



City Wellbeing Program ■ City Futures Research Centre

## ***Planning and Building Healthy Communities***

***A multi-disciplinary study of the relationship between the built environment and human health.***

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This report comprises research funded by an Australian Research Council Grant No. LP100100804. The research was conducted within the City Wellbeing Program (City Futures Research Centre UNSW) with partners UrbanGrowth NSW, the Heart Foundation (NSW) and the South Western Sydney Local Health District (NSW Health).

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## **SUMMATION REPORT:**

# **What contributes to a built environment that supports our health?**

City Futures Research Centre ■ The University of New South Wales, Australia  
September 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.

## **ACKNOWLEDGEMENTS**

This report comprises research funded by an Australian Research Council Grant No. LP100100804. The research was conducted within the City Wellbeing Program (City Futures Research Centre UNSW) with partners UrbanGrowth NSW, the Heart Foundation (NSW) and the South Western Sydney Local Health District (NSW Health).

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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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## EXECUTIVE SUMMARY

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The ***Planning and Building Healthy Communities Study*** explores the ways in which the shape of our built environments impact, positively and negatively, on major risk factors for contemporary chronic diseases such as diabetes, respiratory and heart conditions, some cancers, and depression; the so-called ‘lifestyle diseases’. The Study gives explicit attention to:

- four newly-developing ‘case-study’ residential areas in Sydney (Airds Bradbury, Renwick, New Rouse Hill and Victoria Park), via in-depth auditing of the physical environment of each and in-depth conversations (via interviews and a focus group) with participating residents.
- each of the three key ‘domains’ (physical activity, social interaction, and nutrition) where the built environment can be configured for healthy outcomes, and how they interact. Other studies have tended to focus on only one or a limited number of health and built environment factors and relationships.
- the experiences of the residents of the case-study areas. Here the Study traces their needs, aspirations and behaviours of the participating residents from the primary point of view of their own health.

The Study was conducted between 2011 and 2015 by the project partners: the City Futures Research Centre (University of New South Wales), UrbanGrowth NSW (a key facilitator in the development of each case-study area), the National Heart Foundation, and the South Western Sydney Local Health District. Each is a key player within the fields of health and the built environment. This ensured a multi-disciplinary perspective in its aims, as well as in the gathering and review of data. It also allows, through the Study conclusions and recommendations, to influence the shape and management of existing and future built environments to achieve health-related outcomes.

The Study was funded by an Australian Research Council grant and by contributions from the Project partners. It addresses National Research Area Priority 2: Promoting and Managing Good Health.

The Study developed new audit, interview and workshop tools to gather its information. Each is documented and can be used as models for future similar studies elsewhere.

The Study found there is a need for continual attention to health implications in design, construction and on-going management of urban areas. Within the four Study areas positive health outcomes were often the result of fortuitous “co-benefits” from actions aimed at other objectives (eg. “green” environmental outcomes and provision of amenities to assist marketing of residential development). The Study also found that some good intentions have been let down by poor implementation and management. Increased attention is required to encourage residents to be more active. Although Study respondents were generally satisfied with their levels of interaction with neighbours, there was a lingering desire for a greater “connection” within their communities, particularly from those living in multi-storey apartment buildings. While access to healthy foods was not a particular concern, there was still a need for community food box programs in two areas. Markets and community gardens provide important points for social interaction and physical activity.

The Study uses the research findings to recommend 14 lessons for designing, planning, constructing and managing urban environments that support health and wellbeing.

## 1. INTRODUCTION.

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### 1.1 Study overview.

#### Aims and objectives.

The improvement of human health has always been an intrinsic part of urban planning: providing clean water, disposing of wastes, controlling pollutants, and ensuring fresh air and sunshine. We now have a range of solutions to address these needs. However these responses have not kept pace with other, often less-tangible, health issues now becoming apparent – the chronic so-called ‘lifestyle’ diseases such as diabetes, various respiratory and heart conditions, depression, and some cancers; and which are estimated to cost the Australian nation some \$22.3 billion annually. Obesity, physical inactivity, increased stress, social isolation and poor nutrition have all been identified as key contributors.

In turn, the shape of our built environments can have significant direct and indirect impacts on these contributing factors – and thus on our propensity to incur these new health risks.

A review of 1,080 key research references relating to these health and built environment relationships was conducted in 2011 by the City Wellbeing Program within the City Futures Research Centre in the Faculty of the Built Environment at the University of New South Wales.<sup>1</sup> The review identified three key domains in which the built environment can be either beneficial and detrimental to our health and well-being:

- (i) Getting people active (physical activity) - to reduce obesity, the risk of heart disease, some cancers and depression.
- (ii) Connecting and strengthening communities (social interaction) - to reduce risk of mental illness particularly depression.
- (iii) Providing healthy food options (nutrition) - to reduce obesity and risk of heart disease and some cancers.

The review also identified seven specific necessary actions within these three domains relating to necessary features that need to be embedded within our built environments: the facilitation of utilitarian (‘active transport’) and recreational physical activity; the facilitation of incidental social interactions, the making of community spaces, and the minimization of crime; and the facilitation of access to healthy foods, and the responsible advertising of foods generally (Figure 1).

The *Planning and Building Healthy Communities* Study explores these health and built environment relationships in more depth via focused appraisals of four different metropolitan and urban fringe areas in Sydney:

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<sup>1</sup> Kent, J., Thompson, S.M. and Jalaludin, B. (2011) *Healthy Built Environments: A review of the literature* (Sydney: Healthy Built Environments Program, City Futures Research Centre, UNSW).

- Airds Bradbury
- Renwick
- New Rouse Hill
- Victoria Park.

All areas are currently undergoing development, and incorporate healthy planning interventions to various degrees (Figure 2). A key facilitator in the development of each area is UrbanGrowth NSW (formerly Landcom), the property development instrumentality of the State government.

**Figure 1: The basis of a healthy built environment – key domains and actions.**

<b>Key Domain</b>	<b>Specific Actions</b>
<p><b>Getting People Active.</b></p> <p>The built environment can get people active by facilitating both utilitarian physical activity (‘active transport’) and recreational physical activity.</p>	<p><b>Facilitate utilitarian physical activity.</b></p> <p>Increasing the accessibility of destinations via active transport modes (i.e. walking, cycling, public transport), and ensuring the experience of walking, cycling and public transport is of high quality will assist the use of these modes relative to more sedentary car travel.</p>
	<p><b>Facilitate recreational physical activity.</b></p> <p>Providing facilities for formal and informal, and individual and group physical recreation in public spaces and via commercial and non-commercial organisations will assist in increasing overall levels of physical activity.</p>
<p><b>Connecting and Strengthening Communities.</b></p> <p>The built environment can connect people and strengthen communities – and thus support psychological health by fostering feelings of belonging and restoration – by facilitating incidental neighbourhood social interactions, by making community spaces, and by building for crime prevention.</p>	<p><b>Facilitate incidental neighbourhood interaction.</b></p> <p>Ensuring public spaces are ‘friendly’ (busy, comfortable, safe and open to all) and with clear expectations as to appropriate behavior included in the design of public spaces (eg. via the provision of facilities and signage) will assist in encouraging positive incidental interactions between individuals and groups.</p>
	<p><b>Make community spaces.</b></p> <p>Providing explicit and well-designed (accessible, comfortable, safe) spaces open to all will allow for gatherings and other activities by the community as a whole and as particular interest groups; similarly, access to natural green environments will extend the notion of community to include the restorative effect of wider nature.</p>
	<p><b>Build for crime prevention.</b></p> <p>Designing the built environment to discourage crime and feel safe (while still facilitating social interactions) will assist an overall sense of belonging, caring and community commitment.</p>
<p><b>Providing healthy food options.</b></p> <p>The built environment can provide healthy food options by facilitating access to healthy food, and by responsible food advertising.</p>	<p><b>Facilitate access to healthy food.</b></p> <p>Ensuring supermarkets, green grocers and farmers’ markets are accessible relative to fast food outlets, pubs and convenience stores (eg. through zoning and land use regulation, and subsidized spaces) will promote the consumption of healthy foods and discourage purchase of unhealthy alternatives.</p>
	<p><b>Promote responsible food advertising.</b></p> <p>Marketing, advertising and promoting the visibility of healthy foods (eg. near schools and other community locations, and relative to unhealthy foods) will have positive influences on consumption habits.</p>

The Study was conducted between 2011 and 2015 by the Project partners:

- City Futures Research Centre (University of New South Wales).
- UrbanGrowth NSW.
- National Heart Foundation.
- South Western Sydney Local Health District (SWSLHD) (NSW Health).

By working with these key players within the fields of health and the built environment the Study:

- (i) ensured a multi-disciplinary perspective in its aims and the gathering and review of data, and
- (ii) seeks to directly influence the shape and management of existing and future built environments to achieve health-related outcomes.

The Study was funded through an Australian Research Council (ARC) grant and by monetary and/or in-kind contributions by the project partners. In this regard the study addresses National Research Area Priority 2: Promoting and Managing Good Health, and is consistent with the objectives of the National Preventative Health Task Force.

### **Study background.**

There have been various collaborations between the City Futures Research Centre and UrbanGrowth NSW, the National Heart Foundation and the SWSLHD prior to this Study, including representation by Professor Susan Thompson on a reference group convened by the (earlier) SSWAHS to develop the NSW Health *Healthy Urban Development Checklist* (2009). As a result of these earlier engagements the National Heart Foundation approached then Healthy Built Environments Program (itself a collaboration between the City Futures Research Centre and NSW Health) with the suggestion that research be conducted into the effectiveness of the use by UrbanGrowth NSW of the Foundation's *Healthy by Design Guidelines* (2004) in developing the master plan for Renwick, as part of a separate arrangement in this regard by UrbanGrowth NSW and the Heart Foundation.

### **The research questions and Study structure.**

The Study focused on the following specific research questions:

1. What features of the development make it easy/difficult for residents to be physically active in their everyday lives?
2. What features of the development make it easy/difficult for residents to access healthy food, public transport, community facilities and services which are linked to good health outcomes?
3. What features of the development make it easy/difficult for residents to be mentally healthy?

The emphasis in these questions on both built form and individual behaviours meant that the Study necessarily used a mix of both quantitative and qualitative research measures and survey techniques to gather a 'rich picture' of each Study area. Data collection comprised:

- (i) on-site and desk-top audits of the physical environment of each Study area,
- (ii) a structured survey, via questionnaire, with 20 residents, undertaken by telephone or face-to-face, and
- (iii) a follow-up focus group with residents who had undertaken the questionnaire and who volunteered to participate further. This comprised six to ten participants depending on the Area.

**Figure 2: The four Study Areas and their characteristics.**

	<b>Description</b>	<b>Current stage of development.</b>
<b>Airds Bradbury.</b>	<p>Existing suburban fringe location, south-west Sydney. Low density public housing estate of some 1500 dwellings, to be 'renewed' to (i) include private housing (reducing the overall proportion of public housing), (ii) upgrade the public domain including the local shopping centre and open spaces, and (iii) provide additional community services and facilities.</p> <p>Close collaboration between UrbanGrowth NSW and State agencies to promote equitable health outcomes via social programs and a re-structuring of the built environment.</p>	Implementation of new community facilities and social services for existing residents. Demolition of some existing housing and re-location of residents. Completion of new aged housing units. Sale of first private housing lots towards the end of this Study.
<b>Renwick.</b>	<p>Southern Highlands, adjacent to a township detached from the metropolitan area. New low density residential estate comprising 600 dwellings, with an associated local commercial centre, and integrated with the existing town urban area.</p> <p>Explicit collaboration with the National Heart Foundation, and incorporation of its <i>Healthy by Design</i> guidelines in the master planning.</p>	First stage of housing lots completed, including construction of dwellings and establishment of residents. Design of some open space areas developed, with construction underway towards the end of this Study. Needs study for new community facilities commenced.
<b>New Rouse Hill.</b>	<p>Suburban fringe location, part of a metropolitan growth corridor, north-west Sydney. Large, comprehensive master planned development area incorporating a major regional mixed-use Town Centre, low and medium, density residential, schools and community facilities.</p> <p>No explicit inclusion of healthy design principles, but with health co-benefits from its emphasis on environmental outcomes, community development, and incorporation of recreation facilities to assist initial marketing.</p>	Town Centre, bus transit way, primary and high schools, childcare centre, and community-title social and recreation facilities including public open spaces established. First stages of housing lots completed, including construction of dwellings and establishment of residents.
<b>Victoria Park.</b>	<p>Inner-urban Sydney, part of the major Green Square precinct urban redevelopment. High density, master planned residential development of some 2,500 dwellings on former industrial land. Incorporates new local parks, some local retail, and a branch library.</p> <p>No explicit inclusion of healthy planning principles, but with health co-benefits from its emphasis on environmental outcomes and community development.</p>	Public open spaces and local community centre and library established. Most housing stages completed, with only some high-rise developments waiting completion. Major neighbourhood retail centre opened during course of this Study.

In addition the Study drew on, where applicable for each Study area, a community food assessment conducted by NSW Health and City Wellbeing researchers in parallel with the Project. This assessment comprised on-site audits and 'food basket' surveys of the nature and availability of food items in 100 supermarkets and 18 farmers' markets in the Sydney metropolitan area.

The methodology was the same for each Study area, though with certain variations according to circumstance such as numbers of on-site visits depending on the overall stage of development of the area. A detailed description of the methodology as applying to each area is included in each of the individual Study area reports. A summary is provided below.

All the tools developed for the Study can be utilised as models for future similar studies elsewhere.

The analysis and reporting of findings for each Study area uses a series of questions developed as a set of Indicators as to what constitutes a healthy built environment, prepared by the City Wellbeing Program in a separate project. This structure will facilitate comparative on-going appraisals of the four Study Areas, and for comparison with other similar studies.

The inclusion of the in-depth structured survey and subsequent focus group with participant residents of each Study area ensured the Study was able to give explicit attention, complementing the physical on-site audits, to the experiences of the day-to-day users of each area. Here the Study traces the needs, aspirations and behaviours of the participants from the primary point of view of their own health.

A 'map' of the aims, data sources and reporting outcomes of the Project is at Figure 4.

### **Constraints due to the on-going development of each Study Area.**

It was initially intended the Study include longitudinal appraisals of each Area. However this was not possible given the research time-frame of the Project and the staged, on-going development of each Study Area (Figure 2). In this sense the Study findings must necessarily comprise a 'snapshot' of the conditions of the time of the Study (2011 to 2015).

However the Study has also responded to address this particular constraint by:

- (i) structuring the key findings and conclusions around the set of 'healthy built environment indicators' prepared by the City Wellbeing Program in a separate project (see Section 2: The Study Methodology). This will allow future appraisals of the health of the communities within the four Study Areas to be similarly structured and thus permit comparison over time.
- (i) structuring the conduct of the focus group within each Study Area in a way that encouraged a 'longitudinal' perspective from participants' responses.

**Figure 3: Typical development in the four Study Areas.**



**Airds Bradbury.**



**Renwick.**

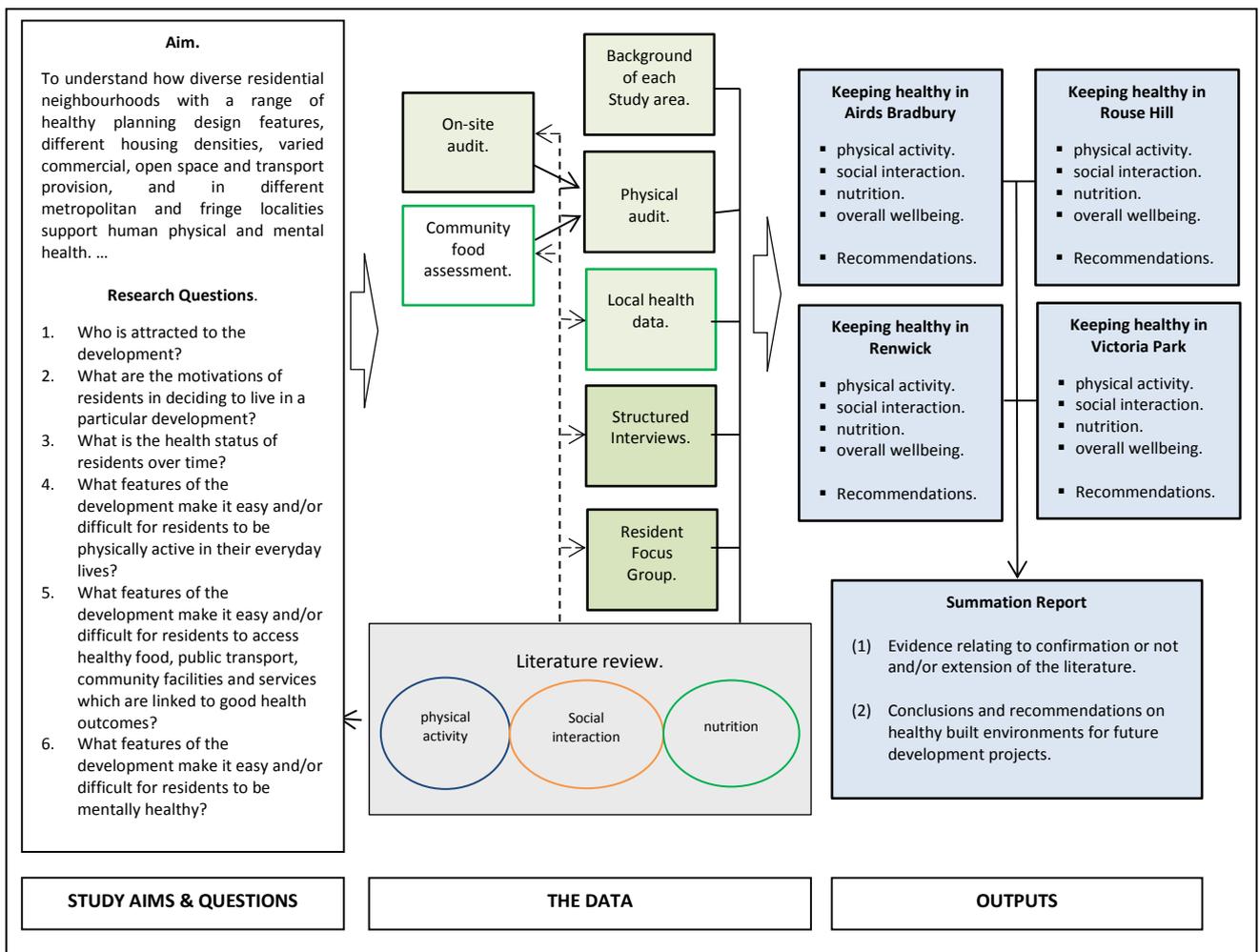


**New Rouse Hill.**



**Victoria Park.**

**Figure 4: Project Map.**



## 1.2 Reporting of the Study.

This report is one of five (5) reports relating to the Project overall.

### Four Study area reports.

There are separate reports detailing the Study findings and recommendations for each of the four Study Areas. The findings include the identification of features within the Study Areas that are important for the health of residents. The recommendations relate to the maintenance of features which are assessed as working well in this respect, and to the improvement of features where deficiencies in this regard were identified.

Each Study area report includes a separately-bound addendum comprising the data from the Healthy Neighbourhood Audit of that Area. This audit appraises the physical features and the access to food characteristics of each Area from the basis of the health of its residents (refer Section 3.1).

## **This Summation report.**

This Report comprises:

- (a) a summation of the overall Study findings on healthy built environments generally, drawn from the understandings arising from the four Study Areas.
- (b) a corresponding set of recommendations drawn from these findings, and which can be applied to future development projects in general.
- (c) for reference, a summary of each Study Area report comprising an overview of each area and the specific findings and recommendations relating to the three healthy built environment 'domains' of physical activity, social interaction and nutrition (Attachments 1 – 4).
- (d) a further assessment of the Study data exploring under the general notion of 'wellbeing' the broader issue of what it means to individuals to engage in healthy behavior and the relationship of this with the built environment.

## **Other reports.**

In addition, there have been various papers published and/or presented to conferences about the Study design, process and findings. Papers published to date are listed on the HBEP website, and in Attachment 5. Future published papers will be listed on the HBEP website.

