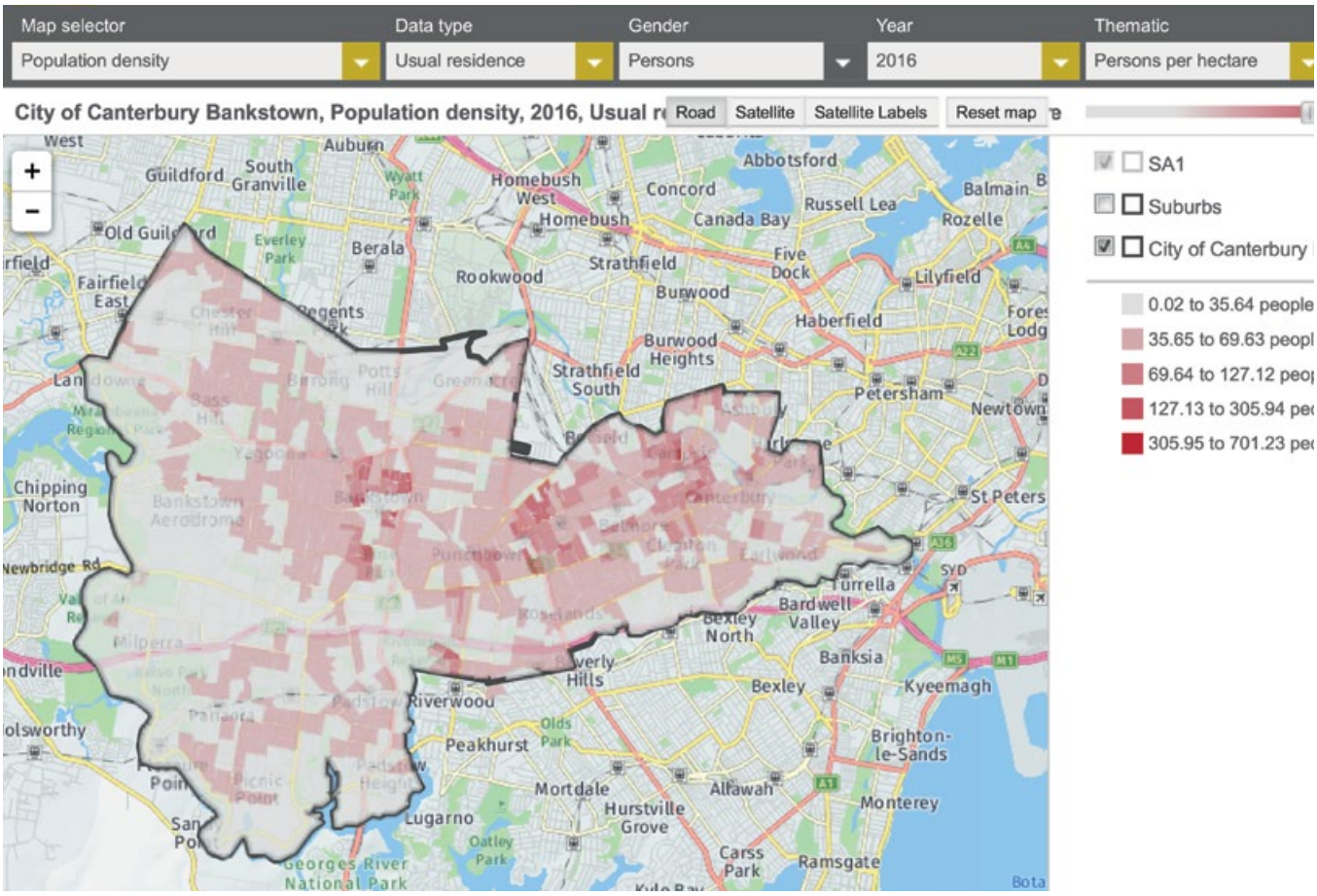
Figure 2. Canterbury-Bankstown, Average Household Size, 2016[21]



Population densities across the LGA are highest in the Bankstown CBD (especially the areas flanking eastern and western sides of Chapel Road, and near the train station), the suburbs of Lakemba and Wiley Park (especially the areas flanking the north and south of the train-line encompassing the three train stations for Lakemba, Wiley Park and Punchbowl), the suburb of Campsie-Clemton Park (esp. north of Campsie Station along the west of Beamish St, and south of Campsie Station along the east of Beamish St). All the above contain areas of high population densities at the two highest ranges, being '127 to 306 persons per hectare' and '306 to 701 persons per hectare'. They also correspond to major commercial centres linked by arterial roads, train lines and bus routes. A fourth location is within the suburb of Riverwood, an enclave almost at the centre of the suburb, but less proximate to the transport and commercial offerings of the above three locations. Its population density is within the '127 to 306 persons per hectare' range. Notably, this area also corresponds to an area where the main accommodation tenure-type is 'social housing' rental.

21 https://atlas.id.com.au/canterbury-bankstown, demographic and social maps from .id consulting pty ltd.

Figure 3. Canterbury-Bankstown, Population Density, 2016

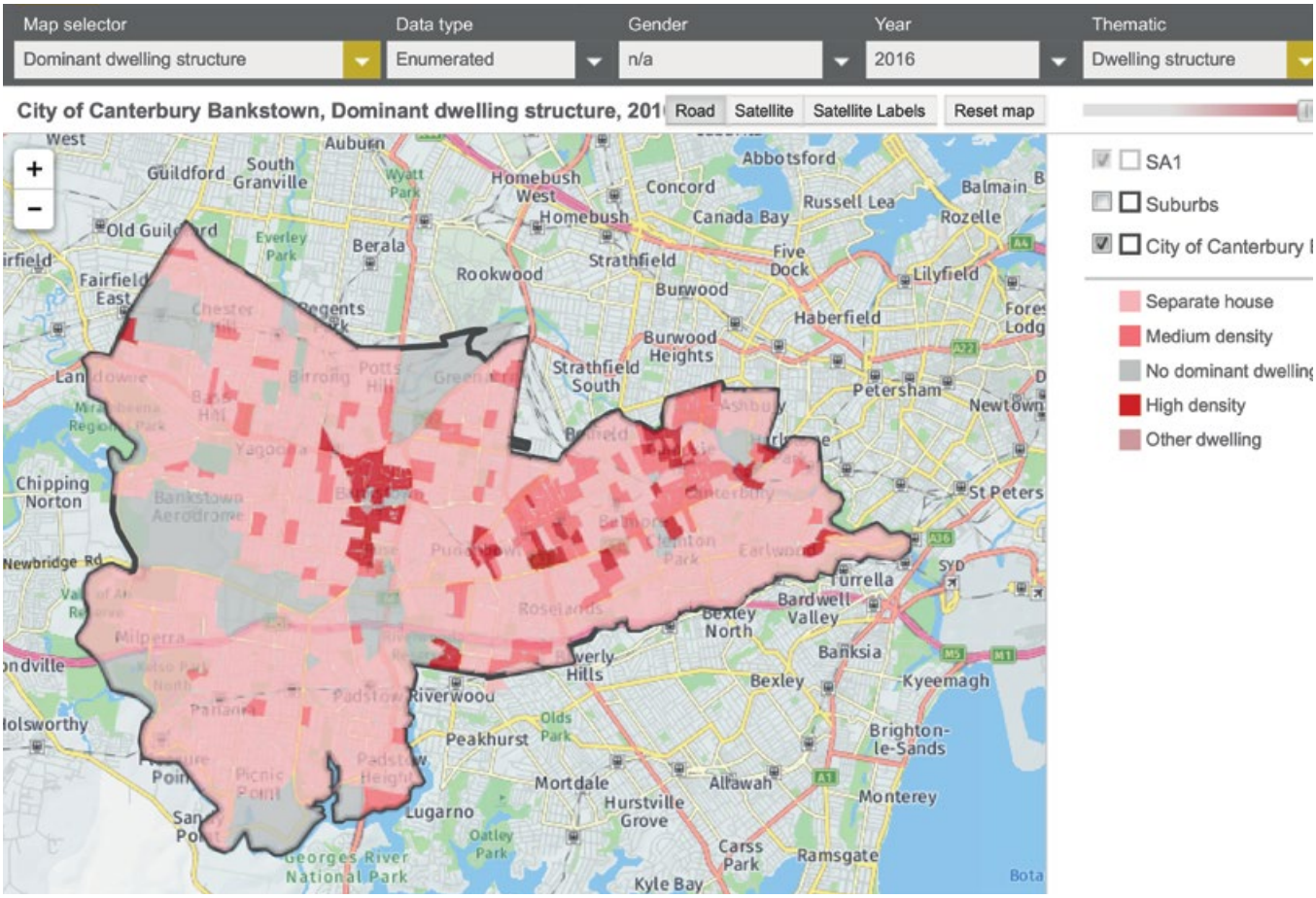


Unsurprisingly in the same above areas the dominant dwelling structure comprises primarily high-density high-rise apartments and secondarily of medium-density blocks of units or flats. However, high-density high-rise apartment structures also appear dominant in some of the less population-dense areas, as per the suburb of Canterbury (especially at the intersectional areas of the Cooks River, the main Canterbury Road extending towards the northeastern boundary of the LGA, and the rail-line including Canterbury Station), the suburb of Earlwood (especially along Homer Street and towards the Cooks River), and the suburb of Villawood in the west of the LGA (especially between Villawood and Leightonfield train stations south of the train line itself and the main Christina Road running parallel to it). Notably, the suburb of Villawood also corresponds to an area where the main tenure type is 'social housing' rental. Apart from this observation of Villawood, the dominant tenure type in the above areas is 'private rental'.

Medium-density blocks of units or flats, are particularly prevalent from the suburb of Punchbowl around the train station, then the areas circumscribed by Punchbowl Rd on the north and Canterbury Road in the south, sweeping eastwards encompassing the contiguous suburbs of Punchbowl, Wiley Park, Lakemba, Belmore, Belfield, Campsie, and Canterbury. Again, the dominant tenure type in these areas is 'private rental'.

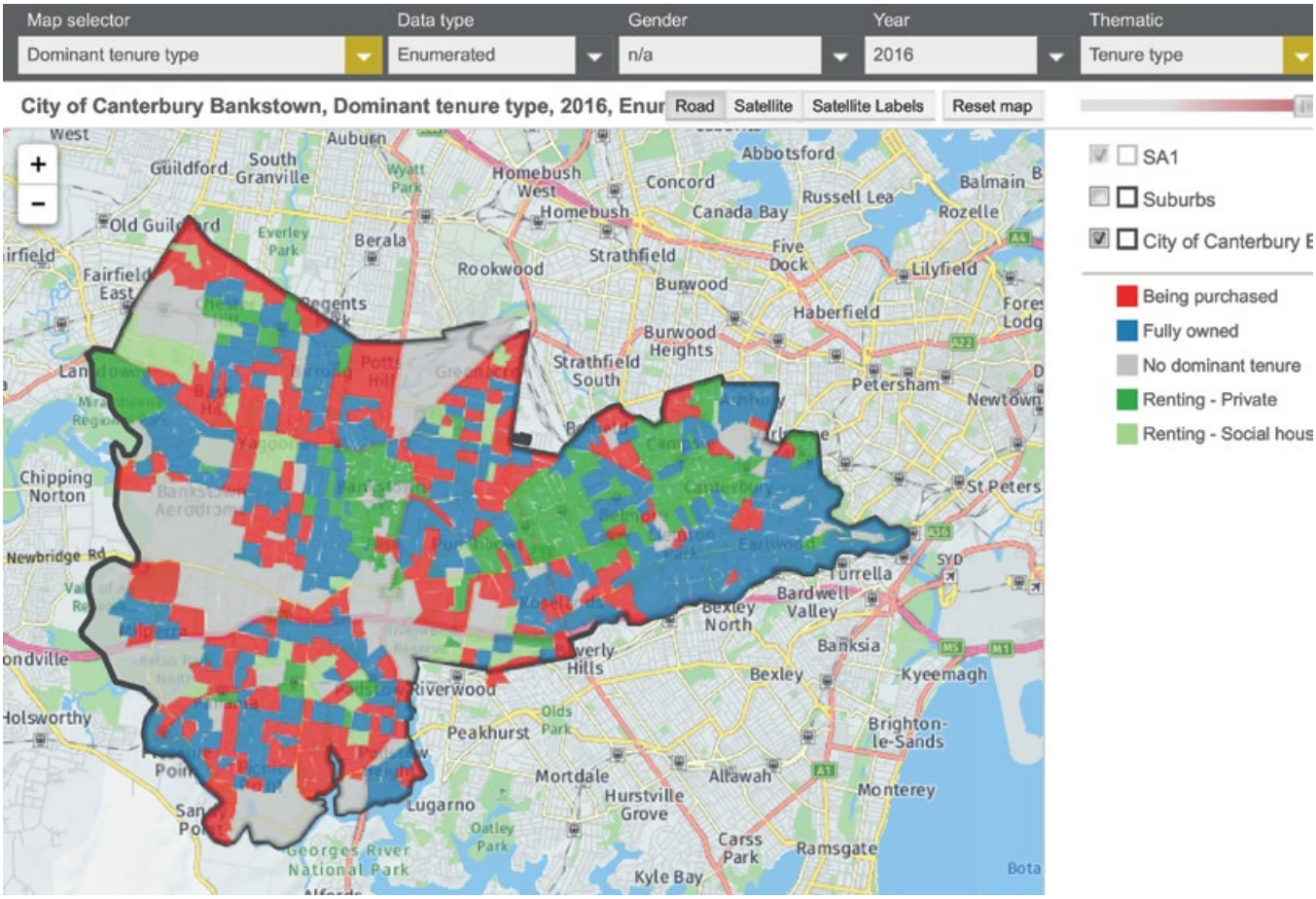
Beyond these high and medium-density areas stated above are areas of largely 'separate house' dwellings, being the majority of the LGA's make-up. Notwithstanding, given the relatively larger-sized blocks of residential land in Canterbury-Bankstown it is noticeable that redevelopment works often factor in a dual-occupancy, or duplex, structure which is not neatly captured in the classification of 'separate house' or 'medium density' dwelling.

Figure 4. Canterbury-Bankstown, Dominant Dwelling Structure, 2016



The dominant tenure type in these majority areas outside the high and medium-density locations, is a patchwork of 'fully owned' properties or those 'being purchased'. The exception to this is in the suburbs of Kingsgrove and Earlwood (situated in the southern boundary of the LGA's most easterly point, bounded, almost, by the M5 Motorway), where the tenure type is predominantly 'fully owned'.

Figure 5. Canterbury-Bankstown, Dominant Tenure Type, 2016



WEALTH AND DISTRIBUTION

Canterbury-Bankstown's median weekly household income is $1,296. With median weekly mortgage repayments at $477 and median rental payments at $386, both 'mortgage stress' and 'rental stress' were recorded as widespread in the LGA. Indeed, mortgage stress[22] is reported by 17.8 per cent of the LGA's households. This is much higher than the 10.3 per cent experienced by all of Greater Sydney households. Further, rental stress[23], affected 39.1 per cent of households, which was also much higher than the 26.4 per cent experienced by all of Greater Sydney households.

The unemployment rate[24] for Canterbury-Bankstown in 2016 was 8.2 per cent, which is significantly higher than the 6 per cent figure for Greater Sydney. A more concerning figure is the 39.3 per cent of persons 'not in the labour force', indicating persons neither being employed nor actively seeking employment. A similar figure was recorded for the 2011 Census. The ABS suggests possible reasons for persons indicating being 'not in the labour force', as: (a) retired or voluntarily inactive; (b) performing home duties or caring for children; (c) attending an educational institution; (d) experiencing a long-term health condition or disability; (e) experiencing a short-term illness or injury; (f) looking after an ill or disabled person; (g) on a travel, holiday or leisure activity; (h) working in an unpaid voluntary job; (i) in institutions (hospitals, jails, sanatoriums, etc.); (j) permanently unable to work; and, (k) members of contemplative religious orders.[25]

Given the earlier stated high incidence of the younger population brackets, of couples with children households, and of persons engaged in school and post-school studies, in Canterbury-Bankstown, the reasons for 'performing home duties or caring for children' and 'attending an educational institution', stand out as likely explanations. As regards the former, the brunt of this would have been disproportionately borne by the women of Canterbury-Bankstown of whom 18.7 per cent of them stated being 'not in the labour force' compared to the much lower 12.6 per cent figure for men. More so, this figure for the women of the LGA stands distinctly higher to that of 15.6 per cent figure for women of Greater Sydney 'not in the labour force'.[26]

The ABS also attributes not participating in the labour force to the notion of 'discouraged job seekers', i.e., persons with marginal attachment to the labour force who want to work and could start work within four weeks if offered a job, but who have given up looking for work for reasons associated with the labour market.[27] Such reasons may include structural barriers in the economy or the labour market, such as higher qualifications required, non-recognition of overseas qualifications and/or experience, higher levels of English language proficiency required, discrimination, structural shifts away from lower skilled manufacturing jobs to a services and knowledge-based economy. As a result, long-term unemployment, and eventual disaffection and disengagement from labour-force participation, altogether, take hold.

22 'Mortgage stress' is defined as per the NATSEM (National Centre for Social and Economic Modelling) model as households in the lowest 40 per cent of incomes who are paying more than 30 per cent of their usual gross weekly income on home loan repayments.

