



City Wellbeing Program ■ City Futures Research Centre

Planning and Building Healthy Communities

An Australian Research Council Linkage Project conducted by the Healthy Built Environments Program within the City Futures Research Centre (University of New South Wales) with partners UrbanGrowth NSW, the Heart Foundation (NSW) and the South Western Sydney Local Health District (NSW Health).

HEALTHY NEIGHBOURHOOD AUDIT

for

AIRDS BRADBURY

DATA REPORT

City Futures Research Centre ■ University of New South Wales

February 2016

A Note about some organisational changes during the course of this Project.

During the course of this Project:

- The Healthy Built Environments Program (HBEP) became known as the City Wellbeing Program (both located within the City Futures Research Centre).
- NSW Landcom was re-constituted as UrbanGrowth NSW.
- Sydney South West Area Health Service became the South Western Sydney Local Health District (SSWLHD).

The original ARC Project arrangements were with these earlier entities.

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Chief Investigators: Susan Thompson, Bill Randolph and Bruce Judd (UNSW)

Partner Investigator: Bin Jalaludin (South Western Sydney Local Health District)

Senior Researcher: Emily Mitchell (City Wellbeing Program, UNSW)

Research Assistants: Roy Byun (South Western Sydney Local Health District); Belinda Crawford (South Western Sydney Local Health District); Sarah Judd (Research Assistant, City Futures Research Centre); Linda Kennedy (Student, Faculty of the Built Environment, UNSW); Jennifer Kent (Senior Research Associate, HBEP); Ben Mitchell (field work assistance); Greg Paine (Research Assistant, City Wellbeing Program, UNSW); Ji Yuan Yu (PhD student, Faculty of the Built Environment, UNSW)

Research Project Steering Committee: Michelle Daley and Julie-Anne Mitchell (Heart Foundation); Bin Jalaludin and Roy Byun (SW Sydney LHD); Bill Randolph and Bruce Judd (UNSW); Stuart Gibb (UrbanGrowth, NSW). Chair: Susan Thompson (UNSW)

This Report prepared by: Ms Emily Mitchell and Dr. Greg Paine (City Wellbeing Program, UNSW)

Acknowledgement and appreciation is also expressed to the residents of each study area who participated in the research by way of interview and/or a workshop.

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1. PROJECT OVERVIEW

This Audit Report has been prepared as part of an ARC Linkage funded project entitled *Planning and Building Healthy Communities: A multidisciplinary study of the relationship between the built environment and health*. The aim of the project is to explore and further understand the role of the built environment in facilitating physical activity, social interaction and access to fresh fruits and vegetables.

Physical inactivity, social isolation and poor nutrition are three of the key risk factors for chronic diseases such as diabetes, heart disease, depression and some cancers. Contemporary research indicates that town planning characterised by segregated land uses, disconnected streets, low residential densities, limited public transport and opportunities for local employment, promotes motor vehicle dependency and discourages physical activity and healthy food choices, with resultant negative contributions to the community's physical and mental health.

Conversely, a built environment characterised by mixed uses, connectivity of both streets and transport networks, and a diverse array of densities and infrastructure that is designed to facilitate active transport such as cycling and walking, encourages physical activity and allows access to a diversity of goods and services, including healthy food. In turn, these qualities result in positive contributions to physical and mental health, the latter associated with feeling safe and socially connected within the neighbourhood.

The research is being undertaken in four diverse neighbourhoods in NSW – Victoria Park (located in inner urban South East Sydney), Rouse Hill (suburban north west), Airds Bradbury (suburban south west) and Renwick (in the Southern Highlands of NSW, about 100km from Sydney).

The project is being led by the Healthy Built Environments Program at the University of NSW, and the project partners are UrbanGrowth NSW (formerly Landcom), the National Heart Foundation and the South Western Sydney Local Health District.

2. AUDIT METHODOLOGY

In order to examine each case study site in relation to its effectiveness in supporting good physical and mental health, a Healthy Neighbourhood Audit Instrument was developed.

The instrument was designed to examine the critical determinants of health in the built environment, as identified in existing healthy built environments literature. The tool allows for an assessment and exploration of the context and design of each neighbourhood, through mapping of land uses and key features, infrastructure and design elements. It also records detailed environmental observations such as the use of, and movement through, different spaces, perceptions of safety, and the availability of different types of food – both traditional (such as supermarkets) and alternative (such as community gardens).

Audits were conducted during the week and on weekends, in daylight and at night. This enabled accommodation of the impact of temporal context. Each audit was primarily undertaken on foot, and complemented by additional windshield observations and use of existing Geographical Information Systems (GIS) data. The audits were completed by a team of interdisciplinary auditors, incorporating skills from their experience in urban planning, GIS and public health.

Data was collected on land uses, street networks and infrastructure and entered into a GIS application on an iPad on-site. Data from detailed observations were recorded via note taking on a paper copy of the Healthy Neighbourhood Audit Instrument. Each site was also recorded photographically in detail.

3. APPROACH TO REPORTING

This record is intended as a tool to inform further explorations of human behaviour within the built environment. It enables a detailed understanding of each study site.

The information presented in this report is a record of the site as observed by the auditors at the time of the audit. The data collected is detailed and rich. It is the culmination of over 20 hours of observations, assessments and mapping. Representing this data in a way that is useful, yet reflective of its depth and diversity, presents a substantial challenge. There is a need to present a meaningful assessment of the health-related elements of each environment, yet also an obligation to acknowledge the complexity of each site. This complexity relates to a number of factors. Firstly, built environments are dynamic. Each case study site is currently experiencing some form of development and as such the physical features and land uses recorded in this report are a snapshot of the environment mapped and perceived at a certain time. Secondly, the subjectivity of the auditors must be acknowledged. The Audit Instrument was designed to encourage the auditors to experience and immerse themselves within the case study sites. However, the auditors' experience of the site cannot be divorced from their position as an outside observer. Each variable reported is open to varying degrees of interpretation. Thirdly, the auditors were trained to consider how the site supported people of all ages and abilities, and therefore each element of the built environment was assessed in relation to how the most vulnerable and least able groups of society would use and experience it. In sections, auditors were also asked to reflect on how the site might support people of different sexual orientations, genders, religions and cultural backgrounds. These reflections were inevitably informed by the auditors' own attributes, genders, values and life experiences, again contributing to the complexity of data gathered using the audit tool. To simply map and quantify each built environment element would ignore these various elements of complexity. Indeed, such quantification would misrepresent the different spaces within each site as falsely homogeneous.

In light of this complexity, different formats have been used to report different variables. This flexibility has enabled a clear demonstration of the depth and diversity of data collected, allowing a consistent picture to be painted of each site in its unique and dynamic context. We consider this flexibility a prerequisite for accuracy in reporting of the results of studies that acknowledge both subjective and objective interpretations. The record is therefore presented here as a combination of maps, photographs and descriptive text. It comprises observations (such as the presence and type of certain physical features), subjective assessments of the quality of physical elements (such as the level of maintenance), and subjective observations based on auditor perceptions and feelings (such as sense of safety). A comprehensive rationale for the choice of format in the context of each specific variable is presented throughout the report.

4. SITE DESCRIPTION

Airds Bradbury is the site of a (predominantly) public housing estate – comprised of the entire neighbourhood of Airds, and part of the adjoining suburb of Bradbury – located approximately 2.5 kilometres southeast of the Campbelltown Central Business District (CBD), and around 55 kilometres southwest of the Sydney CBD. The neighbourhood, which is approximately 200 hectares in size, is bounded by Georges River Road to the north, the Georges River Parkway Reserve to the east, St Johns Road to the west, and Greengate Road to the south, as shown on Map 1 below. Before the Airds Bradbury Renewal Project commenced, the neighbourhood included around 1,200 public housing properties in Airds and 250 public housing properties in Bradbury – making the estate 95% public housing. It has been identified as one of the most socially and economically disadvantaged areas in Sydney (Urbis, 2015).



Map 1: Site boundaries of Airds Bradbury

The Airds Bradbury Renewal Project commenced in 2008. UrbanGrowth NSW (formerly Landom¹) is acting as development manager for the project, on behalf of landowners Landcom, Housing NSW,

¹ NB. UrbanGrowth NSW was established in 2013, replacing both Landcom and the Sydney Metropolitan Development Authority. In this report, 'Landcom' and 'UrbanGrowth NSW' will be used interchangeably. The organisation will be referred to as 'Landcom' when using sources or discussing activities from the time when they were so named; and will be referred to as 'UrbanGrowth NSW' when discussing current activities or using more recent sources.

Campbelltown City Council and the Department of Planning and Environment (formerly Department of Planning). The project involves a gradual but comprehensive renewal of the neighbourhood over a 15 – 20 year period, including a significant change in the ratio of public to private housing, from 95% public housing to 30% public housing (600 dwellings) and 70% private housing (1,400 dwellings) – a reduction of 65% in public housing stock (Woodhouse, 2011). This will be achieved by staged redevelopment of residential precincts, and sale of existing cottages to private owners (Woodhouse, 2011). As part of the new housing structure, a reported 1,100 new homes will be constructed, 300 of which will be public housing (Woodhouse, 2011). The project also includes improvements to the local shopping centre, open spaces and public domain; as well as the street network (NSW Land & Housing Corporation, 2013).

Planning History and Context

Airds Bradbury is one of the most disadvantaged neighbourhoods in NSW (Healthy People and Places Unit, South Western Sydney Local Health District, 2013). In 2010, Housing NSW and Straight Talk wrote that *'Weekly household incomes in [Airds Bradbury] are less than half the Sydney average; unemployment rates are five times the Sydney average; nearly 70% of the population have no formal qualifications and 40% of households are single parent families'*. Residents in Airds Bradbury also report higher rates of engagement in risk factors for chronic disease like smoking, high-risk alcohol consumption, physical inactivity and insufficient consumption of fruit and vegetables than in surrounding areas and NSW – and correspondingly, suffer from higher rates of chronic diseases such as cardiovascular disease, diabetes, respiratory disease and cancer (Healthy People and Places Unit, South Western Sydney Local Health District, 2013).

The majority of the Airds Bradbury estate was developed during the late 1970s and early 1980s, using Radburn design principles – the main features of which are the separation of pedestrian and vehicular movement; a curvilinear street network with clusters of houses in cul de sacs; and the facing of houses towards communal areas, with the rear of the house abutting the street (Duarte, 2011). As Duarte writes, *'...these characteristics when combined with low urban density, location on the outskirts of cities and poor connection to major community facilities have created housing estates that isolate communities and enable negative uses. Radburn designs are not only unresponsive to people's needs, they also generate further needs'* (Duarte, 2011).

The Renewal Project was initiated as a means to address the physical and social barriers within the neighbourhood, through creating a 'sustainable mixed income community' and improving housing, the street network, open space and the town centre (NSW Land and Housing Corporation, 2013; Housing NSW and Straight Talk, 2010). At the centre of the project was a commitment to 'meaningful community engagement', to ensure that the renewal is a 'resident-owned' process and *'...brings residents on a transformational journey and builds connectedness in the community, giving residents hope for the future and building momentum for change'* (Housing NSW and Straight Talk, 2010).

The stated aim of the project is to make Airds Bradbury a 'great place to live', by improving homes and public spaces; improving services and opportunities available to residents; and supporting the community to build on its existing strengths (Kougious et al, 2009). The project has three core components: the development of a new Master Plan (completed in 2012); upgrading of public housing properties, and sale of these properties as they are vacated through the rehousing program; and improving opportunities for residents through implementation of the Airds Bradbury People's

Plan (Kougious et al, 2009). Table 1 below provides a timeline of key development milestones for the project, as well as items of historical significance.

1970s/80s	The Airds Bradbury estate was established.
1990s	Housing NSW commenced a process of renewal in Airds Bradbury.
2002	A draft master plan for part of the estate was prepared. Limited community consultation was undertaken, and the master plan was not adopted and promised improvements were not delivered (Housing NSW and Straight Talk, 2010).
2005	Following extensive community input, the Airds Bradbury People's Plan was developed.
2008	The People's Plan was reviewed and subsequently adopted by resident groups, local service organisations, and linked to Campbelltown City Council's Social Plan (The Airds Bradbury People's Plan – Interim Strategies, June 2009-June 2011).
2009-10	The consultation process for the Renewal Project, branded OutLOUD, commenced. The first event, Airds Bradbury OutLOUD, was held in June 2009, followed by Walk OutLOUD in September 2009 and Design OutLOUD in May 2010.
2010	The OutLOUD community consultation process was recognised by the International Association for Public Participation as Project of the Year
2011	The NSW Government announced that it was seeking expressions of interest in a Public Private Partnership for the Airds Bradbury Renewal Project. Heather Nesbitt Planning and Community Dimensions completed an Integrated Social Sustainability and Health Impact Assessment on the Airds Bradbury Renewal Plan.
2012	The Airds Bradbury Concept Plan was assessed and approved by the Minister for Planning. A Development Application for Stage 1 was submitted to Council and placed on public exhibition.
2013	The NSW Government announced that it had terminated the expressions of interest process for the Public Private Partnership <i>'after carefully assessing the expressions of interest received and considering the current market situation'</i> (NSW Land & Housing Corporation, 2013). While it is possible that alternative procurement options for the project will be explored in the future, in the meantime, the project continues to be implemented by the NSW Land and Housing Corporation and Housing NSW, in partnership with UrbanGrowth NSW (NSW Land & Housing Corporation, 2013).
2015	Landcom established a Sales and Information Centre and announced the release of 36 lots in Airds, as part of the 'Newbrook Estate' . All of these lots were reportedly purchased within hours of being released (Macarthur Advertiser, 2015).

Table 1: Timeline of planning and development milestones

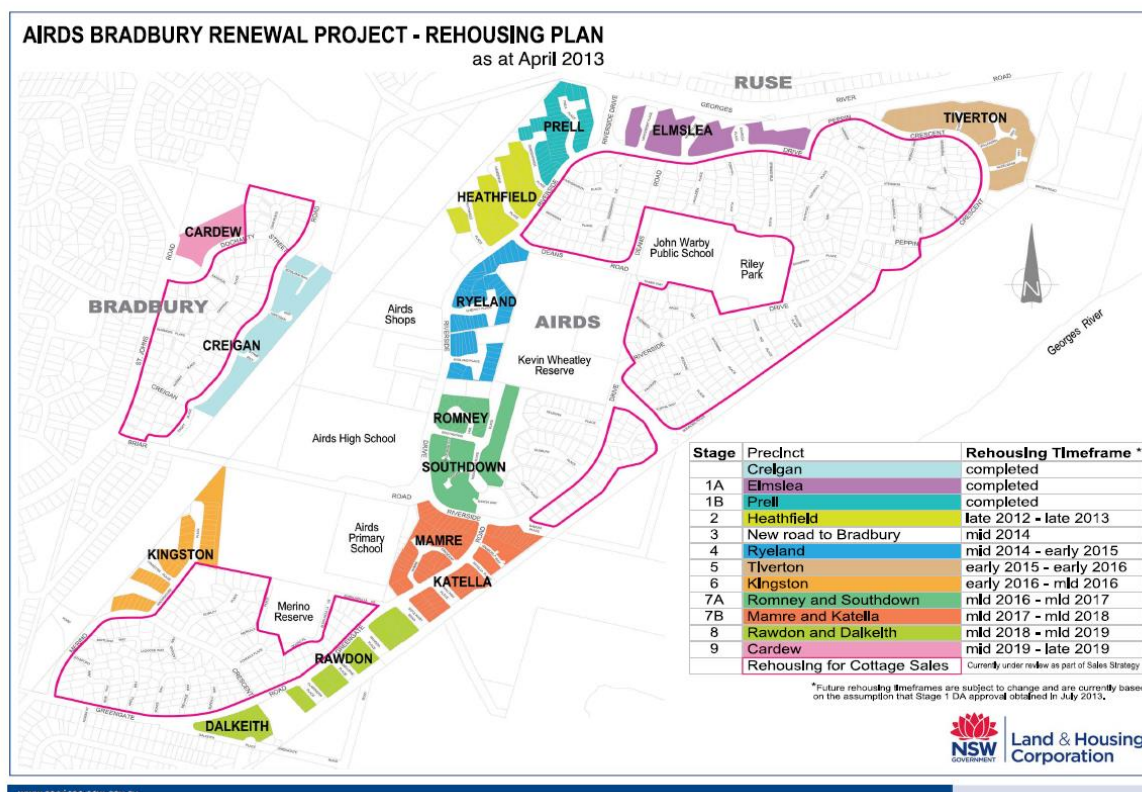
The Airds Bradbury Concept Plan is shown below at Map 2. The plan includes proposals for the following changes to the neighbourhood:

- The construction of approximately 1,100 new homes, 300 of which will be social housing;
- New road entrances to the neighbourhood via Georges River Road and Campbellfield Avenue, and new roads within the site to enable better connections;
- Improvements to the local shopping centre – making it the 'heart' of the community;
- Conservation of important bushland; and
- Relocation of two playing fields from Kevin Wheatley Reserve to a new park, and improvements to Riley and Merino Parks (NSW Land & Housing Corporation, 2013).

Map 2: Airds Bradbury Concept Plan (as at February 2011)



The most recent Rehousing Plan for the Renewal Project is shown at Map 3 below. This reflects the status of the site at the time of the audit.



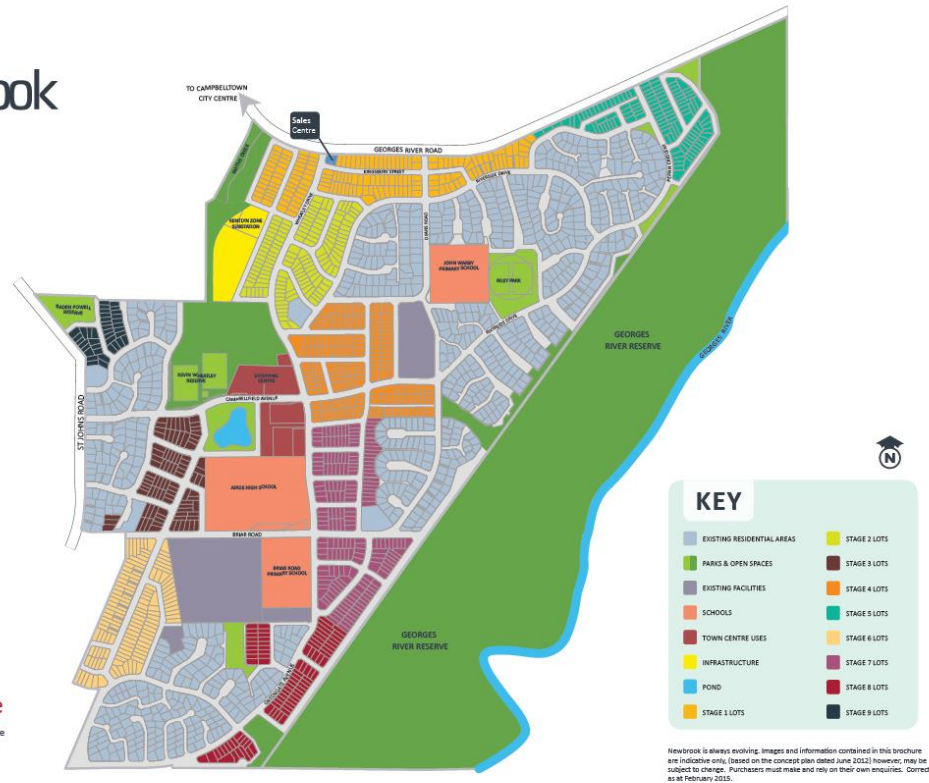
Map 3: Airds Bradbury Renewal Project Rehousing Plan (as at April 2013)

In October 2014, it was announced in the Macarthur Advertiser that bulk earthworks were underway at Airds, to level the site for the construction of the Sales and Information Centre and roadworks (Fenech, 2014). This signalled the commencement of construction and sale of land for the 'Newbrook' estate at Airds. In the Macarthur Advertiser, the project was described as a partnership between Family and Community Services (formerly the Department of Housing) and UrbanGrowth NSW. Stage 1 of the project is to include 190 lots. 150 of these lots will be subject to private sale, while 40 will be retained for public housing (Fenech, 2014).