## **1.3 The determinants of our health, and the importance of personal behaviour.**

Our health is a result of an extensive range of factors and influences. These tend to be grouped and prioritized in different ways depending on the particular orientation of a project or intended audience. The following grouping and allocation of relative influence provides a useful summary, as applicable to this Study:

- personal behaviour – 40%
- family genetics – 30%
- environmental and social – 20%
- medical care – 10%.<sup>2</sup>

The following observations are also applicable:

- (i) these factors are not necessarily separate from each other, but also interact. For example, over time environmental factors such as contaminants can influence genetics; and genetics combined with environmental and social factors can influence personal behaviour.
- (ii) the determinants we can influence – personal behaviour, medical care, and environmental and social factors – account for some 70% of factors. Importantly, actual medical interventions account for only 10%, emphasizing the need to prioritise attention to personal behavior and to environmental and social factors – the so-called 'primary health care' actions.

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<sup>2</sup> As presented to the Walk21 XV International Conference on Walking and Liveable Communities, Sydney October 2014, by Tyler Norris: *Every Body walk: A vision becomes a movement*. Originally sourced from YMCA of the USA: *Pioneering Healthier Communities. YMCA Activate America/Lessons Learned*, 2002. [http://www.tylernorris.com/pubs/YMCA\\_PHC.pdf](http://www.tylernorris.com/pubs/YMCA_PHC.pdf).

- (iii) environmental and social determinants include the ways in which we design, build, manage (govern), use and interact with our built environments; thus the reason and importance of this Study.
- (iv) critically, personal behavior accounts for the largest single influence (40%) of all determinants.

Various models have been developed to illustrate these factors and the ways in which they interrelate. The ‘Social Model of Health’ (Figure 5)<sup>3</sup> developed in 1991 for example is based around the idea of there being various layers of influence on the health of individuals (shown centred in the diagram) who have their own individual causal factors. The first layer relates to personal behavior and ways of living; the next relates to social and community influences; and the third layer is about structural factors like housing, employment conditions, and access to services and infrastructure. A subsequent ‘Health Map’<sup>4</sup> (Figure 6) developed in 2006 is based on this earlier ‘Social Model of Health’, but now includes wider economic and environmental (both built and natural environments) factors.

Figure 5: The Social Model of Health (1991).

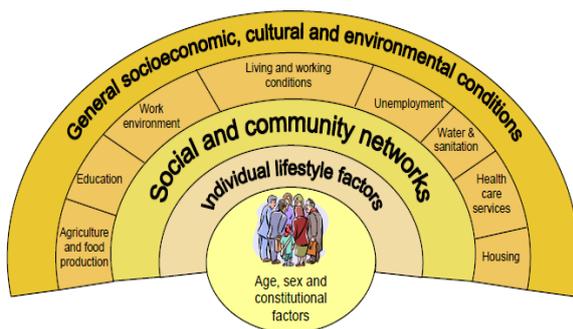
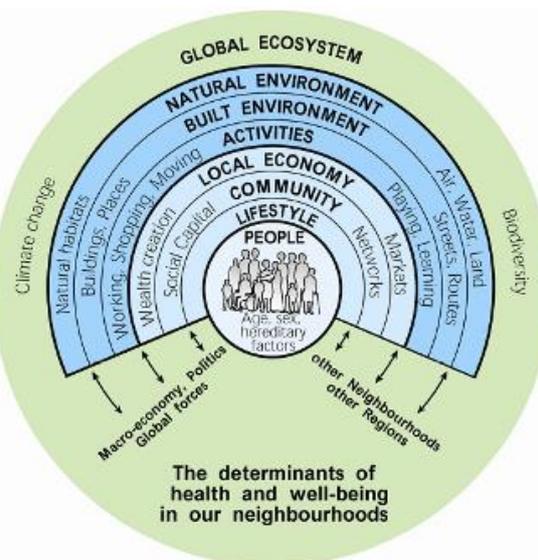


Figure 6: The Health Map (2006).



The concept of ‘healthy built environments’ – and the conduct of this Study – is centred around the relationships between these social, environmental and personal behavior determinants. They have informed not only the methodology and design of the Study but also the subsequent lessons and recommendations from the Study conclusions.

Of similar importance are then the various factors that act to influence actual personal behaviour. Again, the ways in which we act, adopt and respond to particular information and knowledge about matters is subject to numerous influences. For the purposes of this Study background reference has

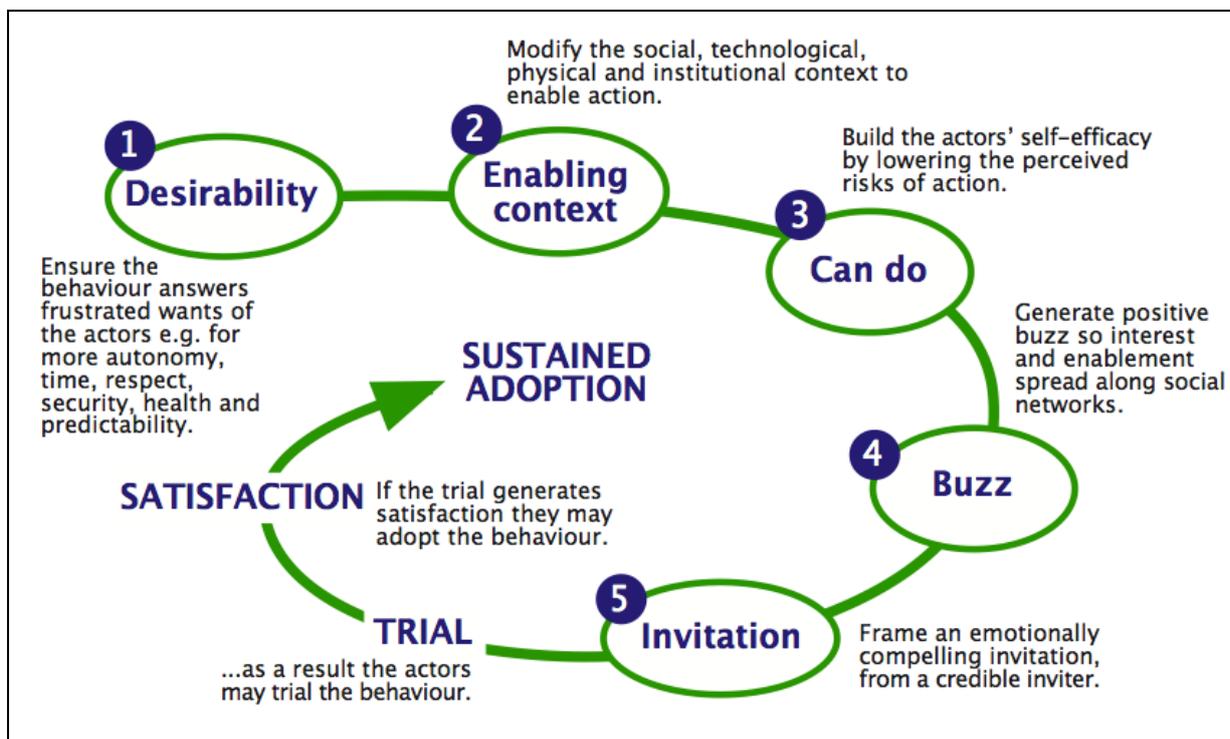
<sup>3</sup> Dahlgren, G. and Whitehead, M. (1991) *Policies and strategies to promote social equity in health*. Institute for Future Studies. Stockholm.

<sup>4</sup> Barton, H. and Grant, M. (2006) ‘A health map for the local human habitat.’ *The Journal for the Royal Society for the Promotion of Health*, 126 (6). pp. 252-253. (<http://eprints.uwe.ac.uk/7863>).

been made to the following particular grouping of five factors, derived from the '5 Doors' Model of Behaviour Change (Figure 7)<sup>5</sup>:

1. A specific orientation to what people want and need. The new behaviour must meet a desire.
2. An environment that enables the new behaviour sought. Changes (physical or social or institutional) to the existing environment may be necessary.
3. Assistance, through information and/or other means, to give people confidence that they know what to do, and can do it with minimum risk.
4. Making individuals feel that undertaking the change is not just a personal effort but part of a larger social conversation. The change sought must therefore become part of the underlying 'buzz' of the community.
5. Giving individuals further confidence by having a recognized leader, someone they can emulate, actually inviting them to join that larger movement.

Figure 7: The '5 Doors' Model of Behaviour Change.



<sup>5</sup> This Model was developed by Les Robinson based on research on the factors that influence and determine personal behaviour and on Robinson's own experiences in developing behaviour change programs through his consultancy *Enabling Change*. Refer: [http://www.enablingchange.com.au/enabling\\_change\\_theory.pdf](http://www.enablingchange.com.au/enabling_change_theory.pdf).

#### 1.4 Relationship with other work by the Project partners.

Each of the Project partners has been involved in other work that addresses the need to establish built environments that are supportive of human health. In particular:

- NSW Health is active in promoting healthy built environments and in submitting related comment and advice on development proposals, and has published guidelines to assist: *Healthy Urban Development Checklist. A guide for health services when commenting on development policies, plans and proposals.* (2009)
- The Heart Foundation is also active in promoting healthy built environments as part of its wider program to encourage active living, and maintains a website of reference material, guidelines and checklists for healthy urban design responses, including case-studies: <http://www.heartfoundation.org.au>  
The Heart Foundation has also published its own set of guidelines: *Healthy By Design: a planners' guide to environments for active living.* (2004)
- UrbanGrowth NSW (then as Landcom), around the time of the initial development of Airds Bradbury, adopted a 'healthy places and healthy people' policy. The policy provides for the integration into its design and development processes of considerations and actions to promote the health of the residents and other occupants of its developments. The policy is published as a brochure (Attachment 7): *Healthy development. How Landcom plans for healthy places and healthy people.* (2010). [http://www.landcom.com.au/downloads/uploaded/Healthy%20Development%20Brochure\\_d089\\_648e.pdf](http://www.landcom.com.au/downloads/uploaded/Healthy%20Development%20Brochure_d089_648e.pdf)  
The brochure makes reference to the partnership with this Project, and to its emphasis on healthy by design considerations in the development of Airds Bradbury and Renwick.

#### 1.5 Study outcomes.

Specific conclusions, lessons and recommendations about the effectiveness of the existing built environment to support residents' health are drawn for each Study area. These are detailed in the separate reports for each area and summarised in Attachments (1) to (4) of this Summation report.

Overall conclusions and lessons for healthy built environments in general has also been developed. These are detailed in this Summation report (Section 4: Conclusions), and summarised below.

##### Other outcomes.

The focus group component of the Study asked participants to list the behaviours and things *they* considered they need to be healthy, and then identify those matters they currently had access to and those matters still required. Most matters related directly or indirectly to the three domains of healthy behaviour listed above (physical activity, social interaction, and nutrition). However participants also identified various other matters. These give an initial sense of a broader range of matters that individuals themselves see as important for their health as well as demonstrate the range of understanding, *thinking and action* that the participants themselves are undertaking in relation to their health. These matters are listed and discussed in each Study area report.

They also provide some initial data for further more detailed explorations of individuals' understandings of healthy behaviours, and their choices in this regard.

### ***Planning and Building Healthy Communities: Summary of Conclusions.***

- (1) Most healthy built environment features within the four Study Areas, except for Renwick, have been as a result of fortuitous “co-benefits” from other built environment actions (relating to reducing ecological footprints, and/or providing residential amenity to improve marketability) rather than any conscious healthy built environment orientation or focus.
- (2) This suggests “we are already doing it” to some extent and that we do not need to take on new, extra work. Rather, we need to be more conscious about what we are doing, to ensure healthy outcomes do arise from our existing design and management actions.
- (3) Although there has been an explicit intention to include healthy built environment features in Renwick, aspects of both the initial master planning and implementation limit effectiveness.
- (4) Of the three “domains” of healthy behaviours the need to achieve minimum levels of physical activity is of most on-going concern, mostly because of personal motivation reasons.
- (5) Levels of social interaction vary, however there is a lingering desire for greater “connection”, and thus a need to generate incidental social interactions, as well as more formalised group activities within local community spaces.
- (6) There is an unresolved issue about how to generate social interactions amongst neighbours in multi-storey, multi-unit buildings as a result of the “transient” nature of existing common areas, internal security arrangements (and the transient nature of some occupiers).
- (7) Access to healthy food options has not been an issue, generally because of reasonable accessibility and affordability of supermarkets, although assistance via community food box programs is still needed for some. Other fresh food sources (farmers markets and community gardens) are not well-used.
- (8) Participants in all areas stress a desire for the early provision of a local centre accessible by walking (or cycling) which includes both food shops and social meeting places. This will then assist in early establishment of positive local healthy behaviours.
- (9) Participants invariably understand the connections between their health and daily activity and are often active in creating their own solutions that range across two or more of the three “domains”.
- (10) Combined, these points suggest an increased need for attention to the detail of how neighbourhoods are designed, constructed and managed; a need for planners and managers to recognise the knowledge of residents in terms of what they require to be healthy; and therefore also on-going liaison with and participation by residents in the management of their area.

## Overall lessons for healthy built environments.

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**(1) Find and create networks beyond the development site.**

There is a need when planning each development precinct to think outside the boundaries of the subject site – to create links and networks to existing facilities in the surrounding locality, and to encourage use by others of facilities to be provided within the new development (to increase their viability, and generate added opportunities for social interaction).

**(2) Master planning to be innovative, but also realistic.**

Master plans need to be innovative in their approach, but also ultimately realistic. If an otherwise imaginative and desirable master plan proposal cannot be achieved in practice there may be negative flow-on effects in terms of behaviour patterns.

**(3) A more empathic engagement by designers and managers with residents.**

Designers of built environments need to “put themselves in the shoes” of the anticipated residents, and thus users, of the locality to ensure they are designed and managed in a way that accurately meet their health needs and thus also ensure up-take.

**(4) On-going management is as important as initial provision.**

The on-going management of facilities and infrastructure is just as important as their initial provision. Facilities will not be used if they are for example poorly maintained, do not have convenient opening hours, do not adequately manage behaviour of users, provide sufficient services at an affordable cost, or lack child care.

**(5) Active recreation facilities for *both* personal and informal users, and formal group activities.**

The provision of facilities for personal or informal active recreation is just as important as facilities for more formal group active recreation. Participants in all areas expressed a desire for hard surfaces (with nets or hoops, etc.) for ball sports, level running and exercise surfaces, and fixed exercise stations; as well as semi-formal organised group activity to encourage participation (and for some, ameliorate safety concerns).

**(6) An interest in walking for recreation and active transport, and potentially also in cycling for recreation.**

There is a common interest and participation in walking for recreation and active transport, and potentially also in cycling as a recreation activity. Additional attention to the provision of good walking and cycling infrastructure, including routes and destinations, could generate corresponding increases in physical activity.

**(7) However, short walking and cycling routes may not achieve needed levels of activity.**

However, short walking and cycling routes may not result in needed overall levels of activity. This is an issue where walking and cycling infrastructure is limited to the, generally small area, development precinct. A variety of destinations needs to be established, as well as connections to walking and cycling routes in the wider locality.

**(8) Specific attention required to challenge a “default” car culture.**

Specific attention is required to challenge a “default” car culture. It is still common to use the car for short local trips, rather than walk or cycle. Sometimes this is due to inadequate infrastructure, but programs to shift established habits and perceptions is also required.

**(9) Early provision of walkable local centres.**

A local centre accessible by walking and cycling and incorporating fresh food retailing and foci for social interaction will encourage early health-supportive behaviour. This may require imaginative solutions, such as “pop-up” facilities, temporary subsidies, and specific management interventions.

**(10) Responses need to be place-specific (one size does not fit all).**

Responses need to be place-specific to account for differences in demographics and geography. One size does not fit all. Sometimes for example, there will always be a low level of active transport possible, so other ways to encourage physical activity will be needed. An ageing population will need different facilities to one which is younger.

**(11) Effective local information - knowing what is available.**

Effective ways to advise new residents of local facilities are required. “Welcome” programs with dedicated community development officers appear effective; however an example where this function has been out-sourced to a non-local consultant firm which mainly used electronic communications was less effective.

**(12) Listen to the locals – people do understand the connections, and often create their own.**

A need to “listen to the locals”. Local residents do understand the connections between their health and behaviour and their locality, and often create their own activities and solutions. Healthy built environments should facilitate such local actions, and designers and managers need to be open to hearing what individuals say they need to be healthy.

**(13) A required attention to detail.**

The importance of detail. Although the overall planning of an area may adequately cover and provide for health-supportive behavior, it was found that a high proportion of deficiencies were often due to an apparent lack of attention to detail within these larger plans and in their implementation and on-going management.

**(14) Co-opt contemporary trends.**

Being open to utilising contemporary social happenings as they come (and possibly go). Personal take-up of health-supportive (and other) behaviour is often influenced by current trends and “fashions”. The design and management of built environments should recognise and facilitate these where likely to support healthy behaviour. Current examples include the café society, “pop-up” facilities, dog-friendly parks and other facilities, food trucks, men’s sheds, community gardens, group exercise classes and personal trainers.

## 2. THE STUDY METHODOLOGY: research process.

### 2.1 Introduction – the difficulties of measuring place health relationships, and the approach of this Study.<sup>6</sup>

Despite the many studies in the area of healthy built environments there are lingering difficulties and much debate about how research can best be conducted in this inter-disciplinary area. The issues are not just practical in terms of ‘joining’ the often disparate traditions of research in the built environment and health/medical fields, there are also often deep philosophical differences in built environment and health/medical scholarship. There are a number of issues, including how to:

- measure the invariably intricate rather than singular relationships people have with the environments in which they inhabit, and characterised by diversity, complexity and messiness. The intricacy of the urban planning process itself is a further complicating factor.
- ‘isolate’ for deeper appraisal those relationships and behaviours that might have a direct impact on individuals’ health.
- meet the often quite different demands in respect to trustworthiness of data between the necessarily different contributory disciplines in such cross-disciplinary investigations.

Most studies seeking to understand the relationship between physical place and human interaction rely, necessarily, on detailed ‘social science’ observations of the everyday actions of people in familiar and ordinary places. However, when seeking to utilise the findings from these real-world settings within the medical discipline it is not possible to isolate variables in the double-blind procedures typical of research in the scientific laboratory. Further, it is arguable that even if it were possible to isolate variables of interest, the resultant simple ‘proofs’ that result would not lead to understandings of the people-place relationships under investigation that are sufficiently in-depth and comprehensive.

To address these issues this Study adopted an approach involving the collection and of a mix of varied qualitative and quantitative data, in the manner of a ‘triangulation’. Here, the term ‘triangulation’ describes an approach whereby researchers ‘make use of multiple and different sources, methods, investigators, and theories to provide corroborating evidence.’<sup>7</sup> To assist rigour the Study gave particular attention to the design of the ways in which the data was collected. This included:

- a new explicit ‘audit’ instrument for the conduct of on-site observations of each Study area.
- an in-depth semi-structured interview, with questions based on both similar surveys used elsewhere in Australia to allow for future comparisons and on matters explicit to this Study.

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<sup>6</sup> The content of this section draws on a paper ([Planning and Building Healthy Communities](#)) presented by the City Wellbeing Program to the 2013 State of Australian Cities (SOAC) Conference.

<sup>7</sup> Refer: *Qualitative Inquiry and research Design: Choosing among Five Traditions (3<sup>rd</sup> edition)*. J.W. Creswell. Sage Publications, California, 2013 (p. 251).

- a purpose-designed follow-up focus group to obtain greater clarity on the data collected from the on-site observations and the interviews, and to ‘give voice’ to how the participants themselves see their neighbourhood as contributing to their current and future health.

Each of these three data-collection methodologies comprise a Study outcome in themselves, and are able to be used:

- in any future studies within the case-study areas, to enable consistent longitudinal appraisals, and
- as models for similar studies within other localities.

## 2.2 Auditing the physical environment.

The Study audited the physical environment of each Study Area and assessed the potential impact of the physical features observed on residents’ health.

Where relevant, the study also draws on a survey (the *Community Food Assessment*) of the availability, type and quality of foods within selected Sydney locations undertaken by Project partner South Western Sydney Local Health District in 2012 (and assisted by Study officers from the City Wellbeing Program).