23 'Rental stress' is defined as per the NATSEM (National Centre for Social and Economic Modelling) model as households in the lowest 40 per cent of incomes, who are paying more than 30 per cent of their usual gross weekly income on rent.

24 That is, those who are not employed but seeking employment, either full-time or part-time.

25 Australian Bureau of Statistics (2016), 6102.0.55.001 - Labour Statistics: Concepts, Sources and Methods, February 2018.

26 Australian Bureau of Statistics (2016), Census of Population and Housing, TableBuilder: LFSP Labour Force Status by LGA (UR) and SEXP Sex, Counting: Persons Place of Usual Residence.

27 This group includes persons who believe they would not find paid work for any of the following reasons: considered to be too young or too old by employers; believes ill health or disability discourages employers; lacked necessary schooling, training, skills or experience; difficulties because of language or ethnic background; no jobs in their locality or line of work; no jobs in suitable hours; or no jobs available at all. Australian Bureau of Statistics (2016), 6102.0.55.001 - Labour Statistics: Concepts, Sources and Methods, February 2018.

SEIFA scores for Canterbury-Bankstown indicate more broadly an LGA facing notable issues of socioeconomic disadvantage relative to other LGAs in the state of NSW, particularly compared to those surrounding it. Regarding the SEIFA Index of Relative Socio-economic Advantage and Disadvantage, Canterbury-Bankstown's rank within NSW is at the 6th decile. Regarding other LGAs' scores, north of Canterbury-Bankstown is Burwood in the 9th decile, Cumberland also in the 6th decile, and Strathfield in the 9th decile; to the east is the Inner West in the 10th decile; to the South is Rockdale in the 8th decile, Georges River in the 9th decile, and Sutherland Shire in the 9th decile; and to the West is Fairfield in the 1st decile, and Liverpool in the 7th decile.[28] Canterbury-Bankstown's overall SEIFA score suggests challenges in the areas of income, educational attainment, employment, and occupational status.

REPRESENTATION AND NEGOTIATION

In 2017, the residents of Canterbury-Bankstown along with other LGAs across the State (46 in total) faced Local Council elections. Of the 224,592 eligible voters in Canterbury- Bankstown 79.5 per cent of them participated in the voting process. The total participation rate across the State in Local Council elections was 80.3 per cent, indicating that the residents of Canterbury-Bankstown are just as engaged in the local political processes as the rest of the State. However, the rate of informal votes in the LGA, being 9 per cent, was slightly higher than the NSW total informal rate of 7 per cent. This is perhaps attributable to the higher representation of persons from non-English speaking backgrounds, their recency of arrival into the country, their lower levels of English language proficiency, and/or the lower levels of educational attainment.

The degree of engagement in the political processes was also evident at the level of the political contest itself, with many candidates of varying CALD backgrounds fielded across the entirety of the party-political spectrum. That is Labor, Liberal, and the Greens, and including minor parties and independents.

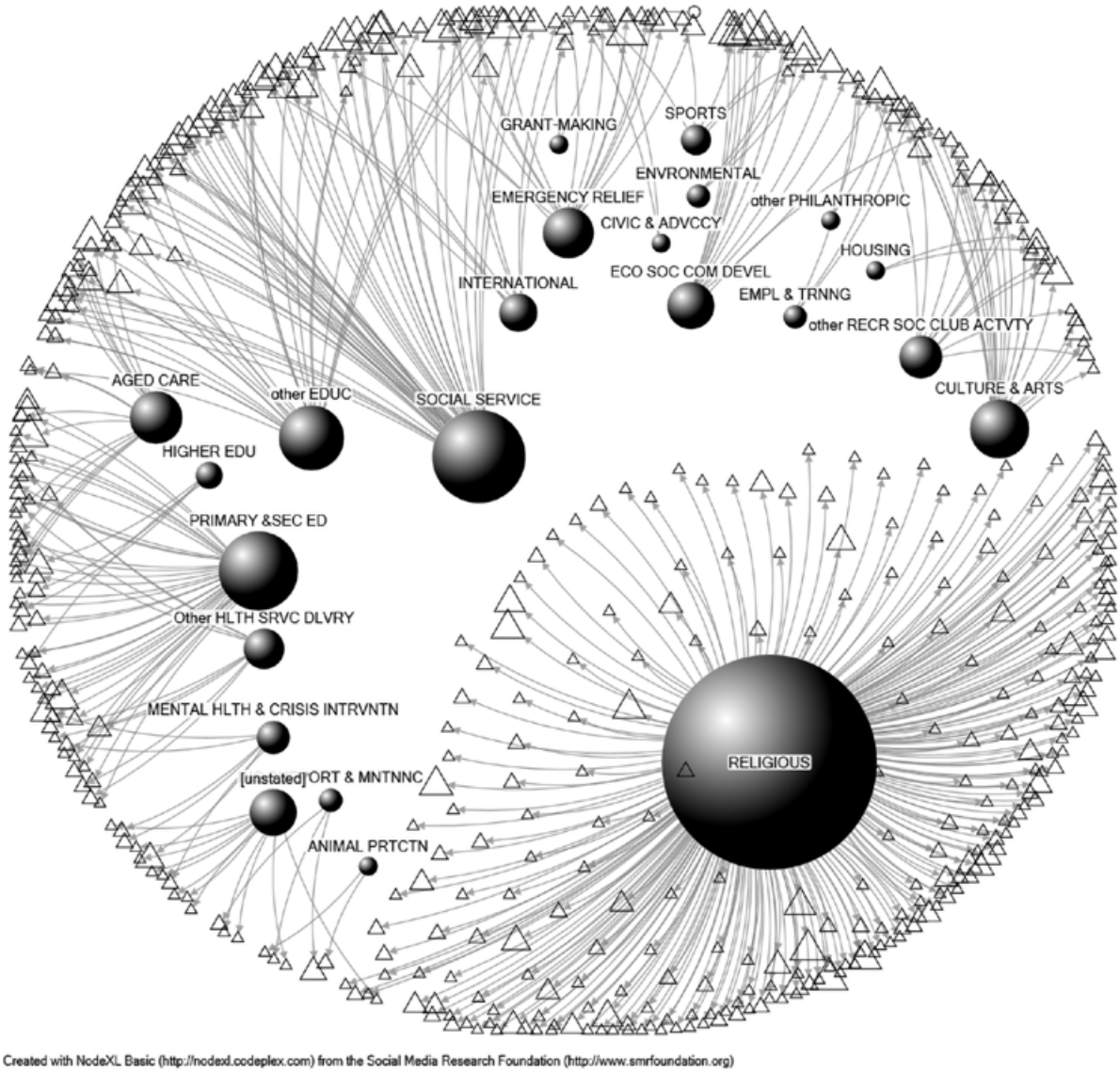
Other than the realm of the formal political processes is the arena of civil society. The efficacy and maturity of the former is very much influenced by if not dependent on the latter. Canterbury-Bankstown hosts around 500 registered non-government organisations. Across Greater Sydney for every 1000 persons there are 2.3 NGOs. The ratio, however, is lower in Canterbury-Bankstown at 1.4 NGOs per 1000 persons. Notwithstanding, these organisations, associations, and trusts, etc. represent and contribute to a strong degree of social, cultural, and civic vibrancy across the area.

Around one-third of Canterbury-Bankstown's NGOs have their address in the LGA's geographical and commercial centre, namely the suburbs of Bankstown, Greenacre, Punchbowl, Lakemba, and Campsie. Over half of these NGOs indicate 'religious activities' as the main basis of their activities, will all other categories such as education, social services, culture and the arts, etc., apparently coming a very 'poor second'.

The following visualisation depicts all of Canterbury-Bankstown's NGOs (as indicated by the small triangles) and their affiliation (as indicated by the connecting arc) to their main activity (indicated by the black sphere). The circle's size indicates the number of NGOs operating from the basis of that Main Activity. Hence, the 'Religious' named sphere shows as the largest for reasons noted in the previous paragraph.

28 Australian Bureau of Statistics (2016) http://stat.data.abs.gov.au/Index.aspx?DataSetCode=ABS_SEIFA_LGA# .

Figure 6. Canterbury-Bankstown NGOs (represented by triangles) and their affiliation (represented by connecting line) to their Main Activity (represented by black spheres)



NB. The sizes of spheres are weighted according to the number of in-bound NGO affiliation.

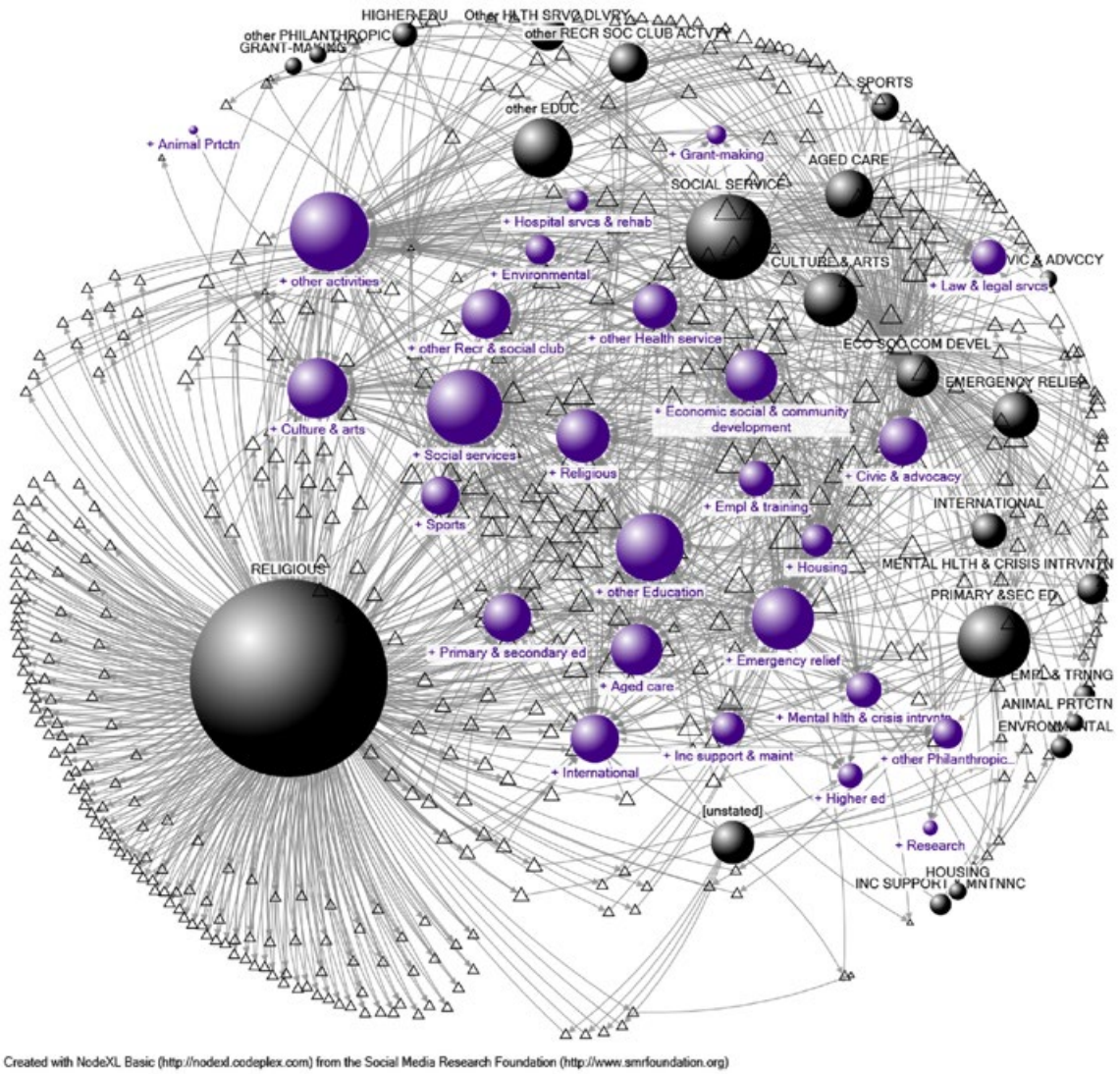
However, a closer examination of those other activities of these religiously based or oriented NGOs show concerted interest and input into non-specifically religious areas. Those areas, include the following:

Table 1. Non-Religious Areas of NGO Engagement

Social services	Primary and secondary education	Other Education
Culture and arts	Aged Care	Emergency Relief
Economic, social and community development	Other recreation and social club activity	Other kinds of health-service delivery
International	Mental health and crisis intervention	Sports
Higher education	Income support and maintenance	Employment and training
Environmental	Civic and advocacy	Grant-making
Animal Protection	other Philanthropic	Housing

The following visualisation now shows those additional activities pursued by NGOs (represented by the blue spheres), beyond their stated their main activity (represented by the black spheres). The result is a more complex picture of multiple players—religious NGOs, ethnic NGOs, secular NGOs, professional NGOs—addressing common and multiple civic pursuits. It is still notable that many religious organisations, do remain religious organisations, per se. These are amply indicated by those 'triangles' in the bottom-left quadrant of the image under the 'religion' sphere.

Figure 7. Canterbury-Bankstown NGOs (represented by triangles), Their Main Activity of Affiliation (represented by black spheres), and Their Secondary Activity(s)



NB. The sizes of spheres are weighted according to the number of in-bound NGO affiliation.

Thus, a reckoning of NGOs' actual activities pursued beyond the notional 'religious' (or other) basis, shows a different picture. It is a picture which reveals Canterbury-Bankstown as fairly similar to the rest of Greater Sydney, with regards to the distribution and proportion of NGO activity across all categories. The only variance Canterbury-Bankstown showed was that proportionally more NGOs were 'advancing religion' (by 4 per cent), as was it more evident that its NGOs were advancing 'ethnic groups' (by 1.4 per cent). And these observations are quite consistent with the demographics of the LGA where successive phases of migrant settlement from very diverse ethnic, language, and religious origins have been a hallmark feature of the area - past and present.

Small NGOs can be classified as those whose revenues are under $250,000 per annum, medium sized NGOs' revenues are between $250,000 and $1,000,000, and the large NGOs have revenues above $1,000,000. Of Canterbury-Bankstown's NGOs, 69 per cent of them are considered small, 19 per cent of them medium-sized, and 12 per cent large. These larger NGOs undertake activities in social services, primary and secondary education, and aged care, all of which are both capital and personnel intensive. Of Canterbury-Bankstown's 500 NGOs, 20 per cent of them made ostensible reference to their ethnic background. The Lebanese, Greek, and Chinese ethnicities were three of the most referenced ethnicities associated with the area's NGO, followed by Vietnam and Samoa.

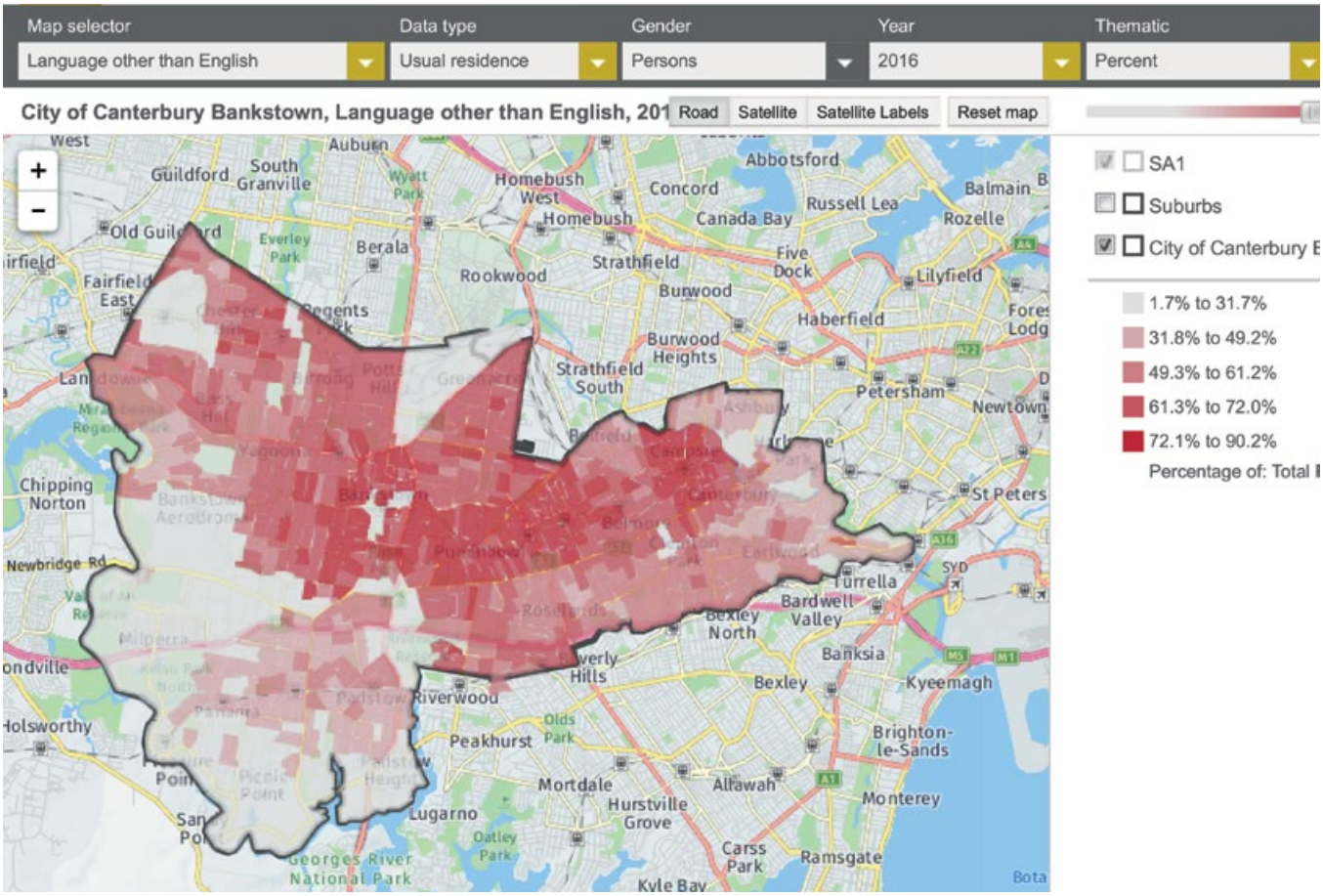
Table 2. Prevalence of Ethnic-Based NGOs Across Canterbury-Bankstown, by Number of NGOs, Ethnicity, and Suburb