The Master Plan for Newbrook, shown at Map 4 below, was published in 2015. On the Landcom website, land is advertised as being priced from \$230,000 to \$280,000, with an average price of \$265,000, on lots ranging from 345m² to 595m² (Landcom, 2015). It is noted that a Housing Affordability Rebate of \$20,000 will be available to [eligible purchasers](#) (Landcom, 2015).

Welcome to your new home

Sitting alongside the Georges River Reserve, close to Campbelltown's shops, schools and transport services, you'll uncover Sydney's newest neighbourhood. Welcome to Newbrook.



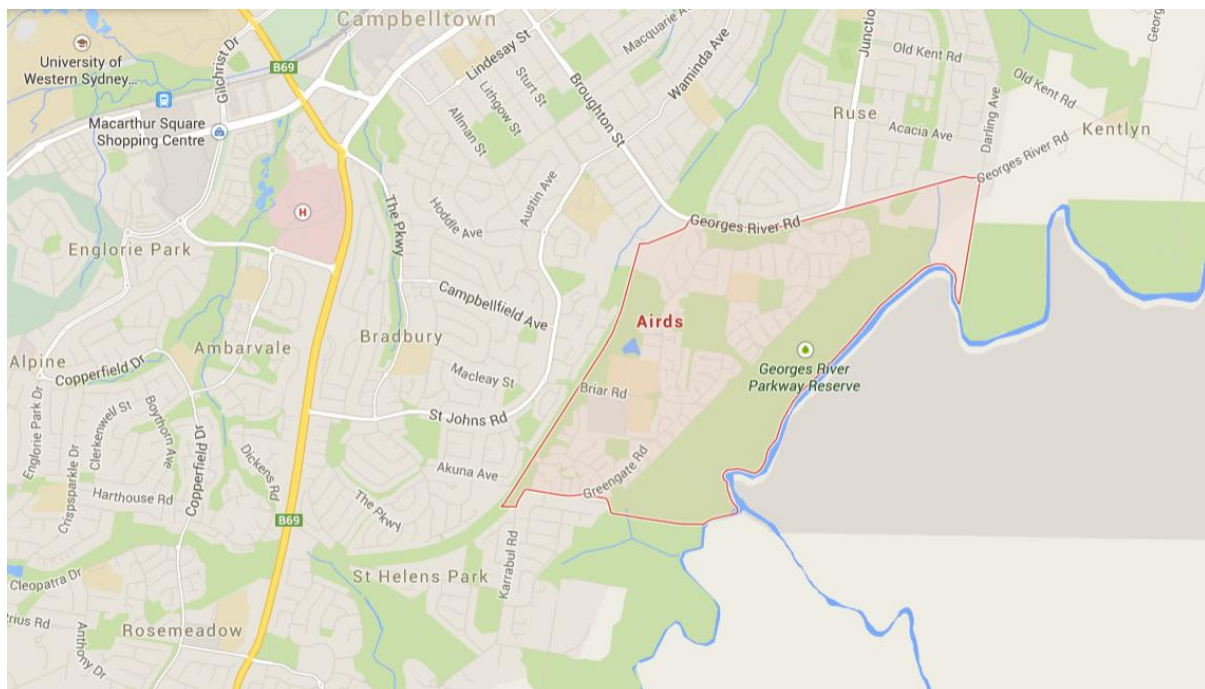
Map 4: Newbrook at Airs Master Plan (Source: Landcom)

In an article in the Macarthur Advertiser on 24 March 2015, it was reported that on the weekend of 21 and 22 March 2015, all 36 lots included in the Newbrook estate's first land release were sold within a few hours (Macarthur Advertiser, 2015). Matthew Beggs, Acting head of transition: retail development at UrbanGrowthNSW, was interviewed for the article, and described the project as *'...priced and positioned to attract first-home buyers and families. The master-planned community is surrounded by a natural bushland environment and features extensive community facilities inside and surrounding the project'* (Macarthur Advertiser, 2015). The Newbrook estate is being promoted as a 193 hectare planned community with three parks, barbeque facilities, a central pond, cycling and walking paths and a community facility for recreational activities (Macarthur Advertiser, 2015).

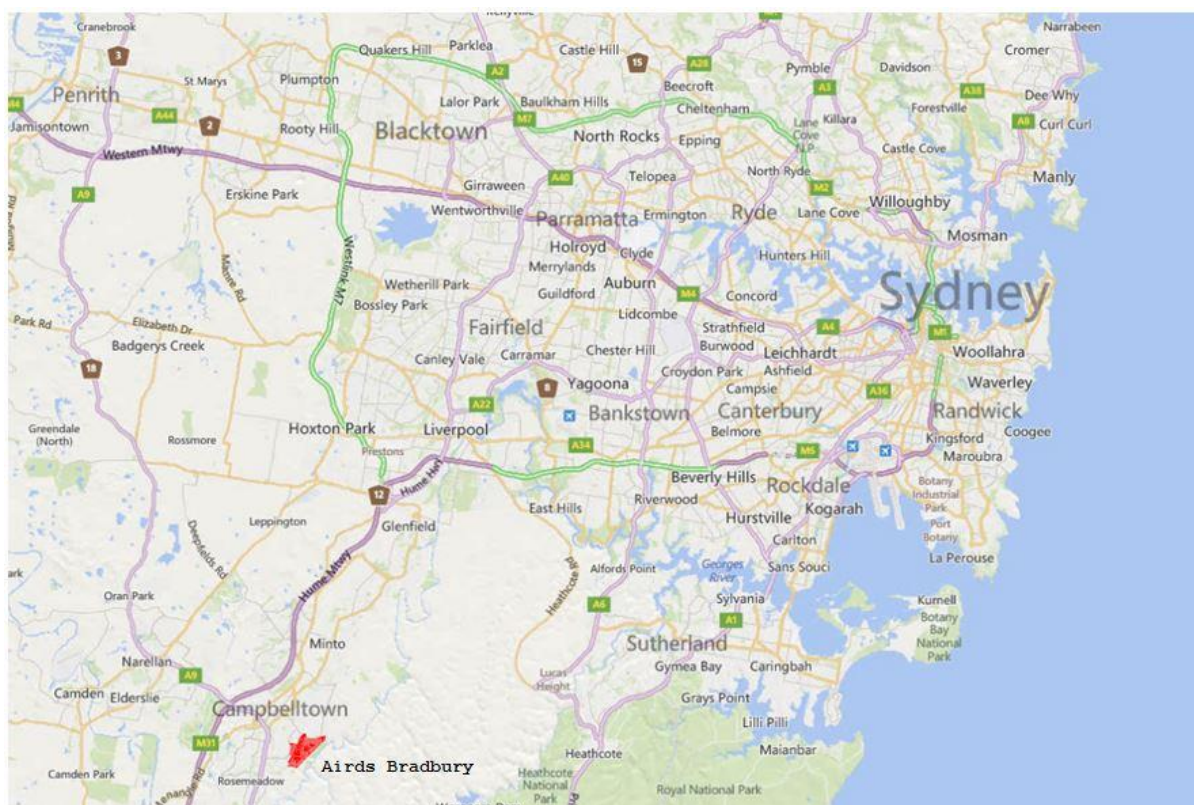
5. RELATIONSHIP OF THE SITE TO THE BROADER LOCALITY

The audit instrument provides for the consideration of how the site relates to the broader area in terms of access, transport, and use of shops and services. The auditors were asked to identify public transport nodes surrounding the site, and the relationship between those nodes and public transport services within the site, as well as take note of the location and accessibility of key services, shops and destinations surrounding the site.

As illustrated on Map 5 below, Airds Bradbury is surrounded by the suburbs of Ruse and Kentlyn to the north; St Helens Park and Rosemeadow to the south; Ambarvale, Glen Alpine and Englorie Park to the west; and Campbelltown to the north west. The Georges River Parkway Reserve runs along the entire eastern side of the site. Further afield, Camden is located approximately 16 km to the west of the neighbourhood. Map 6 below shows the location of Camden and other key centres, including the Sydney CBD, in relation to Airds Bradbury.



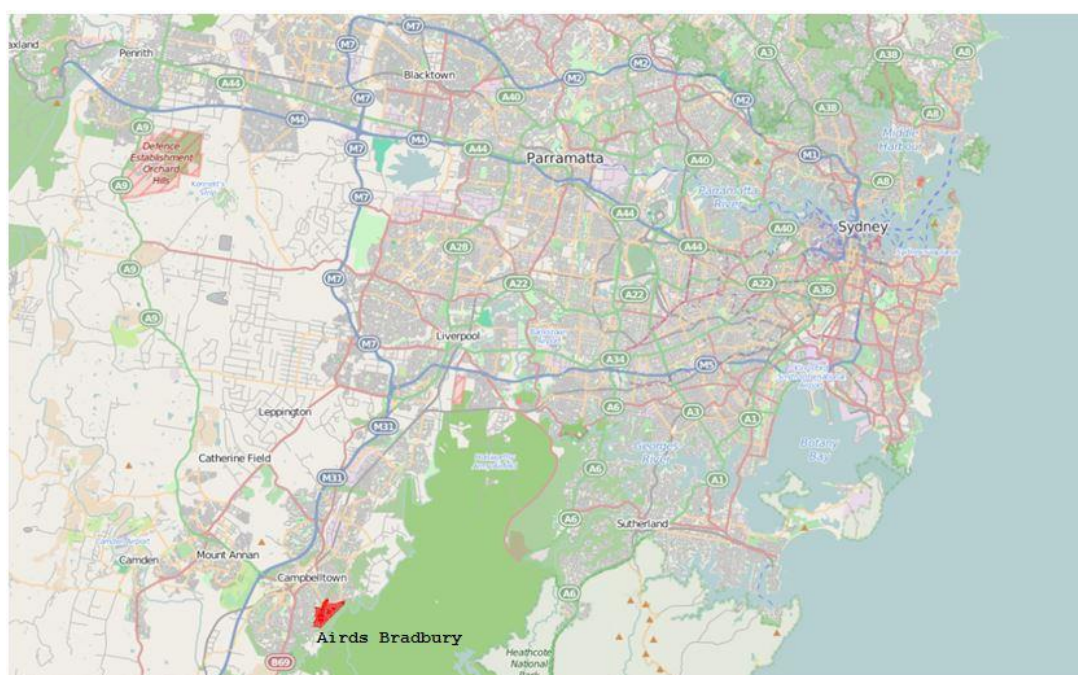
Map 5: Airds Bradbury and surrounding suburbs



Map 6: Location of key centres in relation to Airds Bradbury

Campbelltown is a key centre for retail, education, employment, services and transport. From observations made by the auditors, the bus network in Airds Bradbury - though in many respects insufficient - provides adequate access to the shopping centres, hospital and train station in Campbelltown. Access to other surrounding areas (e.g. St Helens Park) is also provided, but on a more limited basis. This will be described further in Section 11.

The major roads and motorways surrounding Airds Bradbury are shown on Map 7 below.



Map 7: The regional transport network surrounding Airds Bradbury

6. AUDIT PARTICULARS

The site was assessed on the following dates:

DATE AND TIMES	HOURS	WEATHER AND SPECIAL CONDITIONS
Friday 8 June 2012, 10am – 2.30pm	5.3	Sunny, around 15 degrees.
Wednesday 27 June 2012, 10am - 3pm	5	Partly cloudy, 15 degrees. Teachers' strike day; some schools on holidays.
Friday 20 July 2012, 10am – 3pm	5	Sunny, 10 degrees.
Monday 27 August 2012, 5.30 – 7.30pm	2	Cool and clear, 16 degrees.
Tuesday 13 November 2012, 7.20 – 8.40pm	1.1	Overcast, 19 degrees.
Saturday 6 July 2013, 2.30- 4.00pm	1.5	Sunny, around 16 degrees, cool breeze. Undertaken in the middle of school holidays.
TOTAL:	20 hours and 30 minutes	

7. LAND USE



Map 8: Land uses in Airds Bradbury in 2010 (Source: Housing NSW)

Map 8 above illustrates the different land uses in the neighbourhood, as well as land ownership, as it was in 2010. Houses under private ownership are shown outlined in red, while Housing NSW owned properties are shown in shades of brown and beige. Two new seniors' housing developments are shown outlined in blue.



Map 9: Land uses in Airds Bradbury, as identified in the audit

Map 9 shows the different land uses identified at the time of the audit. Types of housing, green spaces, vacant areas and key landmarks are shown on the map. The different uses are described further in the sections below.

▪ Residential density and types of housing

The dominant land use throughout the neighbourhood is residential – predominantly, one storey detached dwellings on fairly large blocks, set well back from the street, with large front yards and porches. There are also a significant number of townhouses and several apartment blocks, including two newly developed blocks of seniors' housing units. Large sections of former housing have been demolished as part of the redevelopment project and, at the time of the audit, stood vacant.

The different housing types are shown in the images below, which were taken during the audits.



Townhouses on Riverside Drive, in between Cheviot Place and Deans Road; and on Mamre Crescent (images taken 08.06.12)



Close up of townhouse on Riverside Drive, in between Southdown Place and Ryeland Place (image taken 08.06.12)



Existing seniors' housing complex on the corner of Riverside Drive and Heathfield Place (image taken 08.06.12)



Detached housing on the corner of Peppin Crescent & Yarrawin Way; and Peppin Crescent & Bundemar Way (images taken 08.06.12)



Housing on Waterhouse Place; house with a well-maintained garden on Riverside Drive near Foxlow Place (images taken 08.06.12)

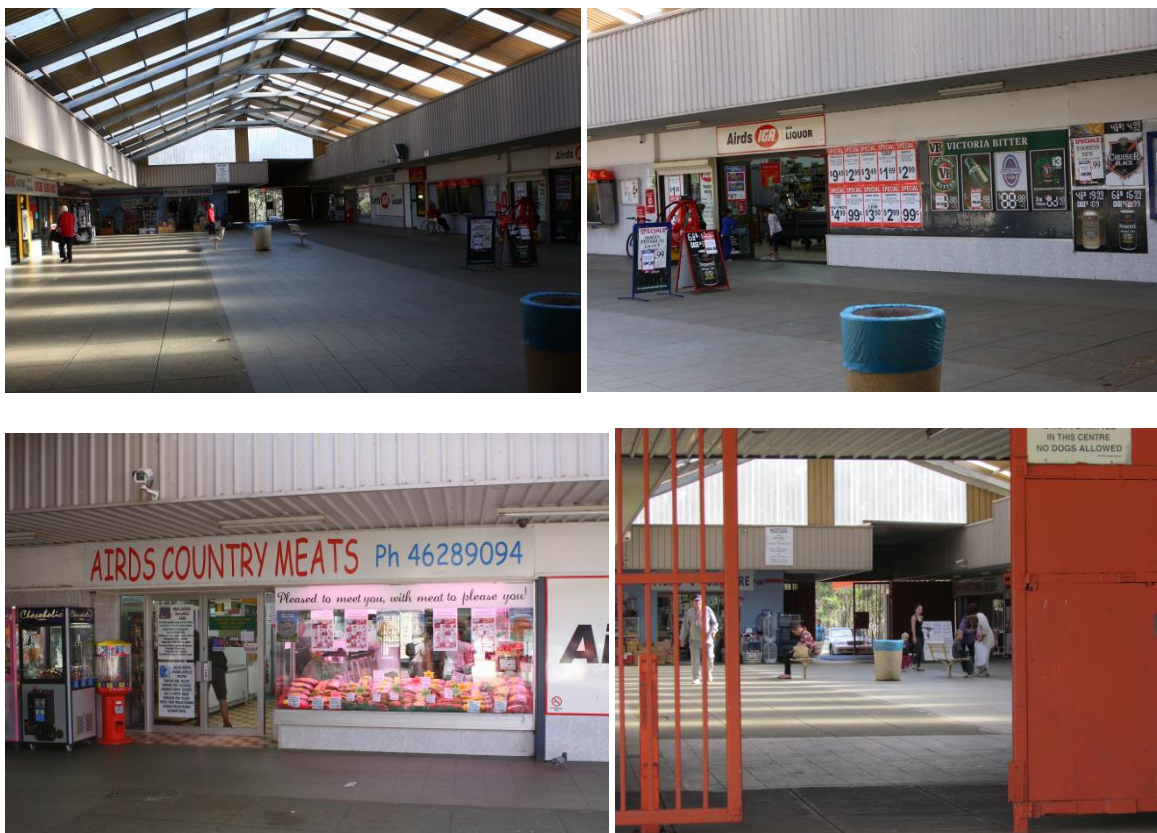


New seniors' living units on Riverside Drive, near Samuel Place and Saxon Way (at top and bottom L); and at Croft Place (bottom R) (images taken 08.06.12; 27.06.12)

▪ Retail and commercial development

Retail and commercial land uses are centralised, and very limited in terms of variety and quality. The retail hub consists of Airds Village Shopping Centre, a pub called the Riverside Inn and a BP service station, all located off Riverside Drive. At the time of the audits, shops inside Airds Shopping Centre included: an IGA supermarket; a newsagent; a bakery; a milk bar; a hair and beauty salon; a pharmacy; a few homewares/variety stores; a Chinese takeaway store; and a charcoal chicken store.

The shopping centre is uninviting, and has little variety and amenity, as shown in the images below. The auditors did not observe high numbers of patrons passing through the centre during the week, although this number was higher on the weekend. It is assumed that the majority of residents would travel to Campbelltown to do their weekly grocery shop, and would only utilise Airds Village Shopping Centre for small purchases.



Interior of Airds Village Shopping Centre on Riverside Drive (images taken 08.06.12; 02.06.11)



Exterior of Airds Village Shopping Centre (images taken 02.06.11)



The Riverside Inn, and BP service station (images taken 02.06.11)

Commercial and food access is described further in Section 9 below.

■ Recreational facilities and spaces

There is a significant amount of open space and natural bushland within the neighbourhood, however, few additional amenities have been added (i.e. landscaping, paths, benches etc.), and existing playground equipment is in disrepair. The different open spaces are described further below.

The images below show the easement that runs through the site, from the north-west corner to the south-west corner. This easement is bounded by Georges River Road, Creigan Road, Merino Crescent and the Airds Shopping Centre and commercial uses. The easement is in place to allow for energy and drainage infrastructure to pass through the site. The space currently presents as bushland and vacant space, however, there is a concrete pathway from Creigan Road through to the Airds Shopping Centre that is well used by residents (shown below).