### The neighbourhood audit.<sup>8</sup>

Studies of the built environment and health relationship have utilised a number of tools, including accelerometers, user questionnaires and surveys, walkability assessments and site audits. Most tend to explore the influence of neighbourhood design on utilitarian and/or leisure time physical activity; some have been developed to assess social and food environments. However few methods explore the impact on health of the make-up of a neighbourhood in its entirety; in particular by embracing all three of the key domains identified in the literature review conducted by the City Wellbeing Program in 2011 (and subsequently leading to this study): physical activity, social interaction, and access to healthy food.

The Study purposely sought to obtain just such a comprehensive ‘overall’ view of the physical environment of each of the case-study areas and developed a specific Healthy Neighbourhood Audit Instrument to assist. The Instrument establishes a process of ‘systematic observation’ to ensure consistent examination of the critical built environment determinants of health within each study area. Sources included existing similar audit tools and checklists (often relating to walkability), the principles relating to crime prevention through environmental design (CPTED), and new work developed by the Study officers. An initial design was re-worked after testing in the field to allow for better efficiency in data collection and for the incorporation of complementary GIS data. Auditors were trained in the audit process prior to commencing field work.

A copy of the Healthy Neighbourhood Audit Instrument is at Attachment 8.

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<sup>8</sup> This section draws on a paper (‘A Methodology to Understand How Environments Support Health’) by S. Thompson and E. Mitchell in *Urban Design and Planning*, Vol. 168 Issue DP4, 2015 (pp. 174-184).

The audit process:

- (i) maps land uses and key features, infrastructure and design elements, and
- (ii) records detailed environmental observations including peoples' use and movement through different spaces, perceptions of safety, and the availability of different types of food.

Information was sourced from:

- existing data of physical features, infrastructure and facilities and the like, including physical maps, GIS databases and aerial photographs.
- direct observation and use by the Study officers of the localities under study.
- published and verbal advices on the history of development of each locality.

The on-site observation work was conducted during the week and on weekends and in daylight and at night to give a good cross-section of observations. Note was taken of physical features (such as the road, footpath and cycle network, the presence of shopping and other facilities, open space areas and facilities, community gardens, the availability of food shops, and overall built form), social activities (such as the number of people using certain places, the types of activities they were involved in, whether they were in groups, and general demeanour), and of the auditor's own perceptions about overall amenity and ambience (such as noise, shade, the presence of dogs, feelings of safety, presence of litter, overall upkeep and maintenance). Each audit was primarily undertaken on foot, complemented by additional windshield observations and use of existing Geographical Information Systems (GIS) data.

Data relating to land uses, street networks and infrastructure was entered into a GIS application on an iPad on-site. Detailed observations were recorded on paper copies of the Instrument. Each site was also recorded in detail with photographs. The focus of the night audits was on the quality and maintenance of lighting infrastructure, and perceptions of safety. The weekend audits captured any variations in activity or behaviour not observed on weekdays. The result is a data set that is detailed and rich and the result of, generally, over 20 hours of observations, assessments and mapping.

The final section of the Instrument provides for the auditors to record any recommendations for improvements in the neighbourhood, any additional observations, thoughts and reflections, and a concluding summary of how the neighbourhood supports healthy living. This section included an overall 'report card' where 22 items were given a rating out of five relating to how the auditors as a group considered they supported healthy behaviours in everyday life. However, this assessment has not been carried through into the final Healthy Neighbourhood Audit Report on the basis of concerns that such qualitative 'scoring' was reductionist and unrealistic in being able to represent the complexity of most of the matters being assessed.

The design development and initial trial of the Instrument also revealed some fundamental difficulties in the intended audit process itself, and in presenting the collected data in a way that is both accessible and reflects its depth and diversity. The following notes describe the main issues and the ways in which they have been addressed in the final design and use of the Instrument.

- (i) Built environments are dynamic and each study area is experiencing some form of development. As such the features recorded are a snapshot of the environment as mapped

and perceived at a certain time. The standardisation of the Instrument does however facilitate consistent re-appraisals at different future times.

- (ii) There is a need to embrace both objective and subjective responses to the study area. The Instrument encourages the auditors to experience and immerse themselves within each area. For example, the Instrument requires auditors to reflect on how the site might support people of different sexual orientations, genders, religions and cultural backgrounds; and assess each built environment element in relation to how the most vulnerable and least able groups of society would use and experience it. However auditors will always be to an extent an 'outside observer' and reflections are inevitably informed by the auditors' own attributes and experiences. Each variable reported on is open to varying degrees of interpretation. To assist robustness in this regard the audits were completed by a team of interdisciplinary auditors, with skills and experience in urban planning, GIS and public health; the auditors were trained to consider how the site supported people of all ages and abilities; and individual reflections were discussed by the group on-site.
- (iii) To simply map and quantify each built environment element would ignore these complexities and risks misrepresenting different spaces within each site as homogeneous. Further, assessments required both subjective and objective interpretations. To address, the Instrument adopts different formats to report different variables:
  - a combination of maps, photographs and descriptive text, including mapping of the data in ArcGIS which then also allows for presentation in encompassing 'birds-eye' views.
  - 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).
  - subjective observations based on auditor perceptions and feelings (such as sense of safety).

The audit results are collated into a Healthy Neighbourhood Audit Report for each Study Area.

#### The community food assessment.

The community food assessment comprised:

- (i) a 'market basket' survey of the cost, quality and variety of fresh food available in supermarkets completed within a two week period in October 2012 to minimise the potential for seasonal variation. The supermarkets surveyed included Coles, Woolworths, IGA and Aldi where applicable for each location. Boutique grocery stores, butchers, greengrocers and online supermarkets were excluded because they were unlikely to stock all products in the market basket survey. A total of 100 supermarkets were surveyed across the highest and lowest socio-economic (SES) areas of Sydney.
- (ii) a survey of the cost, quality and variety of foods available at farmers' markets in Sydney. This survey also included interviews with stallholders and patrons to determine reasons for using farmers' markets, and the source of produce on sale. A total of 18 markets were surveyed in various locations between February and April 2013. They comprised small and large private

markets, community-run markets and farmer/ producer-run markets. 640 customer and 140 stallholder interviews undertaken.

The market basket survey collected information on the cost of 44 staple food items, the availability of 30 fresh fruits and vegetables, and the quality and cleanliness of 10 varieties of fresh fruit and vegetables. The selection of products was based on the protocol used in the *Victorian Healthy Food Basket*. This protocol represents commonly available and popular food choices selected to meet 95% of the energy requirements of four different types of families ('typical family' (two adults and two children), 'single parent family' (adult female and two children), 'elderly pensioner' and 'single adult' for a period of two weeks; and include the core food groups (fruits and vegetables, breads and cereals, meat and alternatives and dairy) and one non-core food group (extra food items). The availability of fruit and vegetables was assessed using a frequency survey adapted from the *NSW Cancer Council Market Basket Survey*. The quality of fruit and vegetables was rated using a visual assessment tool developed from the *Queensland Healthy Food Access Basket* and the *NSW Cancer Council Market Basket Survey*. It included a visual assessment of quality based on evidence of age, bruising and mould, and cleanliness. The number and types of products on display in the high-traffic, high-visibility areas at the ends of aisles and closest to checkouts was also surveyed. These products were then divided into core and non-core food groups according to the *Australian Guide to Healthy Eating*.<sup>9</sup>

The farmers' market survey used the same methods as in the market basket survey of supermarkets to assess quality of produce, over 10 items. All products available for sale were noted on a standard checklist to measure availability and diversity. Locally grown produce was also recorded. The cost of produce based on 1 kilogram of each item was recorded. The surveys of stallholders and patrons were standardised in a questionnaire.

The food assessment tools for both the market basket and farmers' market surveys were pilot tested and data collectors underwent training to ensure accurate and consistent ratings. Copies of the tools as used are in Attachment 10.

Detailed information on the design and results of the community food assessment are available in separately published papers.<sup>10</sup>

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<sup>9</sup> Refer: *Victorian Healthy Food Basket Survey* (Palermo and Wilson, 2007), and the *Queensland Healthy Food Access Basket* (Queensland Health, 2002).

<sup>10</sup> Refer: (i) Crawford, B., Byun R., Mitchell E., Kennedy L., Torvaldsen S., Thompson S. & Jalaludin B. (2013) *Cost, availability and quality of food in high and low socioeconomic areas of Sydney*, poster presentation at the Public Health Association of Australia Annual Conference, Melbourne, September 2013; (ii) Crawford, B., Byun, R., Mitchell, E., Torvaldsen, S., Thompson, S. & Jalaludin, B. (2013) *Seasonal fresh food and a sense of place: Exploring farmers' markets in Sydney*, Public Health Association of Australian Annual Conference, Melbourne, September 2013; (iii) Thompson, S., Mitchell, E. & Crawford, B. (2013) *Planning and Building Healthy Communities*. 6th State of Australian Cities Conference. Sydney, November 2013; (iv) Crawford, B., Byun, R., Mitchell, E., Thompson, S., Torvaldsen, S. & Jalaludin, B. (2013) *Healthy Food and a Sense of Place: Attitudes and Perceptions of Customers and Stallholders toward Farmers' Markets in Sydney*. Report to Farmers' Market Managers and Stallholders. Sydney and South Western Sydney Local Health Districts and UNSW.

## 2.3 Seeking the views and experiences of the residents.

The Study sought the views and experiences of the residents of each Study area via:

- (i) one-on-one semi-structured interviews with 20 residents, and
- (ii) a subsequent focus group to which those who had undertaken an interview were invited.

### The interviews.

The interviews comprised a structured set of questions with set answer choices plus various opportunities to include additional observations. The questions explored the different ways participants use and make sense of their environments, and everyday behaviours that contribute to their health and wellbeing.

The questions covered five separate topic areas (Figure 8). The questions were established in a collaborative process involving all Study officers and Project partners. To assist future comparative assessments between this Study and studies of other locations in Australia a number of questions were adapted from existing similar questionnaires, including:

- the *Neighbourhood Physical Activity Questionnaire* developed for the Western Australian Residential Environment Study (RESIDE) undertaken by the University of Western Australia for the WA Department of Planning, the WA Water Corporation, and the Heart Foundation to investigate the impact of urban design on health over a five-year period 2003-08.<sup>11</sup>
- the 5-year *Neighbourhood Health and Wellbeing Survey* commenced in 2011 of the residential estate of Selandra Rise in Melbourne by RMIT for VicHealth, the (Victorian) Growth Areas Authority, the City of Casey, the Planning Institute of Australia, and Stockland (the development company).<sup>12</sup>
- the *Green Square Snapshot Survey* conducted within the redevelopment area of Green Square (and within which the Study Area of Victoria Park is located) by the City Futures Research Centre, University of New South Wales in 2013).<sup>13</sup>
- the *NSW Adult Population Health Survey* conducted by the NSW Ministry of Health in 2011.<sup>14</sup>

Additional questions were developed to cover other topic areas. Completion of the interview design was undertaken after the neighbourhood audits and food assessments so that understandings from those components could assist in developing the interview questions.

A copy of the Interview questions is at Attachment 8.

Prospective interviewees were recruited via a number of processes. An initial flyer (Attachment 6) was distributed throughout the neighbourhood via letterbox drop. Although this initial process yielded a number of participants final achievement of the targeted number of interviews subsequently relied on a variety of additional methods generally tailored to the characteristics of each Study area. In Renwick this utilised the Community Development Facilitator position funded as

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<sup>11</sup> Refer: <http://www.sph.uwa.edu.au/research/cbeh/projects/reside>

<sup>12</sup> Refer: <https://www.planning.org.au/viccontent/selandra-rise>

<sup>13</sup> Refer: [https://cityfutures.be.unsw.edu.au/publications/?pub\\_type=Research+Reports&search=green+square](https://cityfutures.be.unsw.edu.au/publications/?pub_type=Research+Reports&search=green+square)

<sup>14</sup> Refer: <http://www.health.nsw.gov.au/surveys/adult/Pages/default.aspx>

part of the estate development and which involved the facilitator meeting face to face with each new resident. The facilitator asked each resident whether they would be agreeable to an interview and passed names on to the study officers. In New Rouse Hill it involved a subsequent letterbox drop within areas developed since the initial drop and also, as with Victoria Park, approaching residents within the streets and other public spaces or (in New Rouse Hill) by door-knocking. In New Rouse Hill and Victoria Park notices about the Study were also placed on the respective community webpages for each area, and in Victoria Park the Study set up a 'stall' one Saturday at the community kiosk that operates in conjunction with the Saturday farmers market there. In Airds recruitment also utilised contacts within the Community Reference Group established by the development partners for the Renewal process, the Men's Shed, and a photographer who had recently met with a number of residents to undertake a photographic record (later exhibited) of local residents. Interviewees were also asked at the time to nominate any neighbours, family members or friends who they thought may also like to participate in the Project. The extent to which additional participants were recruited via this process varied. Although there was only limited recruitment achieved via the more 'detached' methods of simply notifying the Study to residents, it was found that most residents when approached personally were agreeable to an interview.

The interviews were conducted either face-to-face or via telephone. Participants were given a \$20 gift voucher to recompense their time. Generally the interviews took between 25 minutes and 40 minutes.

**Figure 8: Schedule of interview question topics.**

<b>Section</b>	<b>Question Topics</b>
Your Neighbourhood	<ul style="list-style-type: none"> <li>• Features of the environment generally that are important to keep healthy.</li> <li>• Level of satisfaction with services, infrastructure and other elements of the Study Area neighbourhood.</li> </ul>
Being Active	<ul style="list-style-type: none"> <li>• Utilitarian and recreational physical activities.</li> <li>• Settings in which people engage in physical activities.</li> <li>• Modes of transport used to access sports facilities, green and open spaces and other relevant localities.</li> </ul>
Your Community	<ul style="list-style-type: none"> <li>• Relationships between neighbours and the larger community.</li> <li>• Perceptions and rating of 'social capital'.</li> <li>• Level of interaction between neighbours.</li> <li>• Places for socialisation and chance meetings.</li> <li>• Levels of engagement in social and community activities.</li> </ul>
Your Food	<ul style="list-style-type: none"> <li>• Frequency of fresh fruit and vegetable purchases.</li> <li>• Modes of transport used to access food sources.</li> <li>• Levels of engagement with alternative food sources such as farmers' markets, community gardens and private edible gardens.</li> </ul>
Your Health	<ul style="list-style-type: none"> <li>• Assessment and rating of personal physical and mental health.</li> <li>• Changes in health status since moving to current location.</li> <li>• Basic demographic data.</li> </ul>

### The focus group.

In addition to follow-up comment on the interview responses, the focus group sought to:

- (i) minimise the risk that responses might merely repeat those already obtained in the interviews, by maximising the opportunity for the participants to inform the Study about *their* experiences.
- (ii) seek advice on specific matters not able to be adequately covered in the interview structure; such as the *interconnections* between participants' health and the places they use everyday, and features of built environments that have a *therapeutic affect* on health and wellbeing and for which there is as yet little evidence in the literature.
- (iii) address the limitation that the Study could not comprise a longitudinal study as originally sought by incorporating a temporal element where participants were asked to vision and discuss future needs and desires.

The focus group was structured around four questions. The participants were asked to write their answers on notation cards which could then be displayed, and were initially given three cards for each question, with additional cards available for additional answers. The cards were of different colours for each question. Although participants were reminded that the main focus of the Study was about the connection between the built environment and health, it was also advised that other health-related matters they wished to include in their answers would be equally accepted.

The first two questions were about participant's own health behaviours, as determined by them:

- (1) What are the things I *do* (now) to keep healthy.
- (2) What are the things I *should be doing* (but do not do) to keep healthy.

The subsequent two questions sought advice on matters that currently assist and could in the future assist their actions and aspirations:

- (3) What is *helping* me to keep healthy, now.
- (4) What I *need* to keep healthy.

The completed cards were progressively displayed on a white-board (Figure 9), ordered as follows:

The things I do (now) to keep healthy.	<i>What is helping me to keep healthy, now.</i>	<i>What I need to keep healthy.</i>	The things I should be doing (but do not do) to keep healthy.
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The two focus group facilitators then convened a discussion prompted by the entries on the notation cards and from their knowledge of the Study area from the audits and the structured interviews. The discussion was electronically recorded with the permission of the participants. Discussion prompts included questions such as:

- *Are there any common features amongst the things that are 'helping to keep us healthy'?*
- *Are there any common features amongst the things that 'we need but do not have to keep healthy'?*

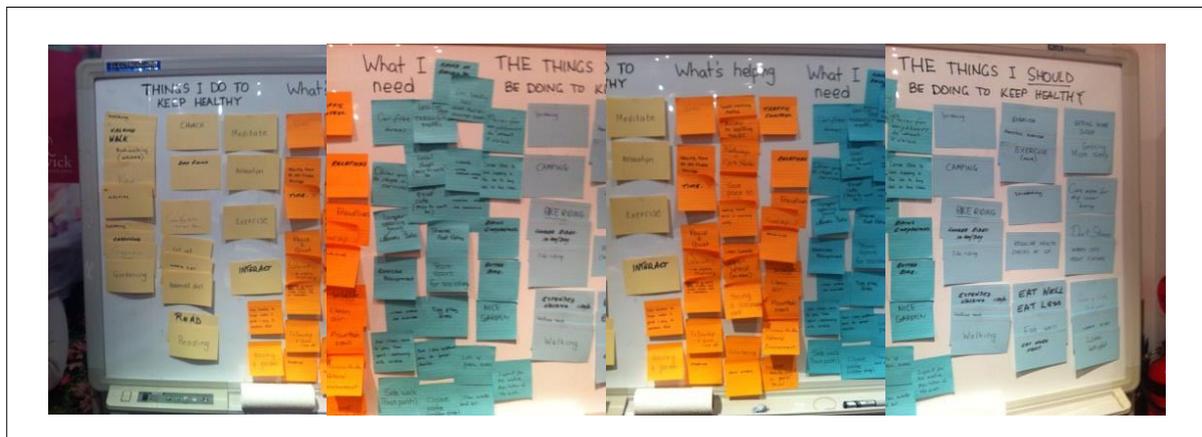
- Do you have any suggestions for obtaining the things that ‘we need but do not have to keep healthy’?
- Can you tell us more about ..... ?

As the discussion progressed relevant notation cards with similar entries were grouped. When it was felt that the discussion was nearing completion, a final question was asked:

- When you sit back and look at all we have here, how would you summarise what we have and what we need in [the Study area] to keep healthy?

The completed cards provide a ‘key word’ summary of participants’ concerns, aspirations and experiences. They are able to be transferred into an easy-to-read table as part of the analysis. The transcript provided more detailed and in-depth information.

**Figure 9: The display of participants’ completed comments cards at the Renwick Focus Group.**



Invitations were sent by email or letter to the earlier interview participants who had agreed at that time to be advised of the focus group. The focus groups were held at a local venue during the day (Airds Bradbury) or in the evening (Renwick, New Rouse Hill and Victoria Park) generally at a date and time that best suited the majority of potential attendees (as determined through subsequent emails). Food was provided and participants were given a \$50 gift voucher to recompense their time. There were six participants in New Rouse Hill, nine in Airds and Renwick, and eleven in Victoria Park. The focus groups were characterised by active discussion, and it was found that most participants were not in a hurry to leave after the initially advised time (about 2 hours).

## 2.4 How the Study findings are structured.

The varied data sources – the physical audit of the neighbourhood, the community food audit, the survey interviews, and the focus group discussion – generated an extensive and rich data set about the healthy built environment characteristics of each of the four Study Areas. When considered

together they also provide a similar informative appraisal about healthy built environments in general.

For the purposes of generating the findings, conclusions and recommendations for each Study area are structured around:

- (i) the three domains and seven key actions relating to healthy built environments identified in the earlier review of literature (see Figure 1).
- (ii) a series of 34 questions relating to each of these key actions. These questions are drawn from a set of Indicators of what would constitute a healthy built environment developed by the HBEP in a separate exercise.<sup>15</sup> The 34 questions are shown in Figure 10. A short explanation of the reasoning behind each question is included under the relevant question in each study area report.
- (iii) an 'overview' appraisal of the healthy built environment characteristics of each Study area and the needs and aspirations of the participants sourced primarily from their comments and advices given in the semi-structured interviews and in the broader-ranging focus group discussion. This more wide-ranging appraisal extends the specific discussion on the matters relevant to three domains and seven key actions into a more general understanding of participant well-being. In particular it takes advantage of the more open questions asked at the focus group about what participants themselves considered as necessary for their health, and is not necessarily confined to built environment matters.