Row Labels	'mainstream'	Afghan	Arabic	Chinese	Egyptian	Fijian	Filipino	Greek	Indonesian	Italian	Japanese	Korean	Lebanese	Macedonian	Maori	Multicultural	Myanmar	Ogaden	Palestinian	Samoan	South Sudanese	Soutrh Amer.	Swedish	Tibetan	Tongan	Uruguayan	Vietnamese	(blank)	Grand Total
BANKSTOWN	4			1		1		2	2					1		1								1			2	38	53
PUNCHBOWL				2			1					1	10						1	1	1							18	35
Campsie	2			3								3															1	24	33
Lakemba	2							1		1			1							2								24	31
GREENACRE					2			1				1								1								23	28
PADSTOW	1			1									1											1			1	22	27
Belmore	2			1	1			3				1	2												1		1	15	27
Kingsgrove	2												1														1	16	20
EARLWOOD								4	1																			13	18
Yagoona	1		1						1											1							1	13	18
Regents Park		1							1																		1	13	16
Panania	2																											14	16
Chester Hill	2																											13	15
Riverwood							1				1												1					10	13
Georges Hall			1																									12	13
Villawood																	1					1						10	12
CROYDON PARK	1			1								1	1															7	11
Revesby	1			1																								9	11
HURLSTONE PARK	2							4																				5	11
Beverly Hills	2			2																								6	10
CANTERBURY	1					1																					1	5	8
Belfield	1											1																6	8
Condell Park																												7	7
Roselands	1												1															4	6
Sefton																		1						1				4	6
Bass Hill	1																											4	5
Padstow Heights																												5	5
CHULLORA									1						1													2	4
Narwee																												4	4
Birrong																												4	4
Wiley Park																												3	3
MILPERRA																										1		2	3
Ashbury												1																1	2
East Hills																												2	2
Picnic Point																												2	2
Lansdowne																												2	2
Beverely Hills																												1	1
Bankstwon																												1	1
Regents Parl																												1	1
Regents Parrk																												1	1
Chester Hills																				1									1
Bankstown Aerodrome																												1	1
Wiley Park																												1	1
Bankstown Square																												1	1
Roseland																												1	1
GREENACRE (Chullora)																												1	1
Greenarce																												1	1
Grand Total	28	1	2	12	3	2	2	15	6	1	1	9	17	1	1	1	1	1	1	6	1	1	1	3	1	1	9	372	500

IDENTITY AND ENGAGEMENT

Let us now examine more closely the LGA's geography of population densities and dwelling structure types, but with a cultural diversity lens. Apart from the southeastern corner of Canterbury-Bankstown—namely, the pocket of suburbs comprising Picnic Point, Padstow Heights, East Hills, and Milperra—most areas had between 28 per cent to 92 per cent of residents born overseas. Indeed, Picnic Point, Padstow Heights, East Hills, and Milperra, all showed the highest levels of English fluency (that is, only 0.8 per cent to 6.5 per cent of the areas not fluent in English), compared to the rest of the LGA.

Figure 8. Canterbury-Bankstown, Languages Other than English, 2016



The highest concentration of overseas-born persons were those areas surrounding the Bankstown CBD, the Lakemba/Wiley Park stretch, and the Campsie/Canterbury stretch, where the percentages were between 61 per cent and 92 per cent. Two other locations with the same high proportions of overseas-born were the earlier mentioned enclaves in Riverwood to the LGA's south, and in Villawood to the LGA's north-west. Also, mentioned earlier were their correspondences to an area where high-density dwelling structures and social-housing tenure dominated.

Chinese Residents

Persons who arrived from mainland China and settled in Canterbury-Bankstown numbered around 21,751, according to the Census 2016. From the Census year of arrival range, large cohorts of arrivals from mainland China began in the 1986-to-1995 ten-year range when 5,399 arrived, followed by 5,726 in the 1996 to 2005 period, representing a 6.1 per cent increase, then a further 7,740 in 2006 to 2015, representing a 35.2 per cent increase.[29] Their age structure at the Census comprised of 2.2 per cent under 15 years, 9.3 per cent 'between 15 and 24 years, 27.6 per cent between 25 and 39 years, 26.0 per cent between 40 and 54 years, 24.6 per cent between 55 and 69 years, and 10.3 per cent 70 years or more. This represents a fairly even spread across the young adult, adult, and middle-age life-stages. Examining more closely the actual English Language Proficiency of the various cohorts of the mainland Chinese arrivals (contra making inferences from analysis of small areas, but as self-reported in the Census), the proficiency levels show that 47 per cent indicate speaking English 'not at all' or 'not well', while 51 per cent indicated speaking English 'very well' or 'well'.[30]

The LGA's Chinese-speaking population is concentrated in areas within Campsie, especially on both sides of the main Beamish Street running through its CBD, and also in areas flanking the train line. Here they comprise between 31.0 per cent to 46.4 per cent of the population of areas, and between 18.3 per cent to 30.9 per cent in areas further beyond. They also are situated in those parts of Canterbury suburb which follow the Cooks River in areas where it straddles Canterbury Rd and straddles the train-line around Canterbury train station. In these areas they comprise between 18.3 per cent to 30.9 per cent, and 31.0 per cent to 46.4 per cent respectively of the local population. Other areas where the LGA's Chinese-language-speaking population are concentrated is the southern boundary of the LGA with Rockdale LGA and Georges River LGA, in the suburbs of Kingsgrove, Beverly Hills, Narwee, and Riverwood, and close to each of those suburbs' train stations. It should be recalled that these areas, as stated earlier, correspond with areas where the dominant dwelling structure comprises primarily of high-density high-rise apartments and secondarily of medium density blocks of units/flats. Furthermore, the Chinese-speaking population concentrations fall in areas where SEIFA scores are around the 4th decile.

Lebanese Residents

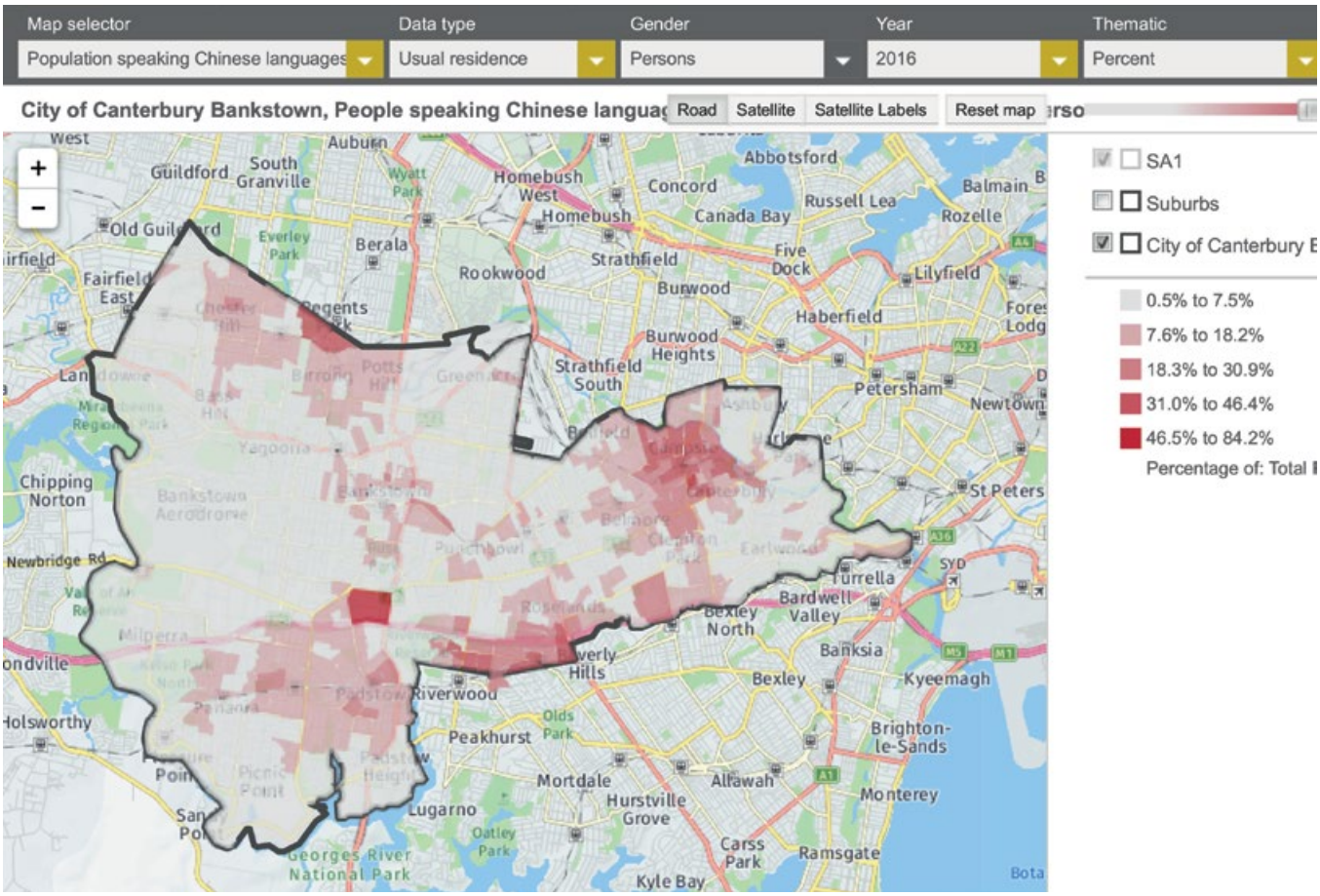
The main arrival marker for Lebanon-born residents of Canterbury-Bankstown was the 1970s' civil conflict in their country of birth. Indeed, according to the Census (2016), large cohorts of Lebanese began to arrive in the 1966 to 1975 ten-year range when 4,568 arrived, followed by similar, but slightly lower, numbers in each of the following 1976 to 1985 and 1986 to 1995 periods. During the next two decades the cohort numbers decreased to approximately 2,700, in each of the 1996 to 2005 and 2665 to 2015 periods.[31] Their age structure at the Census comprised 1.9 per cent of persons under 15 years, 4.1 per

29 Australian Bureau of Statistics (2016), Cultural Diversity, LGA (UR) and BPLP, Two-Digit Level by YARRP Year of Arrival in Australia (ranges), Counting: Persons Place of Usual Residence.

30 Australian Bureau of Statistics (2016), Cultural Diversity, LGA (UR) and BPLP, Four-Digit Level by YARRP Year of Arrival in Australia (ranges) and ENGP Proficiency in Spoken English, Counting: Persons Place of Usual Residence.

31 Australian Bureau of Statistics (2016), Cultural Diversity, LGA (UR) and BPLP, Four-Digit Level by YARRP Year of Arrival in Australia (ranges), Counting: Persons Place of Usual Residence.

Figure 9. Canterbury-Bankstown, People Speaking Chinese languages, 2016



cent between 15 and 24 years, 18.4 per cent between 25 and 39 years, 33.2 per cent between 40 and 54 years, 29.1 per cent between 55 and 69 years, and 13.4 per cent 70 years or more. The present figure of the Lebanon-born population of Canterbury-Bankstown was 19,818. This was only slightly more than that of the Vietnam-born population. It also represents an age structure skewed towards the middle then late-middle ages, a strong young-adult proportion, and a notable ageing group.

However, noting both the years of arrival and age structure we can expect a strong Australian-born component not accounted for in these numbers. Thus, looking to Lebanese ancestry, our total figure more than doubles the overseas-born number, becoming 44,943. And, thereby, the age structures at the Census 2016 become the following: 24 per cent under 15 years, 16 per cent between 15 and 24 years, 24 per cent between 25 and 39 years, 18 per cent between 40 and 54 years, 12 per cent between 55 and 69 years, and 6 per cent aged 70 years or more.[32] In this reckoning, a fairly even spread, averaging 20 per cent each, prevailed across the children, youth, young adult, and adult life-stages.

Examining more closely the English-language proficiency of the various cohorts of those born in Lebanon (contra making inferences from analysis of small areas, but as self-reported in the Census), the proficiency levels show that 70 per cent indicate speaking English very well or well, while 24 per cent indicated not speaking English at all or not well, and 5 per cent said 'not applicable'.[33]

As discussed below, there were similar residential patterns between the Lebanese and Vietnamese-born in the areas between the Bankstown CBD and towards the boundaries with Fairfield LGA in the northwest and with Liverpool LGA in the west. While this is so, the more prominent concentrations of the Lebanon-born residents span from the Bankstown CBD mainly to areas northwards (namely, the suburbs of Greenacre, Mount Lewis, and Chullora), and secondarily areas eastwards (namely, the suburbs of Punchbowl and Wiley Park). These concentrations, for areas, are in the order of the 15.4 per cent to 26.8 per cent of persons in the former, and the 10.5 per cent to 15.3 per cent in the latter.

Household sizes where the Lebanon-born residents lived, in that area from Bankstown CBD fanning out northwest-wards towards Fairfield LGA, predominantly were of the 3.16 to 3.57 persons per household bracket, and then of the 3.58 to 5.66 persons per household bracket. Here, the dominant tenure type comprised mostly a mix of fully owned and being purchased, and, to a lesser but significant extent, social housing rental and then private rental. Regarding the areas from Bankstown CBD fanning out northwards towards Strathfield LGA where Lebanon-born residents predominantly lived, household sizes for areas were roughly similar between the 3.16 to 3.57 persons per household bracket, and then of the 3.58 to 5.66 persons per household bracket.

These areas where Lebanon-born persons are concentrated in show a mixed tenure-type between fully owned' properties, those being purchased, and private rental (particularly around the Bankstown CBD). Furthermore, social housing tenure was also salient, especially in Greenacre. SEIFA scores for areas in this part of Canterbury-Bankstown indicate a concerning degree of disadvantage, given predominant scores for areas at the 4th decile or lower (but with several in the 5th and 6th deciles).

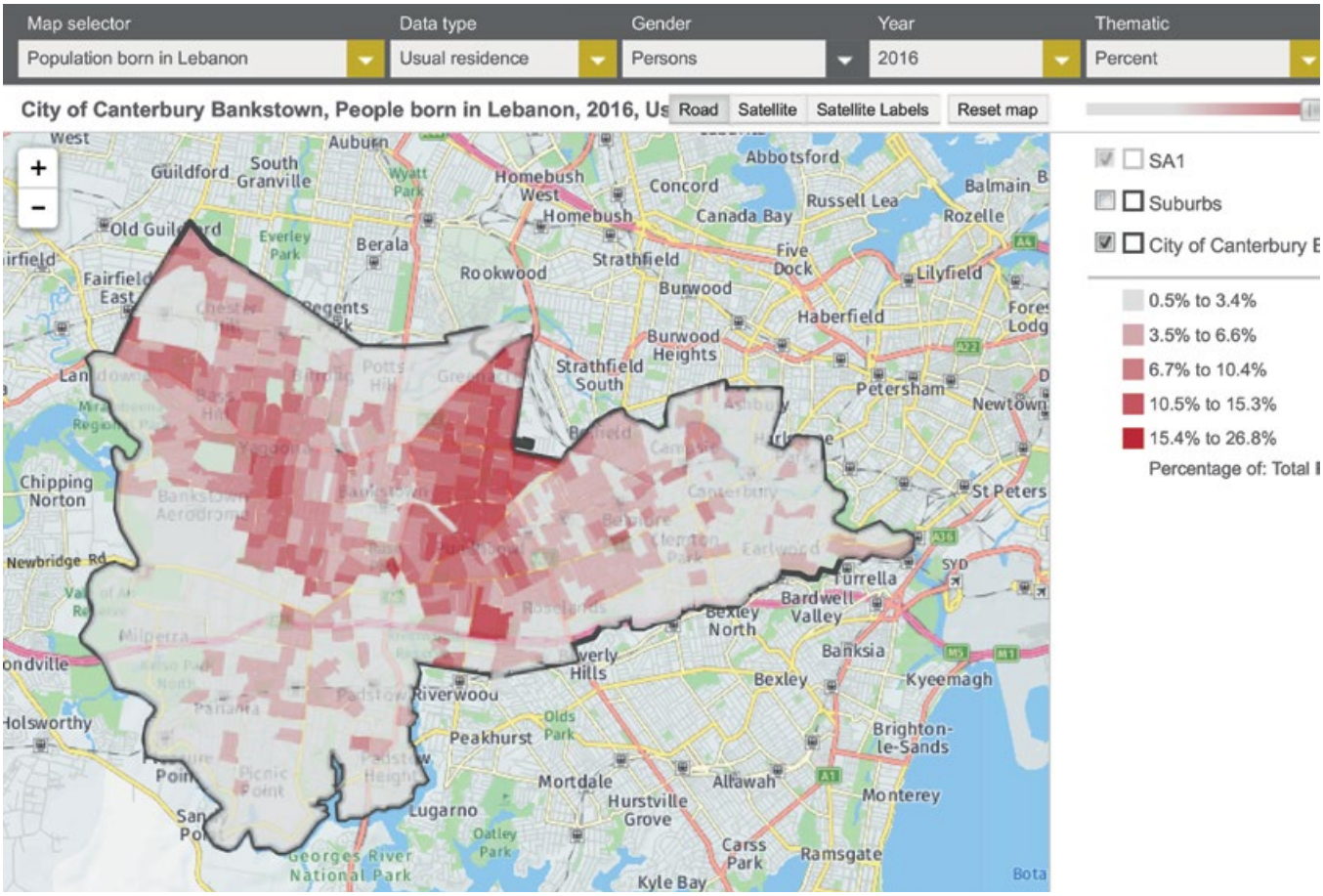
Vietnamese Residents

The Vietnam-born residents of Canterbury-Bankstown numbered 19,068 in the Census 2016. Historically, they settled as refugees in the 1970s fleeing the war in Vietnam, after which the family (reunion) migration intake

32 Australian Bureau of Statistics (2016), Cultural Diversity, LGA (UR) and AGE5P, Age in Five Year Groups by ANC1P, Four-Digit Level, Counting: Persons Place of Usual Residence.