Easement through the site (images taken 02.06.11)



(L) Pathway from Creigan Road to the Airds Shopping Centre; (R) Open space connected to easement on Riverside Drive, adjacent to Airds Village Shopping Centre (images taken 27.06.12; 08.06.12)

Merino Reserve is located in the south-east portion of the site, in the middle of several cul-de-sacs and loop roads including Burundulla Crescent, Douro Place, Foveaux Place and Murulla Place. The Airds Bradbury Men's Shed and WorkVentures Connect are located nearby, adjacent to Burundulla Crescent. The children's play equipment provided in the reserve is shown in the image below. The simple slide and seesaw are in a state of disrepair, and are not accompanied by any seating, shade structures or other amenities. The remainder of the reserve is made up of clear green space, with no additional amenities. Mature trees around the perimeter of the reserve provide an element of shading.



Play equipment in Merino Reserve, near Douro Place (images taken 08.06.12; 20.07.12)

Kevin Wheatley Memorial Reserve is located centrally within the site, in the middle of the ring road that is Riverside Drive. Kevin Wheatley Memorial Reserve is the largest park in Airds Bradbury. Its features – including playing fields, play equipment, and a community art project - are documented in the images below.



Play equipment in Kevin Wheatley Memorial Reserve near Deans Road (image taken 08.06.12)

The play equipment shown above was not considered by the auditors to be of high quality or appeal. As with the play equipment in Merino Reserve, there were no shade structures, benches or additional amenities co-located with the slides, climbing frame and swings. The equipment was old and in parts covered with graffiti. The auditors did not observe any children using the equipment, nor any groups of people gathering in this area.



Images of 'The Monster', a community art project in Kevin Wheatley Reserve (images taken 08.06.12)

The community art project known as 'The Monster' is shown above. During the weekend audit on Saturday 6 July 2013, groups of primary school and early high school age children were seen sitting and socialising at The Monster. The bench shown in the image above is the only additional amenity in this section of the Reserve. Though it has been painted to match the sculpture, the bench is of poor quality and does not address seating needs.



Images of Kevin Wheatley Memorial Reserve (images taken 08.06.12)

The image above on the left shows the playing fields in Kevin Wheatley Memorial Reserve. During the audits, these fields were not in use. The image above on the right shows concrete blocks placed between the park and Teeswater Place to deter vehicles from entering the park.

As noted above, one of the core elements of the Radburn neighbourhood design is the facing of houses towards communal areas. The images below show Brindley Park, a small green space in between Kelburn Place, Olbury Place, Cavan Place, Southdown Place and Teeswater Place, which connects to Kevin Wheatley Memorial Reserve; and an unnamed green space in between Lacocke Way and Ponds Way. These spaces are indicative of the small green spaces dotted throughout the neighbourhood. Often during the audits, as shown below, there were collections of rubbish and discarded objects, and in some areas concrete blocks had been set up to discourage vehicle entry into the spaces.



Brindley Park, adjacent to Teeswater Place (image taken 08.06.12)



Green space in between Lacocke Way and Ponds Way (image taken 20.07.12)

Baden Powell Reserve is located in the north-west corner of the site, and can be accessed via a footpath off Docharty Road. This reserve is an open green space with no added amenities. The auditors did not observe anyone using this space during the audits.



Baden Powell Reserve (image taken 27.06.12)

Riley Park is located off Riverside Drive, near Davidson Place, and adjacent to John Warby Public School. This park has playing fields with soccer goals, and a club house. There is a small car park attached to the park. During the weekend audit on Saturday 6 July 2013, the auditors observed a

game in process, with a group of people watching on the sideline, as shown below. Spectators were required to bring their own chairs, as there are no benches or additional amenities provided in the space.



Soccer match at Riley Park (images taken 06.07.13)

The Georges River Parkway Reserve runs along the eastern boundary of the site. This is an extensive area of natural bushland, with the Georges River running through it. The auditors did not conduct an assessment of this Reserve, as it was outside the neighbourhood boundary. However, as shown below, in areas the entrances to the bushland were littered with rubbish.



Tracks leading into the Georges River Parkway Reserve from Brush Way; and between Hazeldean Way and Willandra Way (images taken 29.06.12)

Airds Pond (shown below) is located behind Airds Bradbury Central and Airds High School, off Riverside Drive, and is connected to the easement that runs through the site. In 2008, the Pond was subject to a rehabilitation program, comprising an extensive clean up and landscaping improvements spearheaded by the Community Changemakers (with support from Housing NSW, Landcom and Campbelltown City Council) ([Housing NSW, 2008](#)). The Pond now has a walking track, an amphitheatre, and a number of public art installations, making it a high amenity area. There are also a number of benches in the area.



Airds Pond (images taken 06.07.13; 02.06.11)

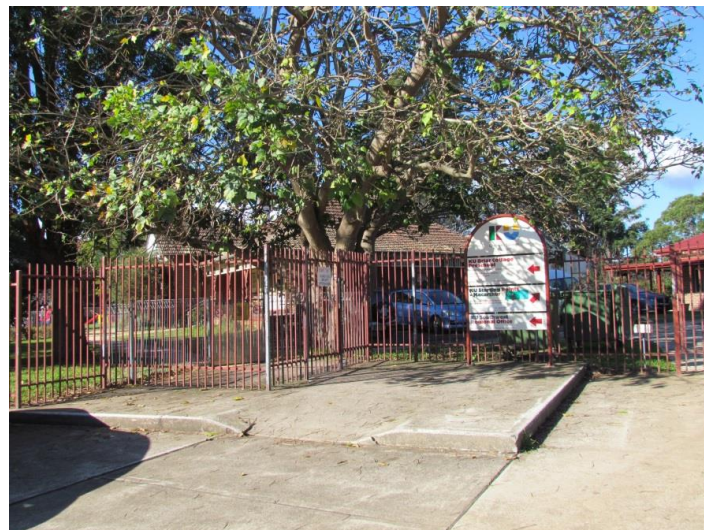
▪ Institutional/services

Three schools and a juvenile detention centre are key features of the neighbourhood, and hubs of activity. The schools, shown in the images below, are Briar Road Public School (<http://www.briarroad-p.schools.nsw.edu.au/years>), Airs High School (<http://www.airds-h.schools.nsw.edu.au/>), and John Warby Public School (<http://www.johnwarby-p.schools.nsw.edu.au/>). John Warby Public School is located towards the north-east of the site, in between Kevin Wheatley Memorial Reserve and Riley Park, while Airs High School and Briar Road Public School (shown below) are co-located with the Reiby Juvenile Justice Centre (shown below) towards the south-west of the site.



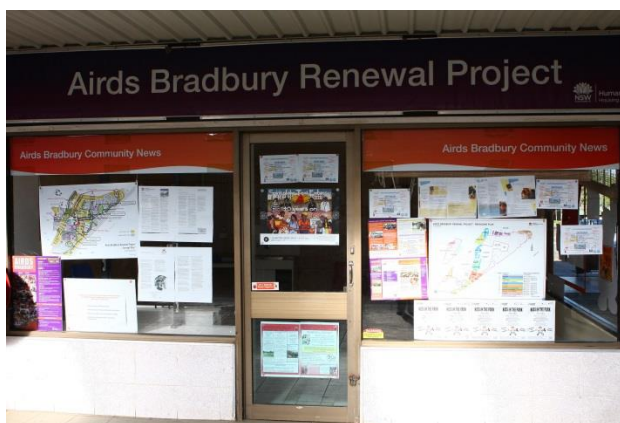
Briar Road Public School and Reiby Juvenile Justice Centre (images taken 08.06.12)

There is also a preschool facility called Briar Cottage Preschool (shown below) on Waterhouse Place, in the same area as the Juvenile Justice Centre and schools.



Briar Cottage Preschool on Waterhouse Place (image taken 08.06.12)

As noted above, retail and commercial uses are very limited and as such, services are minimal. There is a medical centre in the Airs Village Shopping Centre (shown below). There is also a pharmacy, Australia Post store, and an office for the Airs Bradbury Renewal Project.



Medical Centre and Airds Bradbury Renewal Project display space in Airds Shopping Centre on Riverside Drive (images taken 08.06.12)

▪ Community facilities and uses

There are a number of community facilities and uses within the neighbourhood. The most prominent of these is Airds Bradbury Central (shown below), a community centre through which the Housing NSW Airds Bradbury Renewal Team operates. Some of the community projects undertaken by the Renewal Team in conjunction with local residents and other agencies include: a community market; a weekly fruit and vegetable co-operative for residents; establishment of a Men's Shed (described below); landscaping and public art works around the Airds Pond; and support for local volunteers through the [Community Change Makers](#) program (Housing NSW, 2014). The centre itself has meeting rooms, a hall and a canteen.



Airds Bradbury Central (images taken 02.06.11)

The images below show vacant housing on Byrne Way, in an area where the majority of housing has already been demolished, and which was used at the time of the audit as office space for the Renewal Project. Adjacent to the temporary office space, concrete blocks were placed at the perimeter of the vacant land to create a barrier and prevent vehicles from accessing the space. These blocks were painted as part of a community art project.



Vacant housing on Byrne Way, used as office space for the Airds Bradbury Renewal Project; a community art project on Byrne Way adjacent to the office space (images taken 27.06.12)

A youth centre is located off Riverside Drive, next to the Airds Village Shopping Centre. There is a basketball court located to the rear of the centre, and a community garden inside the fence.



Youth Centre on Riverside Drive adjacent to Airds Shopping Centre (images taken 08.06.12; 06.07.13)

There is one religious institution in the neighbourhood – [St Andrew's Anglican Church](#), located on the corner of Riverside Drive and Ravensworth Place. Church services are held every Sunday.



St Andrew's Anglican Church, on the corner of Riverside Drive and Ravensworth Place (image taken 08.06.12)

The Airds Bradbury Community Centre is located on Riverside Drive, in between Southdown Place and Ryeland Place. The auditors were unable to find information about services and opening hours at this Centre at the time of the audits, and through subsequent online searches.



Airds Bradbury Community Centre on Riverside Drive, in between Southdown Place and Ryeland Place (image taken 08.06.12)

[Tharawal Aboriginal Corporation](#), an Aboriginal community controlled health service, is located next to Kevin Wheatley Memorial Park, off Riverside Drive. Programs provided through the Corporation include: family support services; child care; counselling and support services for survivors of the Stolen Generation; nutrition, physical activity and smoking cessation; and general and specialist medical services.



Tharawal Aboriginal Corporation, next to Kevin Wheatley Memorial Park off Riverside Drive (image taken 08.06.12)

The [Airds Bradbury Men's Shed](#), located on Greengate Road, opened in 2010. Members of the Men's Shed meet on Monday, Wednesday and Friday, from 9am – 2pm. Activities undertaken by the members include woodworking, metal turning, lawnmower and whipper snipper repairs, construction of trailers for use in the community, reconditioning of bicycles for Indigenous children in foster care, and management and care of a community garden. The Shed and the garden are shown in the images below.



Airds Bradbury Men's Shed (images taken 02.06.11; 23.05.14)

[WorkVentures Airds Local Enterprise Centre](#) is located on Greengate Road, next to the Men's Shed. The Centre is open Monday to Thursday, from 8.30am – 4.30pm. The Centre provides free courses and activities to residents in the local community – including computer classes, adult numeracy and literacy classes, a craft club, coffee club, community garden (shown below) and free computer use.



Greengate Community Garden at WorkVentures Connect Centre on Greengate Road (image taken 08.06.12)

▪ Future development

As described in Section 4, the redevelopment project involves significant demolition of existing housing stock, and construction of new housing. The images below show vacant housing boarded up and ready for demolition; and vacant land where housing has already been cleared.



Vacated housing marked for demolition on Gundowringa Place (08.06.12)



Vacant land in between Croft Place and Byrne Way (image taken 27.06.12; 29.06.12)

At the time of the audit, much of the redevelopment was still to come - the first stage of the demolition and rehousing program had been completed, and the second stage was underway. Future development will include new housing in several precincts, as well as improvements to the shopping centre, and reconfiguration of open space, as shown on the Concept Plan and Master Plan for Newbrook provided in Section 4. Construction of roadworks and a Sales and Information Office commenced in 2015.

8. USE OF PUBLIC SPACE

The auditors were asked to take note of the number of people present in the locality at the time of the audit, and pay particular attention to specific spaces that seemed to be popular for different demographics. They were also asked to consider the form and style of residential, institutional and commercial buildings in the neighbourhood, and particularly note if the built form provides opportunities for passive surveillance, through allowing people to overlook the street; encourages pedestrian activity; and relates to the human scale.

The auditors found that design of buildings is mainly at the human scale – houses typically address the street, with large setbacks, gardens and low fences. However, the buildings and their uses do not overtly encourage pedestrian activity. The streets are mainly residential, and unless walking to or from the shops and Airds Bradbury Central, open spaces or schools, there are few destinations. The auditors experienced a sense of feeling like intruders when walking around the residential streets, particularly in the cul-de-sacs which do not have footpaths and project an air of privacy.

The amenity of the streets was generally quite pleasant – apart from occasional very loud traffic noises (i.e. from people driving vehicles or motorcycles aggressively) the most notable sound the auditors heard while walking along was birdsong. There were occasional drainage issues (i.e. some streets had flooded kerbs and nature strips were waterlogged), and it was not uncommon to come across litter and broken glass on the paths. Most of the houses were well-maintained with lovely gardens. However, poorly maintained residences, rubbish and debris on footpaths and in the street, and barking dogs encountered as the auditors made their way around the neighbourhood occasionally contributed to a sense of hostility and insecurity.

When the auditors observed people moving about in the area on the weekday audits, they seemed to predominantly be walking to or from destinations such as the shopping centre or Airds Bradbury Central (for example, as evidenced by the presence of shopping bags) or, to a lesser extent, for recreation (e.g. walking the dog). Groups of people were also observed waiting at bus stops, mainly parents with young children.



Residents walking along Riverside Drive, in between Southdown Place and Ryeland Place (image taken 08.06.12)

When completing the weekend audit, the auditors found that there were many people out and about in the neighbourhood. Several people of all ages (seemingly family groups) were observed

coming and going from Airds Bradbury Central (i.e. about 5-6 car loads), while others were seen walking through the Pond area to get to the shops, and coming and going from Riverside Inn. One man and a young child were seen riding bicycles at Airds Bradbury Central. There was a small group of people “hanging out” inside the arcade at the shopping centre. People were also seen inside the various stores purchasing goods. Many young children were seen on the streets (especially cul de sacs) in small groups, with bikes and scooters. Sometimes adults were also on the streets supervising. A group of adults were observed congregating on the footpath on Peppin Crescent, with beverages. Groups of primary school and early high school age children were seen sitting in groups (e.g. at The Monster in Kevin Wheatley Reserve, near Ryeland Place; on blocks placed at the end of Southdown/Teeswater Place). Two dirt bike riders were seen driving along Riverside Drive near Peppin Crescent at speed and doing tricks (i.e. riding with front wheel up in the air); and the auditors also came across young children riding dirt bikes illegally around the green space adjacent to Falkiner Way and Tuppal Way. Many people of all ages were seen walking along the footpaths – on their own, or in groups, often with children in prams. These people were often observed with shopping bags. Two people with a young child were seen waiting at the bus stop on Briar Road. Large groups of people were playing and watching soccer at Riley Park. Two people (a man and a woman) were also seen tending the community garden at the former Nowland Way (off Creigan Road). The auditors also noticed that there were many cars parked near the John Warby Public School, presumably for a community function. It was not known which community group was using the school’s facilities.

The new aged housing developments provide fairly good opportunities for natural surveillance – with balconies and windows overlooking the street. The older detached dwellings also address the street and most have porches. When walking through the streets, the auditors observed many people sitting on their front porches or pottering about in their front yards (as shown in the image below). This behaviour provides opportunities for passive surveillance, and may impact on feelings of safety in the area.



Example of passive surveillance, on the corner of Peppin Crescent and Riverside Drive (image taken 08.06.12)

By contrast, the shopping centre is closed off with no outlook. The juvenile detention centre is set well back from the street, behind wire fencing and does not present any opportunities for natural surveillance.

9. FOOD ACCESS

The audit included an assessment of local stores and other sources of food. In addition, a separate study led by project partner South Western Sydney Local Health District was undertaken to investigate access to - as well as availability, quality and diversity of - healthy food in the case study sites, and the 20 highest and lowest socioeconomic areas in NSW (according to the Index of Relative Socioeconomic Disadvantage for postal areas). Overall, 100 supermarkets and 20 farmers' markets were assessed across NSW. A description of the methodology and results for the assessment of supermarkets is provided in this section, while the outcomes of the farmers' markets element of the study are detailed further below.

The supermarket tool was a market basket survey (provided at Appendix B). This involved collecting information on the cost of 44 staple food items, together with availability of 30 fresh fruits and vegetables, and the quality and cleanliness of 10 varieties of fresh fruit and vegetables. Food costs were recorded using the Victorian Healthy Food Basket Survey (Palermo and Wilson, 2007), while the availability and quality of fresh fruit and vegetables was assessed using the Queensland Healthy Food Access Basket (Queensland Health, 2002). The two major Australian supermarket chain stores, a large discount supermarket chain and independent grocery stores were included in the survey. Boutique grocery stores, butchers, greengrocers and online supermarkets were excluded from the study.

The food assessment tools were pilot tested and data collectors underwent training to ensure accurate and consistent ratings. The market basket survey was completed within a two week period during October 2012. This minimised the potential for seasonal variation in the price and quality of foods, especially fruits and vegetables.

Data was analysed using SAS Enterprise Guide 5.1. Significance testing of the differences between basket costs, quality and quantity were conducted using non parametric methods.

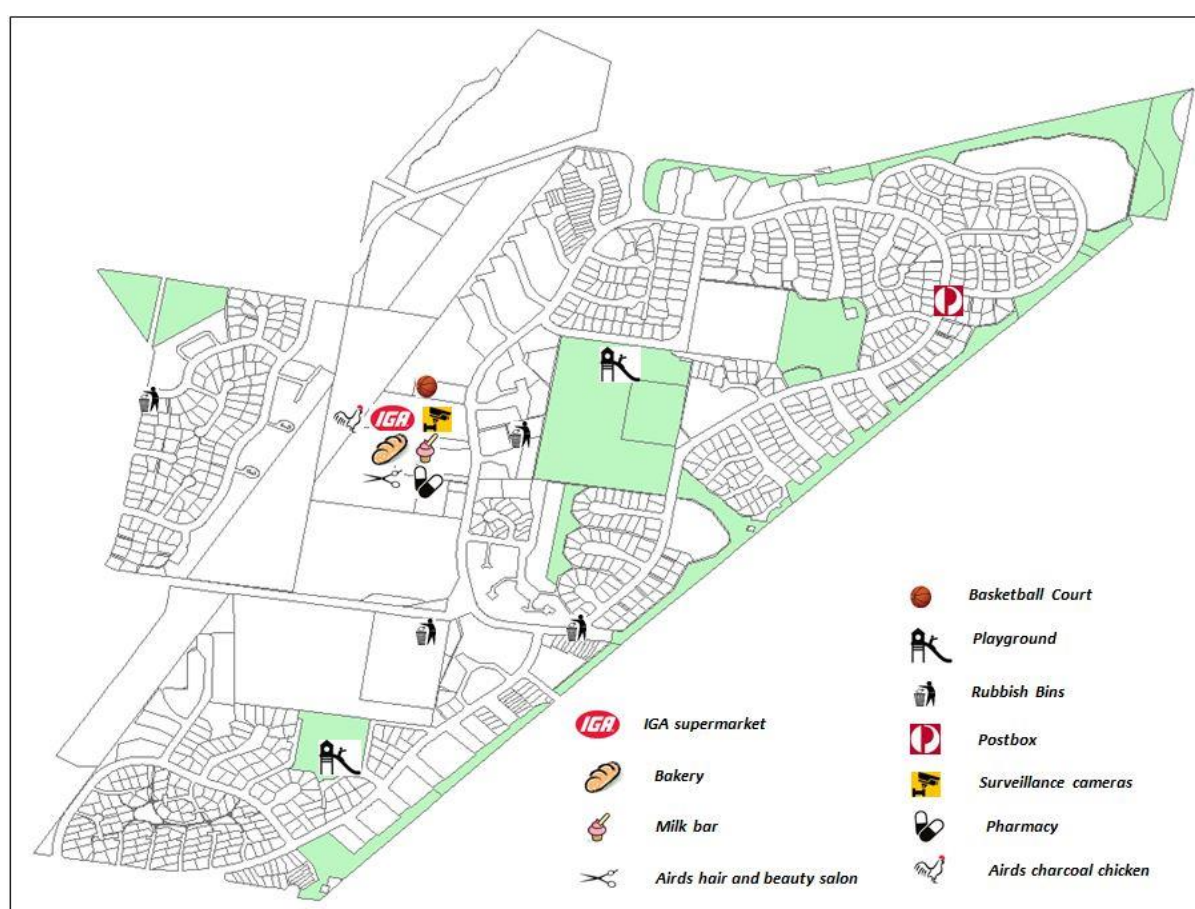
■ Commercial shops

The Airds Village Shopping Centre, as described in Section 7 above, is limited and uninviting, and there is little variety in the products available and little amenity in the shopping centre itself. There is not a sufficient mix of retail to serve the local community. There are no cafes or restaurants in the retail precinct, apart from the pub.