This structure provides a convenient way to order the extensive data. It also allows for future appraisals of the contribution of the built environment of each study area to the health of its residents to be similarly structured to permit comparison over time.

- The results of the assessments relating to the three healthy built environment domains and the additional matter of 'wellbeing' are detailed in the reports for each Study area. They include a set of conclusions and associated recommendations as to the key needs for each area as a healthy built environment. The summary of results from each of these reports is attached to this Summation report (Attachments 1 – 4).
- An additional grouped summary of the results from these individual assessments is included in Section 3: *The Study Findings: what makes a healthy built environment* of this Summation report.

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<sup>15</sup> Refer: <https://cityfutures.be.unsw.edu.au/research/programs/city-wellbeing/>

### **A note about the presentation of comparative numerical data.**

Where reference is made to the number of participants engaging in certain activities or the like, the actual number relative to the total number of participants is stated rather than a percentage due to the sample size for each study area (20 participants).

To assist understanding it has been useful to compare some behaviours of the study participants with the larger population (either NSW or the Sydney metropolitan area). This larger data is sourced from more extensive quantitative studies of that population and is invariably expressed as percentages. Where a comparison is made between the Study data and the larger population data this is also expressed as a percentage.

## **2.5 Ethics approval and location of data.**

The Study received approval from the Built Environment Human Research Ethics Advisory Panel (Faculty of the Built Environment, University of New South Wales) variously on:

- 3<sup>rd</sup> October 2012, amended 29 May 2013 (relating to Airds Bradbury, New Rouse Hill and Victoria Park) (Reference no. 125073).
- 29<sup>th</sup> May 2013 (relating to Renwick) (Reference no. 135036).
- 11<sup>th</sup> June 2014 (relating to all four Study Areas) (Reference no. 145057).

The initial recorded material from the participant interviews and from the subsequent focus group remains confidential and is stored within the City Futures Research Centre, Faculty of the Built Environment, University of New South Wales. The material comprises:

- for the interviews, an electronic version of the completed questionnaire for each participant, plus a paper copy where completed (some participants only).
- for the focus groups, an electronic recording of the discussion plus an electronic transcript.

Enquiries for use of this material should be made to the Centre Manager, City Futures Research Centre.

**Figure 10: Keeping healthy: the domains, actions and associated questions.**

<b>PHYSICAL ACTIVITY:</b> Getting people active.		<b>SOCIAL INTERACTION:</b> Connecting & strengthening communities.			<b>NUTRITION:</b> Providing healthy food options.	
<b>Facilitating utilitarian physical activity.</b>	<b>Facilitating recreational physical activity.</b>	<b>Facilitating incidental neighbourhood interaction.</b>	<b>Making community spaces.</b>	<b>Building for crime prevention.</b>	<b>Facilitating access to healthy food.</b>	<b>Promote responsible food advertising.</b>
1. Do participants achieve the recommended hours of physical activity per week?		17. Do participants interact with other residents?			27. Is fresh healthy food available to participants?	
2. Do participants engage in active transport modes?	11. Do participants walk for recreational physical activity?	18. Does the design of common areas in buildings foster incidental person-to-person contact?	21. Are there formal public and semi-public spaces accessible to the community at large?	26. Is use of public space for active transport and for incidental and organised physical exercise and social interaction facilitated by low actual or perceived threats to security?	28. Are the shops selling fresh healthy food accessible?	33. Might eating habits be adversely affected by local advertising?
3. Do participants use public transport?	12. Is walking viable for recreational physical activity (convenient, comfortable, & safe)?	19. Does the design of building frontages foster incidental person-to-person contact?	22. Is the design of formal public and semi-public space inviting to the community at large?		29. Is there a relative over-abundance of EDNP food shops?*	34. Is the presence of healthy food options visible?
4. Is public transport viable (convenient, comfortable, safe & affordable)?	13. Do participants cycle for recreational physical activity?	20. Does the design of public space foster incidental person-to-person contact?	23. Can participants be involved in the broader design and governance of their community spaces?		30. Do participants have an ability to grow healthy food?	
5. Do participants walk (or cycle) as a means of transport?	14. Is cycling viable for recreational physical activity (convenient, comfortable, & safe)?		24. Does new development include a 'Welcome' program to initiate on-going social interaction?		31. Can (farmed) healthy food be sourced (fresh) close to participants?	
6. Is walking viable for 'active transport' (convenient, comfortable, & safe)?	15. Does public open space provide for recreational physical activity?		25. Does the design and governance of public and private space allow contact with nature?		32. Is there a diversity of sources available for the sale or other distribution of healthy food (eg. markets, co-ops, food trucks)?	
7. Do participants cycle as a means of transport?	16. Are other facilities available (by either public or private providers) for recreational physical activity?					
8. Is cycling viable for 'active transport' (convenient, comfortable, & safe)?						
9. Do participants use stairs?						
10. Is use of stairs viable (convenient, comfortable)?						
Summation.		Summation.			Summation.	

\* EDNP = Energy Dense, Nutrient Poor.

### 3. THE STUDY FINDINGS.

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#### 3.1 The built environment and the need to be physically active.

It is recommended adults achieve 2½ - 5 hours moderate or 1¼ - 2½ hours vigorous physical activity (or combination) each week.

*Australia's Physical Activity & Sedentary Behaviour Guidelines.*

- In 2013 29% of Australians ranked as obese, compared to 16% in 1980.

*Australian Health Survey, 2013 (ABS).*

- In 2011-12 26% of trips under 1 km (ie. within 15 min. walk time) in Sydney were made by car.

*NSW Bureau of Transport Statistics.*

Of the three domains of contributory risk factors to contemporary chronic disease a lack of physical activity is perhaps the most critical given its implications in a range of cardio-vascular, mental health, and obesity conditions, and some cancers. However, in NSW only about 54% of adults (16 years +) achieve minimum recommended levels of physical activity.<sup>16</sup>

The Study participants indicated a good awareness of the need to be active, and needs in this regard were commonly cited when focus group participants were asked about the things they did and/or should be doing to keep healthy. However there is also considerable variation between the four Study Areas in terms of the interaction of built environment and personal choice or 'lifestyle' factors influencing participants' take-up of physical activity. All (100%) of participants in Victoria Park and 18 out of 20 (90%) of participants in Renwick achieved recommended levels of physical activity. The figure for participants in Airs and Rouse Hill (12 out of 20, or 60%) was only marginally higher than the NSW average.

The Study concluded that this healthy built environment domain requires the most attention: not just in the provision of facilities and infrastructure but also in relation to how such facilities are 'managed' in order to encourage uptake. Even where participants achieve minimum recommended levels of physical activity there is still often a lingering propensity to:

- default to the car for transport purposes, and
- prefer only moderate intensity activities (eg. gardening and recreational walking) to compensate - and which may not achieve the necessary long-term cardio-vascular benefits.

Although participants in Rouse Hill, Renwick and Victoria Park currently present as healthy, this would be in part due to their stage in the life-cycle. There is a risk in Renwick and Rouse Hill that future health issues will arise as a result of current lifestyle choices, particularly the low use of active

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<sup>16</sup> Source: NSW Ministry of Health (2013): *NSW Healthy Eating and Active Living Strategy 2013-2018*.

transport and, for some, a propensity for 'moderate' physical activity only. In this regard these areas risk repeating the features typical of the outer-urban, low-density, car-orientated dormitory suburb that results in lifestyles that are comfortable (there are high levels of satisfaction expressed by participants) but which have led to current concerns about an epidemic of 'lifestyle' diseases. A similar issue may also arise in Airds for the future new in-coming population (not included in this study).

The low physical activity figures for Airds and Rouse Hill are mainly due to low use of 'active transport' modes. In both areas low densities with spread-out facilities and employment locations (and a limited bus service) contributed, but there are also individual factors. In Airds, although participants were well aware of the need to remain active and generally demonstrated a commitment to this, they in effect had to work harder than those in the other Study Areas to achieve this. There are few attractive local foci given the run-down nature of the local neighbourhood centre and poor facilities in the local parks. The participants in Airds also tended to be older than in the other Study Areas and as such had lower personal mobility levels due to age or disability. Concerns about personal safety in public places were also a factor. Low mobility means a higher standard of infrastructure is important (level, well-maintained footpaths; seats to rest on; convenient bus access to the local pool), but low public investment in these regards in Airds means this level of provision is not achieved. The cost of commercial gyms and even aqua-aerobics classes at the local public swimming pool is also an issue in this low income area.

In Renwick, although participants cite a high level of physical activity this is mainly via moderate activities (gardening is commonly cited) and it is unlikely that there will ever be any substantial contribution to activity levels from 'active' transport given the viability of active transport will always be low in this semi-rural location. Residents will need to be aware of the need for compensatory measures that include vigorous as well as the current moderate activity. There are sufficient facilities in the wider locality to support this (even if access by car is generally required). However some important planning and design deficiencies are also apparent. One is that proposed neighbourhood recreation facilities relate to passive uses only and, as suggested by the participants themselves, need to be supplemented with informal active facilities. The other is the existence of critical gaps between pedestrian and cycling paths provided as part of the development and key local facilities. For example, the routing of a cycling path already constructed does not appear to have accounted for a railway line and as such does not connect with an existing regional cycle path to a nearby swimming pool and recreation area.

By contrast, these issues are not apparent in New Rouse Hill which is well-provided with facilities: a gym, swimming pools and local walking and cycling tracks as part of the community title arrangements, within the substantial Town Centre (which also acts as a regional centre) and which is in walking distance, and connections with more extensive walking and cycling paths in the wider locality. However usage remains low, and a car 'culture' even for short distances to the school or church or Town Centre shops seems to predominate. The planning approval for the Town Centre required preparation of a 'green travel plan' as part of its intended environmental objectives. There is an obvious health co-benefit. However the plan and its implementation, via a dedicated position, appears to be mainly orientated to the journey to work, and to Town Centre workers. The potential

to also address active transport by residents more broadly needs attention. The forth-coming opening of a Town Centre station on the new North-West railway provides a visible opportunity to encourage more walking or cycling in conjunction with use of the new railway itself. Other more creative campaigns may need to be trialed, such as encouraging residents to treat walking to the local schools and churches as an integral part of the school and church experience, and encouraging use of personal shopping trolleys to counter the common excuse of needing to take the car to carry shopping loads back home.

In comparison, although participants in Victoria Park tended to be of a similar demographic to those in New Rouse Hill there was a higher propensity to engage in vigorous recreation activity, eg. swimming, jogging, going to the gym, team sports, and a number of participants' residential buildings and/or their places of work included active recreation facilities. In addition, participants in Victoria Park reported a high proportion of physical activity from the use of 'active transport' – 17 out of 21 (76%) participants walked for transport and 29% of all trips were undertaken by walking (compared with the Sydney average of 17.5%).<sup>17</sup> So, while both Victoria Park and New Rouse Hill could be regarded as examples of 'transit orientated' development (albeit reliant at present mainly on buses<sup>18</sup>), only Victoria Park appears to be achieving the objective of an increased use of active transport. The physical layout of streets, pathways and open space areas also contribute. Early design statements for Victoria Park indicate explicit attention was given to a permeable layout with high walking and cycling amenity (originally as part of environmental objectives to reduce car use, but with obvious physical activity co-benefits). By contrast, in New Rouse Hill the pedestrian and cycling routes, particularly where they cross across the central riparian open space, seem to have been designed with recreation walking more in mind rather than quick and direct access to the Town Centre and its transport connections.

That said, increased levels of active transport are possible in New Rouse Hill given the close proximity of a wide range of facilities and the opening of a new rail line in 2019; and a greater uptake of local recreational walking and cycling paths is also possible. The issue of directness of existing pathways may need to be addressed; it is also likely that interventionist programs to stimulate use of the provided walking and cycling infrastructure will be required.

Participant comments from all Study Areas also included some common themes relating to how infrastructure supporting physical activity is actually provided and managed. Examples include:

- the provision of informal active recreation facilities (eg. ball courts, 'oval' spaces, exercise 'stations') in addition to the more commonly-provided passive and formalised active facilities. Victoria Park and Rouse Hill have good examples, but they are currently absent in Airs (though recognised in the future plans for the area) and in the planning for the open space areas in Renwick.

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<sup>17</sup> Source: *Household Travel Survey Report: Sydney 2012/13* (Bureau of Transport Statistics, 2014).

However: the correlation between the Study statistics and the Household Travel Survey statistics is not exact because the former is for all days per week, the latter is for weekdays only.

<sup>18</sup> Victoria Park also has access to a railway station but it is 800-plus metres away via an indirect route. Directness of access will improve as the Green Square Town Centre develops. A light rail service passing directly through Victoria Park is proposed in the longer term and will enhance the propensity to use active transport in this Study area. A new rail service connecting Rouse Hill to the Sydney network and regional employment areas is under construction.

- the desire for semi-formal group activities (eg. walking or jogging groups, exercise classes, tai chi) to encourage their participation and continued motivation. A prompt for these suggestions is also likely to be a desire for an associated socialisation co-benefit (see below); in Airds concerns about safety when out and about on one's own also figured. Existing examples cited included a walking group convened by the Heart Foundation in a suburb near to Airds, and a tai chi group organized by the local Asian community in a park in Victoria Park.
- walking for recreation is popular, but there is also a desire for more varied and longer routes and interesting destinations to counter 'boredom'. Sometimes this may be easy to resolve, for example by making residents aware of routes and destinations they are not aware of, and by better attention by planners to get the connections right and close 'gaps' in existing infrastructure and/or improve the quality of that infrastructure.
- there is a latent interest in cycling, but is not taken up due to concerns about sharing roads with unsympathetic car drivers, a lack of cycling skills and culture, and constraints due to young children. It suggests the need for a greater provision of off-road and/or on-road cycling routes, and perhaps some group activities to get people comfortable with cycling (as well as better recognition of cyclists by motor vehicle drivers).

**Figure 11: Good alignments are critical to facilitate cycling and walking.**



The alignment on the left (in Renwick) facilitates vehicles to turn at higher speeds, to the detriment of safety and directness for pedestrians and cyclists (even though the design supposedly adopted Heart Foundation guidelines that instead seek to prioritise use by pedestrians and cyclists). By comparison the intersection treatment on the right (in New Rouse Hill) slows vehicles, provides direct crossing alignments for pedestrians and cyclists, and includes a 'safety' zone in the middle.

### **Participant comment regarding the built environment and the need to be physically active.**

*There are no barriers to walking - we chose the area because you don't need a car. (Victoria Park).*

*The neighbourhood is disconnected from the places I like to walk. (Victoria Park).*

*Maybe we can have a little walking group or something and say, you know, it's 6 o'clock, I'm going to go for a half an hour walk. Who wants to come? Something like that, because when you make an appointment to be there and go and do it, then you're going to be less likely to go home and sit on the lounge... We might be able to help each other. (Victoria Park).*

*There's no local shop or café that's walkable. It would be nice to be able to walk to a local shop or café. (Renwick).*

*Not having a park directly accessible [is a barrier to walking] – we need a destination. (Renwick).*

*I don't need to walk – I have a car. But I've chosen to live here so when I'm older I'll be able to walk to transport. (Renwick).*

*For me it's kind of the footpaths and the creek and that you can take all these different paths. Because you kind of have no excuse because you can just go outside your door and start jogging along the paths and wander round some nice little places and then loop back around. (New Rouse Hill).*

*The car is too convenient – I carry a lot of stuff for work, so I can't imagine carrying that to the train station. They don't have a direct train line to North Sydney – and I don't want to have to change. I don't like the prepaid bus ticket system. (Victoria Park).*

*Driving is more the mode in the country. I don't really get public transport. (Renwick).*

[Facilitator:] So why do you drive or why don't you walk?

*I don't know, I should have. I don't know, I don't have an excuse.*

[Facilitator:] You jog though.

*Yeah, when it's convenient for me... If I'm exercising, I'm exercising. If I'm getting somewhere, I guess I'm driving. It's a mental thing for me. (New Rouse Hill).*

*Waiting for recreational cycling tracks to be developed – a reason I bought here was because they promoted this in the marketing. (Renwick).*

*Cycling is not something to do for utility in the country. (Renwick).*

*Yeah, with the walking stuff, the walking tracks, I do think we need them, but I do think they also need to cater for people like me who have mobility issues... I have trouble walking on normal ground, because it's so uneven. (Airds Bradbury).*

*Driving is more convenient – no access by walking to work, and it's easier to drive for shopping, when having to carry it home. (New Rouse Hill).*

*I just don't walk – I don't really think about it. I'm also busy gardening, doing house-work, cooking, looking after the kids. I used to have a dog but not now. (New Rouse Hill).*

*Safety is a concern – too many roads [relative to dedicated cycle paths], far too much risk of being knocked over. Would like more cycle overpasses. Don't think Australians are kind to cyclists. (Victoria Park).*

*Some of the people hanging around or living in the area – can be a safety concern. (Airds Bradbury).*

*We have lots of open space but too few 'park' facilities. (Airds Bradbury).*

*There isn't a park designed for my needs. (Airds Bradbury).*

*I'd like to see within all the walking tracks and parks stations where you can as you're walking around stop and do a few exercises on certain stations.... Things like that encourage you to do something as you're walking past. (Renwick).*

### 3.2 The built environment and the need to interact socially with others.

“Getting to know neighbours, volunteering, and being involved in local activities are great ways to feel connected. Feeling part of our community enhances our sense of belonging and security.”

*Australian Unity Wellbeing Index.*

- At least 6 Australians die from suicide every day, and 20% of adults will experience a mental illness in any year.

*Black Dog Institute (Australia).*

- In the last 6 months, 7% of adults did not converse with someone, 43% did not attend a social event, and 40% did not meet anyone new.

*Newspoll (survey of isolation, Nov. 2013).*

Unlike our needs for physical activity and nutritious food where there are quantified minimum ‘uptakes’ we should achieve, the extent of our need for social interaction is difficult to measure. Further, social interaction can take a variety of forms, such as on an incidental basis informally interacting with people on the street or in shops or other public spaces, or more formalised as in attending group activities and/or established networks of friends or family or the like. However, and as with the other needs of physical activity and nutrition, insufficient socialisation with others is likely to have long-term consequences in terms of personal mental health.

Here the Study findings are highly mixed. In Airds, and the newer suburbs of Rouse Hill and Victoria Park interaction with neighbours is below national averages. In Rouse Hill there is a noticeable absence of people in the residential streets, and participants cite the competing demands of establishing their houses and gardens (the latter also tied up with a landscaping bond) and commuting to work. In Victoria Park and the Town Centre area of Rouse Hill, where most dwellings are in multi-storey buildings, participants cite the absence of any ‘neighbourly’ meeting area, other than corridors and lifts. It is then difficult to know whether people you run into are long-term residents or short-term tenants or visitors, and therefore how best to interact with them.

That said, participants generally indicated that they were ‘satisfied’ with this situation, suggesting that they relied on other social networks or family interactions. This was particularly so in Airds which had a longer-established population, and where the levels of trust and affiliation with immediate street neighbours tended to be lower.

The exception was Renwick. Many participants had moved there from elsewhere in the sub-region and already knew other residents, and, as suggested in the focus group, a more neighbourly rural ethic seemed to be present. Here socialisation amongst neighbours was higher. An interesting innovation was also cited – an evening stroll around the neighbourhood to ‘check out’ the new builds and new neighbours, and thus also increasing incidental meetings (and with physical activity co-benefits).

Overall however it is also not this simple (in all four Study Areas). When asked more generally to rate their satisfaction with opportunities to meet people in their neighbourhood, participants tended to express a desire for something more, even when also expressing general satisfaction in

terms of their interactions with immediate neighbours. This response is also consistent with participant advices that social interaction is an important component in them keeping healthy. We have termed this desire a broader need for 'connection'.