33 Australian Bureau of Statistics (2016), Cultural Diversity, LGA (UR) and BPLP, Four-Digit Level by YARRP Year of Arrival in Australia (ranges) and ENGP Proficiency in Spoken English, Counting: Persons Place of Usual Residence.

Figure 10. Canterbury-Bankstown, People Born in Lebanon, 2016



also became integral to their growth in numbers. Those of Vietnamese background predominantly resided around the Bankstown CBD, and then moving westwards towards the Canterbury-Bankstown's boundaries with Fairfield LGA in the northwest and Liverpool LGA in the west, where both those LGAs have high concentrations of persons of Vietnamese background of their own. These cover the suburbs of Bankstown, Yagoona, Bass Hill, Birrong, Sefton, and Chester Hill, and their population concentrations range from the '8.2 per cent to 14.7 per cent' bracket, the 14.8 per cent to 24.2 per cent bracket, and the '24.3 per cent to 48 per cent' bracket across areas. A similar residential pattern across these same areas applies to the Lebanese-born population of the LGA.

Their age-structure at the Census comprised 2.3 per cent under 15 years, 8.1 per cent between 15 and 24 years, 22.2 per cent between 25 and 39 years, 34.0 per cent between 40 and 54 years, 26.1 per cent between 55 and 69 years, and 7.3 per cent 70 years or more. It represents an age structure proportionally clustered around the young-adult, adult, and late-adult life-stage groupings (by around 82 per cent). However, noting both the years of arrival and their age structure we can expect a strong Australian-born component not accounted for in these numbers. Thus, looking to Vietnamese ancestry, our total figure increases slightly from the overseas-born number, becoming 22,552. And, thereby, the age structures at the Census 2016 become the following: 17.3 per cent under 15 years, 18.1 per cent between 15 and 24 years, 21.4 per cent between 25 and 39 years, 22.0 per cent between 40 and 54 years, 16.4 per cent between 55 and 69 years, and 4.7 per cent 70 years or more.[34] In this reckoning, a fairly even spread, averaging 19 per cent each, across the children, youth, young adult, adult, and late-adult life-stages.

English-language proficiency in these same areas showed a lack of fluency at levels in the '11.9 per cent to 16.8 per cent' 'not fluent' bracket, as well in the '6.6 per cent to 11.8 per cent', and the '16.9 per cent to 22.4 per cent' brackets across areas. Examining more closely the actual English-language proficiency of the various cohorts of those born in Vietnam (contra making inferences from analysis of small areas, but as self-reported in the Census), the proficiency levels show that 54 per cent indicate speaking English very well or well, while 43 per cent indicated speaking not at all or not well, and 2 per cent said 'not applicable'.[35]

Household sizes where the Vietnamese-born residents lived in the area from Bankstown CBD fanning out northwest-wards towards Fairfield LGA, predominantly were of the '3.16 to 3.57 persons per household' bracket, and then of the '3.58 to 5.66 persons per household' bracket, which is the reverse of Earlwood, Kingsgrove, and Roselands area, discussed below where Greek persons resided in good number. The areas where Vietnamese persons are concentrated in show a mixed tenure type between fully owned properties, properties being purchased, and private rental (particularly around Bankstown CBD). Furthermore, social housing tenure was also salient, especially in Villawood and Yagoona. SEIFA scores for areas in this part of Canterbury-Bankstown indicate a concerning degree of disadvantage, given predominant scores for areas at the 4th decile or lower.

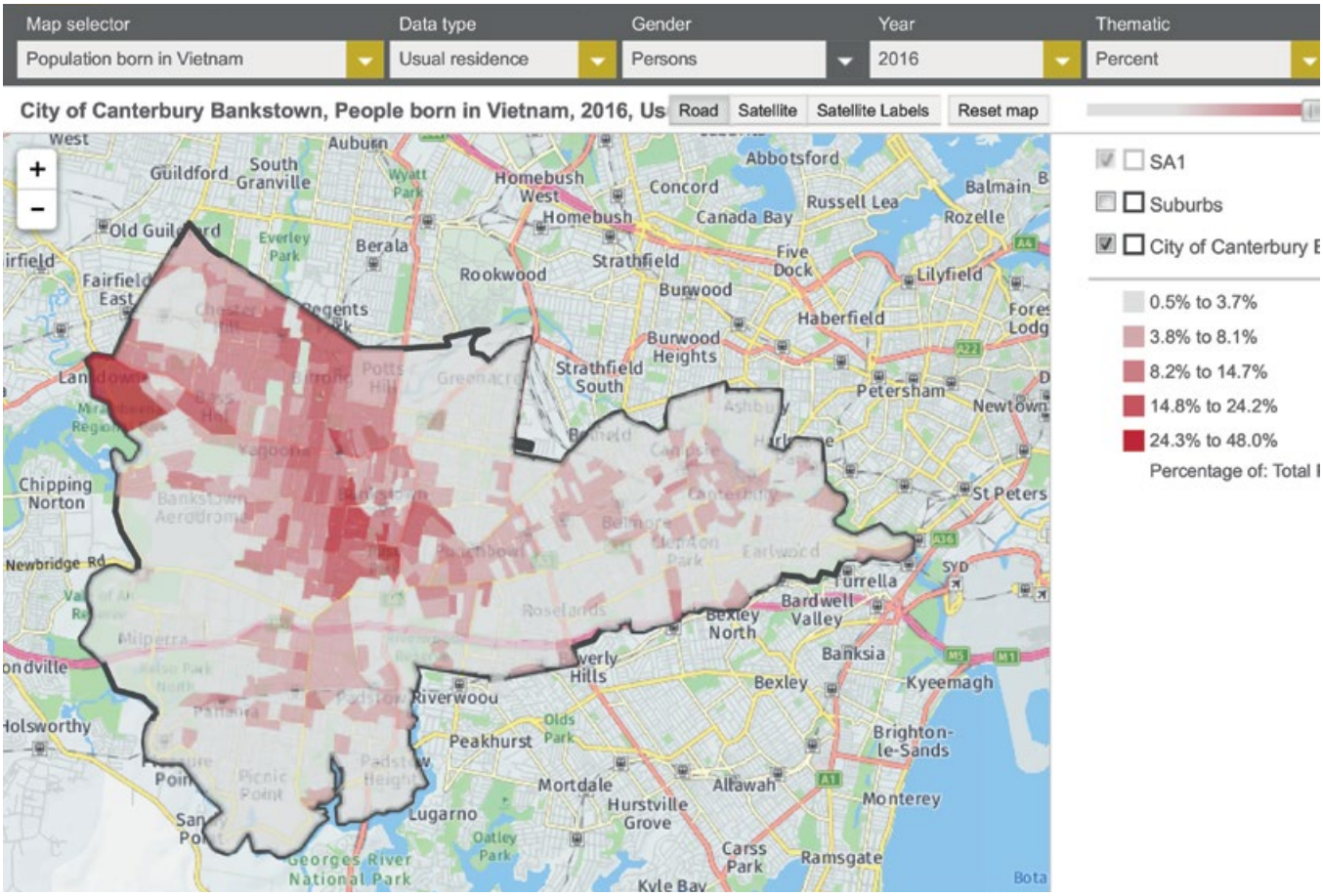
Greek Residents

Greek migrants were a major part of the post-World War II migration intake for which the family (reunion) migration intake also became integral. They numbered 7,042 in the 2016 Census count. Their presence across areas were in strong proportions, being 14.5 per cent to 22.5 per cent and 22.6 per cent to 35.6 per cent of area populations, as is particularly evident in the suburbs and areas of the Canterbury-Bankstown's southern boundary with the Rockdale LGA and the

34 Australian Bureau of Statistics (2016), Cultural Diversity, LGA (UR) and AGE5P, Age in Five Year Groups by ANC1P, Four-Digit Level, Counting: Persons Place of Usual Residence.

35 Australian Bureau of Statistics (2016), Cultural Diversity, LGA (UR) and BPLP, Four-Digit Level by YARRP Year of Arrival in Australia (ranges) and ENGP Proficiency in Spoken English, Counting: Persons Place of Usual Residence.

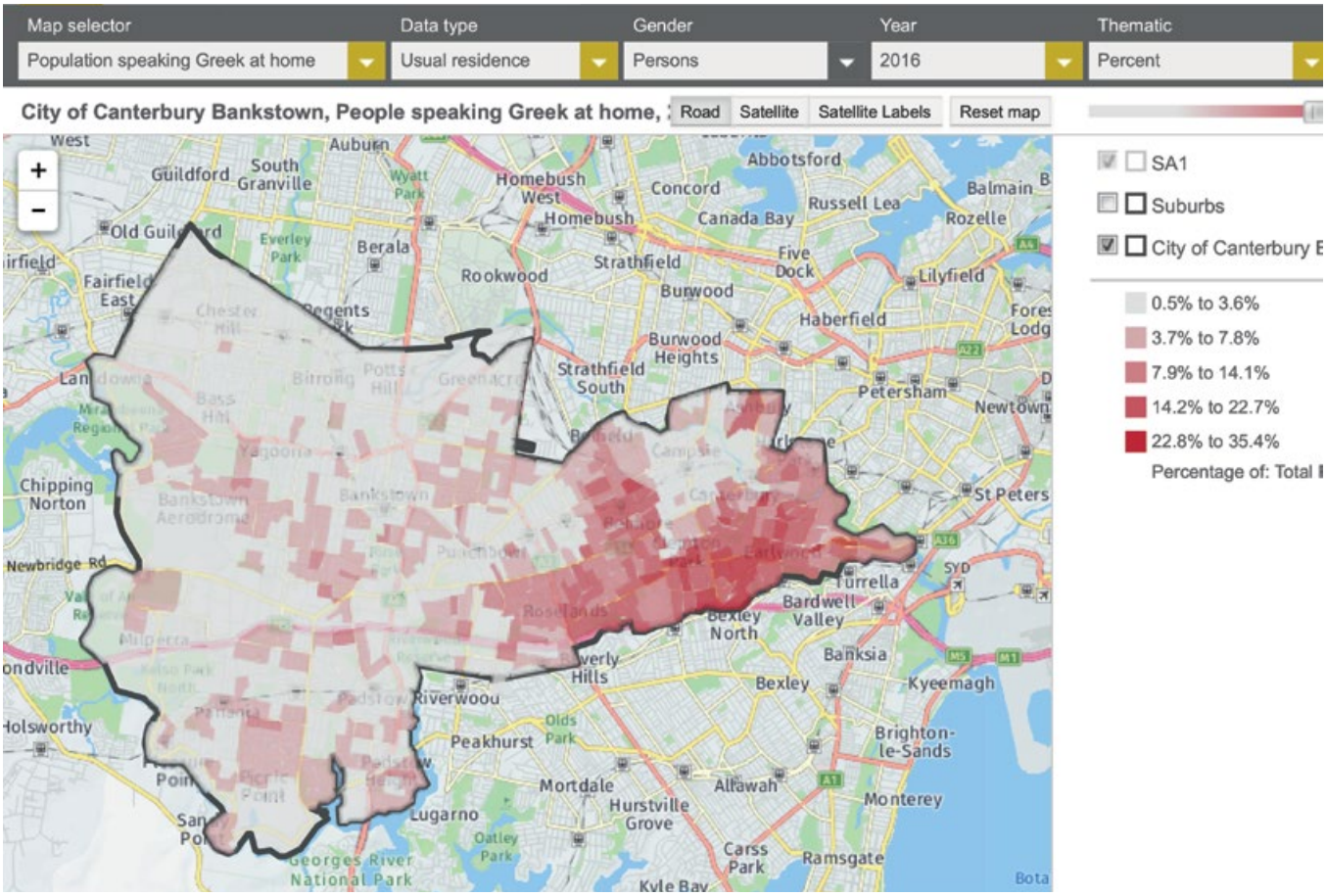
Figure 11. Canterbury-Bankstown, People Born in Vietnam, 2016



Georges River LGA. These concentrations are in the suburbs of Earlwood, Kingsgrove, and Roselands. More areas of moderate concentrations of persons of Greek background, of around 14.5 per cent to 22.5 per cent, also cross over Canterbury Road (which demarcates those above-mentioned suburbs), and extend northwards into the suburb of Belmore, particularly around Belmore train station. The LGA's northeastern suburb of Ashbury also accommodates around the same concentration of persons of Greek background. These same areas show median ages of mainly 37-to-42 year-olds and 43-to-55 year-olds; perhaps corresponding to the second generation or offspring of those original post-war Greek immigrants.

Household sizes predominantly were of the '2.80 to 3.15 persons per household' bracket, and then of the '2.31 to 2.79 persons per household' bracket. Outright home ownership of separate dwellings is strong for this demographic, as is the SEIFA score for advantage and disadvantage at the 7th decile or higher. Notwithstanding, English fluency was not at the highest level, with 6.6 per cent to 11.8 per cent indicating 'not fluent in English' across areas. The visual presence of the Greek community is less apparent than before, giving way to the shopfronts, fare, festivals, etc. of more recent arrivals from east Asia and southwest Asia. Notwithstanding their schools, churches, charities, radio station, and community organisations remain as enduring institutions indicative of a 'mature' stage in the settlement journey.

Figure 12. Canterbury-Bankstown, People Speaking Greek at Home, 2016



APPENDIX 3.

Engagement Strategies in Culturally Diverse Communities

Based on a literature review of policy and academic research, in this appendix we sum up useful insights for developing waste engagement campaigns with culturally diverse communities.

Actively acknowledge diversity within different cultural groups, though without assuming that ethnic background is always causal in relation to social practices concerning waste-management.

Cultural background, ethnicity and migration should be taken into consideration when designing waste management campaigns and engagement programs. However, it is crucial not to homogenise the values, beliefs, languages and experiences of communities and individuals. As Dollin *et al.* (2016) indicate, multiple factors impact upon involvement in Council activities, including time living in Australia, socio-economic status, English-language proficiency, opportunity to use home language with others, childcare commitments, the time needed to upskill and find work, as well as differences in religious beliefs or cultural values between communities.

Effective engagement campaigns should identify priority groups within culturally diverse communities, taking into consideration multiple drivers affecting how people think of, and relate to, waste (including for example, language, transience, type of dwelling, length of residence in Australia, age group, etc). Key target sub-groups may include the following:

- Renters and transient populations
- Multi-Unit Dwellings' residents
- Tertiary students and house sharing residents
- First-generation migrants
- Women (still the primary food decision-makers in most households)
- Males (who tend to show lower recycling rates, particularly when working full time)
- Religious groups and community hubs (as strategic partners)
- Children services as contact points (childcare centres, schools)
- Acknowledging diversity *within* different cultural groups will afford the development of more targeted, nuanced and specifically tailored approach to waste engagement campaigns.

Harness existing networks and institutions, including religious and community centres.

An emerging body of research has examined the role of religious beliefs in promoting environmental values, emphasising the potential of religion to act as a platform for wide-scale transition towards more sustainable futures (Lakhan, 2018; Mohamad *et al.*, 2012; Minton *et al.*, 2013; Setia, 2007). Experimental studies provide evidence that religious communities can foster change in waste management practices at the household level, for example, by encouraging participation in recycling schemes (Lakhan, 2018; Mohamad *et al.*, 2012).