Butcher in Airds Shopping Centre on Riverside Drive (image taken 08.06.12)

In the surrounding area, the closest shops are located in Bradbury, Ruse and Campbelltown. The Bradbury Shopping Centre includes a FoodWorks, chicken shop, two pizza restaurants, café, liquor store, hairdresser and a medical centre. The Bradbury Inn Hotel is located next to the shopping centre. According to Google Maps estimates, it would take residents in Airds around 5 minutes to access the Bradbury shops by car, 20 minutes on the bus, or around 25 minutes by walking. In Ruse, there is an IGA, convenience store, two takeaway shops, and a Commonwealth Bank ATM. It would take residents around 5 minutes to access the shops at Ruse by car, 20 minutes by bus, or 26 minutes on foot. There are two shopping centres in Campbelltown – Campbelltown Mall and Macarthur Square. A list of the fresh food and takeaway stores, restaurants, major retail and health-related stores and services in these centres is provided at Appendix A. According to Google Maps estimates, it would take residents in Airds around 10 minutes to access the Macarthur Square Shopping Centre and Campbelltown Mall by car, 32 minutes by bus, or around an hour on foot.



Map 10: Retail and commercial uses in Airds Bradbury

As shown in Table 2 below, on average a healthy food basket was more expensive in high SES Sydney suburbs than in low SES Sydney suburbs, with a difference of \$17, while the average variety of produce was higher in high SES suburbs. The mean quality of produce was lower only by one point in low SES suburbs. The mean cost of a healthy food basket in Airds Bradbury was slightly higher than the Airds surrounding area and the low SES Sydney suburbs, and also slightly higher than the mean cost for the high SES suburbs. The mean cost of a fruit and vegetable basket sat exactly in between the cost of a basket in the low SES suburbs and high SES suburbs. The variety of produce was significantly lower than that of high SES suburbs, and also lower than the average produce variety in low SES suburbs, as well as in the surrounding area. The mean produce quality score for Airds

Bradbury was consistent with the ratings for the surrounding area and low SES Sydney suburbs, and only one point lower than high SES suburbs.

Food measure	Airds Bradbury, Ruse	Airds, surrounding area*	High SES Sydney suburbs	Low SES Sydney suburbs
Cost of healthy food basket (mean)	\$196	\$176	\$194	\$177
Cost of fruit and vegetable basket (mean)	\$25	\$25	\$27	\$23
Produce variety (mean)	38	54	55	49
Produce quality score (mean)	41	40	42	41

*Includes supermarkets in Blair Athol, Campbelltown, Minto and Rosemeadow

Table 2: Supermarket prices, and quality and variety of produce

■ Community Gardens

At the time of the audits, there were community gardens at the Men's Shed and WorkVentures, off Greengate Road. There was also a temporary community garden at Hartigan Way during the audits, which has now been removed. These gardens are shown in the images below. During the audit on 27 June 2012, the auditors observed the following crops in the community garden on Hartigan Way: taro, sweet potato, spring onion, banana, tomato, silverbeet, beetroot (seedlings), chilli, coriander and sugar cane. They also noted that the quality of the soil at this garden looked poor, and like it had possibly been contaminated with building waste (e.g. broken roof tiles). The auditors also observed banana trees, sweet potato, taro, lemongrass and shallots in the garden at the Men's Shed. This garden appeared to be well-maintained.



Greengate Community Garden at WorkVentures Connect Centre on Greengate Road (image taken 08.06.12)



Community garden near Hartigan Way (images taken 27.06.12)

The auditors believed that there is potential for more community gardens to be developed in the area – possibly around The Pond or connected to existing open spaces (e.g. Kevin Wheatley). There is a question as to whether existing gardens are accessible to the entire community (though the crops may be shared, participation seems to be undertaken only by specific groups).

▪ Farmers' Markets

There are a number of farmers' markets accessible to residents of Airds Bradbury. The closest of these is the Mount Annan Farmers' Market, located at the Macarthur Centre for Sustainable Living at 1 Mount Annan Drive, Mount Annan. The market, which was [established in October 2014](#), is open every Sunday from 10.00am – 3.00pm during winter, and 7.00am – 12.00pm during summer. Products sold at the markets include: free range eggs, mushrooms, most leafy vegetables, cabbage, cauliflower, pumpkin, tomatoes, cucumbers, zucchini, capsicums, seasonal fruit, bread, sweet treats, jams and chutneys (Stillitano, 2014). According to Google Maps estimates, it would take residents around 20 minutes to drive to this market, and around 50 minutes to travel by bus.

As the Mount Annan market did not exist at the time of the Community Food Assessment, it was not included in the study. At the time of the audit, the most accessible markets were Camden Fresh Produce Market and Warwick Farm Trackside Market. Details of these markets are provided below.

Camden Fresh Produce Market

Camden Town Farm, 40 Exeter Street, Camden, 2570, every Saturday, 7.00am to 12.00pm

Stocks: farm fresh fruit and vegetables, meats, honey, olives, milk and cheese, condiments, bread, cakes, wines, takeaway, seeds and plants, and live chickens.

According to Google Maps estimates, it would take a resident of Airds around 25 minutes to access this market by car, or around 1 hour and 25 minutes by bus.

Warwick Farm Trackside Market

Warwick Farm Racecourse, Governor Macquarie Drive, Warwick Farm, 2170, every Saturday, 8.00am to 12.00pm

Stocks: farm fresh fruit and vegetables, meats, bread, olives, water, pastries, takeaway, eggs, milk and juice.

According to Google Maps estimates, it would take a resident of Airds around 30 minutes to access this market by car, or around 1 hour and 10 minutes by bus and train.

The farmers' market tool used in the Community Food Assessment focused on assessing available produce and the factors that motivate customers and stallholders to attend the markets. The research team developed a checklist to assess the cost, availability and visual quality of fresh fruit and vegetables (see Appendix B). Diversity of produce, availability of gourmet items, and the presence of locally grown and/or organic food were also recorded. A short questionnaire was undertaken to assess customer and stallholder perceptions of the farmers' markets, including the importance of buying local, fresh, high quality and/or organic produce, as well as building relationships and supporting a community event (see Appendix B). Overall, 20 farmers' markets across Sydney were assessed, including the Camden Fresh Produce Market and Warwick Farm Trackside Market.

The food assessment tools were pilot tested and data collectors underwent training to ensure accurate and consistent ratings. The farmers' market research was undertaken from February to April 2013. Data was analysed using SAS Enterprise Guide 5.1. Significance testing of the differences between costs, quality and quantity were conducted using non parametric methods.

Produce	Camden Fresh Produce Market		Warwick Farm Trackside Market		All farmers' markets	
	Mean no. per stall	\$ (per kg)	Mean no. per stall	\$ (per kg)	Mean no. per stall	\$ (per kg)
Apples	2.5	7.50	6.0	5.00	2.5	5.65
Pears	1.0	2.00	1.5	4.00	1.6	5.48
Oranges	1.0	4.00	1.0	3.00	1.1	3.46
Peaches	0	0	1.0	5.00	1.3	6.36
Plums	0	0	1.0	5.50	1.3	6.01
Beans	0	0	1.0	4.50	1.0	6.52
Broccoli	1.0	2.00	1.0	4.17	1.0	5.62
Cabbage	3.0	3.25 each	2.5	4.75 each	1.9	3.92 each
Cucumber	1.0	4.00	1.3	3.33	1.3	5.76
Lettuce	2.0	1.83 each	4.0	1.75 each	1.7	1.08 each
Onion	0	0	1.7	2.83	2.0	3.57
Potato	0	0	1.0	5.00	3.9	3.84
Pumpkin	6.5	3.13	3.3	4.38	2.4	3.05
Tomatoes	1.5	4.00	4.00	4.33	2.3	6.27

Table 3: Farmers' markets produce prices

Table 3 details the cost and variety of fruit and vegetables by item for the Camden Fresh Produce Market and the Warwick Farm Trackside Market, as well as the mean cost and variety from all farmers' markets included in the study.

Results of the customer surveys from the Camden Fresh Produce Market and the Warwick Farm Trackside Market are shown, along with the combined results from all surveyed farmers' markets, in Table 4 below.

Fifty-six people at the Camden market and 51 people at the Warwick Farm market participated in the customer survey. The mean age of participants at the markets was 52 and 53 respectively, and the majority were women. The mean distance travelled to the Camden Market was 12km, and 11.3km for the Warwick Farm market. Almost all of the people (93%) surveyed at Camden drove to the market, though 4 people walked; and 98% of participants drove to the Warwick Farm market, with no participants arriving via active means. Participants at Camden tended to shop at the markets on a fortnightly (59%) or monthly (23%) basis; while the majority of participants (71%) at Warwick Farm shopped there on a weekly basis.

Characteristics	Camden Fresh Produce Market	Warwick Farm Trackside Market	Total Farmers' Markets
Age (years)			
Mean	52	53	50
Range	22-83	26-29	18-89
Gender			
Female	32 (57%)	32 (63%)	397 (63%)
Male	24 (43%)	19 (37%)	236 (37%)
Country of Birth			
Australia	39 (70%)	33 (65%)	403 (64%)
Other	17 (30%)	18 (35%)	230 (36%)
Language spoken at home			
English	56 (100%)	48 (94%)	600 (95%)
Other	-	3 (6%)	32 (5%)
Distance travelled (km)			
Mean	12	11.3	10.0
Range	0.1-60	2-30	0.1 – 192
Method of travel			
Drove	52 (93%)	50 (98%)	498 (79%)
Walked	4 (7%)	-	99 (16%)
Caught public transport	-	-	26 (4%)
Cycled	-	-	7 (1%)
Other	-	1 (2%)	2 (0%)
Frequency of shopping for food			
Very frequently (>1/week)	33 (59%)	23 (45%)	411 (65%)
Frequently (1/week)	18 (32%)	24 (47%)	182 (29%)
Occasionally (1-2/month)	5 (9%)	1 (2%)	31 (5%)
Never	-	-	8 (1%)
Frequency of shopping at farmers' markets			
Weekly	7 (13%)	36 (71%)	237 (38%)
Fortnightly	33 (59%)	11 (22%)	164 (26%)
Monthly	13 (23%)	4 (8%)	188 (30%)
Never / First visit	3 (5%)	-	43 (7%)
Amount spent per visit at farmers' markets			
Less than \$50	26 (46%)	10 (20%)	221 (38%)
Between \$50 and \$99	19 (34%)	26 (51%)	223 (38%)
Between \$100 and \$149	7 (13%)	12 (24%)	94 (16%)
More than \$150	2 (4%)	2 (4%)	47 (8%)
Unknown	2 (4%)	1 (2%)	48 (7%)
Total	56	51	633

Table 4: Demographic characteristics and shopping behaviours of customers from Camden Produce Market and Warwick Farm Trackside Market

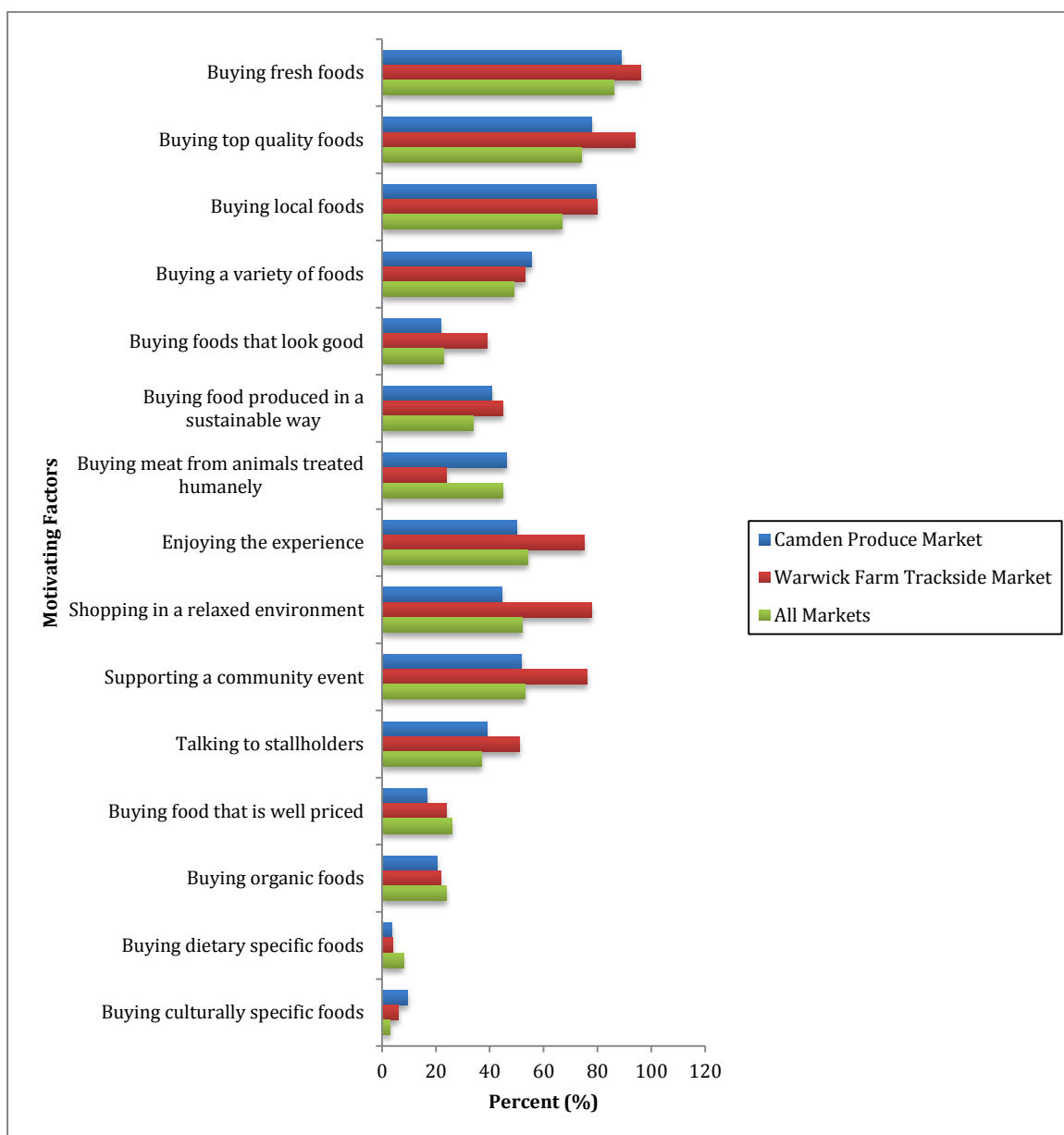


Figure 1: Factors identified to be ‘very important’ in motivating customers to attend Camden Produce Market and Warwick Farm Trackside Market

Figure 1 above illustrates the factors identified to be ‘very important’ in motivating customers to attend the farmers’ markets. For participants at the Camden Market, ‘buying fresh foods’ was the most important factor, closely followed by ‘buying top quality foods’ and ‘buying local foods’. ‘Buying a variety of foods’ and ‘supporting a community event’ were also important factors. Similarly to Camden, participants at the Warwick Farm market were most concerned with ‘buying fresh foods’, ‘buying top quality foods’ and ‘buying local foods’. Also very important was ‘shopping in a relaxed environment’, ‘supporting a community event’, and ‘enjoying the experience’ – more so than at Camden and other markets. As with the results from other markets, customers at Camden and Warwick Farm were not particularly motivated by ‘buying dietary specific food’ or ‘buying culturally specific foods’. The core reasons for market attendance are summarised in Table 5 below, with quotes from customers relating to each reason.

Reason for Market Attendance	Customer Quotes
To buy fresh fruit and vegetables, picked on or the day prior to the market	<p>"I want to buy fresh food that lasts longer. The quality here is much better than at the supermarket" (Female customer, Camden Produce Market)</p> <p>"I came here to buy fresh, locally grown foods" (Male customer, Camden Produce Market)</p> <p>"I like the freshness of food. I can buy just picked fruit and vegetables. You are buying food that has taste" (Male customer, Camden Produce Market)</p> <p>"This is our main weekly fruit and veg shop. We are always looking for seasonal best" (Female customer, Warwick Farm Trackside Market)</p>
To buy fresh bread, dairy products, meat, poultry, fish, eggs and gourmet products	<p>"I came here to get the best eggs ever. Also the produce lasts because it's so fresh" (Female customer, Warwick Farm Trackside Market)</p> <p>"We come here to shop for very specific products. There are two or three things that you can't find elsewhere" (Male customer, Warwick Farm Trackside Market)</p>
To buy high quality produce	"I came here to buy high quality fruit and vegetables" (Male customer, Warwick Farm Trackside Market)
To buy seedlings and plants	"I came here to buy some winter vegetable plants so that I can grow my own food" (Female customer, Camden Produce Market)
To support local farmers and producers	<p>"I came here to support local farmers. The market has a great community feel" (Female customer, Camden Produce Market)</p> <p>"I came here to support the growers. Without them, we're eating all frozen stuff" (Female customer, Warwick Farm Trackside Market)</p>
To support a community event	<p>"It is a social outing. I want to support the community" (Female customer, Camden Produce Market)</p> <p>"I come here every time and enjoy the atmosphere" (Female customer, Camden Produce Market)</p> <p>"Feel like we're doing our bit for the local people and for the environment" (Male customer, Warwick Farm Trackside Market)</p>

Table 5: Main reasons that customers attended Camden Produce Market and Warwick Farm Trackside Market

The results from the stallholder surveys are summarised below. Responses from stallholders at the Camden Fresh Produce Market and Warwick Farm Trackside Market are detailed, as well as the combined responses from all of the surveyed farmers' markets.