In the focus groups in Airds and Rouse Hill comment was made about the distraction in this regard caused by easy availability of the internet and of movies on pay TV – and which kept them at home away from other people. In Rouse Hill participants expressed a desire for more 'community events', more activities at the local library, a 'social network club', and 'exercise groups' – though this may also be due in part to a lack of awareness of activities and events that are available. In Victoria Park participants would like to better know the other long-term residents in their multi-unit and often high-rise building. In Renwick there was strong desire for early establishment of a place for 'neighbours to meet and relax' together, such as some local shops, a café, and parks with facilities designed to encourage child and family interaction (although planned, there were no such focii at all at the time of the Study). And while there is an existing neighbourhood centre and ample open space areas in Airds, they have become so run-down that they no longer fulfil a social interaction role. As one participant commented, 'we have lots of open space, but no real parks as such'; and another that the existing shopping centre needed to be 'completely rebuilt'. In addition, concerns about safety in these areas particularly for those who are less mobile due to age or disability reduces the propensity to be out-and-about. By contrast, participants in Victoria Park felt safe in their streets even at late hours given good lighting and the presence of others (here the Asian community was particularly mentioned) undertaking evening strolls or returning from other activities.

As these examples show, the role of the built environment in facilitating social interaction is not just about its 'shape' but also about how it is managed, including the timing of when facilities are provided. Here it is also useful to keep abreast of and provide for trends and other 'grass roots' happenings as they become apparent within the communities themselves where they might have important socialisation benefits.

In Victoria Park, management of a park as an off-leash area for dogs has also created a well-used social meeting point. A 'meeting point' kiosk, public BBQ's, community food-growing boxes and a weekly market provide additional community foci in this park, as does a well-designed playground with extensive associated seating and shade, and an informal ball court in other local parks. A men's shed in Airds established as part of the broader renewal program has a similar role. In Rouse Hill one of the first (or 'pioneering', as she put it) residents took it upon themselves to start a community food garden. Similarly, in Airds and Victoria Park the Study came across individuals who had of their own volition established themselves as 'social catalysts' by organising get-togethers or by just sitting and chatting with others in public areas. The employment of specific 'community facilitators' (generally part-time and for a dedicated initial period) in Victoria Park, Renwick and Rouse Hill seeks to replicate this role in a formal way, but with varying efficacy. Positive reference was made to the visibility and accessibility of these positions in Victoria Park and Renwick; however in Rouse Hill the position has been out-sourced with reliance on social media and as a result seems to be more detached and perhaps less effective.

**Figure 12: Park designs with different impacts on levels of social interaction (and physical activity).**



The park facilities on the left (in Airds Bradbury) pay little or no attention to wider user needs such as shade, seating for accompanying parents or others to meet and linger, and an overall sense of attractiveness and enclosure. By comparison the facilities on the right (in Victoria Park) stimulate greater usage, with greater social interaction and physical activity benefits.

**Participant comment regarding the built environment and the need to interact socially with others.**

*I live in a senior's complex of 30 units – we all know and look after each other. (Airds Bradbury).*

*I meet a lot of people in the park, which is very accessible. I'm strongly satisfied with the number of people I have met in the four years I've been here. The area is well-designed that way – and with no main through street. There's a feeling of identity-belonging. (Victoria Park).*

*I think having the dogs makes you more likely to interact... (Victoria Park).*

*I would like some more interaction with my neighbours. But most are new to the area and are fairly busy – everyone is trying to get their house and garden in order, not focussing on the social aspect right now. (New Rouse Hill).*

*Lots of socialising occurs in front yards, over fences. (Renwick).*

*Still early days – still getting to know each other, but can see it turning into friendships later. (Renwick).*

*'...because we are all new houses and new people to the area and we're all walking around seeing what's happening and what house is being built there and that sort of thing we're meeting people who are putting in fresh gardens and everyone is talking to everyone because we're all new... Yet you go into another suburb where everyone's been there for years and you'll never meet a soul. (Renwick).*

*I interact a lot with my nuclear family – don't have a need to socialise with neighbours. (New Rouse Hill).*

*I socialise with my neighbours in the street – but this usually only occurs when triggered by an unpleasant event. (Airds Bradbury).*

*That's my preference, yeah, I don't like to get friendly with my neighbours, never have, no.... Oh I know if we need them at all they'd be there, yeah, not a problem, but no I just don't like to get friendly with my neighbours. (Airds Bradbury).*

*There's a lack of opportunity to meet neighbours in the apartment block. No common area to bump into people – only the hallway. Also there's a large proportion of renters – people come and go and you see lots of people but don't know who actually lives there. Only time you see people and talk is when the fire alarm goes and you are standing around outside with nothing else to do. (Victoria Park).*

*There's a lot of transient tenants here as well and I think that's causing issues... (Victoria Park).*

### 3.3 The built environment and the need to eat healthy food.

It is recommended that adults consume 2 serves of fruit and 5 serves of cooked vegetables daily.

*National Health and Medical Research Council (Australia)*

- Number of adults eating recommended servings of:
  - vegetables – 6.8%.
  - fruit - 54%.
- 35% of daily total energy comes from foods with little nutritional value, and also high in saturated fats, sugars, salt and/or alcohol.

*Australian Health Survey, 2013 (ABS).*

Of the three healthy built environment domains, the accessibility, affordability and quality of fresh foods was the least problematic. The results of the market basket survey component of the Community Food Assessment showed that, by and large, all Study Areas rated well when compared to the overall Sydney-wide averages from the Assessment (Figures 13 and 14). Although Airs Bradbury rated lower in relation to ‘mean quality’ this was in relation to the immediate local independent supermarket; the quality score for the more frequently-used regional supermarkets was similar to the Sydney average. The main contributory factor is the prevalence of one or both of the two major supermarket chains, and the current marketing focus in these chain supermarkets on fresh foods (and low prices). The lack of a supermarket in Victoria Park at the time of the Study surveys generated much negative comment in terms of convenience, it also noticeably had the flow-on effect of generating a higher overall level of car usage to access and transport shopping from supermarkets in surrounding localities. This has now been resolved with the opening of a major mixed use development in Victoria Park itself.

In Renwick there are currently no shops, and in Airs the local IGA supermarket sells only a limited range of fresh foods. Nevertheless, good alternative shopping locations are nearby, and generally high levels of mobility means that this is not an issue. New local stores are proposed in both areas, with good prospects for active transport (walking and cycling) and social interaction co-benefits. However, attention also needs to be given to ensuring a predominant provision of fresh foods within these stores. The low predicted population density of both Renwick and Airs Bradbury raises concerns as to whether this will be viable economically and what could be done to compensate.

Study participants also demonstrated a good awareness of the need to eat healthily (with some citing the prevalence of food shows on TV as contributing), to the extent at times of questioning the actual freshness of supermarket foods.

Critically though, there are also gaps – due to low mobility (mainly due to age and/or lack of access to a car) and/or income. In Airs an earlier study carried out to inform the renewal program also identified some lack of cooking skills and nutritional awareness.<sup>19</sup> In Airs Bradbury and Victoria

<sup>19</sup> Heather Nesbitt Planning & Community Dimensions Pty Ltd (2011): *Integrated Social Sustainability and Health Impact Assessment. Stage 1 Report.*

Park subsidised community food box programs seek to address these gaps. Instructively, anecdotal comment at the focus group suggested that in Airds Bradbury this program has led to an improvement in the quality and price of the fresh foods on sale in the local (walkable) supermarket (though observation by the Study officers indicates the range and quantity is still low). Care will need to be taken if it is proposed to close or amend these programs.

Notwithstanding the general availability of fresh foods comment by participants also referred to the dilemma of temptation, and the continual need for personal vigilance to “control portion size”, “eat less treats”, “drink less sugary drinks”, “eat a proper breakfast”, and the like. Although this is a matter of personal agency, the relative visibility and prominence of advertising for healthy and non-healthy (or EDNP – “energy dense-nutrient poor”) foods, and of food items themselves is also a factor. The Study results in this respect were generally positive, though again mixed:

- The two main supermarket chains now strongly promote their fresh food range, with prominent positioning near to store entrances.
- In the Rouse Hill Town Centre, other fresh food shops (fruit and vegetables, meat, chicken and fish) are, positively, clustered adjacent to the supermarkets. In Victoria Park the new retail centre (advertising itself as “Sydney’s newest marketplace”) includes an open and highly visible “market stall” design for its fruit and vegetable area – and may assist in resolving lingering issues with personal diet as expressed by the focus group participants in that area.
- This clustering – and thus visibility – is not as prominent in the shopping malls near to Renwick and Airds Bradbury. In the main shopping mall servicing Renwick residents there is only a limited number of independent fresh food shops and they are located in direct visual “competition” with the food court outlets (predominantly of EDNP foods) given both are positioned adjacent to the supermarket entrance.
- In the Rouse Hill Town Centre, the food court is in a separate zone and has a good mix of outlets. Positively, the design allocates each outlet with the same amount of space and signage area, and thus relative prominence and visibility.
- As predominantly residential areas, advertising signage is minimal in each location. In Rouse Hill there is advertising around the fencing of the main sports oval. Positively, there was only one sign relating to EDNP foods, and was not particularly prominent. This though may well be more by luck than policy; and there were no signs encouraging healthy eating.
- Healthy foods can be made visible in other ways as well. Food growing is visible in some private yards in Airds Bradbury and Renwick. There are community food gardens in Airds Bradbury and Rouse Hill, and in denser Victoria Park community food planter boxes in some parks and a “home food growers” network on the local Facebook page. But also, these initiatives do not always seem to reach their potential, suggesting the need for better management: some spaces appear neglected, are hidden from public view and/or fenced-off, or contain no advice about who can participate and use the produce.
- In the Rouse Hill Town Centre and in Victoria Park there are also regular farmers markets. However, although Study participants recognised the food items here were “fresher” they tended to shop there only for specialities, not for regular shopping – reflecting the “speciality” nature and often higher prices of these particular markets.

It is also the case that many of these positive features can be over-powered by prominent and accessible standalone clusters of drive-in EDNP outlets. One such area is situated next to the main shopping mall used by participants in Airds Bradbury, and seemingly the source of adverse comment about “junk food” consumption by “others” made by participants in the focus group. It suggests the need for policies restricting such uses on the remaining peripheral future development sites adjacent to the Rouse Hill Town Centre. Further, the intended development of a new neighbourhood centre in Airds that would act as a revitalised community focus offers the opportunity to give greater visibility to healthy foods by including shopfront space, possibly subsidised, for the distribution of produce from the local community gardens and to the local community food box network.

Figure 13: **Supermarkets by Study area included in the Community Food Assessment.**

Study area	Supermarket Type	n
Victoria Park	Large chain A	1
	Large chain B	1
	Discount chain	2
	Independent	2
Rouse Hill	Large chain A	2
	Large chain B	2
	Discount chain	1
	Independent	2
Airds Bradbury	Large chain A	2
	Large chain B	2
	Discount chain	2
	Independent	4
<b>Total</b>		<b>23</b>

Figure 14: **Mean cost, variety and quality of food items in supermarkets by Study area.**

Study area	No.	Mean cost (healthy food basket)	Mean cost (fruit & vegetable basket)	Mean variety	Mean quality
Victoria Park	6	\$173	\$24	50	43
Rouse Hill	7	\$180	\$25	57	42
Airds Bradbury	10	\$180	\$25	49	38
<b>Sydney average</b> (high SES suburbs)*		\$194	\$27	55	42
<b>Sydney average</b> (low SES suburbs)*		\$177	\$23	49	41

\* SES = socio-economic status.

**Figure 15: On-going active management of community gardens is critical.**



The garden plots on the left (in New Rouse Hill) although well-located with other community facilities have become neglected, with consequent lost opportunities in relation to supply of and consciousness about fresh food, and social interaction and physical activity co-benefits. By comparison, the garden on the right (in Airds Bradbury) is actively managed, now through the local Men's Shed, with rotational cultivation for seasonal produce and the work and produce shared by participants.

**Participant comment regarding the built environment and the need to eat healthy food.**

*[There are] social expectations. It seems to be like a goal to have a [healthy diet]...it seems to be a positive attribute for people these days. It's one the magazines and newspapers and that focus on a lot. (New Rouse Hill).*

*Many people shop at the supermarkets or fruit and veg store in Campbelltown, top up at supermarket in Airds [only] if desperate. (Airds Bradbury).*

*...you can get access to it, but you've got to get in the car and drive there and make an effort to do it. If it was easier access you'd just walk down...If there was a nice fruit and veg [store] or even if there was a...stall or something that came in, people would all gravitate to that. (Renwick).*

*...I think it's been a gradual whole of society thing for the last 30, 40 years. Some people embrace it, others don't, and there's so many lifestyle shows and things on...TV and everything these days, also which highlight it all. The thing about living in Rouse Hill is, I find it assists you to do those things because of the facilities that are here, the situation, and well, the eating thing. I mean ...we've got good shops, we can buy fresh fruit, and stuff like that. (New Rouse Hill).*

[Facilitator]: Does anyone ever go to the community garden [near the Town Centre]?

*I'm not sure how that operates. I think – is it a secret society or something? Because there's a locked gate, you can't get in. I don't know, there might be a small group of people who look after it, I don't know. (New Rouse Hill).*

*...the original people, when we were a very small group, we all started [the community garden] and we used to plant stuff and go and weed it and help yourself to things. For a couple of years it ran really well but, as the community got bigger and bigger, I don't know, we lost interest or something I suppose. It's one of those things. I think there's still some herbs growing. (New Rouse Hill).*

*I find farmers' markets expensive – so go to Parklea Markets instead. (New Rouse Hill).*

[Facilitator] ...healthy diet and eating come up a number of times, and concern about weight and so on. Is the weight thing about eating or is it about exercise or both?

*Both.*

*It's interlinked.*

*You don't starve in the Highlands so you've got to be careful! (Renwick).*

*In this area I cater for about 15 people who are in the seniors complexes, and a few odd people around the area. We also do a fruit and vegetable co-op out of here on a Friday. But they pay for it themselves, it's only \$5 a bag or \$15 a bag. We do fresh fruit and veggies. Dependant on if they're cooking, but they get three feeds, or two thereabouts, plus half a dozen different types of fruit.*

[Facilitator] Would there still be the demand for that if there was a decent fruit and veggie shop in Airds itself?  
*Probably not. (Airds Bradbury).*

### 3.4 Synergies, co-benefits and wellbeing.

The previous sections have explored the built environment determinants related to the three domains of chronic disease risk factors as identified in the review of existing research: physical activity, social interaction, and nutrition. As the Study progressed other advices became evident in the data. They comprise matters which:

- are more composite or holistic, generally connecting various elements of the three specific domains,
- suggest potential, more expansive synergies arising from these connections and interactions, and
- extend the subject areas of the three domains to include other aspects the participants themselves advise as important to their health.

#### (i) Overall levels of satisfaction.

Participants were asked about their levels of satisfaction with a range of various attributes related to living in their localities, and about their *overall* level of satisfaction with their locality as a 'good place to live'. They were also asked in a separate question whether they would be 'sad to leave' their locality. The results of both questions are shown in Figure 16.

It was found that in all areas overall levels of satisfaction were high.

This was the case even though:

- (a) Each locality is quite different. It suggests that people do have different wants and needs when it comes to the overall attributes of where they wish to live, in addition to a range of common features that are expected (and detailed in this Study in relation to the three domains of chronic disease risk factors). It indicates the need to ensure within the development of metropolitan areas as a whole there is a diversity of local environments to suit these different expectations and thus support different notions of individual wellbeing.
- (b) In each locality there are also various levels of dissatisfaction with certain individual attributes. It suggests a level of accommodation by participants of attributes which are less than desired, in return for the larger overall experience that locality offers. However, this does not mean that individual matters which lead to some dissatisfaction should be ignored. At times these also generate a level of on-going annoyance that in itself lowers overall personal wellbeing and thus individual health. In other instances it can mean that various healthy behaviours are not supported with the risk that undesirable habits are developed and which may be difficult to reverse in the future even when improved facilities are provided. Participants also often recognised that some deficiencies were a function of the early stage of development of their areas and that these were likely to be rectified in due course.
- (c) In Airds Bradbury specifically, levels of dissatisfaction with individual attributes were often quite significant. Nevertheless, 11 out of 20 (55%) participants regarded Airds Bradbury as a 'good place to live', with a further 5 participants being neutral. It suggests a combination of resilience, comfort with what is known, perhaps a 'weary acceptance' of the current situation as a result of a longevity of residence, and the positive influence of local social and activity networks established as a result of that longevity. It may also be that there is a feeling of

expectation that things will improve in Airds Bradbury as the renewal project progresses, even though some participants expressed concern about the impact from resultant increases in residential density and decreases in the quantity of open space (although the actual quality of open space facilities should improve). That said, it should also be noted that only 10 out of 20 (50%) participants indicated that they would be ‘sad to leave’ Airds Bradbury. This is substantially lower than the figures for Renwick (18 out of 20, or 90%), New Rouse Hill (16 out of 20, or 80%) and the NSW average (73.4%)<sup>20</sup>, though only marginally less than for Victoria Park (12 out of 21, or 57%).<sup>21</sup>

**Figure 16: Overall levels of satisfaction, and whether participants would be sad to leave their Area.**

	Airds Bradbury (out of 20)	Renwick (out of 20)	New Rouse Hill (out of 20)	Victoria Park (out of 21)
Satisfaction with your area locality as ‘a good place to live’	11 (55 %)	20 (100 %)	20 (100 %)	18 (86 %)
Would you be sad to leave your area?	10 (50 %)	18 (90 %)	16 (80 %)	12 (57 %)

As illustrated in Figure 16 there is a reasonably close correlation in participant responses between their level of overall satisfaction with their area and whether they would be sad to leave that area, except for Victoria Park. The reasons for this are unclear. They could be a combination of:

- participants being in a more transient stage of their lives, and where close access to jobs in the CBD and the range of entertainment available in the inner city takes precedence in choice of housing location.
- the frustrations which have been expressed about a certain anonymity that comes from living in multi-unit residential buildings, and which have lead also to some comment about a desire for some greater ‘connection’ with neighbours and others.
- the frustrations that have been expressed about the inherent noise (generally from traffic) and dirtiness (generally from air grit) associated with inner-city living, and also about the increased impacts on amenity from the larger scale of buildings that have been constructed in the later stages of impact of the overall development.

It may also be the case that participants may be less ‘sad’ to leave their area once the additional and quite substantial community facilities in the wider Green Square locality come on-stream, and given also the current proposals for which indicate they are to be provided at a particularly high standard. These include an aquatic centre, active sports fields, a community centre, and a library. Future proposals also include a light rail system and links with regional bicycle routes. Conversely, it may also be that the parallel substantially increased scale and density of development proposed in the

<sup>20</sup> The NSW average score for whether residents would be sad to leave ‘their neighbourhood’: NSW Ministry of Health (Centre for Epidemiology and Evidence): *NSW Adult Population Health Survey 2008-2010*.

<sup>21</sup> In Victoria Park another three (14.5%) participants indicated they ‘did not know’ if they would be sad to leave.

nearby Green Square Town Centre development acts for some as a further reason to not feel 'sad' about leaving Victoria Park.

**(ii) Composite responses – synergies, co-benefits and interactions.**

The open-ended questions in the questionnaire surveys, and the semi-structured discussion in the focus groups allowed the Study participants to advise *their* understandings and reflections on the relationship between the built environment and their health. It was found that:

- (a) the participants generally demonstrated good understandings about the connections between their health and daily activity and behaviour, without the need for much prompting. As such they were also able to suggest:
  - whether the influences of the built environment on their behaviour and activities were positive or negative, and
  - changes in the physical form of their built environments or how it was managed that could improve the existing situation.
- (b) comments about changes and improvements invariably took an 'holistic' approach, mentioning links either existing or desired across two or more of the three domains that were the focus of the Study. In this respect these understandings were sometimes at odds with the configuration of the infrastructure and facilities, which tended to be based on a more 'silo', or less 'networked', approach.