This is consistent with recent evidence produced by Western Sydney University's United Nations Regional Centre for Expertise in Education for Sustainable Development. In a study specifically focused on Western Sydney communities, Dollin *et al.* (2016) found that "faith organisations, community hub networks and cultural associations represent an untapped reservoir for linking and leveraging environmental sustainability activities in Western Sydney" (23). Moreover, in reviewing the OEH engagement schemes for culturally diverse communities, the authors suggest that "successful sustainability programs were built upon the social connectedness that already existed in their own community to further engage others and provide a sense of belonging and wellbeing" (Ibid.). Social inclusion and engagement with the community was found to be a key motivator for culturally diverse communities to participate in sustainability programs (NSW Environmental Trust, 2015). Building on existing networks and community groups not only offers better communication channels with culturally diverse groups. Crucially, approaching waste strategies in collaboration with these community hubs may provide the opportunity to leverage on informal practices of sharing, reusing, repairing and other social practices that, although in line with waste management goals, may be invisible for local authorities.

Pay special attention to the first generation of migrants.

Literature on culturally diverse groups and recycling schemes shows that there are significant differences between first and second/third generations of migrants (Lakhan, 2015, 2016; Perry and Williams, 2007). A salient finding from this research is that first generation migrants often report lower rates of participation in recycling schemes. Additionally, research indicates that they are not easily engaged by traditional recycling campaigns and educational material, which largely rely on print (flyers, newspapers and signs) as well as electronic (Council's website, email newsletters, etc.) messaging. This is highly significant given that 44 per cent of Canterbury-Bankstown residents were born overseas.

Give priority to face-to-face engagement.

Scholarly research (Perry and Williams, 2007) and previous experiences engaging with culturally diverse communities (MWRRG, 2017) identify barriers in accessing information on waste management and recycling programs. Distributing written information in a language that the targeted community understands is crucial to the success of communication messaging. However, as previous campaigns implemented by Canterbury-Bankstown show, the efficacy of print materials is limited, given that residents are often inundated with flyers, leaflets and advertisement (SSROC, 2017). Instead, our literature review indicates that face-to-face interactions such as door-stepping, workshops or talks at strategic contact points (for example at community centres, religious groups, etc.) are usually more effective modes of communication. Such instances allow Council access to existing knowledge-sharing communities, and give the residents the opportunity to ask questions, make suggestions and better connect with facilitators and other members of the community.

Test and refine communication materials and messages through face-to-face communication.

Previous experiences indicate that testing and adjusting messages in consultation with culturally diverse stakeholders are important steps in ensuring that the intended message will be understood by the target community. Even apparently simple messages such as 'Yes' or 'No' may not find a clear translation in the context of what is accepted in a kerbside recycling bin (see MRRWG, 2017).

A 2016 survey conducted in Bankstown LGA (Micromex Research, 2016) provide some insights on the preferred methods of communication with the Council.

- Vietnamese respondents suggested talks and presentations at local schools, emphasising the role of children in circulating information.
- Arabic respondents suggested engaging Arabic associations and local community groups, as well as providing information through Arabic radio stations and flyers in Arabic.
- Survey results also indicate that newspapers (61 per cent), word-of-mouth (42 per cent) and community groups (32 per cent) are still the main means of receiving information about the Council, particularly among older residents. However, results also show an increase in the use of digital media (Council website, Social Media and use of Internet).

When possible, it is important to use clear visual communication in addition to (or instead of) written materials. Visuals may include photographs, images, diagrams, illustrations and videos. Visuals have been effectively implemented in recycling and waste management campaigns by other councils (City of Monash, 2013; Maroondah City Council, n.d.). Council's current sticker campaign provides feedback to residents who do the right thing in terms of correctly sorting materials in their bins. However, while visuals can be important strategic prompts, they are rhetorical devices with limited efficacy over time and need to be supported by more substantial participatory strategies (Mellick Lopes and Gill, 2015). The fact that anecdotally, residents have responded so well to 'recognition and reward' mechanisms suggests there might be further opportunities to build a community of advocates to support correct waste management at the community level.

Recruit culturally diverse officers and/or train facilitators.

Dollin *et al.* (2016) indicate that some programs with CALD communities in NSW were not successful because facilitators did not possess relevant cultural knowledge to deal with the communities involved. Moreover, in some cases both participants and facilitators expressed concerns about tensions between culturally diverse individuals and groups. Thus, the authors strongly recommend developing pertinent training programs for potential community officers or facilitators.

The City of Monash (2013) recruited community officers from culturally diverse communities as a key engagement strategy in its waste management and recycling campaign. The City reported that the strategy proved crucial for the success of the program; recruited officers were able to engage households and targeted community groups through their social networks. The strategy report highlights that the involvement of CALD officers "was extremely positive, with officers helping other departments as well" (2013: 13).

Treat community consultation as important from the beginning of any project.

Previous experiences (Maroondah City Council, n.d.; MWRRG, 2017) show that waste education campaigns and strategies benefit from community consultation from the earliest stages of any project. Liaising with community organisations or members of a culturally diverse community may provide useful insights to better adjust engagement strategies during the design and the implementation of the campaign. This entails approaching projects in a flexible way, allowing enough time to get to know the target audience, and consulting about the best places and times in which the proposed program will play out.

Likewise, culturally diverse stakeholders may be consulted on the specific messages, materials and tools employed in the project, providing the opportunity to refine the communication campaign to better engage with the community.

Our literature review suggests that community consultation may be particularly important for Canterbury-Bankstown Council. A community satisfaction survey commissioned by Bankstown Council in 2016 found that the Council should pay special attention to community engagement and consultation in decision-making. While satisfaction levels were moderate, the report suggests there is significant room for improvement in community consultation,

and this was the main barrier to improve the Council's overall score. Indeed, the report's main recommendation was to "explore community expectations regarding the role of community engagements; specifically, in relation to informing policies and long-term planning" (Micromex, 2016: 21).

While designing and implementing projects in this way may require more time, it will provide a more robust and tailored strategy for engaging with culturally diverse communities.

Even more effective is to take a collaborative design approach with a community, inviting their input as creative stakeholders. A recent report by Civica in partnership with the Institute for Public Policy and Governance at the University of Technology Sydney (UTS: IPPG, 2017) describes this approach as a process involving councils and citizens working together to design a service that is fit for purpose for that particular community (p. 5). This requires not only that the community is consulted in the early stages of developing waste education campaigns, but that communication channels remain open beyond campaign implementation to gather feedback in process, and to offer opportunities for the relevant communities to introduce ideas and collaborate with council in their aims to produce more relatable and effective outcomes. This approach to community engagement, which build on a long tradition of participatory design, opens the 'black box' of communication between a 'provider' (i.e. local council) and a 'recipient' (i.e. the community) and is gaining traction in the public sector in Australia and all over the world.

In response to these issues and others we are using mixed-methods approach integrated through the *Circles of Social Life* method. The Circles method offers an integrated way of practically responding to complex issues of vitality, relationality, productivity and sustainability, and what makes for a flourishing world. The approach, which includes *Circles of Sustainability*, takes an urban area, city, community, organization or individual through the difficult process of responding to complex or seemingly intractable problems and challenges.

The approach provides a way of achieving sustainability and resilience that combines qualitative with quantitative indicators. It sets up a conceptual and technology-supported framework for investigating problems faced by communities, and is intended to be applicable across the very different contexts of a neighbourhood, city or region. It is sensitive to the need for negotiation from the local to the global.

The approach builds upon the strengths of a research development in association with Metropolis, the UN Global Compact Cities Programme, along with other key international organizations. It was first developed through practical engagement in a number of cities around the world, including Berlin, Porto Alegre, Melbourne, San Francisco, and Milwaukee.

As an approach to assessing city life, *Circles of Sustainability* helps communities respond to a series of questions:

Firstly, how are we best to understand and map the sustainability of our cities, communities and organizations in all their complexity—economic, ecological, political and cultural?

Secondly, what are the central critical issues that relate to making the city or community more sustainable?

Thirdly, what should be measured and how? Instead of designating a pre-given set of indicators, the approach provides a process for deciding upon indicators and analysing the relationship between them.

Fourthly, how can a positive response be planned? The approach provides a series of pathways for achieving complex main objectives. It offers a deliberative process for negotiation over contested or contradictory critical objectives and multiple driving issues in relation to those main objectives.

Fifthly, it supports a monitoring and evaluation process and a reporting process.

APPENDIX 4.

Survey Questionnaire

A total of 605 participants (437 female and 167 male) completed the survey.[36] Around 35 per cent of participants are between 40-to-54 years old, followed by 30 per cent in the 25-to-39 years cohort (Figure 13). Almost half are families with a couple and children (48 per cent, see Figure 14). Nearly 80 per cent live in houses (including single houses, semi-detached, duplex or granny flat (Figure 15), and nearly two-thirds of participants have lived in the Canterbury-Bankstown area for over ten years (Figure 16). Their educational level ranges from primary school to postgraduate degree, with 67 per cent holding university or college degree (Figure 17). There are 310 (51 per cent) participants residing in the suburbs previously in the Canterbury Council LGA and 295 (49 per cent) in the Bankstown Council LGA. Many of these issues, such as the gender split and education levels, make the sample unrepresentative of Canterbury- Bankstown as a whole.

The survey results should thus be interpreted with care. Additional issues also suggest caution. For example, the responses from residents in medium (n=58, 11 per cent) and large (n=16, 3 per cent) blocks of units, villas or townhouses. Usually the units, villas or townhouses are under Strata Title Management, so the residents do not take direct responsibility for managing waste and recycling, nor would they contact Council directly regarding waste-management issues. From this perspective, many of the survey questions are irrelevant to this group of participants. For example, many items in Question 8 related to bin and grass-management; and communication with Council (Questions 11, 12, 14 and 17–32).

It should also be noted that the cultural background (see Table 7) is an implied category based on the 'first language spoken at home' reported by participants. It does not fully represent how participants identify their ethnicity, as some migrants (e.g. second-generation migrants) may use English as their first language at home but identify themselves to a particular ethnic group. It is recommended that future surveys of this kind should include an explicit question concerning ethnicity identification.

36 One participant was excluded from analysis because he/she skipped all the survey questions except the demographics.

Figure 13. Participants' Ages

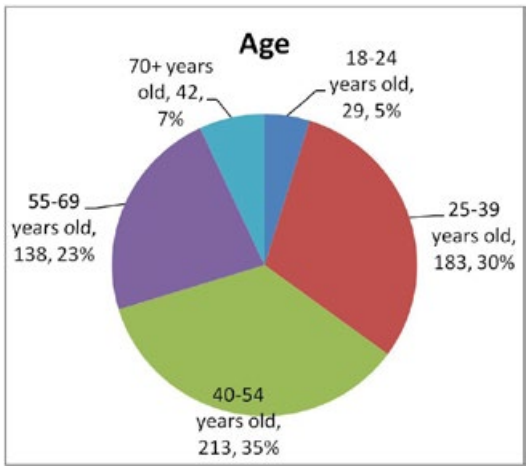


Figure 14. Household Composition

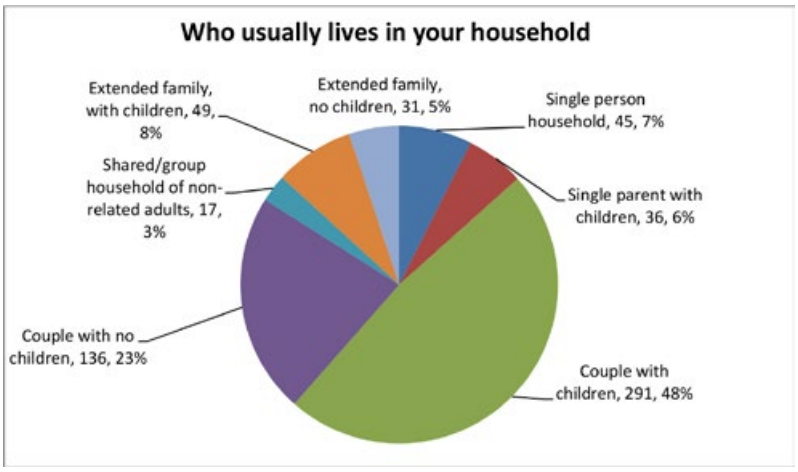


Figure 15. Type of Home

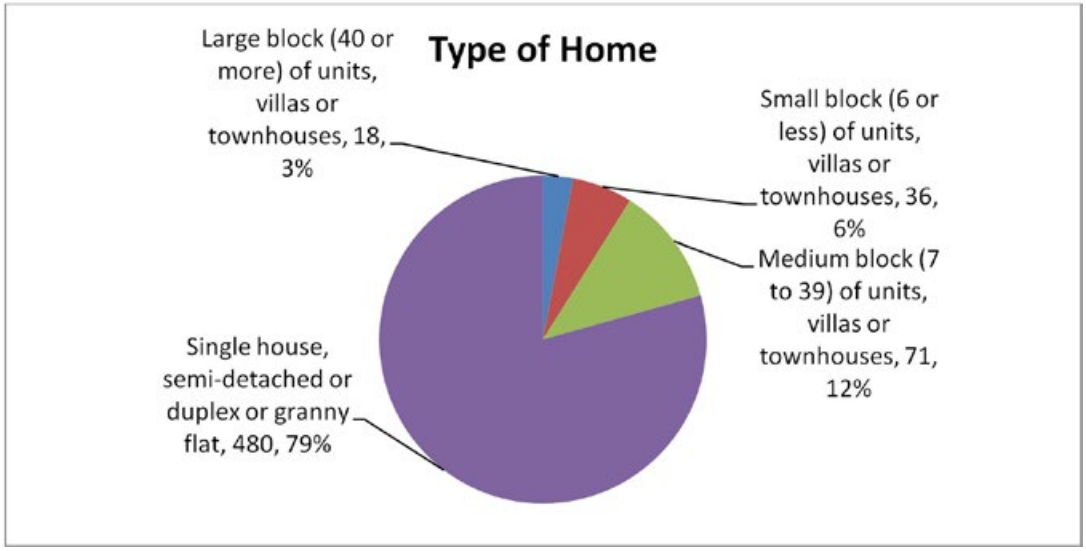


Figure 16. Length of Residence in Canterbury-Bankstown Area

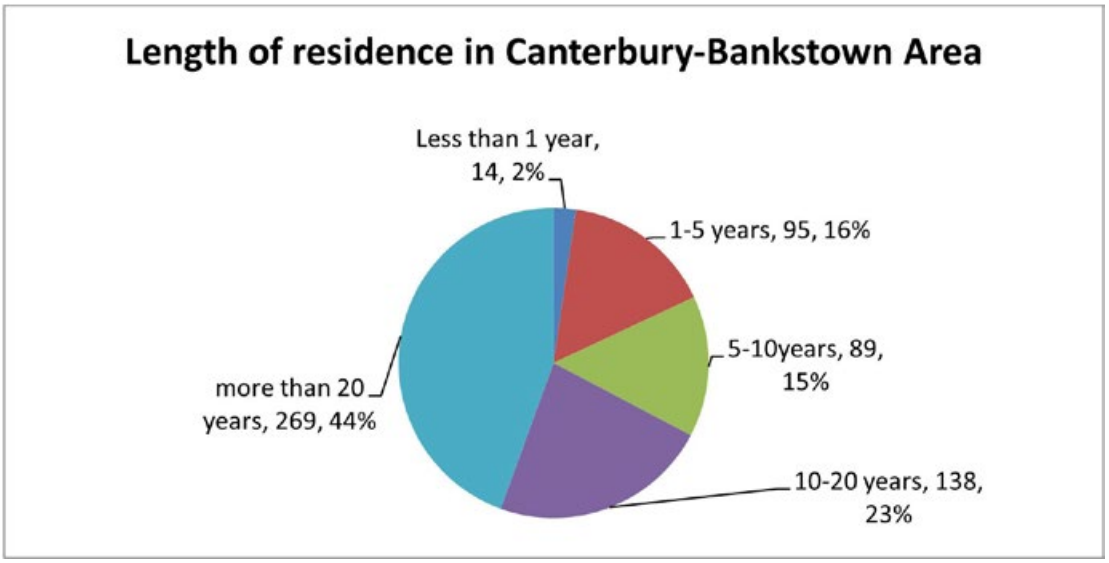
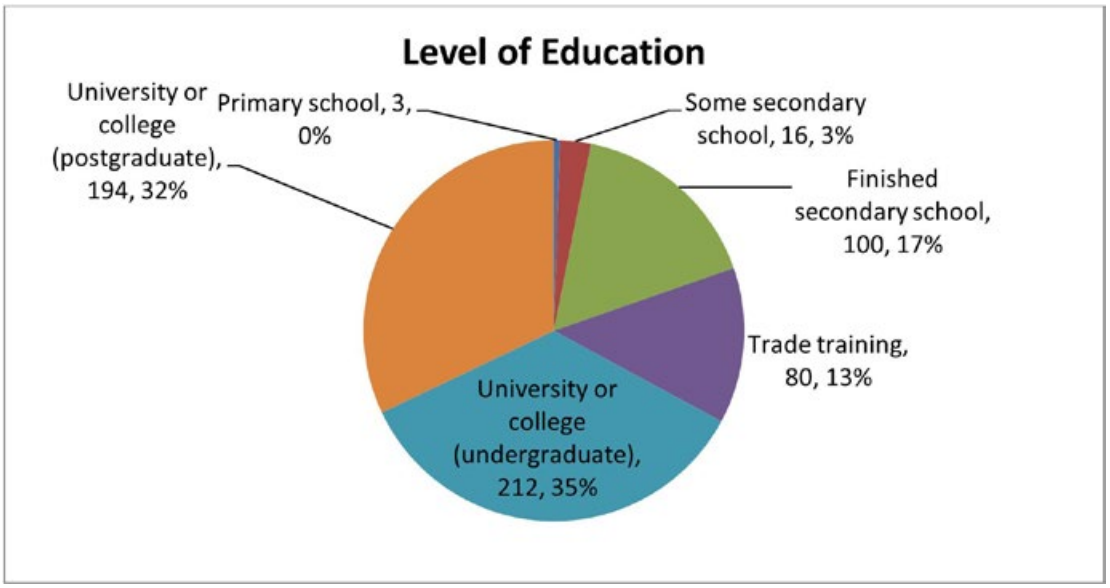


Figure 17. Participants' Highest Level of Education



COUNCIL'S RESPONSIBILITIES

Notification Responsibilities

Participants were surveyed whether they would like to receive reminders or notifications from Council regarding their waste management. The forms of notification are listed in Table 3. below.