Characteristics	Camden Produce Market	Warwick Farm Trackside Market	All Markets
Age (years)			
Mean	47	48	45
Range	23 - 76	35 – 62	18 - 76
Gender			
Female	5 (56%)	2 (33%)	68 (52%)
Male	4 (44%)	4 (67%)	63 (48%)
Distance travelled (km)			
Mean	84	77	82.0
Range	1 - 455	12 – 250	0.2 – 550
Number of markets attended (per fortnight)			
Mean	3	6	5
Range	1 – 6	2 – 22	0 - 60
Length of time trading at farmers' markets (years)			
Mean	3	8.5	4.0
Range	0.5 - 11	1.5 - 11	0.1 - 15
Type of Stall *			
Fruit and vegetables	3 (33%)	3 (50%)	35 (21%)
Poultry, meat and alternatives	1 (13%)	2 (33%)	26 (16%)
Dairy products	2 (22%)	1 (17%)	11 (7%)
Breads and cereals	2 (22%)	1 (17%)	26 (16%)
Gourmet produce items	1 (13%)	-	24 (15%)
Nuts and legumes	2 (22%)	-	18 (11%)
Takeaway food and drinks	-	-	14 (9%)
Special dietary items	-	-	9 (6%)
Source of produce *			
Own farm or property	6 (67%)	4 (67%)	55 (26%)
Within local area	3 (33%)	3 (50%)	41 (20%)
Within state	1 (11%)	2 (33%)	57 (27%)
Interstate	-	-	31 (15%)
Overseas	-	-	25 (12%)
Number of people employed in business			
Mean	3	6	7
Range	0 – 11	1 - 14	0 – 200
Sales figures per farmers' market			
Less than \$300	3 (33%)	-	16 (13%)
Between \$300 and \$699	4 (44%)	1 (17%)	31 (24%)
Between \$700 and \$1000	-	-	12 (9%)
More than \$1000	2 (22%)	5 (83%)	44 (35%)
Unknown	-	-	24 (19%)
Total	9	6	127

* Some respondents provided more than one category of response. For consistency, all figures are presented as a percentage of the total number of responses given.

Table 6: Demographic characteristics and business practices of stallholders from Camden Produce Market and Warwick Farm Trackside Market

Figure 2 shows how important various factors are in motivating stallholders at the Camden Fresh Produce Market and Warwick Farm Trackside Market to sell their products at the farmers' markets. The leading reasons at Camden were 'selling foods directly to customers', 'providing customers with information' and 'supporting a community event'. At Warwick Farm, the leading reasons were 'selling foods directly to customers', 'increasing profit margins', 'building relationships with customers', 'providing customers with information' and 'relaxed, friendly environment'.

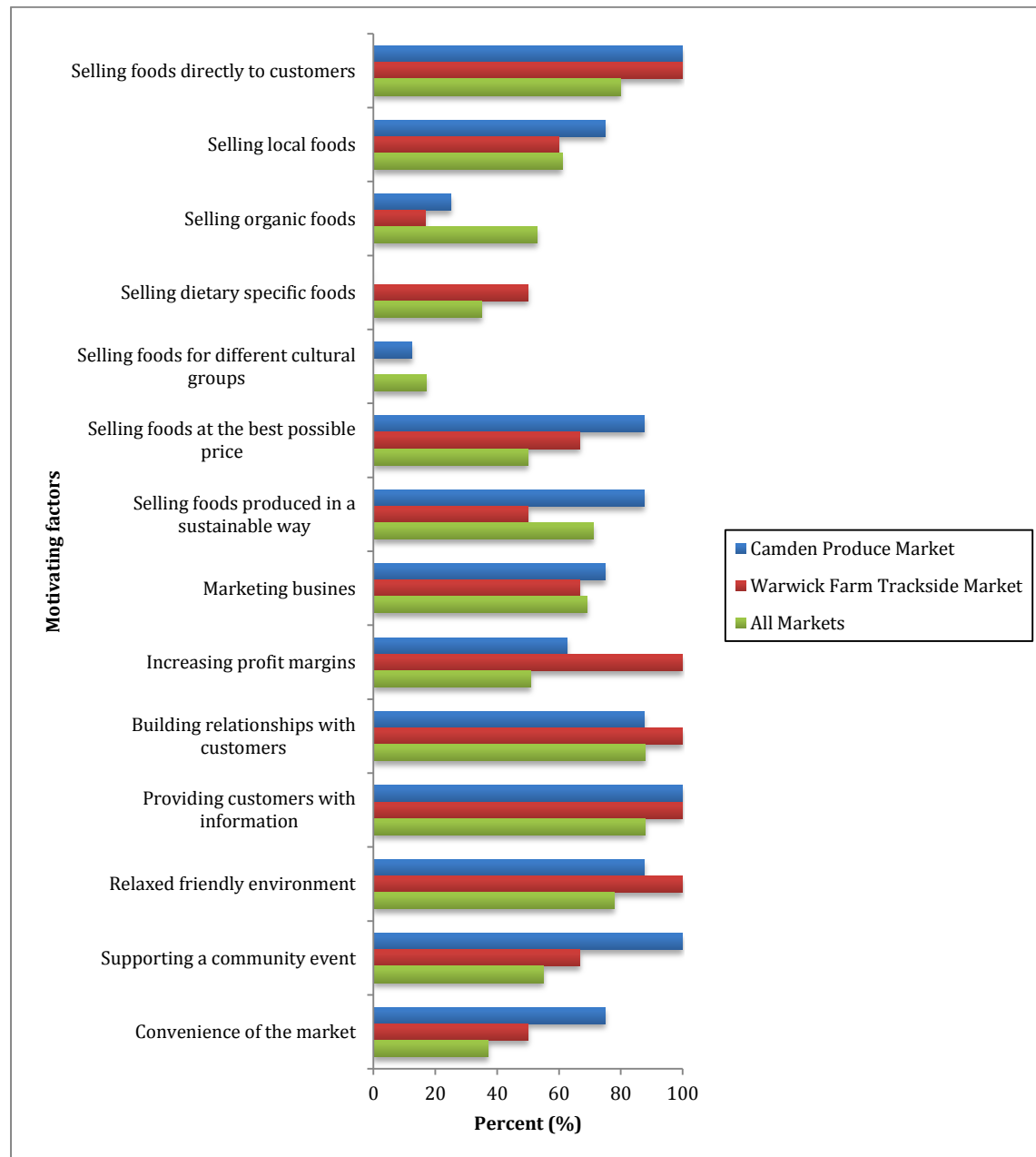


Figure 2: Factors identified to be 'very important' in motivating stallholders to attend Camden Produce Market and Warwick Farm Trackside Market

Table 7 provides a summary of the key motivating factors for stallholders at the Camden Fresh Produce Market and Warwick Farm Trackside Market, with supporting quotes.

Motivating Factor	Quote
Building relationships with customers and selling local foods	<p>"I like to give customers an experience, not just a product. I like to sell my product directly to the customer. This gets people attached to the brand so that they come back" (Male stallholder, Warwick Farm Trackside Market)</p> <p>"My product goes direct to the customers" (Female stallholder, Warwick Farm Trackside Market)</p>
Marketing business and generating profits	<p>"The market is a good low cost option to promote our product whilst at the same time being able to keep our prices sharp which attracts more customers to the market. This is a good way of testing a new product to determine whether people like the taste of it or not" (Male stallholder, Camden Produce Market)</p> <p>"The market increases the profitability and sustainability of our business as the chain stores have cut out small growers from their supply chain" (Female stallholder, Warwick Farm Trackside Market)</p> <p>"I come here to increase my profits. It's better to sell at the markets than through wholesale markets" (Male stallholder, Warwick Farm Trackside Market)</p>
To support a community event	"I like to support and be part of the local community" (Female stallholder, Camden Produce Market)

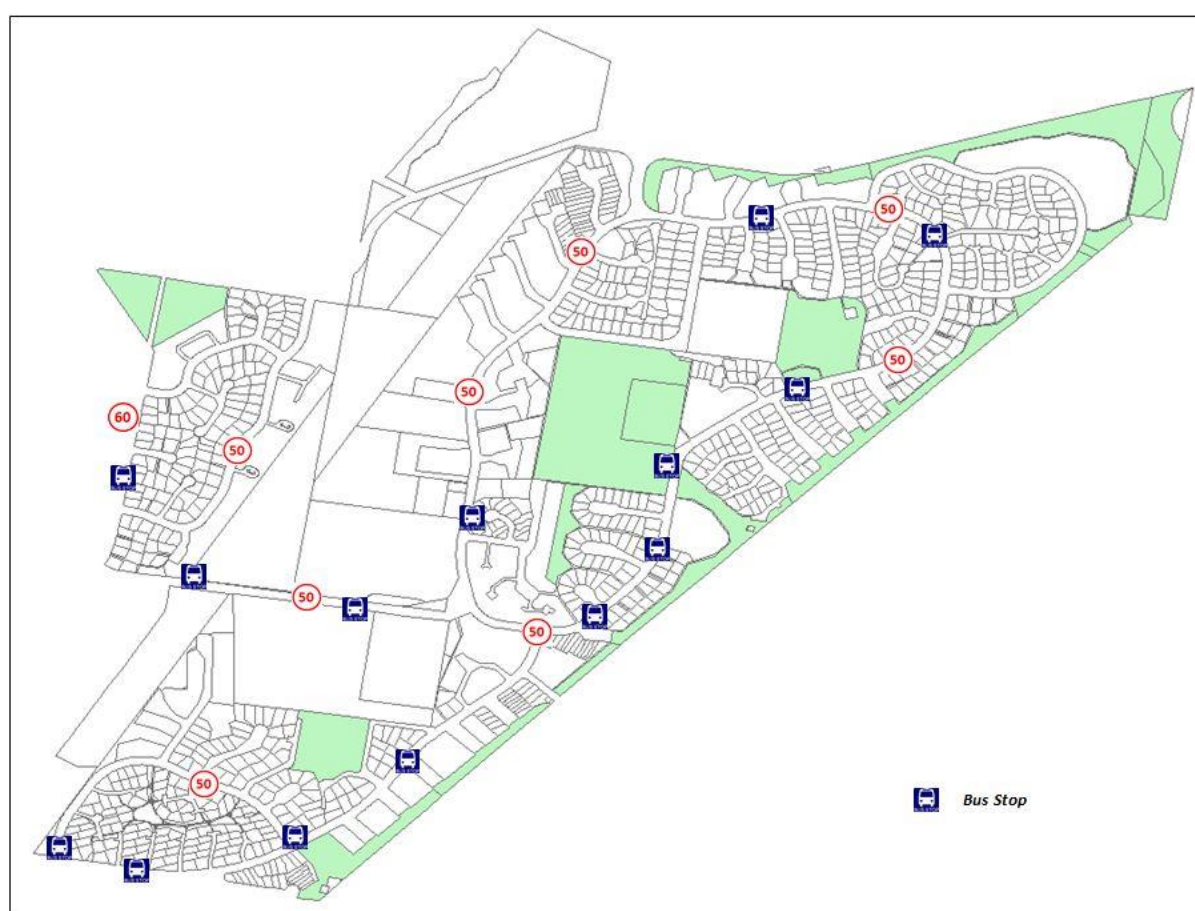
Table 7: Main reasons that stallholders attended Camden Produce Market and Warwick Farm Trackside Market

10. STREET NETWORK

The auditors were asked to assess:

- How the streets throughout the entire site area balance the needs of all users, and determine if one user is privileged over others;
- What the amenity of the street is like (e.g. in relation to air quality/pollution, noise pollution, quality of drainage, odours, pools of still water etc.); and
- How well the street network connects with residential, recreational, commercial and institutional areas and the modes of transport accommodated in the neighbourhood.

The street network is illustrated in Map 11 and the images below. The map shows the curvilinear street layout, posted speed limits, and public transport stops.



Map 11: The Airds Bradbury Street Network

The major roads within the neighbourhood (shown in the images below) are Riverside Drive, Briar Road, and Greengate Road, with Merino Crescent and Deans Road also acting as significant access ways, while St Johns Road and Georges River Road are the major roads on the boundaries of the site. The site can be accessed via a turn off from Georges River Road on to Riverside Drive to the north; or from St Johns Road on to Briar Road or Merino Crescent to the west. The current street layout is not legible or permeable, and will be altered through the redevelopment, as noted in Section 4 above.



Riverside Drive (image taken 08.06.12; 29.06.12)



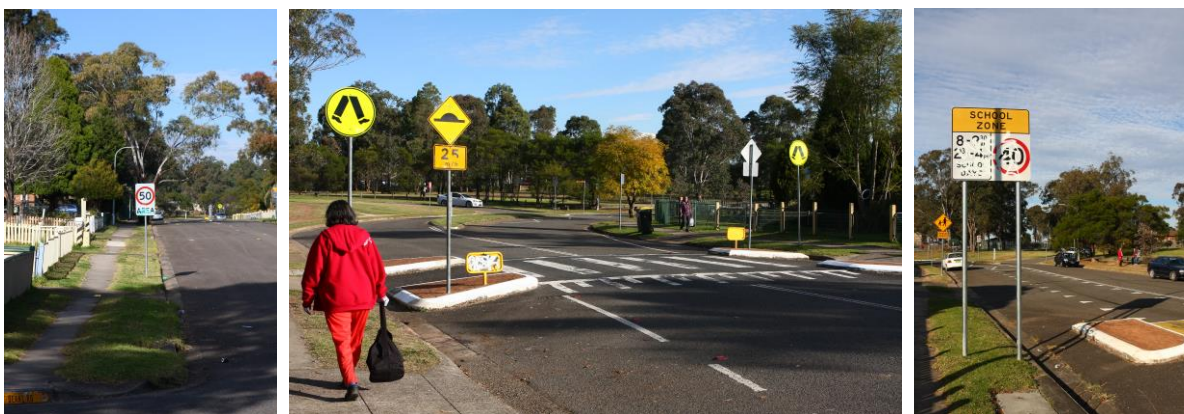
St Johns Road [top and bottom left] and Briar Road [at bottom right only] (images taken 27.06.12)



Merino Crescent (images taken 08.06.12; 20.07.12)



Greengate Road (images taken 20.07.12)



Deans Road (images taken 29.06.12)

From the experience of the auditors as they walked around the site, cars are definitely privileged over other users in the street network. It is understood that the Radburn design intentionally segregates pedestrian and vehicular movement, as a means of protecting the pedestrian – in practice in Airs Bradbury, this has resulted in poor connectivity throughout the area, with a limited

network of footpaths providing routes to key destinations, and a distinct lack of other pedestrian infrastructure (i.e. crossings, median strips, refuge islands). Such footpaths as are provided in between and behind houses, and in the form of underpasses, are meandering, confusing and present safety concerns. In some areas, where walkways haven't been provided, tracks and desire lines have been created through sports fields, green spaces and bushland, clearly highlighting the lack of connectivity for pedestrians. Residents with prams, scooters and of limited mobility would find it difficult to move around the neighbourhood. Additionally, cycling infrastructure is limited to painted signage along a few main roads, and the bus service which runs along Riverside Drive operates in a unidirectional fashion, limiting use by residents.

In terms of amenity, as noted above, the auditors found the streets to be generally quite pleasant, particularly in regard to air quality and, for the most part, a lack of noise pollution. There were occasional drainage issues (i.e. some streets had flooded kerbs and nature strips were waterlogged), and it was not uncommon to come across litter and broken glass on the paths. Poorly maintained residences, rubbish and debris on footpaths and in the street, and barking dogs encountered as the auditors made their way around the neighbourhood occasionally contributed to a sense of hostility and insecurity.

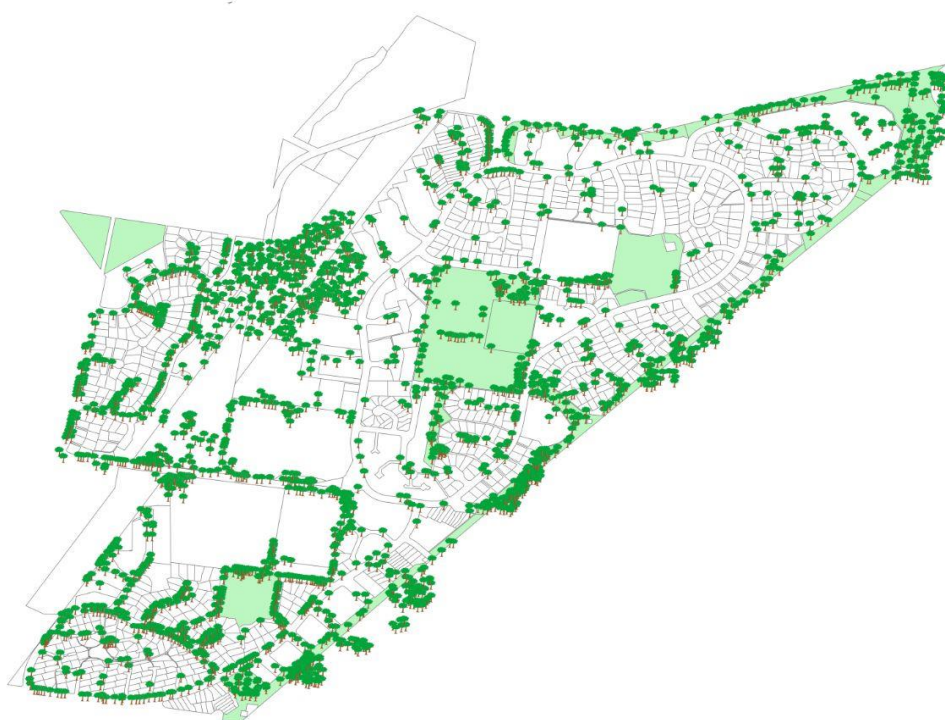
The shopping centre, Airds Bradbury Central, open spaces and schools are all located on main roads, and can easily be accessed by car. The bus service would also provide a level of access for some residents. In addition, some residents would find it easy to walk to these destinations; however, this would clearly be dependent on their proximity to the destinations, and level of mobility.

The different elements of the street network, such as street furniture and amenities, walking and cycling infrastructure, safety features and public transport are described further below.

■ Amenities and Shading

The auditors were asked to map and document street lights; benches and seating; shade structures and awnings; trees, gardens and plants; telephone booths; bubblers or drinking fountains; public toilets; rubbish bins; flagpoles or banners; community noticeboards; public art; dog litter bags and bins; post boxes; and any other amenities.

Maps 13 and 14 below shows tree coverage across the site. The focus during the audit was on collecting information about the level of shading provided by street trees along footpaths, and recreational facilities. As shown on Map 13, there is a significant level of tree coverage in the neighbourhood, and these are predominantly mature trees. However, many streets in the neighbourhood have few or no street trees, and shading in these areas is very poor. This is described further in the next section, *The Walking Environment*.