The recognition of such responses is important for a number of reasons:

- (a) they go directly to meeting the actual needs and desires of the various communities.
- (b) when individual actions and/or allocations of resources achieve more than one objective or outcome they can generate broader community financial and other resource efficiencies, or 'co-benefits'.
- (c) similarly, when individual actions and/or allocations of resources achieve more than one objective or outcome they can generate more effective individual health-supporting behaviour than any individual component considered separately. For example, and as suggested in the model in Figure 17:
  - it is easier to be active when you are doing things with supportive others.
  - eating well is important in maximising the benefits from keeping active.
  - food is a good catalyst for maintaining social connections, eg. eating together, community gardening, attending markets.<sup>22</sup>

Combined, these findings suggest the need to be open to:

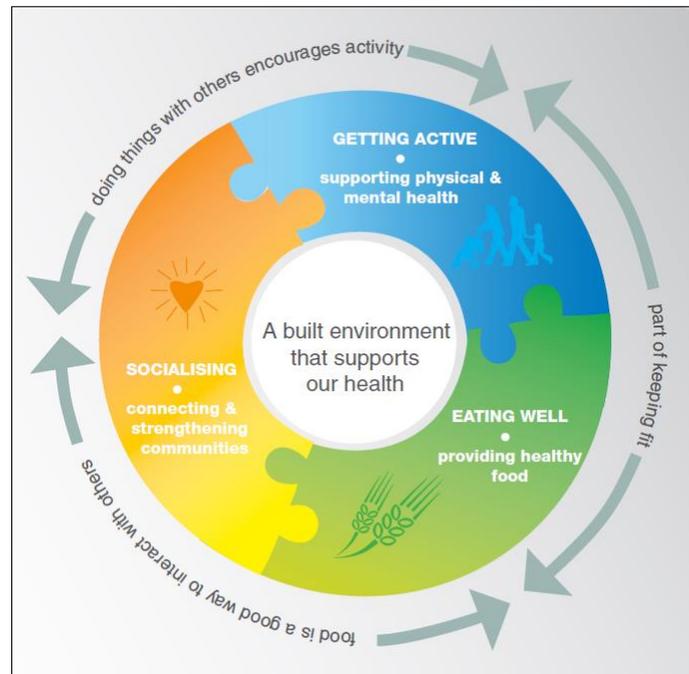
- hearing what individuals say about what *they* require to be healthy.
- the exploration of composite synergistic designs, management policies and actions.

As such collaborative working arrangements are essential.

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<sup>22</sup> These examples, and the model in Figure 17 are sourced from associated work by the City Wellbeing Program to develop a set of Indicators for a healthy built environment (see <https://cityfutures.be.unsw.edu.au/research/programs/city-wellbeing/>).

Figure 17: Building healthy built environments – putting it all together.



### (iii) Additional understandings about keeping healthy.

Participants in the focus group were asked to list the behaviours and things they considered they need to be healthy, and then identify:

- those matters they currently had access to, and therefore were assisting them to keep healthy, and
- those matters they currently did not have access to, and therefore would, if available, further assist their ability to keep healthy.

Although participants were aware the Study was primarily orientated to matters relating to the built environment, no restriction was placed on what they could advise (see Section 2: 'Methodology'). The responses to all questions are shown in the individual Study area reports (Table 4.6 in the reports for Airds Bradbury, New Rouse Hill and Renwick, and Table 4.8 in the Victoria Park report).

Most matters cited relate either directly or indirectly to the three domains of chronic disease risk factors that have been the focus of this Study (physical activity, social interaction, and nutrition). However participants also identified various other matters (refer Figure 18). They:

- give an initial sense of a broader range of matters that individuals themselves see as important for their health.
- demonstrate the range of understanding, thinking *and* action that the participants themselves are undertaking in relation to their health.

**Figure 18: Additional matters identified by participants as important to their health.\***

<ul style="list-style-type: none"> <li>▪ Read.</li> <li>▪ Do crossword puzzles.</li> <li>▪ Sew, knit, crochet, quilt.</li> <li>▪ Visit doctor regularly for check-ups.</li> <li>▪ Keep up medications.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Meditate.</li> <li>▪ Relax more.</li> <li>▪ Do not stress.</li> <li>▪ Care for inner being.</li> <li>▪ Get more sleep.</li> <li>▪ Go camping.</li> <li>▪ Personal time to oneself</li> </ul>	<ul style="list-style-type: none"> <li>▪ Worry less about the future.</li> <li>▪ Leisure activities with family.</li> <li>▪ Keep house tidy.</li> <li>▪ Less time on the computer and/or watching TV.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Work.</li> <li>▪ Spend time with loved ones/ children/ grandchildren.</li> <li>▪ Less worry about finances.</li> <li>▪ Physiotherapy.</li> </ul>
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\* A number of responses were cited more than once, separately by different participants.

Most of these additional matters tend to relate to quite personal issues and behaviours. Generally they will be undertaken in private personal spaces, particularly the home. Some are not spatially-dependent (in relation to either private or public space), and are thus not dependent on the design and management of the built environment. However, there are also important convergences:

(a) A number of the matters cited (eg. reading, meditation and other ‘relaxation’ activities) require spaces with an appropriate level of amenity. In particular it will be important that individual dwelling spaces provide this amenity. Although this did not appear to give rise to a lot of concern by participants, some particular issues were raised:

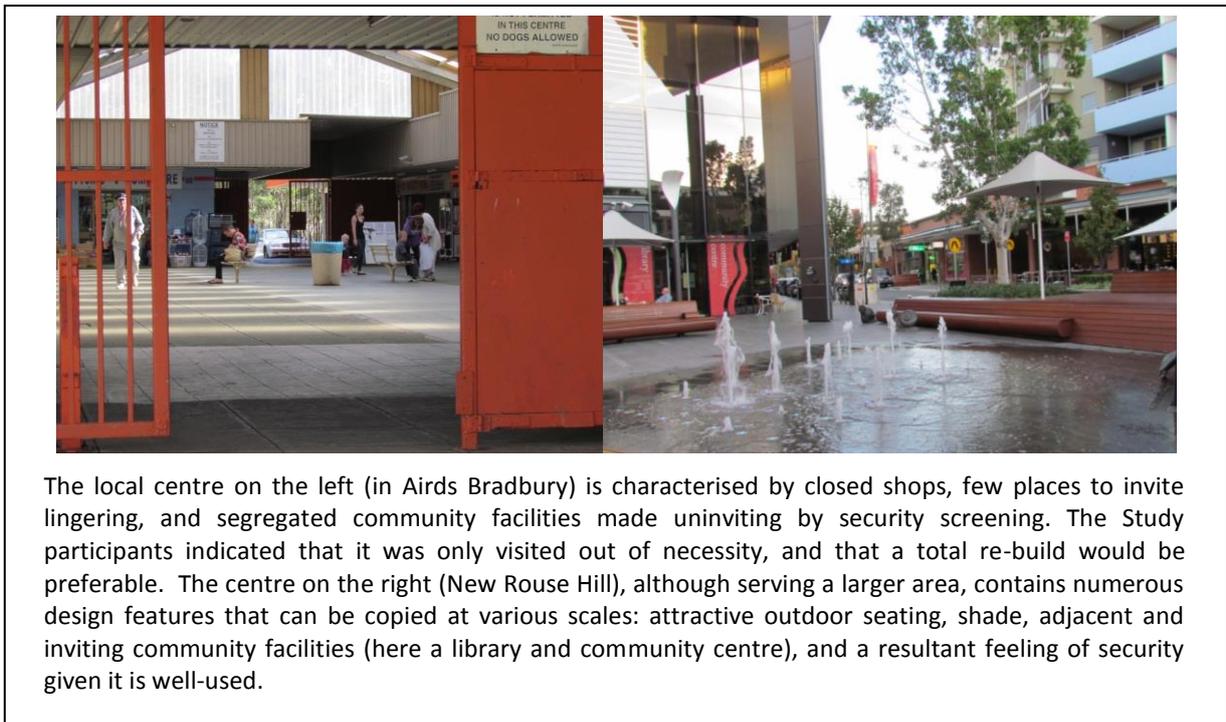
- in Victoria Park there was concern about the impact on dwelling amenity from inter-looking between units, from the general level of air pollution (grit) and noise in the locality, and for some units the closeness to residential windows and balconies of driveway ramps (noise and air pollution concerns) and garbage storage and collection areas (noise and odour concerns).
- in Airds Bradbury comment was made that some of the (small) yard spaces attached to the new aged persons units were not comfortable to use because of ground insects.
- in New Rouse Hill there was comment about annoyance from barking dogs.
- in all areas concerns about noise (and speed) from traffic were often cited.

(b) Some other matters cited point to potential built environment responses (either through the provision of physical infrastructure, the management of that infrastructure, or the provision of community services) that could maximise the achievement of overall health. Examples include:

- the interest in meditation, sewing, reading and the like could be complemented by the organisation of groups or clubs that individuals could attend in an informal way if desired, with the co-benefit of increased social interaction and also physical activity if active transport modes are used to get there. There would need to be an associated provision of physical community spaces to provide convenient and suitable venues.
- the support through subsidised space or the like of a good range of local medical services if not already provided by the market could encourage regular visitation, preventative check-ups, and the like.

- a good range of local facilities for both physical activity and social interaction can encourage time spent with family and the like to also include health-supportive behaviour (often outside the home itself).

**Figure 19: Different approaches to local centre design and management, with resultant impacts on neighbourhood synergies and co-benefits.**



**Participant comment regarding synergies, co-benefits and wellbeing.**

*I think the way they've established Rouse Hill and set it up from the beginning has helped to promote all these healthy things and stuff...*

*Yeah...I'm old enough to go back to the Life Be In It campaigns and that, back in the '70s. That was the first, I think, general awareness program for people in Australia, that we need to get out and exercise et cetera. So I think it's been a gradual whole of society thing for the last 30, 40 years. Some people embrace it, others don't, and there's so many lifestyle shows and things on, on TV and everything these days, also which highlight it all. The thing about living in Rouse Hill is, I find it assists you to do those things because of the facilitates that are here, the situation and, well, the eating thing. I mean that's a - we've got good shops, we can buy fresh fruit and stuff like that.*

*I suppose the other thing to consider is the fact that it's safety as well when you're walking by yourself. You go for walks, I think that's very important.*

*...you've got like the centre kind of courtyard area...the playgrounds and stuff like that, which not every square foot of the shopping centre is being used for shops. It kind of gives that community sense as well, because they've got areas for just play and areas just to sit and relax and things...And the library within the shopping centre... (New Rouse Hill).*

*We do [eat sufficient fresh fruit and vegetables] and you can get access to it but you've got to get in the car and drive there and make an effort to it. If it was easier access you'd just walk down and get it, hence the village centre. If there was a nice fruit and veg shop or even if there was a - I don't know like a stall or something that came in and people would all gravitate to that. (Renwick).*

*Maybe we can have, like, a little walking group or something and say you know it's six o'clock, I'm going to go for a half an hour walk. Who wants to come? Something like that, because then when you make an appointment to be there and go and do it, then you're going to be less likely to go home and sit on the lounge, because you've got an appointment.*

*We might be able to help each other. (Airds Bradbury).*

*When you build a park, put a little cafe there and a newsagent, or something, and people will buy a coffee and a newspaper and they'll sit and they'll read and then that's encouraging, that interaction. Or even chess sets and things like that, those sorts of activities to encourage people. (Victoria Park).*

*Having community places to go to eat and drink (like a drop-in centre) – which are dog-friendly and children-friendly for young mums. Embrace the whole community, not just particular parts of it. Be interesting to see how everyone interacts in the new shopping centre to open soon. (Victoria Park).*

[Facilitator] So these comments-places for neighbours to meet and relax, meeting place for socialising - what were you thinking about here?

*A village centre, preferably.*

*A coffee shop where you can just meet up and everybody can just walk there and meet up and home again.*

*That's right, a meeting point.*

*A newsagent.*

*A meeting point yeah.*

*A coffee shop is a good place to do that. (Renwick).*

#### 4. CONCLUSIONS: Lessons for a healthy built environment.

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The Study comprised an in-depth appraisal of both the built environment and the lived experiences of resident participants of the four case-study areas. Overall, the findings:

- support the literature on built environment matters that impact on the propensity to contract contemporary chronic diseases such as obesity, heart disease, mental illness and various cancers; and the definition of three broad ‘domains’ of interaction in this regard: the need for physical activity, social interaction, and good nutrition.
- give a deeper understanding of how particular localities, each different in themselves but also typical of new and redeveloping residential development in Australia, support or hinder these three domains, and thus healthy behaviour.
- advise other matters the participants consider as necessary for their health. These are given preliminary appraisal in this Report (refer section 3.4). They are available for additional appraisals as part of on-going reviews of the overall Study data.

The Study outcomes including conclusions and recommendations are detailed in each separate Study area report. A summary for each Study area is included in this report (Annexures 1 to 4).

The findings, now that they have been identified, seem to be quite intuitive; they *feel* right. This though, can also present a risk – that by being familiar, perhaps even mundane, they may not be regarded as commensurate with the other numerous and difficult-to-manage issues inherent in designing and developing our built environments. This would be a mistake. Quite a number of the matters identified, although apparently obvious and straight-forward, point to areas of neglect, or inattention, or lack of carry-through. If these issues are not highlighted we risk failing to achieve overall policy and personal choice intentions for good health by neglecting to put such necessary features in place in a viable and effective way. Worse, sometimes a built environment feature because it has been evaluated and/or implemented too narrowly can actively hinder good health outcomes – with consequent growing personal and community costs.

The key findings of the Study are presented here as:

- (i) a set of overall conclusions, comprising nine points, and
- (ii) 13 ‘lessons’ for achieving healthy built environments.

Consistent with the nature of the built environment-health interaction, many overlap and interrelate.

Broadly, there remains a need for practitioners involved in the shape of our built environments to actively ask, in each aspect of their work:

- Will this action maximise the achievement of physical activity?
- Will this action maximise social interactions?
- Will this action maximise healthy eating?
- If not, how can I modify it to better achieve these needs?

The conclusions and lessons listed here will assist.

#### 4.1 Overall conclusions.

1. To date, many of the healthy built environment features within the four Study Areas have been as a result of fortuitous 'co-benefits' from other actions rather than any conscious healthy built environment orientation or focus, namely:
  - (i) the achievement of low ecological impact objectives (eg. in Victoria Park the inclusion of good walking and cycling infrastructure to reduce car use to reduce pollution/emissions and through the establishment of shady pleasant open spaces as part of water-sensitive urban design initiatives; in New Rouse Hill similarly the establishment of extensive open spaces for water-sensitive urban design and riparian management reasons).
  - (ii) the provision of facilities aimed at increasing residential amenity to assist initial marketing of the developments given the 'greenfield' or 'brownfield' nature of the localities (eg. in Victoria Park the construction of quality open spaces, a local community centre, and the funding of a community development program; in New Rouse Hill the establishment of (community title) active recreation facilities, the construction of quality open spaces, and the development of a major regional centre within walking distance of residences; in Renwick the funding of a community development officer).
2. The above finding suggests we are already achieving, to an extent, healthy built environment actions in our urban development processes; and also that such actions need not be considered as potentially onerous additional 'work'. However, it also suggests a critical need:
  - for a more conscious inclusion of health criteria into built environment design.
  - to maximise the synergies available from actions that result in co-benefits.
3. Where there has been an explicit intention to include healthy built environment features (the Renwick project), there have been deficiencies in the initial master planning, and in implementation. A proposed active transport access to the existing town centre is not achieved because it was on land not part of the development site. The implemented alternative is less direct and involves a busy highway which participants consider unsafe. It remains to be seen whether the low density of the estate will support the viability of the proposed neighbourhood centre as a local retail and social focus. Sections of the constructed pedestrian and cycle paths include inexplicable deviations at intersections and other places, contrary to *Healthy by Design* principles. The facilities to be provided in the otherwise extensive open space areas relate to passive recreation only (rather than also active).
4. Of the three domains of healthy behaviours related to contemporary chronic diseases, the need to achieve minimum levels of physical activity is of most on-going concern. Sometimes this is due to a lack of facilities (eg. in Renwick passive rather than active facilities are proposed in the open space areas, though there is a good range of more active facilities in the locality; in Airds Bradbury existing active facilities have been poorly maintained and are in disrepair or removed, the maintenance level of walking infrastructure (level paths to reduce trips and falls, and seats for resting) and public transport to the regional swimming pool does not meet the needs of the ageing population). More often there is a lack of personal motivation coupled with a default 'culture' to use the private car (even when more active transport modes are available, as is the case for example in New Rouse Hill). Active, creative ways to encourage up-

take need to be explored. This can draw, in part, on an apparent broad appreciation and interest by participants in the benefits of walking.

5. Although social interaction with immediate neighbours is generally low (except for the semi-rural environment of Renwick) participants seem content with this situation and to achieve personal social interaction needs through family and other networks. There is however often a concurrent recognition that social interactions with the broader community are important and some feel a need to do more in this regard. This is fulfilled in some instances by individuals taking on themselves a role as social catalyst in their neighbourhood or housing cluster. More broadly this need supports the importance of achieving active, busy built environments that generate incidental social interactions, and formal group activities in local community spaces.
6. There is an unresolved issue about how to generate social interactions amongst residents in multi-unit buildings, evident in Victoria Park and the New Rouse Hill Town Centre. Contributory negative features include the 'transient' nature of existing communal spaces (lifts, foyers, corridors), stringent internal security arrangements, and (in Victoria Park) the transient nature of occupiers.
7. Access to healthy food options has not been an issue because of reasonable accessibility and affordability of supermarkets, although assistance via community food box programs is still needed for some. Other fresh food sources (farmers markets, community gardens) are not well-used.
8. Responses from participants in all Study Areas invariably include a desire for early provision of a local easily-accessible centre which includes food shops and meeting places – and which participants see as supporting multiple health-supporting behaviours (active transport, social interaction, and convenient access to healthy food when needed rather than having to rely on larger more periodic shopping trips). This has been achieved in New Rouse Hill (although action to encourage access by walking or cycling is still required) and belatedly in Victoria Park. It remains to be seen whether it will be viable in Renwick given the low density; and development of a local centre identified in the Airds Bradbury master plan is not well resolved given limited recognition of existing multiple land ownerships.
9. Participants invariably understand the connections between their health and daily activity and are often active in creating their own solutions in the places they know well, without necessarily seeing this in terms of the 'built environment'. The Study found such solutions are often multiple or composite across the three 'domains' of healthy behaviour identified in the Study – and as such full of 'co-benefits' – which is at times at odds with some professionally-designed infrastructure and facilities, which tend to be less multi-dimensional in scope.
10. Combined, these findings suggest an overall increased need:
  - (i) for close and on-going attention to detail in: master planning, the implementation of those master plans, maintenance practice, and the provision of associated services.
  - (ii) to be open to hearing what individuals say they need to assist their efforts to be healthy; meaning also that collaborative working arrangements are essential.

## 4.2 Lessons for creating healthy built environments.

### (1) Find and create networks beyond the development site.

The master planning of the proposed neighbourhood needs to go beyond the boundaries of the actual site being developed and ensure there are good connections into an expanded network of health-supporting infrastructure and opportunities. This can leverage the benefits for the new residents, as well as potentially assist the viability of these existing facilities.

Similarly, where facilities are proposed within the new neighbourhood attention should be given to increasing their viability by making them usable and accessible for residents in the wider locality.

The Study found examples where

- The development included, via a Voluntary Planning Agreement, substantial monetary and in-kind contributions to the provision of a range of new community facilities located both within and outside the estate able to be used by the wider community. (Renwick).
- Extensive and well-designed public open spaces and pedestrian and cycling infrastructure is available for use by the public, hence promoting physical activity and social interactions generally within the community, rather than say “gated” within community title or similar arrangements (all Study Areas).
- Although there is a regional swimming complex in the neighbouring suburb (replacing a former swimming facility within the estate itself), access by public transport for those with reduced mobility due to age or other reasons is not well-resolved. (Airds Bradbury).
- The development includes commercial and retail facilities designed to service a wider locality (with increased social interaction co-benefits) and thus also improve viability. (New Rouse Hill and Victoria Park, and possibly Renwick and Airds Bradbury).
- Although there are extensive pedestrian and cycle paths both within the development itself and in the surrounding locality the connections between the two do not seem to be very visible or otherwise well-resolved. (New Rouse Hill).

Key questions here include:

- Are there facilities in surrounding areas that can be used?
- Are there viable connections to these facilities? Or will new connections need to be established to assist take-up?
- Will the new residents know about these facilities, and be able to find them?
- Do new facilities such as open space, walking and cycling paths proposed within the new estate link up with others existing elsewhere, expanding the experience and the potential – for both existing and new residents?
- Can new facilities in the estate such as shops and community facilities service a wider population, this increasing their viability and the overall experience for all users including increased social interactions?
- Should the estate development include funding of new facilities or expansion of existing facilities in the surrounding locality?