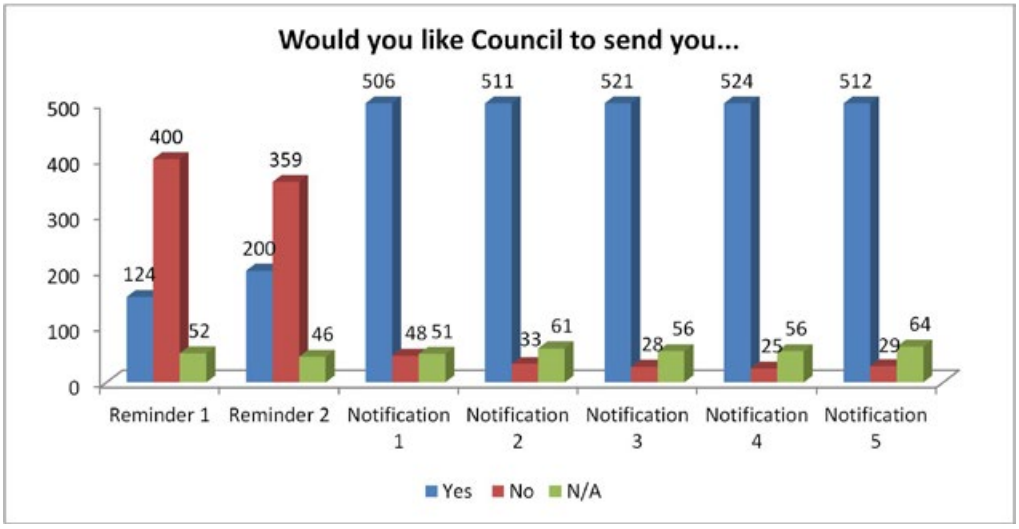
Table 3. Preferences in Relation to Council Sending Reminders and Notifications

Variable	Label
Reminder 1	Reminder to place your bins out for collection the night before via Email/SMS
Reminder 2	Reminder which bins to place out for collection the night before via Email/SMS
Notification 1	Notification from Council if your bin(s) was not collected because the truck could not get access your bin
Notification 2	Notification from Council if your bin(s) was not collected because your bin was too heavy to be lifted
Notification 3	Notification from Council if your bin(s) was not collected because the wrong items were in your garbage bin
Notification 4	Notification from Council if your bin(s) was not collected because the wrong items were in your recycling bin
Notification 5	Notification from Council if your bin(s) was not collected because the wrong items were in your garden waste bin

As summarised in Figure 18 below, around 60 per cent of participants do not expect a reminder service from Council regarding placing the bins (66 per cent selected 'No') and the types of bins (59 per cent selected 'No') to be placed for collection. However, the majority of participants (over 80 per cent) prefer to receive notification from Council regarding the reason why their bin(s) were not collected.

A follow-up question was administered among the participants who wish to be notified when their bin(s) were not collected. How residents would like Council to notify them was surveyed and the results are also summarised in Figure 18.

Figure 18. Preferred Ways of Receiving Notification



Note: Bin tagging and notice in letter box were not provided as options for Notification 1 and Notification 2.

It is apparent that SMS is the preferred way of receiving notification from Council about different bin-collection issues. Around two-thirds of residents would like to be notified by SMS if their bins were unable to be accessed by truck (71 per cent) or too heavy (69 per cent). For placing the wrong items in the bins (Notifications 3–5), around 40 per cent residents would like to be notified by SMS, followed by bin tagging, chosen by one-third of residents. The preferable ways of receiving notification for placing the wrong items in the bins (Notifications 3–5) were further examined across different residential types and cultural background. Notification 1 and 2 were not included for further analysis, because SMS remains the most preferable way of receiving notification among residents from different residential types and cultural backgrounds (see Tables 4 to 6 below).

Table 4. Preferred Ways of Being Notified Across Residential Types Concerning the Wrong Items in Garbage Bin

	Single house	Small block	Medium block	Large block
SMS	42%	21%	30%	43%
Email	16%	14%	11%	7%
Bin tag	26%	58%	42%	36%
Notice in letter box	16%	7%	17%	14%

Note: Single house n=425; small block n=29; medium block n=53; large block n=14.

Table 5. Preferred Ways of Being Notified Across Residential Types Concerning the Wrong Items in Recycling Bin

	Single house	Small block	Medium block	Large block
SMS	41%	20%	27%	46%
Email	16%	13%	13%	8%
Bin tag	27%	60%	46%	38%
Notice in letter box	16%	7%	14%	8%

Note: Single house n=426; small block n=30; medium block n= 55; large block n=13.

Table 6. Preferred Ways of Being Notified Across Residential Types Concerning the Wrong Items in Garden Waste Bin

	Single house	Small block	Medium block	Large block
SMS	42%	24%	27%	46%
Email	16%	14%	14%	8%
Bin tag	26%	59%	43%	38%
Notice in letter box	16%	3%	16%	8%

Note: Single house n=419; small block n=29; medium block n= 51; large block n=13.

A highly consistent pattern of preferred ways of receiving notifications (see Tables 4 to 6) was found across three situations of placing the wrong items in the bins. Over 40 per cent of residents living in single houses and large block of units prefer Council to notify them through SMS. Compared to that, around 60 per cent residents living in small blocks and over 40 per cent in medium block prefer bin tagging as the method of contact.

The next group of issues relates to identity. It should be noted here that cultural background has been categorised based on residents' first-languages spoken at home, and is divided into six groups as shown in Table 7. As noted above, the findings based on these re-categorised cultural groups should be interpreted with caution as the first language may not fully reflect the self-projected ethnic identification of the participants: for example, the second generation of migrants who may use English as their first language but continue to identify themselves with a particular ethnic group.

Table 7. Cultural Background Categories

New cultural groups	First language at home	N
English speakers	English	527
Arabic speakers	Arabic	13
European-language speakers	Italian, Macedonian, Greek Romania, Polish, Portuguese and Turkish	22
Southeast Asian-language speakers	Vietnamese and Indonesian	15
East Asian-language speakers	Korean, Japanese, Cantonese and Mandarin	17
South Asian-language speakers	Bengali Punjabi, Tamil and Urdu	9

Note: Two Pacific-language speakers (Tongan and Maori) were excluded from analysis because this group is too small to yield any meaningful findings.

Table 8. Preferred Way of Being Notified Across Culture About Wrong Items in Garbage Bin

	English	Arabic	European	Southeast Asian	East Asian	South Asian
SMS	40%	39%	38%	21%	33%	37%
Email	15%	15%	9%	29%	13%	13%
Bin tag	39%	15%	48%	29%	47%	37%
Notice in letter box	16%	31%	5%	21%	7%	13%

Note: English n=449; Arabic n=13; European n=21; Southeast Asian n=14; East Asian n=15; South Asian n=8.

Table 9. Preferred Way of Being Notified Across Culture About Wrong Items in Recycling Bin

	English	Arabic	European	Southeast Asian	East Asian	South Asian
SMS	39%	39%	38%	28%	36%	37%
Email	15%	15%	14%	28%	14%	13%
Bin tag	30%	23%	43%	37%	43%	37%
Notice in letter box	16%	23%	5%	7%	7%	13%

Note: English n=453; Arabic n=13; European n=21; Southeast Asian n=14; East Asian n=14; South Asian n=8.

Table 10. Preferred Way of Being Notified Across Culture About Wrong Items in Garden Waste Bin

	English	Arabic	European	Southeast Asian	East Asian	South Asian
SMS	40%	39%	40%	28%	36%	37%
Email	16%	15%	10%	28%	14%	13%
Bin tag	29%	23%	45%	37%	43%	37%
Notice in letter box	15%	23%	5%	7%	7%	13%

Note: English n=375; Arabic n=11; European n=19; Southeast Asian n=12; East Asian n=13; South Asian n=7.

Though the figures in Tables 9 and 10 show multiple preferences for Southeast Asian and East Asian, in general, English and Arabic speakers rank SMS their most preferred way for Council to send notification, and European, Southeast Asian and East Asian-language speakers select bin tagging as their most preferable way to receive notifications, while South Asians prefer both SMS and a notice in the letter box.

Information that Residents Would Like to Hear from Council

Figure 19. Perceived Importance of Accessing Information about Waste and Recycling from Council

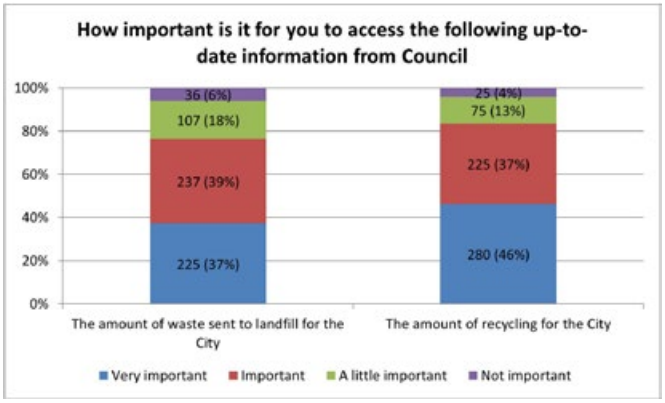


Figure 20. Perceived Importance of Accessing Information about Waste Management from Council

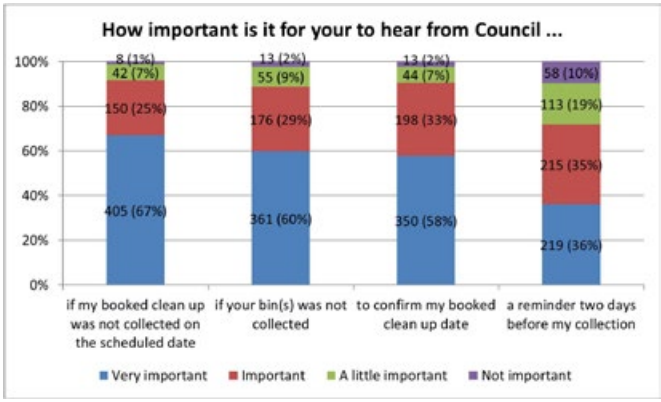


Figure 19 presents the level of perceived importance residents give to hearing the most updated information regarding waste and recycling information from Council. Over 75 per cent of participants were concerned about the amount of waste going to land-fill and recycling, and think it important (that is 'very important' and 'important') to access information from Council about these amounts.

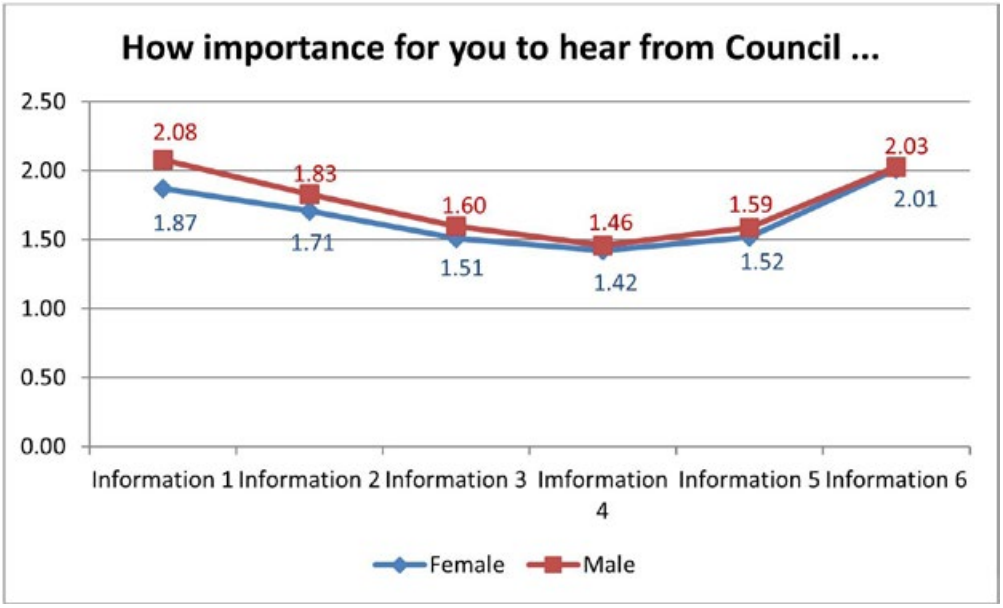
Figure 20 demonstrates the level of perceived importance residents give to receiving information about their waste management. Around 90 per cent participants think it very important to hear from Council to confirm their scheduled clean up date and to notify them if their bin(s) or clean-up was not collected. The collection reminder from Council is perceived as less important with around 70 per cent of participants providing a positive rating to this statement.

It is worth noting that when the rating of importance is ordered from 1='very important' to 4='not important', with the questions asking how important for residents to hear from Council about different waste management, the rating of importance can be regarded as a measure of residents' attitude, and an assumption is made that the rating is a continuum from 'very important' to 'not important' with equal interval between each natural point (i.e., 1 to 2, and 2 to 3). In other words, as a score of the rating progresses from small to large, the level of importance decreases. From this perspective, the *mean (average) score of a group* can be calculated to represent the attitude of this particular group. This is useful to express the extent to which a group of people thinks the importance of an issue and, more importantly, to allow comparisons between groups. The same concept and principle apply to the scale of agreement and level of concern.

When the respondents' rating of importance on all six items (Figures 19 and 20) is transferred to mean scores, the higher the mean score, the less importance respondents perceived. There is no statistically significant difference found in the perception of importance across all items among different cultures, types of home, length of residence or origin of local government areas.

When comparing the perception between gender, it is found that females tend to perceive a marginally higher level of importance across all access to information and notification service than males (see Table 11 below), yet there is no statistical significance between them. In general, both women and men think it important to access information about waste management from the City of Canterbury Bankstown because the mean scores are all below the mid-point of 2, except a reminder to put the bins out for collection (M=2.01, SD=0.96 for females and M=2.03, SD=0.98 for males), and male's perception of importance on hearing information about the amount of waste sent to landfill (M=2.08, SD=0.96).

Figure 21. Perceived Importance of Accessing Information about Waste Management from Council Comparing Female and Male



Variable	Label
Information 1	The amount of waste sent to landfill for the City
Information 2	The amount of recycling for the City
Information 3	If your bin(s) was not collected
Information 4	If my booked Clean Up was not collected on the scheduled date
Information 5	To confirm my booked Clean Up date
Information 6	A reminder two days before my collection

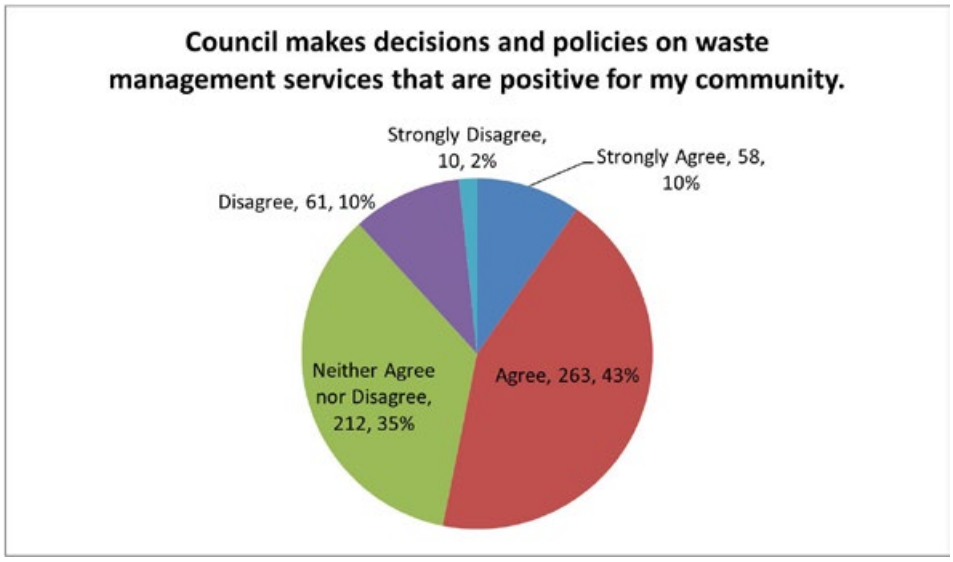
Note: Female n=437; Male n=167; 1=Very important; 4=Not important.

Evaluation of Council's Decisions and Policy-Making

When participants were asked to what extent they agree that Council's decisions and policies on waste-management services are positive for their community (see Figure 22), over half of participants agree and strongly agree, giving a mean score of 2.51 (SD =0.86).[37] Being in the mid-point of the agreement scale, the mean score indicates participants' attitudes are in-between with regard to Council's decisions and policies on waste-management services.