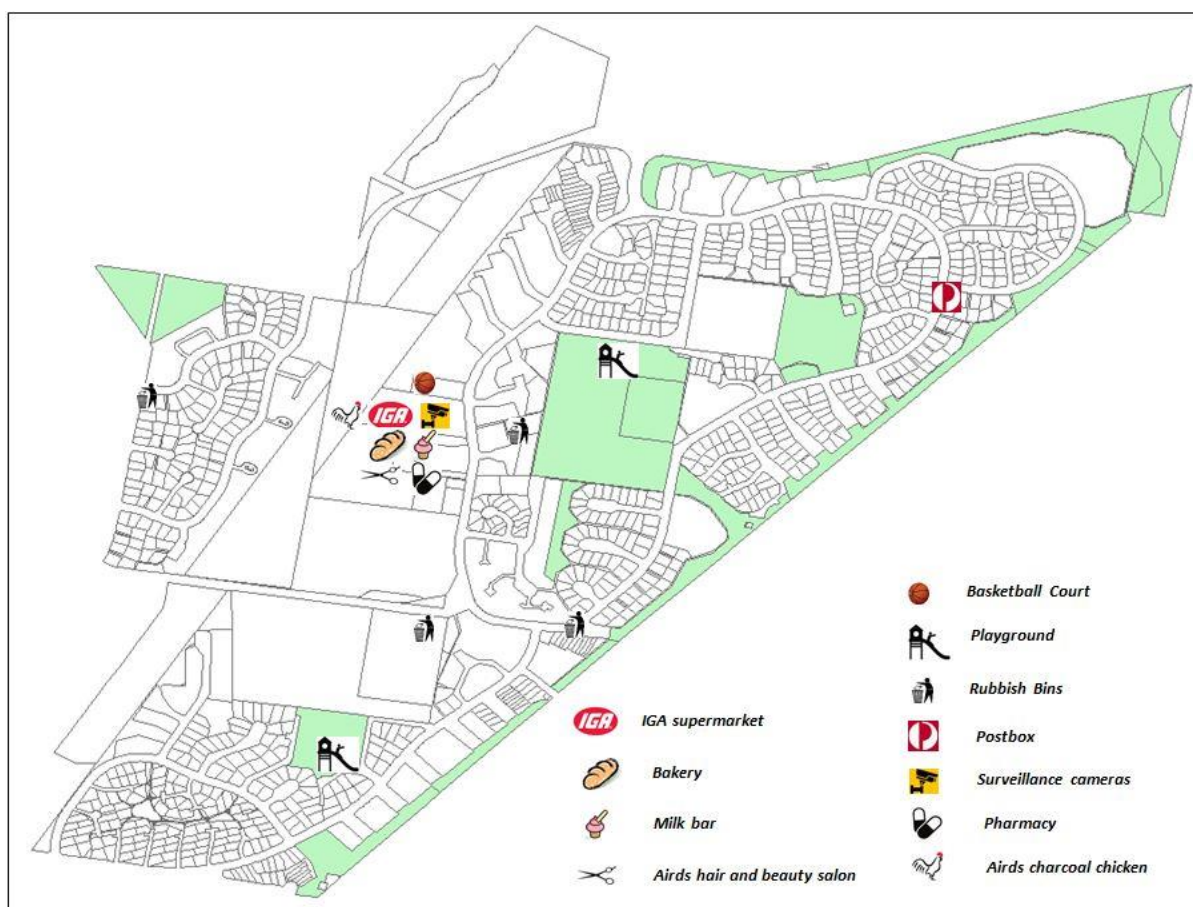


Map 13: Tree coverage in Airds Bradbury



Map 14: Satellite image showing tree coverage in Airds Bradbury

(Please note that street lights have been documented separately and are shown on Map 19 in the Safety at Night section further below).



Map 12: Location of shops and amenities in Airds Bradbury

As shown on Map 12 above and the images below, there are few amenities in Airds Bradbury – 4 rubbish bins, 2 sets of dilapidated play equipment, a post box and a public telephone. From observations made by the auditors, these amenities are not high quality and do not seem to be heavily utilised by the residents. In particular, the auditors did not observe any residents using the play equipment at any time. In addition, the lack of seating in open spaces and along paths may limit use of recreational spaces and walking infrastructure.



Play equipment in Merino Reserve (top left) and Kevin Wheatley Reserve (top right and bottom row) (images taken 08.06.12)



Rubbish bins and seating in Airds Shopping Centre. Also showing surveillance cameras; phone booth on Riverside Drive, in between Samuel Place and Greengate Road (images taken 08.06.12)

By contrast, as detailed in Section 7 above, there is a high level of amenity at The Pond, including public art, seating and landscaping. In addition, The Monster in Kevin Wheatley Reserve and the mural along Riverside Drive are examples of public art projects elsewhere in the neighbourhood. These elements are shown below.



Public art/seating and landscaping at The Pond (images taken 02.06.11)



'The Monster' community art project in Kevin Wheatley Reserve; a mural on Riverside Drive, in between Heathfield Place and Nandewar Place (images taken 08.06.12)

▪ The Walking Environment

The auditors were required to map footpaths and signalised and painted pedestrian crossings across the neighbourhood, as well as conduct an assessment of the quality of each footpath in terms of safety and accessibility. Pedestrian crossings are discussed further in the section on *Pedestrian Safety* below.

The maps and images below provide an illustration of this assessment of the walking environment. As each footpath in the case study site was mapped, it was given a qualitative assessment of 'Good', 'Average' or 'Poor'. The assessment was based on the following variables: the material, quality and gradient of the footpath; the buffer between the footpath and the street; visibility along the footpath; connectivity; and quality of shading. An explanation of the scores accorded to each variable is provided at Appendix F. 'Good' footpaths are indicated in green; 'Average' footpaths are indicated in yellow; and 'Poor' footpaths are indicated in red.



Map 15: Footpath ratings in Airds Bradbury

As shown on Map 15 above, half of the footpaths in Airds Bradbury were given a rating of 'Good', with a little less than half classified as 'Average'. Two paths received a 'Poor' rating. (i.e. n=65 rated as average, n=68 rated as good, n=2 rated as poor; around 48% rated as average, 50% rated as good, 1.5% rated as poor). Examples of good, average and poor footpaths are provided below, as well as some example of other certain types of paths found in the neighbourhood.



Example of a 'good' footpath: St Johns Road (image taken 27.06.12)

As the image above shows, the footpath along this section of St Johns Road was high quality in terms of width, material, gradient, connectivity and visibility. Though not of a level of maturity to provide shade, street trees were present, and acted as a buffer between the path and the street, along with the nature strip.



Example of an 'average' footpath: Peppin Crescent (image taken 29.06.12)

The footpath on Peppin Crescent, shown above, was similar to the path on St Johns Road in terms of width, material, visibility and connectivity. However, in parts the material was degraded (i.e. with cracks), the gradient was moderate in parts, and the shading was poor.

Other examples of average footpaths – with cracked surfaces, trip hazards, overgrown vegetation and abrupt endings, are shown below.



Overgrown and narrow footpaths on Peppin Crescent (images taken 29.06.12)



Abrupt ending of a footpath at corner of Merino Crescent and Rowley Place (image taken 20.07.12)



Damaged footpath on Briar Road, near Croft Place (images taken 27.06.12)



Overgrown and uneven footpaths on Creigan Road (image taken 27.06.12)



Example of a 'poor' footpath: path between Briar Road and Waterhouse Place (image taken 20.07.12)

The image above shows an informal path made of dirt and grass in between Briar Road and Waterhouse Place. The existence of the path highlights a lack of connectivity in the formal footpath network in this area of the neighbourhood. The images below show other examples of informal paths and desire lines throughout Airs Bradbury.



Desire lines: behind Mamre Crescent (top L); between the Briar Road/Riverside Drive junction and Woolwash Road (top middle and R, bottom L and middle); at the corner of Merino Crescent and Murulla Place (bottom R) (images taken 20.07.12)



Desire lines through Merino Reserve from Murulla Place – middle image shows path to the Men's Shed and WorkVentures Connect (images taken 20.07.12)

As shown on Map 15, many of the streets in Airds Bradbury do not have footpaths. An example of this is shown below.



Example of a street with no footpaths – Reliance Way (image taken 20.07.12)

Overall, the auditors determined that the majority of footpaths in the case study site required significant improvement. Firstly, as mentioned, there were a number of streets without footpaths, and the auditors frequently came across informal paths and desire lines. This shows that new footpaths need to be added, and connectivity needs to be improved. Secondly, the auditors observed that many of the footpaths were damaged and overgrown, which shows that maintenance levels are insufficient. And thirdly, though there are significant numbers of mature street trees in the neighbourhood, the shading along footpaths and in open spaces is inconsistent and should be improved.

In terms of overall walkability through the neighbourhood, as noted in Section 8 above, the auditors found that design of buildings is mainly at the human scale – houses typically address the street, with large setbacks, gardens and low fences. However, the buildings and their uses do not overtly encourage pedestrian activity. In particular, there are few destinations, and the auditors experienced a sense of feeling like intruders when walking around the residential streets, particularly in the cul-de-sacs which do not have footpaths and project an air of privacy.

The amenity of the streets was generally quite pleasant – apart from occasional very loud traffic noises (i.e. from people driving vehicles or motorcycles aggressively) the most notable sound the auditors heard while walking along was birdsong. There were occasional drainage issues (i.e. some streets had flooded kerbs and nature strips were waterlogged), and it was not uncommon to come across litter and broken glass on the paths. Most of the houses were well-maintained with lovely gardens. However, poorly maintained residences, rubbish and debris on footpaths and in the street, and barking dogs encountered as the auditors made their way around the neighbourhood occasionally contributed to a sense of hostility and insecurity.

Some parts of the neighbourhood, such as the new aged housing developments and older detached dwellings, have front porches and yards that act as active frontages and provide opportunities for passive surveillance. By contrast, the commercial and institutional uses in the neighbourhood – particularly the shopping centre and juvenile detention centre - are closed off with no outlook.

As noted previously, the structure of the neighbourhood supports car use over active transport. The site has a limited network of footpaths, lacks public transport options, and would be difficult to move around with a pram or in a scooter or wheelchair. The auditors found the streets to be meandering, and the network of footpaths and walkways between and behind houses (shown in images below) to be confusing and disorienting, as well as potentially unsafe.



Footpaths between Cavan Place, Saxon Way and Brindley Park; man walking along footpath in green space adjacent to housing between Boonoke Place and Riverside Drive (images taken 08.06.12; 29.06.12)

▪ **The Cycling Environment**

The Audit Instrument provided for the collection of data relating to cycling – including recreational cycling lanes, utilitarian cycling lanes, showers and changing facilities, bicycle storage and parking, types of obstructions along cycle lanes, and connectivity of cycle lanes.



Map 16: Cycling infrastructure in Airds Bradbury

At the time of the audits, there were no separated cycle-only lanes in Airds Bradbury. However, cycling lanes have been painted on to Riverside Drive and Greengate Road (as shown in the photograph below and Map 16 above).



Signs for cycling lanes on Greengate Road, at corner of Burundulla Crescent opposite Winbourne Place; and Riverside Drive, near Elizabeth Way (images taken 20.07.12; 29.06.12)

The auditors observed a few groups of serious cyclists (i.e. in lycra gear, appearing to be in a training group – as opposed to people cycling for recreation/ cycling to get to the shops etc.) passing through the neighbourhood during their site visits. The auditors also observed a small number of residents riding bicycles around Airds Bradbury Central, as shown in the images below. There was no bicycle parking or additional cycling infrastructure.



Young boy with bicycle inside Airds Shopping Centre (image taken 06.07.13)



Couple taking their bicycles into Riverside Inn (image taken 06.07.13)

Overall, the auditors found the cycling infrastructure provided throughout the neighbourhood to be limited and not supportive of cycling activities for recreational or utilitarian purposes.

- Public Transport

Map 17 below shows the location of bus stops in the neighbourhood. There is access via the bus network to Campbelltown train station and shops, as well as to surrounding areas such as Macarthur Square and Helens Park. The services to Campbelltown are provided more frequently than services to surrounding areas.



Map 17: Bus stops in Airds Bradbury

The different types of bus stops and shelters provided in the neighbourhood are shown in the images below. The majority of bus stops are marked by a signpost, with no shelter or timetable information provided.



Bus stop on Greengate Road, in between Kew Way and Stanford Way; and on Briar Road near Croft Place (images taken 20.07.12; 27.06.12)



Bus stops on Greengate Road, at corner of Burrundulla Crescent (L); in between Rawdon Place and Winbourne Place (middle); and at corner of Clarendon Place (R) (image taken 20.07.12)



Bus stop on Riverside Drive, near Heathfield Place; and obstructed bus stop on Riverside Drive, in between Samuel Place and Cavan Place (images taken 08.06.12; 29.06.12)



Bus stop on Riverside Drive, near Riley Park (images taken 29.06.12)



Bus stops on Riverside Drive, in front of Kevin Wheatley Reserve; and in between Peppin Crescent and Atkinson Place (images taken 29.06.12)

Overall, the auditors found the public transport infrastructure within the neighbourhood to be of low amenity and in need of improvement. The majority of bus stops did not have shelters and information about the service. Many of the existing shelters are in a state of disrepair, and require upgrading. In addition, the bus service within Airds Bradbury works on a single direction basis, making it inefficient and difficult for some residents to access.

As noted elsewhere, active transport would be inhibited by the limitations of the pedestrian and cycling networks, and lack of adequate infrastructure to support walking and cycling.

▪ Pedestrian Safety

The auditors were asked to map and assess elements contributing to pedestrian safety, including pedestrian crossings; traffic calming infrastructure such as speed bumps, chicanes, landscaping and designated share zones; surveillance cameras; natural surveillance; street lighting; and sightlines. Surveillance cameras and lighting are addressed further below.



Map 18: Traffic calming and pedestrian crossings in Airds Bradbury

Map 18 above shows the location of painted pedestrian crossings across the neighbourhood, as well as some traffic calming elements. At the time of the audit, there were three painted pedestrian crossings and no signalised pedestrian crossings in the site. An example of a painted pedestrian crossing is shown in the image below.



Painted pedestrian crossing on Deans Road, out the front of John Warby Public School (image taken 29.06.12)

Examples of the traffic calming infrastructure provided throughout the site are shown in the images below. This infrastructure is primarily in the form of kerb extensions and built barriers in the middle of the roadway; signage indicating pedestrian movement; and school zones.



Traffic calming infrastructure on Riverside Drive (image taken 20.06.12)



Signage on St Johns Road and Fonhill Place (images taken 27.06.12; 29.06.12)

From the auditors' perspective, traffic calming and pedestrian crossing infrastructure in the neighbourhood was limited and had minimal impact. In particular, the kerb extensions on Riverside Drive did not seem to have an impact on traffic speeds, which the auditors observed were quite high. Riverside Drive is a high traffic area, particularly near the shopping centre and Airds Bradbury Central, as shown in the image below. The auditors believed that pedestrian safety across the site should be improved overall, and especially in this central area.



Riverside Drive, taken from near Heathfield Place looking towards Airds Shopping Centre (image taken 08.06.12)

In addition to this, the auditors noted a number of unsafe elements across the pedestrian network. This includes underpasses and other hazards, such as the damaged access hole and broken glass shown in the images below.



Underpass at the junction of Briar Road and Riverside Drive (image taken 20.07.12)



Hazard and broken glass on footpaths behind housing in between Hazeldean Way and Brush Way (images taken 29.06.12)

These elements, in conjunction with the other previously mentioned deficiencies in the pedestrian network, and aggressive barking dogs, incidences of antisocial behaviour and poorly maintained residences, may have an adverse impact on feelings of safety among residents who wish to move about the neighbourhood on foot.

▪ Safety at Night

The audit instrument provided for the collection of data relating to surveillance and lighting. Map 19 illustrates the presence of street lights across the neighbourhood, as at 13 November 2012. Disabled or damaged street lights are represented by a red star. Appendix G provides a list of all of the disabled street lights mapped during the night audit. Due to the size of the site, the data was collected over two nights – 27 August and 13 November 2012. The list of damaged and disabled lights was shared with the Airds Bradbury Community Reference Group, who then sent it on to Endeavour Energy, with the aim of having the lights repaired.



Map 19: Street lights in Airds Bradbury

During the night audits, the auditors observed that the site was not very well lit at all. A number of street lights were damaged or not working, however even working street lights did not emit sufficient light, particularly in green areas and footpath networks behind or in between housing.



Images of pathways and green space illuminated by torchlight (images taken 27.08.12)

The auditors needed strong torch light to be able to navigate around the neighbourhood, and one of the auditors tripped several times while walking along, over cracks in footpaths or uneven ground. A number of children were seen out playing in between Peppin Crescent and Georges River Road at dusk. Another person was seen cutting across Kevin Wheatley Reserve at full dark. It was impossible to see this person's face. Generally, very few people were seen out and about as the audit took place. The auditors reported that they would have felt wary walking around the site alone at night.



Functional street light near footpath between Croft Place and Briar Road; damaged street light on Riverside Drive (images taken 27.06.12; 27.08.12)

The auditors observed that there are a number of surveillance cameras in the Airs Village Shopping Centre (as shown in the image below). They did not observe any other surveillance cameras in other public spaces in the neighbourhood.



Surveillance cameras inside Airds Village Shopping Centre (image taken 08.06.12)

Overall, the auditors perceived there to be a diminished level of safety in the neighbourhood at night. It was not well lit, and therefore opportunities for passive surveillance, particularly in the footpath network and green spaces in between and behind houses, were low. Issues with the quality of footpaths, experience of incidences of antisocial behaviour, and perceptions of levels of safety in the neighbourhood, contributed to this assessment. This is explored further in the section on *Social Interaction* below.

▪ Universal Access

The auditors were required to assess whether movement around the neighbourhood is accessible for all – for example, people with limited mobility or parents with prams – with particular consideration for the placement of crossings; gradient and alignment of kerb ramps; level changes; audio-tactile facilities (i.e. at signalised pedestrian crossings); tactile paving; markings, signals and signage; sightlines at crossing points; provision of medians and refuge islands; and speed limits.



Bollards obstructing paths from Riverside Drive to Kevin Wheatley Reserve, near Elizabeth Way; and from Saxan Way to Riverside Drive and housing behind Cavan Place (images taken 29.06.12)

As outlined in the section above on *Walkability*, in which footpaths were given a rating that was partially based on the accessibility of the pathway, while half of the footpaths received a rating of 'Good', a little less than half were considered 'Average', and overall, the auditors determined that the majority of footpaths in the case study site required significant improvement. This was due to the fact that there were a number of streets without footpaths, a lack of seating infrastructure and amenities, and the auditors frequently came across informal paths and desire lines, which would be difficult for the mobility impaired to use. Also, the auditors observed that many of the footpaths were damaged and overgrown, with numerous trip hazards and obstructions (for example, as shown in the images in the *Walkability* section and above). In addition to this, as noted in the section above on *Pedestrian Safety*, there are few pedestrian crossings in the neighbourhood, and this, in conjunction with other unsafe elements such as broken glass, has a detrimental effect on access for mobility impaired pedestrians.

Overall, the auditors did not observe any overt universal design elements in Airds Bradbury – with the exception of some elements in the seniors' housing complexes - and believe that this has not been adequately taken into consideration in the planning and construction of the neighbourhood. The walking environment in particular needs to be improved, especially in regard to provision of seating infrastructure and amenities, pedestrian crossings and tactile paving on busy roads, and upgrading and consistent maintenance of pathways to remove trip hazards and obstructions.

11. SOCIAL INTERACTION

The auditors were asked to consider feelings of safety in each of the residential, recreational, institutional and commercial areas of the site. This included regard for safety for people of different genders, sexual orientations, cultures and religions. In addition, observations in relation to signs of social inclusion; physical manifestations of culture; and psychological, emotional and spiritual belonging were required.

The auditors observed that during the day, most areas feel safe. The only areas that made the auditors wary were those where groups of young males were behaving antisocially (i.e. swearing and drinking alcohol openly, or riding motorbikes on footpaths or through green spaces). The auditors observed this behaviour only on a few occasions, in the green space near Boonoke Place, behind Peppin Crescent, and in Kevin Wheatley Memorial Reserve. It is worth noting that on the one occasion where young inebriated males engaged in conversation with the auditors, though at first they yelled in an aggressive manner, after the auditors explained their reason for being in the neighbourhood, the men behaved respectfully.