## **(2) Master planning to be innovative, but also realistic.**

Master planning needs to explore new potentially effective ways of doing things. However there is also a risk that if an otherwise imaginative and desirable master plan proposal cannot be achieved in practice there may be negative flow-on effects in terms of behaviour patterns. Alternative solutions need to be envisaged and implemented if required.

The Study found examples where:

- A proposed direct (and therefore shorter) pedestrian and cycle access route to major town centre facilities in the larger locality could not be implemented because it was over private land not within the main development site. No replacement route of similar directness has been proposed with the effect that pedestrian and cycle use to access these facilities is diminished. (Renwick).
- A new more inviting neighbourhood centre is proposed to address the limitations of the existing centre, in order to increase neighbourhood social interactions and use of active transport. However, the site is a mix of private and public ownership. The proposed new developments are on the public land only, with little apparent regard for how this will impact on the much-needed renewal of the existing privately-owned shopping mall and no associated recommendations as to ways to achieve the overall goal through partnership with the private landowners. (Airds Bradbury).

Key questions here include:

- Will these proposed features be used as intended?
- Is this feature achievable in terms of its financial viability?
- Is this feature achievable given it relies on land in other ownership? Are there mechanisms in place to engage with the owner(s) of this land?

## **(3) A more empathic engagement by designers and managers with residents.**

The basic provision of facilities will not of itself necessarily lead to use of those facilities if they are, for example, poorly designed or located, unattractive or uncomfortable or otherwise do not directly meet needs. A good test is for the designer to imagine themselves as a potential user and then judge whether the proposed design delivers on need and expectation. In doing there is a need to “put oneself in the shoes of” residents and imagine oneself in various roles, male or female, of different ages and abilities, with or without children, and of different cultural background.

The Study found examples where:

- Participants would not use a particular cycle route because it was located in part along a busy highway where vehicles including heavy trucks travelled at speed, because they felt it unsafe. (Renwick).

- Older participants were limited in their ability to walk to destinations because they were less confident about negotiating uneven and cracked footpaths, and there were no seats for resting, particularly on hills. (Airds Bradbury).
- Participants did not use an otherwise extensive provision of footpaths and cycle paths for active transport because the layout of routes tended to be circuitous rather than direct given they were primarily designed with recreation uses in mind. (New Rouse Hill).

Key questions here include:

- Will this be used by the anticipated population of the development (would I use this)?
- Are there viable connections to these facilities? Or will new connections need to be established to assist take-up?
- Is it convenient, safe, comfortable, attractive, accessible?

#### **(4) On-going management is as important as initial provision.**

The basic provision of infrastructure and facilities will not of itself necessarily lead to their use if they are, for example, poorly maintained, do not have convenient opening hours, do not adequately manage behaviour of users, provide sufficient services at an affordable cost, or lack child care.

The Study found examples where:

- Use of a community tennis court provided as part of the development is limited because there is no booking system, making it difficult to arrange playing partners with any assurance. Further this reduces the use of active transport to get there in case it is area being used and the prospective players have to return home. (New Rouse Hill).
- Use of the grassed area of the major central park for active and passive activities is limited by poor supervision (and selfish) use of its other function as an off-leash dog park (with consequent issues with dog droppings). (Victoria Park).
- The availability of community garden space for general use is unclear because there is no associated signage or information. (New Rouse Hill).
- The opening hours of the local library could be improved (Renwick), and the provision of group activities increased (New Rouse Hill).
- Participants expressed a desire for organised group exercises and/or classes within existing open space areas in order to encourage uptake and achieve social interaction co-benefits. Examples include tai chi classes, walking groups, and boot camps. (Victoria Park, Airds Bradbury, Renwick).
- Participants on fixed incomes expressed a concern about the cost of otherwise useful and desirable aqua-aerobics classes. (Airds Bradbury).
- Use of community-title active recreation facilities by older children and teenagers is restricted by rules requiring they be accompanied by a resident adult. (New Rouse Hill).

Key questions here include:

- How will this feature be managed?
- What is the quality of the experience – and are there mechanisms in place to maintain the facility at an acceptable level and pay for on-going costs?
- Will this facility be open at hours that meets the needs of the local population?
- Will any user fees and/or commercial pricing for this facility be affordable for the local population?
- Is it convenient, safe, comfortable, attractive, accessible? Is there child-care?
- Does there need to be concurrent, personalised programs to assist uptake?
- Do strata-title or community-title by-laws assist or hinder residents to be more active, to socially interact, and to access healthy foods?

**(5) Active recreation facilities for *both* personal and informal use, and formal group activities.**

Often recreation space is allocated simplistically between passive uses and formal group-based active recreation uses, such as ovals or spaces for formal/organised ball sports. However more individual or informal active recreation activities can also be supported through provided facilities, such as hard surfaces for ball sports (in conjunction with nets or hoops, etc), level running and exercise surfaces, and fixed exercise stations; as well as semi-formal organised group activities to encourage participation and, for some, ameliorate safety concerns about being alone in public spaces.

The Study found examples where:

- Although extensive areas of open space and associated recreation facilities were proposed, the facilities were designed for passive activities only, and participants indicated a desire for some active facilities including for informal family-based activities. (Renwick).
- Participants indicated they would use fixed exercise stations if they were available, in conjunction with running, walking or jogging activity. (Renwick, Airds Bradbury, Victoria Park).
- There was a good provision of informal ball court facilities able to be used generally by the public (Victoria Park, Airds Bradbury, New Rouse Hill).
- Although there was a good provision of informal ball court facilities, use was restricted by over-use by a particular group (Victoria Park) or by the lack of a booking system (New Rouse Hill tennis court) or because of a locked gate (New Rouse Hill ball court).
- There was a good provision of active recreation facilities generally through the community title system (gymnasium, ball courts, swimming pools) and via commercial provision in an associated commercial centre (gymnasiums). (New Rouse Hill).
- Although various active recreation facilities had been provided over time (a swimming pool, squash courts, gymnasium equipment) these had been progressively closed due to lack of on-going financial support and/or maintenance. (Airds Bradbury).

Key questions here include:

- Is there a broad range of facilities that will encourage active recreation, including *both* for formal groups and for individuals and informal groups?
- Does the design of these facilities maximise use by all either without the need for any associated management, or with accompanying easy-to-use management arrangements?
- Are associated facilities provided to encourage others to linger and socialise?

**(6) An interest in walking for recreation and active transport, and potentially also in cycling for recreation.**

The Study found walking was a commonly accepted, and presumably enjoyable, way of achieving desired personal activity levels. This was the case also in respect for recreation walking in New Rouse Hill, where transport was otherwise undertaken almost solely by motor car; and also in Airds Bradbury where for older people with mobility issues alternatives for gaining physical activity were diminishing (and even though the quality of walking infrastructure was often poor due to low maintenance). It suggests that additional attention to the provision of good walking infrastructure, including routes and destinations, could generate corresponding increases in physical activity.

By comparison, cycling for either recreation or active transport had low acceptance mainly due to concerns about safety, and for some a lack of any cycling culture and therefore skills. Nevertheless, a reasonable proportion of participants also indicated a *potential* to cycle more when pre-conditions (improvements in safety, construction of dedicated pathways, a change in family situation) allowed.

The Study found examples where:

- Participants expressed a desire for a viable and attractive local neighbourhood centre where they could *walk* to (Renwick, where there is no existing centre; and Airds Bradbury, where the existing centre has poor amenity and services).
- Although there were extensive walking and cycling opportunities in the wider locality, access to these were not always obvious, suggesting the connections were not given sufficient attention in the design (New Rouse Hill) or required the crossing of major roads with associated safety and amenity concerns (New Rouse Hill, Victoria Park).
- Residents engage in an evening walk around their neighbourhood, checking out the newer developments, with physical activity and incidental social interaction benefits. (Renwick).
- Participants expressed a level of “boredom” in using the well-designed but relatively short and now-familiar walking paths within their immediate neighbourhood, suggesting the need for better connections to longer and more varied walks in the wider locality. (New Rouse Hill).
- Residential street layouts are not conducive to cycling because they comprise a traditional layout but with reduced width and narrow adjacent allotments meaning a greater density of driveway crossings – both of which raise safety concerns which may have been alleviated if a more “complete streets” design approach was adopted. (New Rouse Hill).
- Instigation of a “walking school bus”, a similar arrangement to make walking an integral part of attending local Sunday church services, and use of shopping trolleys to carry heavy shopping from the otherwise active transport-accessible local centre may encourage greater use of walking as means of active transport. (New Rouse Hill).

Key questions here include:

- Are local streets designed to make walking and cycling convenient, comfortable and safe, either as an integral part of their design (as in “complete streets”), or with specific separated facilities?
- Are distances to local *and regional* destinations, when accessed by walking and cycling, direct and legible without any gaps in provision?
- Are crossings of major roads pedestrian and cycling-friendly?
- Have you imagined yourself undertaking key trips as a pedestrian and as a cyclist, and determined how easy and pleasant they are likely to be?

**(7) However, short walking and cycling routes may not achieve needed levels of activity.**

Although the design of a neighbourhood may provide for effective local walking and cycling, the overall distances within the neighbourhood may not be conducive to achieving within that area recommended levels of physical activity; and may also result in residents becoming bored with the same routes, limiting their use over time. A variety of destinations needs to be established, as well as connections to walking and cycling routes in the wider locality.

The Study found examples where:

- Although a particular central open space facility incorporating a dog park was well used and generated a high number of walking trips to get there, with some people (mainly dog owners) visiting multiple times per day, the length of each trip was small given the size of the neighbourhood. Although the dogs were getting a lot of exercise, this was less so for the accompanying humans (although, they did get some physical activity, and with social interaction co-benefits). (Victoria Park).
- Although there was a substantial provision of well-constructed walking and cycling paths proposed (with some already constructed), given the small size of the neighbourhood it is likely that multiple circuits would be required to achieve good levels of physical activity, and this may become boring over time. In addition, there were limited effective links to routes in the wider locality. (Renwick).
- Although there were longer attractive walking and cycling opportunities in the wider locality that would supplement the benefits of the local neighbourhood routes, access to these were not always obvious, suggesting the connections were not given sufficient attention in the design (New Rouse Hill) or required the crossing of major roads with associated safety and amenity concerns (New Rouse Hill, Victoria Park).

Key questions here include:

- Have longer walking and cycling routes, and connections to more distant local and regional destinations, been provided – to encourage an increase in the time spent in walking and cycling, and thus in overall physical activity?

**(8) Specific attention required to challenge a “default” car culture.**

People still predominantly use their cars, rather than walking or cycling, for short local trips. Part of this relates to infrastructure – local streets designed for the car rather than the bicycle; indirect pedestrian or cycle routes that make local trips longer than they need to be; insufficient shade or seating along the way; a lack of interesting local destinations; ineffective local public transport. But it is not all about the infrastructure – it is also associated with behavioural habits and perceptions. Understanding this is critical so that suitable programs can be selected to shift community behaviour.

The Study found examples where:

- Although there was a good Town Centre providing all required needs, and local schools and churches within easy walking or cycling distance and with well-designed and maintained pathways, nearly 100% of trips were still undertaken by car. (New Rouse Hill).
- Although the appointment of a dedicated “green travel” position was part of the approval of the associated Town Centre, there appeared to be limited attention to encouraging local residents to walk or cycle (as different to encouraging workers in the Centre to use active transport modes). (New Rouse Hill).
- Although specific action was undertaken to re-route an existing bus service through the new estate, residents have problems with the *legibility* of the service (the timetable, no formal bus stops, whether school services can be used by the general public) meaning use is minimal. (Renwick).
- Residential street layouts are not conducive to cycling because they comprise a traditional layout but with reduced width and narrow adjacent allotments meaning a greater density of driveway crossings – both of which raise safety concerns which may have been alleviated if a more “complete streets” approach was adopted. (New Rouse Hill).
- Although there is to be a major realignment of the street layout in part to improve the effectiveness of and accessibility to the local bus service, provision of shelters is not proposed for all stops and there is no evidence that the usefulness of the bus routing beyond the neighbourhood has been considered (eg. access to the regional swimming centre). (Airds Bradbury).

Key questions here include:

- Is the design and management of active transport facilities (walking, cycling and public transport) of a standard that will encourage residents to leave their car at home?
- Is there an active engagement with schools, churches, shops and other local destinations to establish programs to encourage their patrons and users to make active transport an integral part of their visit (eg. by establishing a “walking school bus”, or encouraging walking as part of the overall spiritual experience of attending church, or by local shops providing personal shopping trolleys and/or home deliveries?

## **(9) Early provision of walkable local centres**

A local centre accessible by walking and cycling and incorporating fresh food retailing and foci for social interaction will encourage early health-supportive behaviour. Conversely, if there is no such centre new residents will necessarily use facilities in other locations, often further afield and requiring car travel, and may then be reluctant to change these usage habits when a local centre is eventually established. Early provision of a walkable local centre may require imaginative solutions, such as “pop-up” facilities, temporary subsidies for rent or the like, and specific management interventions for preferred tenants/services. It may also be that an existing adjacent local centre can be ‘co-opted’ for this function, particularly via good ‘active transport’ access arrangements and an overall estate layout that adopts a ‘focus’ outside of its own property boundaries.

The Study found examples where:

- Participants expressed a desire for a viable and attractive local neighbourhood centre where they could *walk* to (Renwick, where there is no existing centre; and Airds Bradbury, where the existing centre has poor amenity and services).
- A desire expressed by participants for a social focus in the form of a local café is not likely to be met for some time until the proposed neighbourhood centre is constructed, could potentially be achieved in the interim by providing for a food van or similar “pop up” facility on the allocated site or adjacent open space area. (Renwick).
- Although car use is generally low, a predominant reason for those who use their car is to access supermarkets in adjacent areas because there are no local food shops in the new estate. This has been rectified following the Study surveys, it is not known whether residents’ habits have also changed to now preference the new walkable shopping centre. (Victoria Park).

Key questions here include:

- How can a viable new local centre be established within the first stages of the development? Might there need to be initial subsidies or controlled tenancy arrangements to ensure neighbourhood-focussed services are provided?
- Can the viability of any new local centre be reinforced by making it accessible and attractive to residents to adjacent areas to use?
- Is there an existing accessible local centre adjacent to the new estate that could be utilised (rather than necessarily creating a new additional centre), thus reinforcing its viability and ensuring immediate neighbourhood focus for new residents? Can convenient, comfortable and safe ‘active transport’ facilities be established to this existing centre?

## **(10) Responses need to be place-specific (one size does not fit all).**

Communities are different – demographically and geographically. For example, while it may be effective to promote active transport use in one area, in another it may never be viable meaning compensatory measures will be needed to promote physical activity and social interactions. Some

residents may have time available to engage in longer hours of moderate activity (rather than shorter periods of vigorous activity) and community gardening, but for others time may be limited. Facilities responsive to varying needs are required to ensure that they support health across all ages, abilities and circumstances, and are located where they will be most useful.

The Study found examples where:

- The take-up of active transport will always be marginal given the low density of the neighbourhood and the need to use facilities in the surrounding locality that are in diverse locations – so action concentrating on providing other opportunities for physical activity need to be maximized. (Renwick).
- Social interaction amongst neighbours will always be difficult to achieve because of the nature of the residential buildings (multi-unit developments in multi-storey buildings) – so action to provide other formal and incidental social interaction opportunities in the neighbourhood need to be maximized. (Victoria Park, and parts of New Rouse Hill).
- Participants, particularly those who are aged and with limited mobility, have concerns about personal security that limits their use of public space, with implications for levels of physical activity and social interaction; suggesting that action to instigate group outdoor activities may be useful. (Airds Bradbury).

Key questions here include:

- Have healthy built environment actions been tailor-made to suit the particular physical and demographic characteristics of the locality?
- Has particular emphasis been given to the provision of certain healthy built environment features because the particular characteristics of the locality mean that other features will have only limited use and viability?

#### **(11) Effective local information – knowing what is available.**

It can take time for newly-establishing residents to get to know neighbours and others in the area, and local facilities. There are also competing demands on time from settling in to new homes and schools and the like, and getting used to a new journey to work. Action to assist and accelerate this process has been part of the development of Renwick, New Rouse Hill and Victoria Park, with the employment or sponsorship of “community development” officers and “welcome” programs. However it was found that some programs worked better than others in the minds of the participants. These lessons will be applicable if a similar program is established for the new incoming residents in Airds Bradbury.

The Study found examples where:

- A face-to-face personalized welcome by a dedicated community development officer who was also visible from time-to-time in the local area letter-boxing the community newsletter other otherwise organizing events was particularly appreciated. (Renwick).

- By comparison, where this role was out-sourced and organized through a website and emailed newsletters, and as such was non-personalised and otherwise invisible, participants expressed frustration about the “service”. (New Rouse Hill).
- As with the situation in Renwick, appreciation was expressed about the visibility and access to a dedicated community development officer; however there was also concern that the position was not now adequately resourced given the pace of the population in-flow and the need for the officer to also attend to other localities. (Victoria Park).
- Participants were not aware of extensive walking and cycling routes and destinations in their surrounding locality, thus limiting the potential for recreation activity. (New Rouse Hill).
- Participants were not aware about how to use the local bus service, or about a local weekly seafood van visiting their nearby township, or were not necessarily aware of the range of local active recreation facilities. (Renwick).

Key questions here include:

- Are facilities, their management and protocols for their use legible without the need for alienating signs and regulations or expensive supervision or personalised management?
- If supervision or management is required, is this also legible, localised and friendly?
- In a newly-established area, is there a need to establish an initial community development program, including personalised welcomes, to encourage socialisation and to make residents aware of local and regional facilities?

## **(12) Listen to the locals - people do understand the connections, and often create their own.**

Participants understood the connections between their health and daily activity, and were often active in creating their own solutions in the places they know well. Healthy built environments should facilitate such local actions, as well as draw on them to design facilities or programs for other areas; and those involved in designing and managing built environments need to be open to hearing what individuals say they need to be healthy and happy.

The Study found examples where:

- Residents engage in an evening walk around their neighbourhood, checking out the newer developments, with physical activity and incidental social interaction benefits. (Renwick).
- Individuals have informally established themselves as a “social catalyst” simply by organising meet-ups in their housing cluster (Airds Bradbury), sitting and chatting to passers-by and other users of the local central open space area (Victoria Park), or by organising a community garden (New Rouse Hill).
- A men’s shed provides a popular activity point and social meeting place for local men, with the added benefit of a general “looking out for” members who may have health issues and/or live by themselves.

Key questions here include:

- Has the provision and management of facilities drawn on observations and experiences of other localities in terms of what residents indicate they need to be healthy, and of how such facilities are actually used?
- Is there provision for an on-going *engagement* with the residents to ensure that the type and management of facilities actually meets their needs?
- Is there a provision, in the nature of a contingency budget, to fund or otherwise resource the provision of facilities where particular needs become apparent after initial design and construction?
- Are facilities managed to allow residents to use them as they might wish to over time (eg. to engage in gardening activity in common areas, or use community meeting spaces in particular ways)?

### **(13) A required attention to detail.**

Although the overall planning of an area may adequately cover and provide for health-supportive behavior, the Study found that a high proportion of deficiencies were often due to an apparent lack of attention to detail within these larger plans. This can be, variously, within the content of the plans themselves, in the implementation of the plans, and in the on-going management of facilities and features provided.

The Study found examples where:

- Although a number of active recreation facilities are included in the development, use is hindered because of a lack of booking facilities (for the tennis court) and restrictions on use by children under 16 (the swimming pool). (New Rouse Hill).
- The alignment of pedestrian and cycle paths included unnecessary doglegs, reducing effectiveness. (Renwick).
- Internal security arrangements in multi-unit residential buildings hindered casual visitation between floors. (New Rouse Hill and Victoria Park).
- There has been a delay in providing safe pedestrian crossings at busy roads. (Victoria Park).
- There is a lack of seating along pathways and at playground equipment, hindering use by older people and encouraging group social interactions. (Airds Bradbury).

Key questions here include:

- Have you put yourself “in the shoes” of anticipated residents, and considered how you would want to use a particular facility, and then whether this is possible given its physical design and/or management arrangements?
- Is there provision for an on-going engagement with the residents to ensure the design and management of facilities actually meets their needs?