37 The higher the mean score is, the less extent participants agree with the statement. SD stands for Standard Deviation, the larger it is, the more varied it is from the mean score.

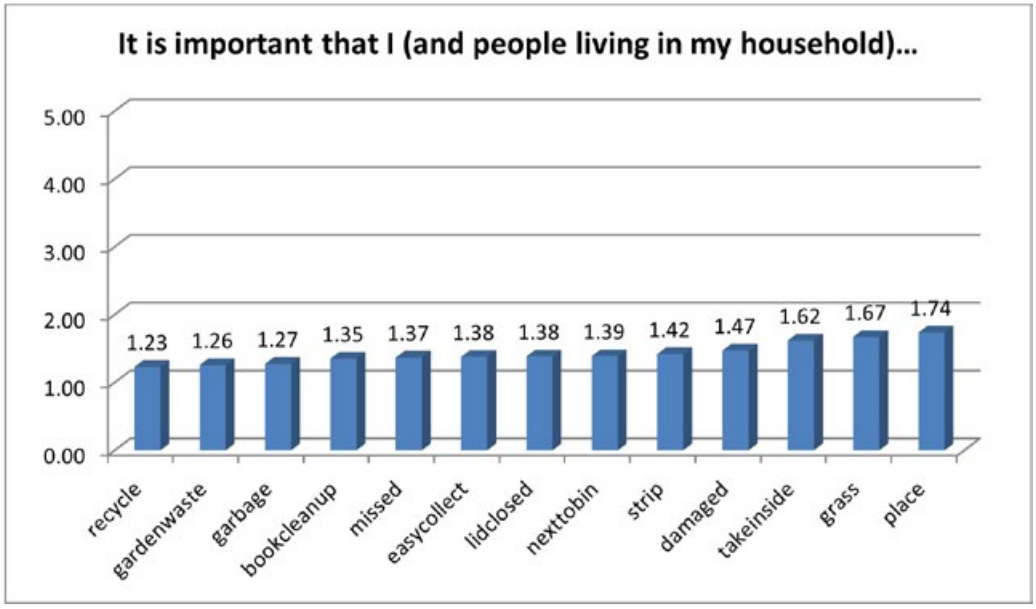
Figure 22. Residents' Perception of Council's Decisions and Policies Concerning Waste Management



RESIDENTS' RESPONSIBILITY

Participants were asked to rate their agreement on a series of items on what they and other people living in the same household should do regarding waste management on a five-point Likert Scale (1=strongly agree to 5=strongly disagree). It is found that the mean scores of all items are below the score of 2, showing their high agreement with the importance that they should contribute to waste management. Figure 23 shows that participants were in high agreement that they should place the right items into correct bins (M ranges from 1.23 to 1.26, SD ranges from 0.54-0.62), followed by booking a clean up service before putting items on the kerb (M=1.35, SD=0.64). The item with the lowest agreement level is to place their clean up out the night before collection (M=1.74, SD=1.00)

Figure 23. Residents' Perceptions of the Importance for Them of Areas of Waste Management

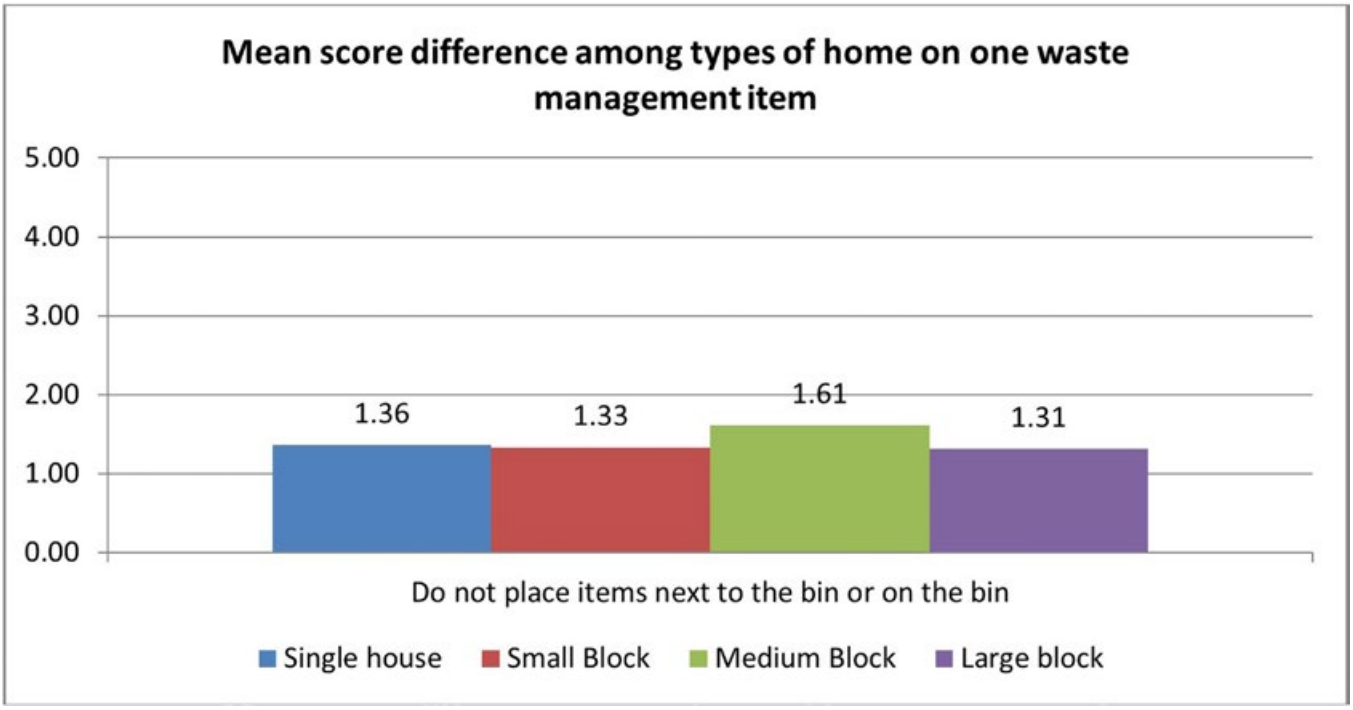


Variable	Label
Recycle	Place the right items in our recycling bin
Gardenwaste	Place the right items in our garden waste bin
Garbage	Place the right items in our garbage bin
Bookcleanup	Book a clean up service before putting items on the kerb
Missed	Let Council know that my bin was missed
Easycollect	Place the bins on the kerb in a location that makes it easy for the truck to collect the bin
Lidclosed	Place my bins on the kerb with the lid closed
Nexttobin	Do not place items next to the bin or on the bin
Strip	Keep the nature strip in front of my property clean and free from litter
Damaged	Let Council know that my bin is damaged/broken
Takeinside	Take my bins inside my property within 24 hours of collection
Grass	Keep the grass on nature strip in front of my property mowed
Place	Place my clean up out the night before collection

Note: n=506. The number of participants having selected 'Not Applicable' ranges between two to seven and they were excluded from analysis. 1=strongly agree to 5=strongly disagree. The lower the mean scores are, the higher the level of agreement participants showed to the items.

A series of comparison of mean scores were conducted to examine the differences by the type of home one lives in, by age, culture, gender and previous Council areas. Statistically significant difference was found in some items between different groups of residential types (Figure 24), gender (Figure 25) and previous Council areas before the merger (Figure 26). No significant difference was found among different cultural background, or age.

Figure 24. Mean Score Difference Among Residential Types on One Waste-Management Item



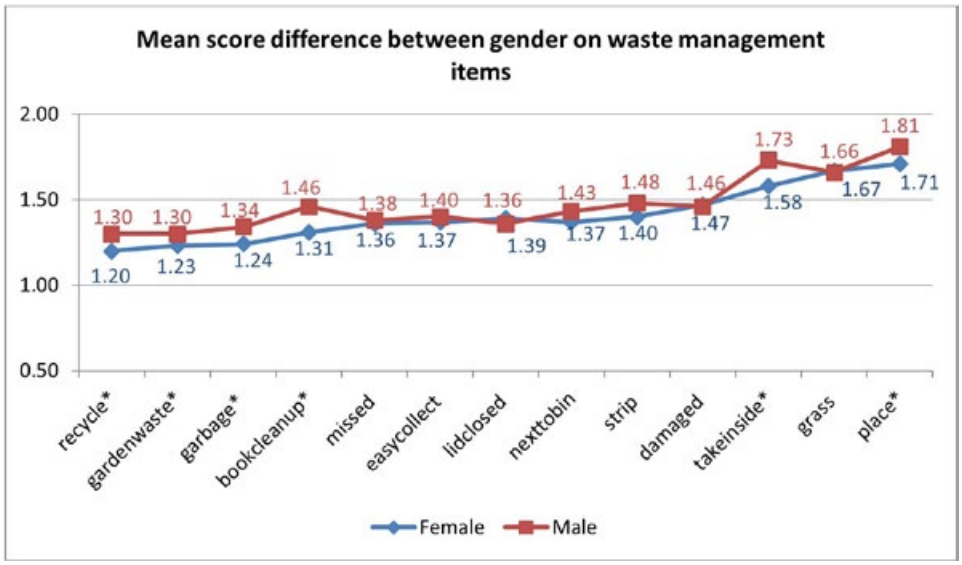
Note: 1=strongly agree to 5=strongly disagree

As shown in Figure 22, residents in different types of homes show different levels of agreement in the importance of not placing items next or on the bin ($F(3,597)=2.82$, $p=.04$). The post hoc test of Scheffe suggests the significant difference lies in the higher level of agreement among residents living in single houses (M=1.36, SD=0.67) than those in a medium block (M=1.61, SD=0.78).

As shown in Figure 23, overall, female (M ranges between 1.20 to 1.71) agreement on residents' responsibilities to take good care of the waste management is at a marginally higher level than male (M ranges between 1.30 to 1.81), except on the items related to keeping the lid closed (M=1.39, SD=0.68 for female and M=1.36, SD=0.63 for male), reporting to Council that their bin is damaged/broken (M=1.47, SD=0.65 for female and M=1.46, SD=0.66 for male) and keeping the grass mowed (M=1.67, SD=0.93 for female and M=1.66, SD=0.94 for male). The items marked with asterisks were found to have statistically significant difference in their mean scores between female and male.

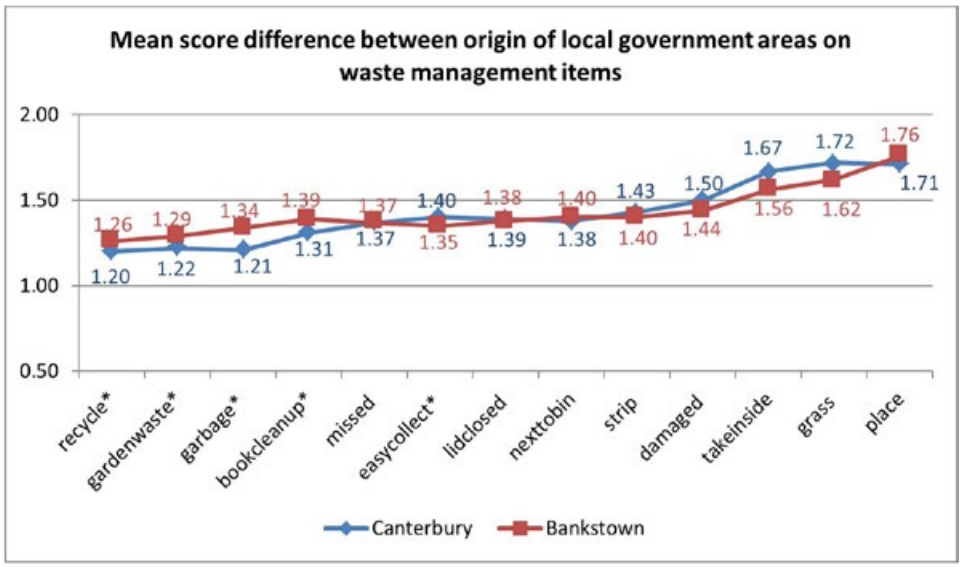
In general, the levels of agreement on residents' responsibility in waste management between two previous local government areas are very similar. Statistical significance was found among four items, as shown with an asterisk in Figure 26, that residents from Canterbury Council perceived higher importance than those from Bankstown Council to place the right waste items into their corresponding bins and to book the clean-up service before putting items on the kerb while residents from Bankstown Council think that it is more important than those in Canterbury Council to place the bins on the kerb in a location that makes it easy for the truck to collect the bin.

Figure 25. Mean Score Difference Across Gender on Waste-Management Items



Note: 1=strongly agree to 5=strongly disagree

Figure 26. Mean Score Difference Between Original Canterbury and Bankstown LGAs

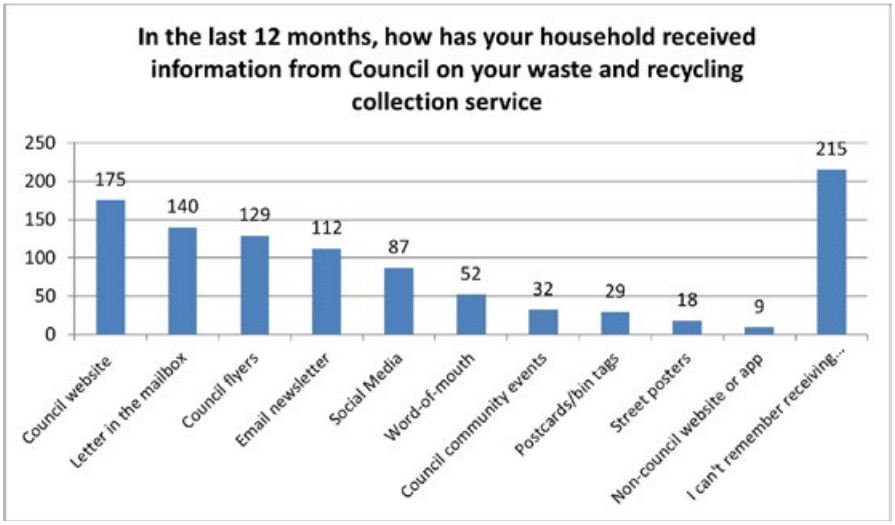


Note: 1=strongly agree to 5=strongly disagree

Ways of Communication

The communication between Council and residents are two-way. Participants were asked to select the ways they received information from Council regarding their waste and recycling collection service in the last year and how they would like to contact Council.

Figure 27. Ways of Receiving Information from Council in the Past 12 Months

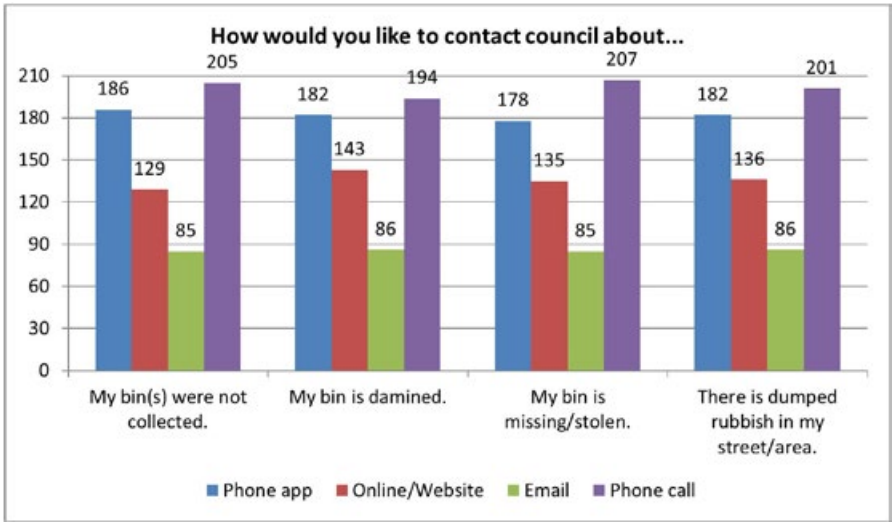


Note: n=605. Respondents could select multiple ways of receiving information, so the total does not add up to 605.

As shown in Figure 27, on the one hand, it is found that Council website (n=175) was the most commonly used way for residents to receive information regarding their waste and recycling collection service in the past year, followed by letter in the mailbox (n=140) and Council flyers (n=129). The least frequently used method is a non-council website or app (n=9). The postcards/bin tags (n=29) and street posters (n=18) received little attention if they have been the methods Council have used to try to reach residents. However, it is worth noting that one-third of residents could not remember receiving anything from Council, suggesting more effective ways of communication may need to be used to attract residents' attention to waste and recycling information.

On the other hand, two-thirds of residents have contacted council regarding their waste and recycling collection service (n=355, 59 per cent) in the past 12 months. Among these 355 residents, their most frequently used method of contact is phone (n=269, 76 per cent), followed by Online (n=82, 23 per cent). Only two people (1 per cent) reported contacting Council in person.

Figure 28. Preferred Ways to Contact Council about Different Waste and Recycling Services



As shown in Figure 28, participants' preferred ways of contacting Council in regard to different waste and recycling service were surveyed. Overall, the phone call is the most preferred method of contact followed by a phone app. When residents' preferred ways of contact are further examined across different residential types and cultural background, differences are found.