Before undertaking the audit, the female auditor had been warned by community members that it would not be safe for her to walk around alone. During the audits, she reported that she did not feel overtly unsafe or threatened – however, given that there was a very real question mark over whether it was advisable for a woman to walk around alone in the neighbourhood, and perception of a lack of safety for vulnerable parties – she did feel an increased sense of unease, which indicates a gendered presence. She noted: *“I would not feel particularly safe if I was walking around the neighbourhood on my own. There is a sense of unpredictability based around the behaviour of some residents in the area (e.g. the dirt bike riders, inebriated group of men) which led me to feel uneasy. Also, the warnings I had received were always in the back of my mind when visiting the neighbourhood. However, I did not feel unsafe when I was walking around with people. I would feel unsafe at night, particularly walking around areas which are not well lit and seem remote.”*

In terms of public spaces, the auditors noted that the shopping arcade felt reasonably safe (though not particularly inviting, as noted previously) with the visible presence of a security staff, and, on the weekend, with the increased number people who were using the arcade. The sporting fields also felt safe on the weekend due to the larger numbers of people who were using the fields. Around residential areas, where there were groups of young teenagers (predominantly males) hanging out without a purpose, the auditors believed there would be a lower sense of security here, especially for people travelling alone. And in the reserve where young teenagers were riding their motorbikes, there were diminished feelings of safety.

The auditors believed that feelings of safety would be diminished for all residents at night, but particularly females and vulnerable parties travelling alone. Overall, antisocial behaviour in public open spaces, broken glass bottles, graffiti, trail bike riders racing through bushland and open spaces, aggressive dogs, unkempt gardens and verges, burned out cars and properties, and litter detract from feelings of belonging, safety and community connectedness in Airds Bradbury. The images below illustrate some of these elements.



Graffiti on Riverside Drive, near Peppin Crescent; and footpath between Creigan Road and Airds Shopping Centre (images taken 08.06.12; 27.06.12)



Concrete blocks placed to deter use of dirt bikes in the green space between Laccoke Way and Ponds Way; dirt bike tracks (image taken 20.07.12)



From L to R: Rubbish piles on Mamre Crescent, Croft Place and Briar Road (images taken 20.07.12; 27.06.12)



Alcohol free zone signs at bus stop on Briar Road, near Croft Place; and on Creigan Road (images taken 27.06.12)

In regard to social inclusion, Airds Bradbury Central is a key venue for promoting belonging and interaction across cultures, as are the Men's Shed, WorkVentures and Tharawal Aboriginal Corporation (all described in the *Land Uses* section above). The community gardens (described in the section above on food access) show expressions of culture through the types of crops planted there (e.g. banana plants, taro). The auditors also observed a number of paintings of the Aboriginal flag in these venues. Artworks at the Pond and the Monster sculpture – shown in the images below - are

also examples of expressions of community culture. All churches/church based organisations in the neighbourhood appear to be Christian. The auditors did not find any evidence of provision of facilities and services for people of different sexual orientations.



Established gardens contribute to feelings of belonging. Also, different crops are symbols of culture (i.e. banana tree seen here) (image taken 08.06.12)



Community art projects: a mural on Riverside Drive, in between Heathfield Place and Nandewar Place; The Monster in Kevin Wheatley Memorial Reserve (image taken 08.06.12)



Painting of the Aboriginal flag at WorkVentures Connect Centre on Greengate Road (image taken 08.06.12)

There are some clear challenges in Airds Bradbury, especially in regard to perceptions of safety. It is clear that parts of the community has responded to these challenges, through participation in programs run through venues like Airds Bradbury Central and the Men's Shed, and this goes some way to ameliorating the negative elements present in the neighbourhood. However, more work is needed to improve safety and social cohesion in Airds Bradbury.

12. OVERAL ANALYSIS.

This section of the Audit Report provides a qualitative assessment of the overall availability and quality of distinct elements of the built environment in each neighbourhood. The purpose is to highlight the ways in which the built environment in each locality may or may not support healthy behaviours in everyday life.

The auditors found Airds Bradbury to be a neighbourhood with many positive elements, marred by challenges relating to the socio-economic profile of the area, a lack of maintenance of services and infrastructure, and fundamental flaws in the original neighbourhood design.

As one auditor noted, there is a clear sense that residents in parts of the area – possibly the majority - care for their property and that of their neighbours. Gardens are well maintained, house exteriors clean and there is no evidence of anti-social behaviour. However, there are small pockets in the neighbourhood where it is the opposite: properties are littered, gardens unkempt, houses are in disrepair, and there are aggressive, barking dogs, and young males drinking alcohol or behaving in an anti-social manner – and as such, there is a pervasive perception of insecurity in the neighbourhood overall.

There are obvious design flaws – in the street network in particular – that significantly affect the function of the neighbourhood. It is not particularly easy to walk around, or connect with other areas, and cycling is also not well-supported. Many areas are in need of an upgrade, and there is a significant amount of rubbish, broken glass and graffiti which does detract from the overall amenity of the area. Healthy food sources are provided in Campbelltown, which is moderately accessible via public transport. However, food sources within the neighbourhood need to be improved. The overall impression is that the general accessibility of the area (characterised by pedestrian access and public transport) is poor; and key infrastructure, services and destinations are missing or in need of upgrading. It is clearly not easy, therefore, for residents to engage in recreational and utilitarian physical activity, or, to a lesser extent, to access healthy food sources. This is particularly the case for disabled, elderly and mobility impaired residents.

Challenges relating to social interaction and cohesion have been described, but the auditors have also noted that there is a real sense of pride, solidarity, resilience and support in the community, which manifests in places like Airds Bradbury Central and the Men's Shed. It is evident that residents are actively engaged in a number of activities to improve the neighbourhood and particularly support vulnerable people in the community.

From the perspective of the auditors, Airds Bradbury is currently not a healthy built environment. Recommendations to improve the issues detailed in this report are outlined below.

13. RECOMMENDATIONS FOR IMPROVEMENT.

- Another community garden, improved playgrounds, and a clean and comprehensive shopping centre may enhance feelings of belonging and connection in the neighbourhood.
- It is clear that residents feel strong connections to the bushland surrounding the neighbourhood. The improvements to The Pond (i.e. landscaping, art project, cleaning up) have helped people feel connected and a sense of belonging. Such improvements elsewhere (e.g. formal walking trails, provision of seating and other amenities) could have a similar impact.
- Improved lighting is needed, as well as consistent provision of footpaths across the site. These paths also need to be wider to allow for wheelchair/pram access, and landscaping and trees should be used to buffer footpaths from the street. Benches should also be provided to improve amenity and for use as rest stops for the mobility impaired.
- Improved surveillance along main pedestrian routes.
- More bus routes and frequent services.
- Improved maintenance of public areas and streets to reduce litter, broken glass and graffiti. More rubbish bins could also be provided to improve waste disposal.
- The street network should be changed to a more grid-like pattern to improve connectivity and legibility, and unnecessary path networks behind houses should be removed.
- Provision signage for walking routes to key destinations to improve legibility.
- Structural separation of cycle lane on main roads.
- Provision of pedestrian crossings, particularly on busy roads like Riverside Drive.
- Provision of adequate shelter at bus stops.
- Provision of a permanent fruit and vegetable market.

REFERENCES

- Camacho Duarte, O. 2011. 'Research, development and innovation: The case of social housing in Mt. Drutt, NSW', *5th State of Australian Cities Conference*, Melbourne, 29 November – 2 December 2011.
- Fenech, K. 2015. 'Wildlife removed from Airds site as work gets underway', *Macarthur Advertiser*, 30 October 2014. Accessed 16 April 2015: <http://www.macarthuradvertiser.com.au/story/2661433/wildlife-removed-from-airds-site-as-work-gets-underway/>
- Healthy People and Places Unit, South Western Sydney Local Health District. 2013. *Social Housing Transition and Health and Chronic Disease Risk Factors. Health Impact Assessment, Population Profile: Airds Bradbury*. Sydney: NSW Health.
- Heather Nesbitt Planning and Community Dimensions. 2011. *Airds Bradbury Social Sustainability and Health Impact Assessment: Integrated Social Sustainability and Healthy Impact Assessment Stage 1 Report*. Sydney: Heather Nesbitt Planning and Community Dimensions and Landcom.
- Housing NSW. 2008. *Airds Bradbury Community News Edition 1*. Sydney: Housing NSW. Accessed 23 February 2015: <http://www.housing.nsw.gov.au/NR/rdonlyres/5A46FDE0-6937-4276-B6E3-162DABBBF5E5/0/AirdsBradburyNe..>
- Housing NSW and Straight Talk. 2010. *OutLOUD consultation for Airds Bradbury Renewal Project*. Sydney: Housing NSW.
- Kougious, P., Govan, C. and Ong, A. 2009. *Airds/Bradbury Community Survey: Main Quantitative Report*. Sydney: Sweeney Research for Housing NSW.
- Landcom. 2015. *Newbrook – Airds*. Sydney: Landcom. Accessed 16 April 2015: <http://www.landcom.com.au/places/newbrook-airds/overview.aspx>
- No author given. 2015. 'Newbrook's first blocks taken'. *Macarthur Advertiser*, 24 March 2015. Accessed 16 April 2015: <http://www.macarthuradvertiser.com.au/story/2966207/newbrooks-first-blocks-taken/>
- NSW Land & Housing Corporation. 2013. *Renewing Airds Bradbury: Fact Sheet*. Sydney: NSW Land & Housing Corporation.
- Palermo, C. and Wilson, A. 2007. *Development of the Victorian healthy food basket*. Melbourne: Monash University.
- Queensland Health. 2002. *The 2000 healthy food access basket (HFAB) survey*. Brisbane: Queensland Health and Queensland Treasury.
- Stillitano, I. 2014. 'Farmers' produce couldn't be fresher for Mount Annan markets', *Camden Advertiser*, 7 October 2014. Accessed 27 April 2015: <http://www.camdenadvertiser.com.au/story/2608521/farmers-produce-couldnt-be-fresher-for-mount-annan-markets/>
- The Airds Bradbury People's Plan – Interim Strategies June 2009-June 2011.
- Urbis. 2015. *Airds Bradbury Renewal Project*. Sydney: Urbis. Accessed 23 January 2015: <http://www.urbis.com.au/projects/new-communities/airds-bradbury-renewal-project-2>
- Woodhouse, B. 2011. Personal communication, 2 June 2011.

Appendix A: LIST OF STORES IN MACARTHUR SQUARE AND CAMPBELLTOWN MALL

STORES IN MACARTHUR SQUARE		
<i>Services and Major Retail</i>	<i>Fresh Food Stores</i>	<i>Takeaway Food / Restaurants</i>
Allphones	Ambarvale Fish Market	Be Healthy
ANZ Bank	Bakers Delight	Boost Juice
Australia Post	Bush's Fresh Meats	Bucking Bull
Best & Less	Coles	China Joe's
Big W	M & B Chickens	Coco Cubano
Bupa	Macathur Fruitworld	Crazy Kebabs and Cafe
Commonwealth Bank	Macathur Square Fruit Market	Crust Pizza
Community First Credit Union	Peter's Meats and Deli Corner	Curry Karma
Credit Union Australia	Superb Salads	Dan Murphy's
David Jones	Woolworths	Gloria Jeans
Dick Smith		Guzman y Gomez
Fernwood Fitness		Hinata
Fit N Fast		Jamaica Blue
Healthy Life		Kebab Connection
IMB		KFC
Macarthur Family Chemist		Le Square Café
Macarthur Medical & Dental		Le Wrap
Medibank		Leaf it 2me
NAB		Mamas Wok
National Hearing Care		Mamitu Burger
NRMA		McDonald's
OPSM		Michel's Patisserie
Optus		Muffin Break
Priceline Pharmacy		Nando's
SCU Banking		Noodle Republic
Suncorp		Omega's Fish & Chips
Target		Oporto
Telstra		Petite Papillons Brasserie
Virgin Mobile		Pho 76
Vitamin King		Platinum Grill
Vodafone		Pop N Go
W C I & U Credit Unions		Pretzel World
Westpac ATM		Red Rooster
		San Churro
		Specialty Donuts
		Subway
		Sushi Bay
		Sushi Mashita
		Thai from Sky
		Thai Splendid
		The Chef's : House
		The Coffee Club
		The Coffee Emporium
		Tokyo Sushi
		Top Juice
		Turquoise Mediterranean
		WTF Café and Desserts
		Yogurtland

STORES IN CAMPBELLTOWN MALL		
<i>Services and Major Retail</i>	<i>Fresh Food</i>	<i>Takeaway Food / Restaurants</i>
Best & Less	A & A Poultry	Boost
Campbelltown Mall Medical Centre	ALDI	BWS
Commonwealth Bank	Bakers Delight	Café Cherry Beans
Dick Smith Electronics	Campbelltown Fish Market	Dahlia's Café and Pizzeria
HCF	Coles	Donut King
Jenny Craig	Farm Fresh Meats and Deli	Gloria Jeans
Kmart	Filled With Fruit and Deli	Go Sushi
Lowes	Green Valley Herbs and Spices	Healthy Temptations
Nextra Newsagency	VNH Asian Supermarket	Kebab Deluxe
Priceline Pharmacy	Woolworths	KFC
Shopsmart Wholesale Pharmacy		Liquorland
Specsavers		McDonald's
Target		Mi Japan Teppanyaki
Telstra		Michel's Patisserie
Vodafone		Oporto
Westpac		Pretzles R Us
Yes Optus		Sushi Hub
		Tasty Noodle Bar

(1) Market basket survey (supermarkets).

INSTRUCTION GUIDE

PART A: COST SURVEY

Victorian Healthy Food Basket, Developed by Monash University, Department of Nutrition & Dietetics

Introduction

The Victorian Healthy Food Basket meets the nutritional requirements of the four family types described below for two weeks, providing greater than 80% of the nutrient reference values (NRVs) for nutrients and at least 95% of energy requirements.

The four family types include:

- i) Typical family – 2 adults and 2 children (44 year old male, 44 year old female, 18 year old female and 8 year old male).
- ii) Single parent family – 44 year old female, 18 year old female and 8 year old male.
- iii) Elderly pensioner – 71 year old female.
- iv) Single adult – Adult male > 31 years

The Victorian Healthy Food Basket is designed to collect information on the **cost, availability** and **accessibility** of a healthy basket of foods from a store that has all the food groups in the basket. **Collection of data from stores that have less than 40 of the 44 items in the basket is not recommended.** This will allow accurate comparisons of data to be made.

Guidelines

Information for the healthy food basket survey must be collected during a period of time where prices will not be inflated. Avoid school holidays, public holidays, long weekends and other events may influence the price of food (for example, natural disasters such as the cyclones of north Queensland in 2006 that inflated banana prices).

Make sure to collect the data for your area within a **4-week period** to improve the reliability of the data. Record the date of your data collection.

Obtain a list of ALL the supermarkets in the Local Government Area (LGA). This can be obtained from the LGA (usually Environmental Health Team) or from the Yellow Pages.

Choose a large chain supermarket (e.g. Coles, Safeway, Bi-Lo, IGA) in your desired area as the benchmark store. This store should have ALL 44 items contained in the basket and be a store that is generally accessible and reasonably priced. You will also need to survey other smaller or independent stores (e.g. IGA, FoodWorks).

When collecting information abide by the following points.

- **Record the prices of all the food items in the healthy food basket using the 'Healthy Food Basket form'.** Choose the product in the stated size. The **cheapest brand price** in the specified size should be recorded.
- DO NOT include **generic brands** (e.g. Black and Gold, Homebrand etc) unless they are the only brand available for that particular product and it must be recorded that the brand was generic.
- DO NOT include **special prices**, only record regular prices of items. If the regular price is not listed and staff members cannot tell you, use the price of the item at your benchmark store.
- If the size of an item differs to what is specified in the form, choose the **next closest smaller size**. If the smaller size is not available choose the next larger size. **You MUST record both the size and price of the item if an alternative size for an item is chosen.**
- Where a **brand name** is specified, use only that brand of product. If the specified brand is not

available, (eg. *Premium* biscuits or *Weet-Bix*) choose the closest alternative (eg. *Salada* biscuits or *Vita Brits*).

- If an item is not available, record the item as ‘missing’.

Meats:

- **Deli products** can be used if they are the cheapest product.
- **Meat prices should be recorded per kg** unless otherwise specified. Bulk meat prices per kg should not be recorded. If the type of meat specified is not available (eg. regular mince, lean) choose the closest type of meat to what is specified.
- Ham (in this survey) is a lean, pink meat which is able to be sliced or shaved. Canned ham and shaped luncheon meat is not an acceptable substitute. Ham can be obtained from the deli or packaged in the refrigerator section.

Fruit and vegetables:

- **Fruit and vegetables should be recorded per kg** unless otherwise specified. Bagged fruit or vegetables prices should not be used unless they are the only type available.

Non-core foods:

- Polyunsaturated margarines should not be confused with monounsaturated margarines such as those made from canola and olive oils. Polyunsaturated margarines include *Nuttex*, *Eta*, *Meadow Lea*

PART B: AVAILABILITY SURVEY

The availability component of the survey has been adapted from the NSW Cancer Council Market Basket Survey Tool.

This section is a survey of the **availability of fruit and vegetables**. For this task, there is a list of 30 fruits and vegetables. In the “present” column, tick ✓ if the item is available, or cross ✗ if it is unavailable. In the “number of varieties” column, the number of available types of this food should be written.

For example, a supermarket has the following apples: Granny Smith, Fuji and Pink ladies.

Fruit/Vegetable	Present	Number of varieties
Apples	✓	3

If broccoli is unavailable:

Broccoli	✗	
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PART C: QUALITY SURVEY

This quality assessment tool has been developed using the Queensland Healthy Food Basket (QFAB) and the NSW Cancer Council Market Basket Survey. This measure involves a **visual assessment of age, bruising and mouldiness** of **10 common fruit and vegetables** displayed. Additionally, whether the fruit is **clean** or not will be recorded.

The ten varieties of fruits and vegetables that will be assessed are:

Fruit: **Apples, oranges and bananas**

Vegetables: **Tomato, potato, pumpkin, cabbage, lettuce, carrots and onions**

Record the price of the **cheapest** fruit and vegetables and rate their quality in this section.

For fresh fruit and vegetables, price per kg. Use items sold individually \$/kg, if product is only available per unit price (i.e., lettuce \$1.20 each) weigh one, and write the price per unit and the weight on the form. If there is no scale at the food outlet, describe whether it is a half or a whole item (i.e., half or whole lettuce). If items are not available, write “N/A” in the price/kg box.

Rate the quality of the fresh fruit and vegetable items on display based on the proportions of fruit and vegetables that are aged, bruised or mouldy. Record items (tick) as **'all good'** if no ageing, bruising or mouldiness is seen. If three quarters or more are free from ageing, bruising or mouldiness, then record **'most'**. Use the definitions to record if **'half'**, **'some'** or **'few'** are free from ageing, bruising or mould. If the item scores **'some'** or **'few'**, then identify the **next cheapest type of that item which is of a better quality** (i.e., a score of "all", "most" or "half").

Finally, look at how clean the fruit and vegetables are. Mark 'yes' (Y) if the produce appears free or dirt and dust or mark 'No' (N) if they appear dirty or dusty.