Table 11. Preferred Ways to Contact Council Across Residential Types About Bin(s) Not Being Collected

	House	Small block	Medium block	Large block
Phone app	30%	22%	38%	39%
Online/Website	21%	17%	28%	17%
Email	14%	17%	13%	22%
Phone call	35%	44%	21%	22%

Table 12. Preferred Ways to Contact Council Across Residential Types About a Bin Being Damaged

	House	Small block	Medium block	Large block
Phone app	29%	22%	37%	39%
Online/Website	24%	17%	27%	22%
Email	14%	17%	14%	22%
Phone call	33%	44%	22%	17%

Table 13. Preferred Ways to Contact Council Across Residential Types About a Bin Missing or Stolen

	House	Small block	Medium block	Large block
Phone app	29%	22%	35%	33%
Online/Website	22%	17%	26%	28%
Email	14%	14%	15%	22%
Phone call	35%	47%	24%	17%

Table 14. Preferred Ways to Contact Council Across Residential Types About Dumped Rubbish in My Street/Area

	Single house	Small block	Medium block	Large block
Phone app	30%	19%	37%	34%
Online/Website	22%	19%	31%	22%
Email	14%	14%	11%	22%
Phone call	34%	48%	21%	22%

Tables 11 to 14 show a common pattern where regardless of different issues, a phone call is the preferred way for residents in single houses and small block residences to contact Council, while a phone app is chosen by residents in medium block and large block as the most preferred ways of contact.

Table 15. Preferred Ways to Contact Council Across Culture About Bin(s) Not Being Collected

	English	Arabic	European	Southeast Asian	East Asian	South Asian
Phone app	32%	31%	32%	13%	18%	22%
Online/Website	22%	8%	23%	13%	29%	11%
Email	13%	8%	4%	40%	18%	45%
Phone call	33%	53%	41%	34%	35%	22%

Table 16. Preferred Ways to Contact Council Across Culture About Bin Being Damaged

	English	Arabic	European	Southeast Asian	East Asian	South Asian
Phone app	31%	23%	27%	13%	24%	22%
Online/Website	23%	8%	23%	13%	29%	11%
Email	15%	-	4%	40%	18%	56%
Phone call	31%	69%	46%	34%	29%	11%

Table 17. Preferred ways to contact Council Across Culture About a Bin Missing or Stolen

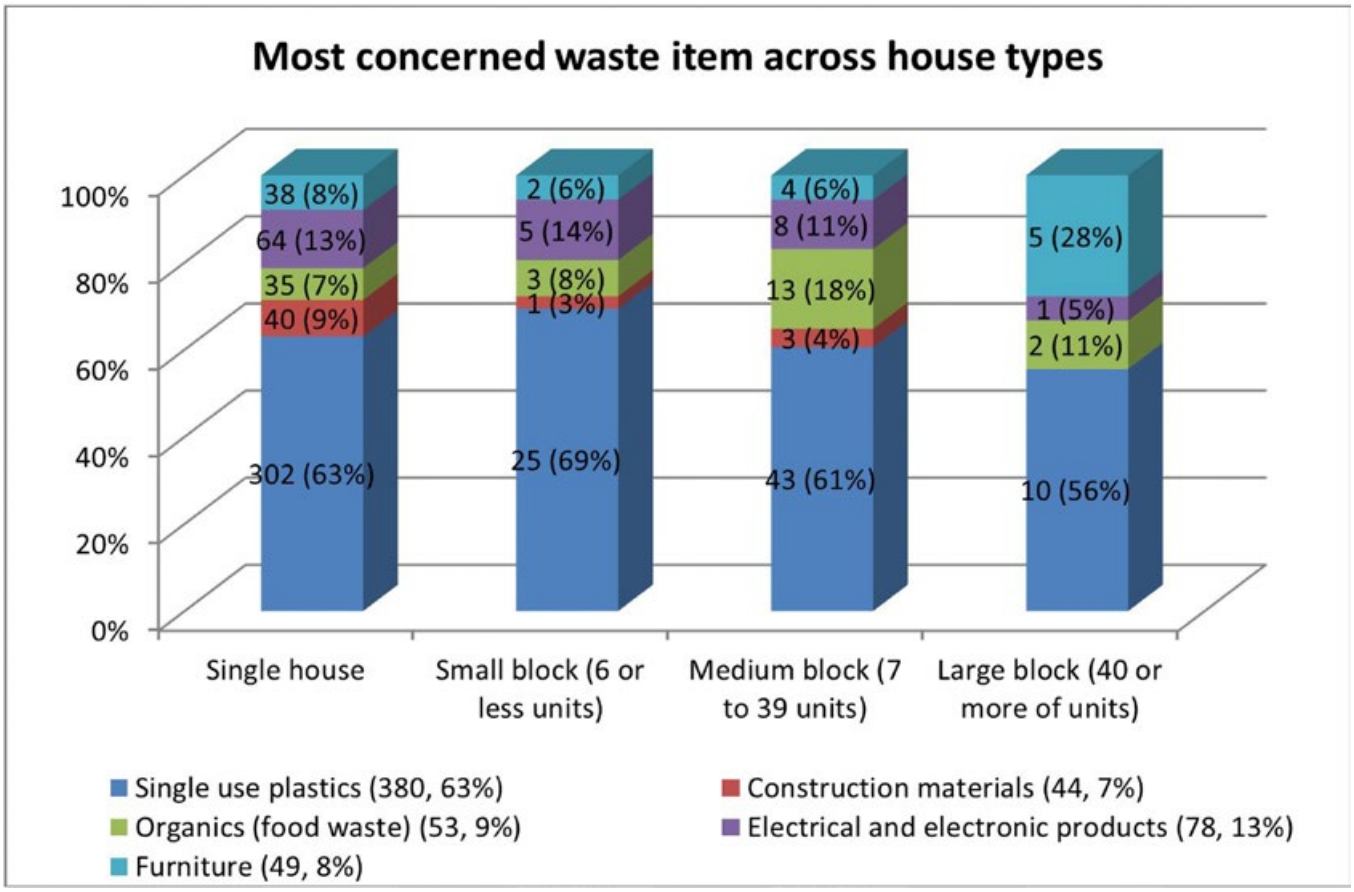
	English	Arabic	European	Southeast Asian	East Asian	South Asian
Phone app	31%	23%	27%	13%	24%	22%
Online/Website	23%	8%	18%	13%	24%	11%
Email	13%	-	5%	40%	29%	56%
Phone call	33%	69%	50%	34%	23%	11%

Table 18. Preferred Ways to Contact Council Across Culture About Dumped Rubbish in My Street/Area

	English	Arabic	European	Southeast Asian	East Asian	South Asian
Phone app	31%	23%	27%	13%	24%	22%
Online/Website	22%	8%	23%	27%	42%	11%
Email	14%	-	5%	40%	17%	45%
Phone call	33%	69%	45%	20%	17%	22%

Tables 15 to 18 show a similar pattern of residents' preferred ways to contact Council regarding their waste collection and recycling across different cultural backgrounds, except for East Asians (refer to Table 7 for categorisation of culture groups). The highlighted figures indicated the option most participants selected within their cultural group. In general, it is found that English, Arabic and European-language speakers prefer to call Council, and Southeast and South Asians tends to email and the East Asians have a varied preference from the survey, yet phone app is their least preferable method of contact.

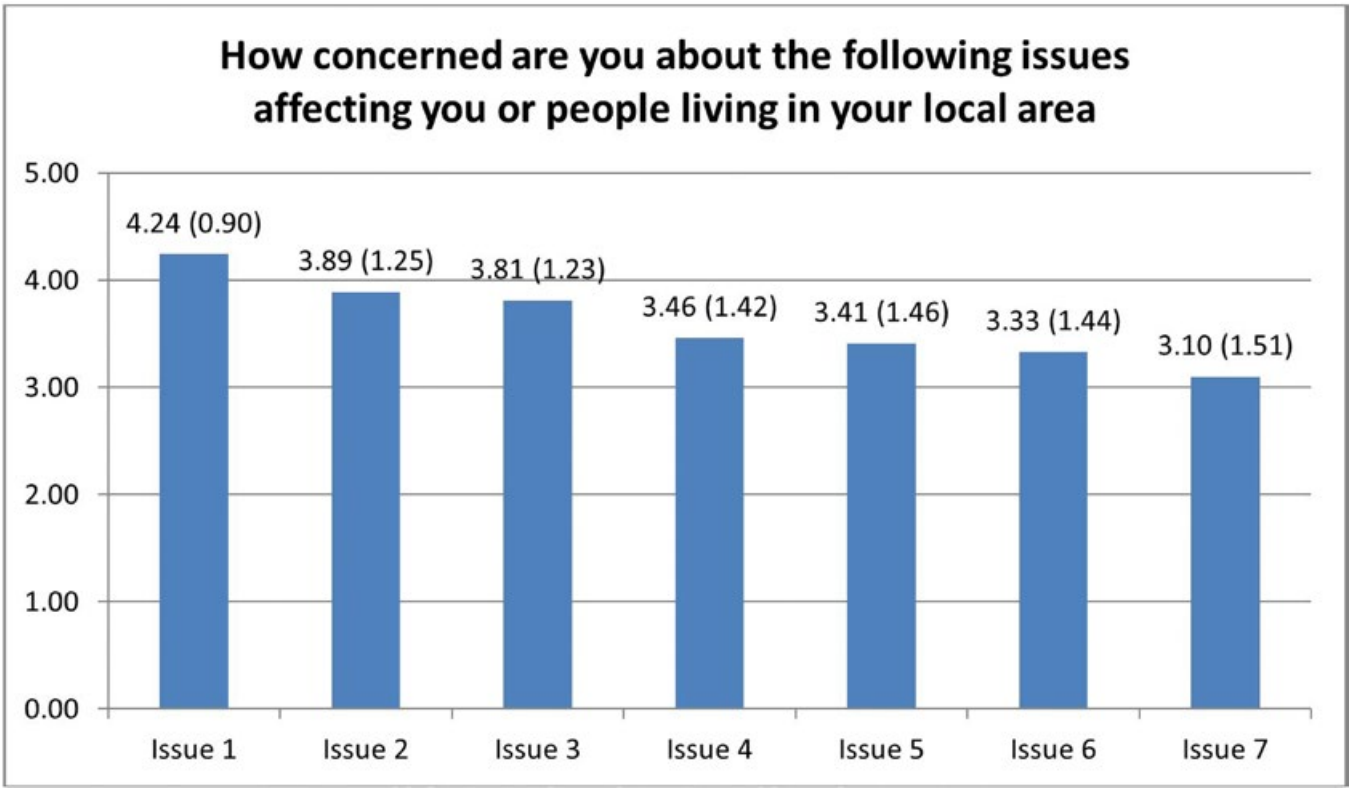
Figure 29. Waste Items About Which People are Most Concerned, Comparing Across Different Types of Residence



RESIDENTS' CONCERNS

When participants were asked to select the waste items that pose the biggest problem or concern to them (see Figure 29), single-use plastics rank at the top (63 per cent of respondents), followed by electrical and electronic products (13 per cent). The least concerning item across all options is construction materials (7 per cent). When further examined across the types of residency, it is found that while the top concerning item remains single-use plastics, and the second most concerning item across residential types vary. Residents in the large blocks place furniture (28 per cent) as second, while medium block residents rank organics (food waste) as second (18 per cent), compared to electrical and electronic products among the single house residents (13 per cent) and small block residents (14 percent). The difference in the level of concern about different waste items reflects the fact that single-storey house residents have direct access to a clean-up service for large items, such as furniture, and they have the space within their household for handling organics (food waste) while unit residents may not have the resources at hand to manage this waste on their own, because they rely on strata-management companies or committees to handle waste.

Figure 30. Levels of Concern about Different Issues

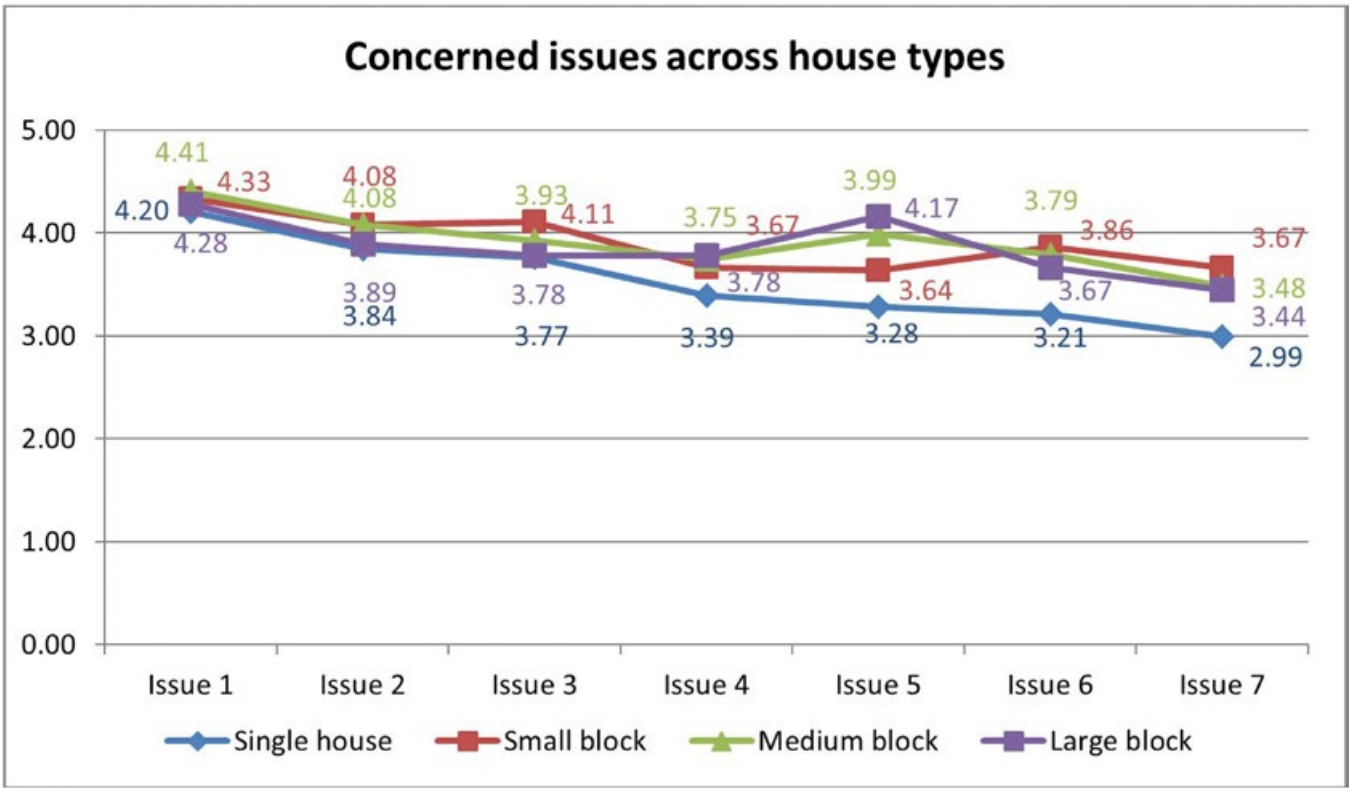


Note: n=605. 1= Not at all concerned to 5=Very concerned. Standard deviations are reported within the brackets. Standard deviations are presented in the brackets.

Variable	Label
Issue 1	The amount of waste from your local area going to landfill (Council collected 80,000 tonnes of garbage a year from Canterbury-Bankstown area.)
Issue 2	The amount of illegal dumping in my suburb
Issue 3	The amount of litter in my suburb
Issue 4	Items from household bins overflowing onto the street or road
Issue 5	The amount of illegal dumping in my street
Issue 6	The amount of litter in my street
Issue 7	Items from household bins overflowing and ending up in front or on my property

Participants were asked to rate their concern level across a series of issues in their local area (see Figure 30). It is found that all the mean scores above the mid-point of 2.5, indicating they care about the waste management in the Canterbury-Bankstown area, and would like to keep their living environment clean. The concern about the amount of waste going to landfill is the highest, and is the only one concern over 4 in mean score (M=4.24, SD=0.90). The least concerning issue among the available option is overflowing waste from household bins in front or on the property (M=3.10, SD=1.51).

Figure 31. Levels of Concern About Different Issues Across Residential Types



One-way ANOVA was used to compare the mean scores of seven issues concerned across four residential types (see Figure 29). Statistically significant difference was found across residential types for Issue 5, illegal dumping in the street (F (3,603)=7.05, p=.00), Issue 6, litter in the street (F(3,603)=5.55, p=.00) and Issue 7, overflowing waste in front of the property (F(3,6.3)=4.37, p=.01). Residents living in houses have the lowest mean scores across issues of illegal dumping (M=3.28, SD=1.48) and litter (M=3.21, SD=1.48) in their street and overflowing waste from household bins in front or on their properties (M=2.99, SD=1.53), compared to the residents living in the unit blocks (Mean scores ranging from 3.64 to 4.17 for illegal dumping, 3.67 to 3.86 for litter, and 3.44 to 3.67 for overflowing waste). To some extent, this may relate to the direct responsibility.

House residents take direct responsibility for waste management, and they are less concerned about dumping, littering and waste bin management because they are familiar with the process of handling them on their own. Differently, unit residents relying on Strata management do not take direct responsibility for handling dumping, especially big items (e.g. furniture), littering and waste bins. When unit residents do not directly manage their waste, they have more concern for the issues around their immediate living environment, e.g. street, properties, than larger living regions such as precincts or suburbs.

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