For example, if the cheapest apples are Granny Smith apples, however the apples on display are very aged, only "some" are good and they appear dirty or dusty:

Product	Price per kg	Unit weight (if applicable)	Quality Assessment (tick box) Please give an overall rating on the quality of fruits and vegetables based on their age, bruising or mould.					Clean (tick box) Please give a rating of how clean the items are.	
			All	Most	Half	Some	Few	Yes	No
Granny Smith Apples	\$3.49					✓			✓

Another column needs to be completed with the next cheapest type of apple until at least "half" of the displayed apples are good. For example, if the next cheapest apples were Fuji apples (priced at \$4.20 per kg), in which "half" were good and they were clean and free from dirt and dust:

Product	Price per kg	Unit weight (if applicable)	Quality Assessment (tick box) Please give an overall rating on the quality of fruits and vegetables based on their age, bruising or mould.					Clean (tick box) Please give a rating of how clean the items are.	
			All	Most	Half	Some	Few	Yes	No
Granny Smith Apples	\$3.49					✓		✓	
Fuji Apples	\$4.20				✓			✓	

PART D: PRODUCT PLACEMENT AT CHECKOUT

This section is a survey of the number and types of products on display at the checkout, as a measure of the products available in the high-traffic, high-visibility areas of supermarkets. For this task, there is a list of common items. In the "present" column, tick ✓ if the item is available, or cross ✕ if it is unavailable. In the "number of varieties" column, the number of available types of this food/drink should be written. Please list any additional items in the section at the bottom of the table.

For example, if a supermarket has the following chocolate bars at the checkout: Mars Bar, Kit-Kat, Snickers Bar:

Fruit/Vegetable	Present	Number of varieties	Name (as appropriate)
Chocolate	✓	3	Mars Bar, Kit-Kat and Snickers Bar

If water is not available at the checkout:

Water	✕		
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Cover sheet: MARKET BASKET SURVEY DATA COLLECTION

Name of Supermarket:

Address:

Survey completed by:

Date:

PART A: COST SURVEY

Basket item	Product size	Cost
Cereal group		
White bread	650g	
Wholemeal bread	650g	
Crumpets (rounds)	300g	
Weet-bix	750g	
Instant oats	500g	
Pasta	500g	
White rice	1kg	
Instant noodles	85g	
Premium biscuits	250g	
Fruit		
Tinned fruit salad, natural juice	450g	
Sultanas	375g	
Orange juice (100%) NAS	2L	
Apples	per 1kg	* (as per Quality Assessment)
Oranges	per 1kg	* (as per Quality Assessment)
Bananas	per 1kg	* (as per Quality Assessment)
Vegetables, legumes		
Frozen peas	per 1kg	
Tinned tomatoes	400g	
Tinned beetroot	450g	
Tinned corn kernels	440g	
Tinned baked beans	420g	
Tomatoes	per 1kg	* (as per Quality Assessment)
Potatoes	per 1kg	* (as per Quality Assessment)
Pumpkin	per 1kg	* (as per Quality Assessment)
Cabbage	half	* (as per Quality Assessment)
Lettuce	whole	* (as per Quality Assessment)
Carrots	per 1kg	* (as per Quality Assessment)
Onions	per 1kg	* (as per Quality Assessment)
Meat and alternatives		
Fresh bacon, shortcut, rindless	per 1kg	
Fresh ham	per 1kg	
Beef mince, regular	per 1kg	
Lamb chops, forequarter	per 1kg	
Chicken fillets, skin off	per 1kg	
Sausages, thin beef	per 1kg	
Tinned tuna (unsat.oil)	425g	
Tinned salmon, pink (water)	210g	
Large eggs (min 50g, caged)	700g dozen	
Dairy		
Fresh full cream milk	1L	
Fresh reduced fat milk	2L	
Reduced fat flavoured yoghurt	1kg tub	
Full fat long life milk	1L	
Cheese, block	500g	
Non-core foods		
Polyunsaturated margarine	500g	
White sugar	1kg	
Canola oil	750ml	
Unhealthy items		
Mars bar	53g	
Coca Cola	600ml	

PART B: AVAILABILITY SURVEY

Vegetable	Present	Number of varieties
Broccoli		
Cabbage		
Capsicum		
Carrot		
Cauliflower		
Cucumber		
Green beans		
Lettuce		
Mushroom		
Onion		
Potato		
Pumpkin		
Sweet corn		
Sweet Potato		
Tomato		
Fruit	Present	Number of varieties
Apple		
Banana		
Grape		
Kiwi fruit		
Mango		
Orange		
Mandarin		
Cherries		
Pawpaw		
Peach		
Pear		
Pineapple		
Rock melon		
Strawberry		
Watermelon		

PART C: QUALITY SURVEY

Cheapest Product	Price per kg	Unit weight (if applicable)	Quality Assessment (tick box) Please give an overall rating on the quality of fruits and vegetables based on their age, bruising or mould.					Clean (tick box) Please give a rating of how clean the items are.	
			All	Most	Half	Some	Few	Yes	No
Apples									
Oranges									
Bananas									
Tomatoes									
Potato									
Pumpkin									
Cabbage (half)									
Lettuce (whole)									
Carrots									
Onions									

Key (Quality)

Good: None of the characteristics listed below are present

Aged: Softness, discolouration, wilting, limpness, skin wrinkling
(generally still edible)

Key (Clean)

Yes: Free from dirt or dust

No: Dirt or dust visible on skin

PART D: PRODUCT PLACEMENT at CHECKOUT.

Products	Aisle 1	Aisle 2	Aisle 3	Aisle 3	Aisle 4	Aisle 5	Aisle 6	Aisle 7
Lollies								
Chocolate								
Chewing gum								
Crisps and salty snacks								
Sweet biscuits								
Savoury biscuits								
Cakes and pastries								
Fruit								
Vegetables								
Breads and cereals								
Dairy products								
Lean meats, poultry, eggs								
Nuts and seeds								
Other (e.g., batteries, razors, magazines)								
Drinks								
Water								
Juice								
Soft drinks								
Diet soft drinks								
Energy drinks								
Flavoured milk								
Other:								

(2) **Farmers Market Produce Survey.**

Farmers Market Produce Survey: Cover Sheet

Name of Farmers Market: _____

Address: _____

Survey completed by: _____

Date: _____

FRUIT AND VEGETABLE STALLS: STANDARD ITEMS

Stall Name: _____
Suburbs produce sourced or grown: _____
Organic certification (if available): _____
Direct from farm or wholesale: _____

Product	No. of varieties	Cheapest variety (loose items)		Quality 1, 2, 3, 4 or 5	Clean? Y or N	Comments
		Name	Price			
Fruit						
Apple						
Apricot						
Avocado						
Banana						
Blueberry						
Cantaloupe (Rockmelon)						
Grape						
Honeydew melon						
Lime						
Mango						
Nectarine						
Orange						
Papaya (PawPaw)						
Peach						
Pear						
Plum						
Pineapple						
Strawberry						
Watermelon						
Other fruits:						
Vegetable						
Asparagus						
Beans (green)						
Broccoli						
Cabbage						
Capsicum						
Carrot						
Cauliflower						
Celery						
Corn						
Cucumber						
Eggplant / Aubergine						
Lettuce (round)						
Mushroom (button)						
Onion						
Potato						
Pumpkin						
Sweet Potato						
Tomato						
Zucchini						
Other vegetables:						

Quality scores: very low / very poor = 1; low / poor = 2; medium / acceptable = 3; high / good = 4; very high/very good = 5

FRUIT AND VEGETABLE STALLS: STANDARD ITEMS

Stall Name: _____
Suburbs produce sourced or grown: _____
Organic certification (if available): _____
Direct from farm or wholesale: _____

Product	No. of varieties	Cheapest variety (loose items)		Quality 1, 2, 3, 4 or 5	Clean? Y or N	Comments
		Name	Price			
Fruit						
Apple						
Apricot						
Avocado						
Banana						
Blueberry						
Cantaloupe (Rockmelon)						
Grape						
Honeydew melon						
Lime						
Mango						
Nectarine						
Orange						
Papaya (PawPaw)						
Peach						
Pear						
Plum						
Pineapple						
Strawberry						
Watermelon						
Other fruits:						
Vegetable						
Asparagus						
Beans (green)						
Broccoli						
Cabbage						
Capsicum						
Carrot						
Cauliflower						
Celery						
Corn						
Cucumber						
Eggplant / Aubergine						
Lettuce (round)						
Mushroom (button)						
Onion						
Potato						
Pumpkin						
Sweet Potato						
Tomato						
Zucchini						
Other vegetables:						

Quality scores: very low / very poor = 1; low / poor = 2; medium / acceptable = 3; high / good = 4; very high/very good =5

Stall Information	Stall Name:	Stall Name:	Stall Name:
Suburb product sourced or grown			
Organic certification visible			
Direct from farmer			
Wholesale			
Produce Items			
Meat, Seafood and Eggs			
Chicken			
Lamb			
Beef			
Pork			
Bacon / ham			
Mince			
Sausages			
Game meat			
Fresh fish			
Smoked fish			
Eggs			
Other:			
Dairy Products			
Milk			
Yoghurt			
Cheese			
Other:			
Bakery Items			
Bread			
Cakes / Muffins			
Other:			
Gourmet foods and special dietary items			
Pre-prepared food			
Gluten free / yeast free			
Sugar free			
Other :			
Other items			
Nuts			
Grains and pulses			
Oils			
Jam, honey, condiments			
Chocolates / confectionary			
Beverages			
Take away food, coffee or drinks			
Additional items:			
Other:			

(3) Farmers Market Customer Survey.

FARMERS' MARKET SURVEY: QUESTIONNAIRE FOR CUSTOMERS

ADMINISTRATION

1. Name of farmers' market
2. Date
3. Gender
4. How was the survey completed?

DEMOGRAPHICS

5. In which suburb do you live?
6. What language do you mainly speak at home?
7. In which country were you born?
8. How many people live with you?
9. How far did you travel to get to the market today?
10. How did you get to the market today? (Answer in km)
11. In what year were you born?

<input type="checkbox"/> English	
<input type="checkbox"/> Other (Please specify)	
<input type="checkbox"/> Australia	
<input type="checkbox"/> Other (Please specify)	
Adults	
Children (<16 years old)	
<input type="checkbox"/> I drove	
<input type="checkbox"/> I caught public transport	
<input type="checkbox"/> I rode my bicycle	
<input type="checkbox"/> I walked	
<input type="checkbox"/> Other (Please specify)	

SHOPPING BEHAVIOURS

12. In general, how frequently have you shopped for food over the past month?
13. In general, how many times have you shopped for food at farmers' markets over the past month?

<input type="checkbox"/> Very frequently (> 1 per week)
<input type="checkbox"/> Frequently (every week)
<input type="checkbox"/> Occasionally (1 or 2 per month)
<input type="checkbox"/> Never
<input type="checkbox"/> Very frequently (weekly)
<input type="checkbox"/> Frequently (2 per month)
<input type="checkbox"/> Occasionally (1 per month)
<input type="checkbox"/> Never

If "Never, go to Question 16. Otherwise, go to Question 14.

14. In general, how much do you spend at farmers' markets each time you visit?

- ☐ Less than \$50
☐ Between \$50 and \$99
☐ Between \$100 and \$149
☐ More than \$150

ATTITUDES AND PERCEPTIONS TOWARD FARMERS' MARKETS

15. How important are these factors in your decision to shop at farmers' markets?

Factors	Very important	Important	Slightly important	Neutral	Not important
Buying 'top' quality fruit and vegetables					
Buying fruit and vegetables that are fresh					
Buying a variety of different types of fruit and vegetables					
Buying fruit and vegetables that look 'good' (i.e., clean, shiny)					
Buying food that is well priced					
Buying locally grown / made foods to support local people and producers					
Buying organic foods					
Buying foods specific to my culture					
Buying special dietary foods (i.e., gluten free foods)					
Buying food that has been grown or produced in a sustainable way					
Purchasing meat from animals treated humanely					
Talking to the stallholders to find out more about the food I buy					
Enjoying the experience of shopping at farmers' markets (i.e., building relationships with stallholders)					
Shopping in a relaxed and friendly environment					
Supporting a community event					
The convenience of the market (i.e., location and time)					

Other factors (please specify)

16. What is your main reason for coming to the farmers' market today?

17. How do you think this market could be improved?

END OF SURVEY

(4) Farmers Market Stallholder Survey.

FARMERS' MARKET SURVEY: QUESTIONNAIRE FOR STALLHOLDERS

ADMINISTRATION

1. Name of farmers' market	
2. Date	
3. Name of stall	
4. Organic certification?	
5. Gender	
6. How was the survey completed	In person

DEMOGRAPHICS

7. In which suburb is your farm or warehouse?		
8. How many people are employed at your farm or warehouse?		
9. What type of produce do you sell at the farmers' market?		
<input type="checkbox"/> Fruit or vegetables	<input type="checkbox"/> Meat, seafood or eggs	<input type="checkbox"/> Dairy products
<input type="checkbox"/> Bread, cereal or baked goods	<input type="checkbox"/> Nuts, dried fruit or confectionary	<input type="checkbox"/> Gourmet or pre-prepared foods
<input type="checkbox"/> Special dietary items (i.e., gluten free)	<input type="checkbox"/> Take away food and drinks	<input type="checkbox"/> Coffee and hot drinks
10. From where are you products or ingredients sourced?		
<input type="checkbox"/> My own farm or property	<input type="checkbox"/> Sydney Basin	<input type="checkbox"/> Producers in NSW
<input type="checkbox"/> Imported from interstate	<input type="checkbox"/> Imported from overseas	
11. Do you find it difficult to source local produce?		
<input type="checkbox"/> Always	<input type="checkbox"/> Sometimes	<input type="checkbox"/> Not usually
<input type="checkbox"/> Never	<input type="checkbox"/> N/A, as I grow my own produce	
12. How long have you been trading at this market?		
13. How many markets do you go to per fortnight?		
14. How far do you travel to get to this market?		
15. In general, what is your average sales figure per day?		
<input type="checkbox"/> Less than \$300	<input type="checkbox"/> Between \$300 and \$699	<input type="checkbox"/> Between \$700 and \$1000
<input type="checkbox"/> More than \$1000		
16. In which year were you born?		

ATTITUDES AND PERCEPTIONS TOWARD FARMERS' MARKETS

17. How important are these factors in your decision to sell your produce at farmers' markets?

Factors	Very important	Important	Slightly Important	Neutral	Not important
Selling my produce directly to consumers					
Selling local produce and reducing food miles					
Selling organic or produce free of chemicals					
Selling dietary specific foods (i.e., gluten free foods)					
Selling foods for different cultural groups					
Selling foods at the best possible price					
Selling food that has been grown or produced in a sustainable way					
Marketing my business					
Increasing my profit margins					
Building a relationship with customers					
Providing customers with information about the produce at my stall					
Selling my produce in a relaxed, friendly atmosphere					
Supporting a community event					
The convenience of the market (i.e., location and time)					

Other factors (please specify)

18. Considering these factors, what is the main reason you sell your produce at farmers' markets?

19. How do you think this market could be improved?

END OF SURVEY

Appendix C: SCORING SYSTEM FOR GIS ANALYSIS OF WALKABILITY

Category	Observed condition	Score **
1. Material of Footpath	Dirt	1
	Paving	2
	Concrete & Bitumen	3
2. Quality of footpaths	Poor	1
	Average	2
	Good	3
3. Gradient of footpaths	Steep	1
	Moderate	2
	Flat	3
4. Buffer between footpath and street	Yes	1
	No buffer	0
5. Visibility along footpath	Poor	1
	Average	2
	Good	3
6. Connectivity	Continuous	1
	Abrupt end	0
7. Quality of shading of footpaths	Poor	1
	Average	2
	Good	3
8. Width*	Width ≤ 2 m	1
	2m <Width< 4m	2
	Width ≥ 4m	3

* Widths range from 1.2 m to 9.1 m. A method named “Natural Breaks (Jenks)” is used to divide the width into three categories. A brief description of Natural Breaks can be found here ([http://webhelp.esri.com/arcgisdesktop/9.2/index.cfm?topicname=natural_breaks_\(jenks\)](http://webhelp.esri.com/arcgisdesktop/9.2/index.cfm?topicname=natural_breaks_(jenks)))

** The minimum score for each footpath is: $(1+1+1+0+1+0+1+1)/8 = 6/8 = 0.75$.

The maximum score for each footpath is: $(3+3+3+1+3+1+3+3)/8 = 20/8 = 2.5$

Score	Rate	Colour on Map.
0.75 – 1.3	1 (poor)	RED
1.3-1.9	2 (Average)	YELLOW
1.9-2.5	3 (Good)	GREEN

Appendix D: DISABLED/DAMAGED STREET LIGHTS IN AIRDS BRADBURY, as at 13.11.12

POLE No.	LOCATION	NATURE OF DAMAGE
254420	Car park of Airds shops, behind Riverside Inn off Riverside Drive	Casing broken
20550	Corner of Cheviot Place and Riverside Drive	Casing broken
No no.	Street light out front of Medical Centre on Riverside Drive near Cheviot Place	Light out
No no	Floodlight out front of Medical Centre on Riverside Drive near Cheviot Place	Light out
254660	Footpath behind Peppin Crescent	Broken
254665	Footpath behind Peppin Crescent	Light dim
254677	Corner of Georges River Road and Junction Road at roundabout	Light out
No no	Footpath behind Willandra Way and Georges River Road (Approximate GPS coordinates: 34°0442.74"S, 150°5030.40"E)	Light out
No no	Out front of house at end of Brush Way (Approximate GPS coordinates: 34°0448.74"S, 150°5032.34"E)	Light out
254250	Along footpath in grass area near Riverside Drive (grass area adjacent to Falkiner Way, Tuppal Way, Boonoke Place)	Glass casing broken
254020	Back of Gamboola Way (footpath behind townhouses)	Light out
20666	Corner of Katella Place and Greengate Road	Casing broken
20663	Greengate Road bus stop near Gamboola Way	Light out
20586	Riverside Drive near Samuel Place	Light out
Obscured	Outside 167 Riverside Drive at bus stop	Light out
254261	Footpath near 167 Riverside Drive, leading to Teaswater Place	Light out
20600	Oldbury Place	Light out and damaged
No no	Footpath near Kelburn Place off Riverside Drive	Light out
254330	Footpath near Kevin Wheatley Reserve near Kelburn Place	Light out
254331	Footpath near Kevin Wheatley Reserve near Kelburn Place	Light out
254338	Footpath near Kevin Wheatley Reserve leading towards Airds Bradbury Central (end of Southdown Place)	Light out
245337	Footpath at rear of Kevin Wheatley Reserve along back of houses	Light out
Obscured	Kevin Wheatley Reserve alongside houses, opposite Tharawal Aboriginal Corporation	Light out
19603	At end of Prell Place	Light out
20643	On Riverside Drive, opposite Riley Park, in between Foxlow Place and Haddon Rig Place	Light out
20509	On Deans Road opposite Kevin Wheatley Reserve	Light out
No no	Merriman Place, outside St Andrew's Church	Light out
20573	Corner of Southdown Place and Teeswater Place	Light out
254266	Coldenham Way	Light out
20422	Off Nowland Way in bushland	Light out
254417	Walkway in between Nowland Way and Airds Bradbury Shopping Centre	Light out
254418	Walkway in between Nowland Way and Airds Bradbury Shopping Centre	Light out
No no	Cardew Way	Light out
No no	Cardew Way	Light out
No no	Cardew Way	Light out
23A	Corner of Murulla Place and Merino Crescent	Light out
22B	Maitland Way, near corner of Lacocke Way	Light out