#### **(14) Co-opt contemporary trends.**

The generation of built environments that support health-related behaviour necessarily deals with the influence of those environments on personal choice. And personal choice is often influenced by current trends and “fashions”. The design and management of built environments should recognise such trends and, where likely to support physical activity, social interaction and nutrition, ensure they are facilitated (or at least not hindered), even if potentially only short-lived.

The Study found examples where:

- A men’s shed in a re-purposed utility building provides a well-used multi-purpose meeting place, with physical activity, social interaction and (in respect to the associated community garden) nutrition co-benefits. (Airds Bradbury).
- Semi-regular food vans provide a (reasonably) healthy “take-away” food alternative, with consequent physical activity and social interaction co-benefits (Victoria Park).
- A desire expressed by participants for a social focus in the form of a local café is not likely to be met for some time until the proposed neighbourhood centre is constructed, could potentially be achieved in the interim by providing for a food van or similar “pop up” facility on the allocated site or adjacent open space area. (Renwick).
- There is extensive use of a central open space area dedicated as an off-leash dog park by dog owners living in multi-unit buildings, with consequent physical activity and social interaction co-benefits (Victoria Park); and residents or a newly-settled area advise that such a facility is likely to be similarly popular (Renwick).
- Community gardens managed in a semi-formal way by residents have served as initial social catalysts in the early stages of the development, with nutrition co-benefits. (New Rouse Hill and Victoria Park).
- Instigation of a “walking school bus”, a similar arrangement to make walking an integral part of attending local Sunday church services, and giving all new households a “new fashion” individual shopping trolley may encourage greater use of active transport and reverse a cultural tendency to default to the motor car for local transport. (New Rouse Hill).
- A weekly farmers’ market held in the central open space area has provided an alternative source of fresh foods, and also acts as a social meeting point in a locality where neighbours in multi-unit buildings have difficulty in meeting each other. (Victoria Park).
- Participants have suggested that the provision of semi-formal organised exercise groups in local open space areas would encourage attendance and participation in physical activity (with social interaction co-benefits) (all Study Areas); and that similar organisation of a walking group would have similar benefits as well as alleviating personal security concerns expressed by older people when out and about in public spaces (Airds Bradbury).

Key questions here include:

- Does the design and management of facilities take account of current behaviours, trends and fashions that are consistent with and reinforce healthy personal behaviours?
- Is the design and management of facilities flexible enough to make changes that respond to new, healthy personal and community behaviours, trends and fashions?
- Are facility managers sufficiently aware and empowered to recognise and respond to such changes in behaviours, trends and fashions?

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## ATTACHMENTS

- (1) Study findings for AIRDS BRADBURY (Summary).
- (2) Study findings for RENWICK (Summary).
- (3) Study findings for NEW ROUSE HILL (Summary).
- (4) Study findings for VICTORIA PARK (Summary).
- (5) Other papers and reports from this Study.
- (6) Project flyer as distributed within the Study Areas.
- (7) *Healthy Development. How Landcom plans for healthy places and healthy people.* (Brochure).
- (8) Healthy Neighbourhood Audit Instrument.
- (9) Interview questions.

## Attachment 1: Executive Summary and Overview of Study findings for AIRDS BRADBURY.

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The *Planning and Building Healthy Communities* Study explores how our built environments impact, positively and negatively, on the potential to contract current chronic diseases such as diabetes, various respiratory and heart conditions, various cancers, and depression; the so-called 'lifestyle diseases'. Using multi-disciplinary perspectives in the gathering and review of data four newly-developing residential areas are examined as case-studies. This report focuses on Airds Bradbury.

Airds Bradbury comprises three different though interrelated communities: an existing long-term community with strong social connections and established facilities, but also living with various structural failures in the management, maintenance and continuity of services; a community in transition and at times disruption as the current Renewal Project is implemented; and a future community not yet established that will need to be integrated and provided with new facilities that will encourage healthy behaviours, particularly good levels of physical activity and social interaction.

Study participants indicate a high degree of awareness of the importance of various behaviours to their health, particularly the need to keep active even though many also cited limitations due to age or disability; to maintain social links (personal contacts were important, and also participation in groups relating to food or hobbies, and the Men's Shed is popular); and to eat well, though mobility and low income presented difficulties for some (addressed in part by a subsidised food box program, and spasmodically by community garden produce). However, various neighbourhood features make achievement of healthy behaviours more of a chore than something that happens easily and without undue conscious effort, and/or hinders additional healthy behaviours. Engagement in physical activity is quite high, but only 60% achieve recommended minimum levels and car use (for those with access to a car) is high due to a lack of local destinations, an efficient bus service, and poor footpaths; and only 50% of participants would be 'sad' to leave Airds Bradbury.

Positively, many existing deficiencies are to be addressed in the current Renewal Project, and some new or renewed facilities are already established. However, explicit attention to healthy built environment objectives needs to be maintained to ensure details do not get overlooked in the 10-year program. The Study identifies a need for attention to:

- an engagement with the private ownership of the existing Airds shopping centre and hotel in order to achieve the intended vibrant local centre, with fresh food and other shops, and recreation, social and other community facilities; thus promoting its use and access by walking and cycling, and greater incidental and formal social interactions.
  - a viable public transport (here, bus) system for trips to other necessary destinations, including the regional swimming pool.
  - comfortable, safe and amenable walking and cycling routes within Airds Bradbury itself.
  - a range of social and recreation facilities to meet the needs of different age groups; as well as physical activities in semi-formal groups to alleviate current personal security concerns.
  - attention to any need for financial assistance or subsidy to ensure these facilities are actually available to those on low incomes.
  - progressive removal of security grills, etc to improve feelings of neighbourhood congeniality.
-

*People seem to be quite contented here in Airds?*

We've been here a long time.

Yeah. I think there is a lot of complacency too. Those of us that have been here a long time, just we adapt to this place yeah. But, having been involved with the renewal stuff, and seeing what they're planning on doing. That does revitalise the interest. ... I mean we don't get everything we want, but we're certainly getting some of it. That's very good for the mental condition.

They need a bit more things around here for people to do. If they're going to bring a whole pile of people in here, cram them in, there's got to be some outlet.

You're still going to need transport.

They're still going to need facilities for their children, they're still going to need childcare.

You're going to need a better shopping centre than just trying to get down into Campbelltown or Bradbury all the time. You know you need another satellite like the one at...Market Fair.

Well we did, we had everything here and then it went kaput.

1. There is in a sense three different though interrelated communities within Airds Bradbury:
  - (i) an existing long-term community that has raised and is raising families, and with strong social connections; with established schools, community and recreation facilities, and a shopping centre. However this community has also had to live with a number of structural failures in its underlying management, including a lack of continuity in provision of support services and social facilities and maintenance generally;
  - (ii) a community in transition, as the social and physical infrastructure components of the current Renewal Project are progressively implemented. Some improvements in community services and facilities have already commenced. Other larger structural and potentially disruptive changes are on-going; and
  - (iii) a future community of new residents not yet established that will need to be integrated with the existing community. Further, this new community will need to have access to facilities that will discourage, in this outer-urban location, the propensity for the motor car to become the default mode of transport - with consequent likely detrimental impacts on physical activity and incidental social interaction.
  
2. Amongst Study participants there is a high degree of awareness of the importance of various behaviours to their health, particularly the need to keep active even though many also had mobility limitations due to age or disability (here, the need for better facilities for walking and swimming were cited); to maintain social links (here, personal contacts were important, but participation in groups relating to food or hobbies were also cited, and the Men's Shed is popular); and to eat well, even though mobility issues and low incomes presented difficulties for some (and addressed in part by a subsidised food box program, and spasmodically by community food garden produce).

3. However, there are also features about the neighbourhood that make achievement of healthy behaviours by participants more of a chore than something that happens easily and without undue conscious effort, and/or hinders additional healthy behaviours. Although engagement in physical activity is quite high, only 60% achieve recommended minimum levels:
  - a lack of local destinations and an efficient bus service means car use is high for many participants (with access to a car).
  - the walkable neighbourhood centre is uninviting, meaning the nearby Campbelltown Mall has become a default centre for those with the ability to access it.
  - a large proportion of participants were aged and/or had reduced mobility and require a generally higher standard of quality of the built environment than currently exists.
  - the available social and recreation facilities are often in poor repair, not currently or only intermittently available, or not easily accessible.
  - generally low incomes means a reliance on various social service programs, the continuity of which can be variable.
4. Only 50% of participants said they would be 'sad' to leave their neighbourhood, compared to the NSW average of 73.4%, although a higher proportion (80%) are either satisfied or neutral in respect to Airds Bradbury as an overall 'a good place to live').
5. Participants indicated strong concerns about their ability to undertake and access facilities for recreational physical activity, citing transport, cost, continued local availability, better footpaths with seating to facilitate walking, and safety in public areas. Other strong comment related to the need for a revitalised neighbourhood shopping centre.
6. It is a positive indication for the future of Airds Bradbury as a healthy built environment that most of these matters are being addressed in the current Renewal Project and that various new or renewed community facilities and services have already been established. That said, the delivery program is scheduled over a 10 year period meaning some improvements will not be available for some time and also that the current sense of upheaval will remain (though with hopefully also a sense of progressive improvement as these changes come on-stream). Explicit attention needs to be maintained to ensure the details of the intended improved outcomes do not get 'lost' as the larger overall development is implemented.
7. Here the Study identifies a number of matters for attention:
  - the establishment of sufficient local fresh food and other shops, and recreation, social and other community facilities within walking and cycling distance.
  - a viable public transport (here, bus) system for trips to other necessary destinations.
  - comfortable, safe and amenable walking and cycling routes within Airds Bradbury itself.
  - a range of social and recreation facilities to meet the needs of different age groups, and semi-formal group physical activities to alleviate current personal security concerns.
  - active engagement with the private ownership of the existing Airds shopping centre in order to fulfil the intention of a revitalised and viable neighbourhood centre, with resultant important co-benefits for physical activity, social interaction, and nutrition.
  - attention to any need for financial assistance or subsidy to ensure these facilities are actually available to those on low incomes.

**Physical Activity**  
'Getting people active'

**Facilitating 'active transport'**

**Facilitating recreational physical activity**

**Current condition.**

Although designed to facilitate walking and cycling (with cross-paths through central green spaces, underpasses, quiet cul-de-sacs), this is essentially not achieved.

Low densities encourage car use and limit effectiveness of the bus service. Personal mobility levels are low for those without access to a car. Many have physical mobility issues due to age or disability, limiting ability to walk, cycle or take a bus, requiring a higher standard of provision which does not exist, eg. uneven footpaths, circuitous routes (resulting in some more direct but informal unpaved paths), lack of seating to rest on, a bus service that only meets some needs in terms of routes and timetabling, lack of facilities and places to go to generally in the neighbourhood, and feelings of insecurity for those older and less-mobile (particularly at night).

**Current condition.**

The respondent survey group was older, and tend to be less active; however there is variable provision of active recreation facilities for all groups. Facilities previously well-supplied have been progressively closed (eg. pool, squash courts, gym equipment). Current low population density and low incomes may make funding of continued provision and establishment of commercial facilities difficult. There is inadequate public transport to neighbouring pool at Bradbury. Outdoor basketball facilities near youth centre are open to all. There are weekly men's and women's exercise classes. Open space areas do not have any recreational equipment/exercise stations and there is a problem with discarded needles, discouraging use. A lack of longer walking tracks to sustain interest is exacerbated by personal safety concerns within public open space areas.

**Response.**

The Renewal Project addresses current structural deficiencies in footpath design and routing, provision of shade, bus routing, marking of cycle ways, and local 'places to go'. Additional attention is required in respect to the bus routing to the Bradbury swimming centre, provision of bus shelters at all stops, provision of public seating, making secondary streets 'complete streets' to encourage bicycle safety, and encouragement of a regenerated local shopping centre to avoid the need to default to Campbelltown for most purchases. Where able, some improvements should be done now, eg. maintenance of footpaths to be retained, provision of public seating, provision of bus shelters at stops to be retained, marking of cycle ways.

**Response.**

Fundamental under-provision of facilities needs to be resolved, by: improvements to equipment/facilities in open space areas, effective public transport or cycle access to neighbouring facilities, and space for commercially-provided facilities (in conjunction with the new, future population) within the neighbourhood centre. Most of these matters are to be addressed in the Renewal Project. Additional attention is required to the provision of recreational activities organised on an informal group basis to increase uptake and address current concerns about personal safety in public open space areas; to provide for potential recreation space within the new neighbourhood centre, and to improve public transport access to the Bradbury swimming centre.

**Social Interaction**  
‘Connecting and strengthening communities’

**Facilitating incidental n’hood interaction**

**Making community spaces**

**Build for crime prevention**

**Current condition.**

Incidental interaction limited by low density of people out and about in streets and local centre given low use of ‘active transport’ and walking generally, and lack of a neighbourhood focus. Security fences and aggressive dogs in residential yards also reduces opportunities. High incidence of running into people at Campbelltown mall and positive interactions at the aged housing clusters cited. Uncomfortable or negative interactions are also cited (in public areas, the shopping centre and within housing blocks).

**Current condition.**

The neighbourhood centre and shops is not a place to go to. Other community spaces have been developed (Men’s Shed, AB Central, Tharawal), but have low visibility given design and/or location. Hostile dogs can limit streets as comfortable community space. There is abundant green space but no parks as ‘community spaces’, except for Airds Pond which is the location for events. Individual housing blocks do not appear to have a common space to encourage sociability, and the need for a social ‘catalyst’ has been suggested.

**Current condition.**

There are high levels of feelings of insecurity, due to higher than average crime rates, and groups involved in anti-social activity. Age and low mobility means some feel extra vulnerable. The scattered development means casual surveillance is low. The internal design of the shopping centre and community buildings, security fencing and one-way windows results in a general ambience of alienation. Concern that youth do not have enough activities to keep them occupied, encouraging anti-social activity that inhibits general use of public space.

**Response.**

The Renewal Project addresses this through fundamental re-designs of streets, public transport, and neighbourhood centre to be more user-friendly, which will then encourage a greater density of incidental interactions. Extra attention needs to be given to:

- the overall design and integration of the shopping centre and other privately owned and operated facilities in the neighbourhood centre.
- the additional active transport’ responses cited above.

**Response.**

The Renewal Project addresses this through fundamental re-designs of open space areas, the neighbourhood centre, and provision of a new multi-purpose community centre. Extra attention needs to be given to the overall design of the neighbourhood centre to integrate the shopping centre. Support for community groups needs to be maintained and consistent. Consider support for residents acting as catalysts within housing blocks. A Welcome program to ensure integration of new residents is likely to be required.

**Response.**

The Renewal Project addresses this through changes in population make-up, denser street development and use of active transport to promote greater passive surveillance, and more community facilities. Extra attention needs to be given to a fundamental re-design of the neighbourhood centre as a ‘place to be’; with then removal of alienating security devices, and sustained activities and public transport mobility to occupy youthful energy.

**Nutrition**  
‘Providing healthy food options’

**Facilitating access to healthy food**

**Promote responsible food advertising**

**Current condition.**

Although achieving a good score in the Study food survey, the local supermarket is not seen as supplying fresh food (though has done in the past). Rather, fresh food is sourced from shops in Campbelltown (or on-line by one respondent with mobility issues). Concerns that packaged quantities do not suit singles. A subsidised ‘food box’ program services some residents with lower mobility and disposable income (and skills). A food garden at the Men’s Shed is popular and productive, with a dedicated supervisor. Others are less successful due to management issues. Some food grown in own gardens (with an example given of surreptitious replacement of ‘landscape’ planting in housing blocks. Awareness/experience of food shows and of cooking groups with residents of other cultural backgrounds mentioned as generating an interest in the importance of food and healthy eating generally (and social interaction).

**Response.**

Provide space, subsidised if necessary, within the new development on publicly-owned land in the neighbourhood centre to ensure shops retailing healthy food are established. Maintain and extend opportunities for community gardens/allotments and provide support if required. Provide space within the neighbourhood centre for distribution of their produce. Ensure the ‘food box’ program is maintained for as long as required by residents. Provide residents opportunity to use common garden spaces to grow food within housing blocks if desired. Community programs to include healthy food events.

**Current condition.**

There is good awareness of the importance of fresh food amongst Study participants, evidenced also by the interest in community gardens. However the participants also cite examples of poor awareness and/or action by others (at shops in Campbelltown). Supermarket foods are considered to be fresh. There is no noticeable advertising of non-healthy foods in Airds itself – probably corresponding to a lack of food retailing and food premises generally in the neighbourhood. However low visibility of fresh foods in the local shops tends to mean a relatively higher noticeability of non-healthy food options. The residential zoning of the suburb means prominent advertising panels are unlikely. Little general awareness that residents generally could access (by request) fresh foods grown in the community gardens, and the gardens themselves are somewhat hidden from public view.

**Response.**

Ensure the design and (lease) management of new development in the neighbourhood centre, including any renewal of the shopping centre gives prominence to healthy food shops, and diminishes prominence of less healthy foods. Increase awareness of the possibility to become involved in the community gardens (which can also achieve social interaction objectives). Provide space within the neighbourhood centre for distribution of community garden produce, and to give the community food box program greater visibility. Consider provision of space for allotment gardens as a further option for residents to grow their own fresh food.

The *Planning and Building Healthy Communities* Study explores how our built environments impact, positively and negatively, on the potential to contract current chronic diseases such as diabetes, various respiratory and heart conditions, various cancers, and depression; the so-called ‘lifestyle diseases’. Using multi-disciplinary perspectives in the gathering and review of data four newly-developing residential areas are examined as case-studies. This report focuses on Renwick.

Although still being developed with as yet no on-site community facilities Renwick presents as a contented healthy community, with a good-fit between its design and the ‘semi-rural’ values of its residents - to the extent that many ‘trade-off’ long weekly commutes for these broader ‘lifestyle’ benefits, which many see as directly related to their overall health. Participants also report that they meet minimum recommended levels of physical activity. However most of this is via ‘moderate’ recreation activities only (gardening and walking around the estate). These may not generate the levels of exertion required to achieve the health benefits, and may not be maintained. Renwick is also a low density highly car-based residential area. It risks being typical of the types of conventional suburban residential areas which have led to current concerns about the impact on residents’ health from resultant lack of exercise. The design seeks to be innovative in this regard, including adoption of National Heart Foundation guidelines, prompted by a concern to not repeat existing the high levels of obesity evident in the region. However there have been critical deficiencies in how these exemplary design intentions have not been carried through in implementation.

Ensuring residents achieve and maintain adequate levels of physical activity is considered to be the matter most needing on-going attention. However the master planning of the open space areas provides for passive activities only. A reasonably direct pedestrian and cycle link to Mittagong proposed in the master plan has not been achieved, and an alternative cycle route along the Highway is unlikely to be used given safety concerns and a railway line obstructs access to an existing well-connected cycle path. Although the development negotiated a bus route through the estate its frequency and legibility of service means it is little used. A monetary contribution for a new physical activity leisure centre has been (appropriately) re-directed to construction of a Police Citizens Youth Club, but without apparent attention to active transport links.

Residents cite good levels of social interaction, which should increase as the estate matures in terms of population and development of the Village Centre. However there is a strong desire now for a ‘neighbourhood focus’, to include some fresh food retailing; and the small market catchment leads to some doubt about the viability of the Centre. Imaginative ways to provide for these need to be explored, eg. by, variously, an interim café or like ‘pop-up’ venues, food trucks, market stalls; and in the longer term by innovative tenures. The intended inclusion of a community centre to also serve surrounding residential areas is a positive in this regard. There is a good range of fresh foods in surrounding areas, however local provision with reduce the current ‘default’ use of the motor car to access these, and encourage local active transport modes and incidental social interactions.

A lesser matter is a need to resolve the current apparent high turnover of incumbents in the well-regarded Community Development Facilitator position and ‘Welcome’ program.

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*So what does this say about you and Renwick?*

It's a good place to live.

Yes.

It's a good investment.

It's nice...

*Investment in terms of?*

Well raising a family and yeah resale I guess for the house further down the track yep.

1. Although Renwick is only newly-established and still being developed with as yet no on-site community facilities, the Study has through close engagement with residents nevertheless been able to determine various lessons about the health-related objectives of the development. Renwick presents as a contented healthy community, with a good-fit between its design and the 'semi-rural' values of its residents - to the extent that some residents are prepared to 'trade-off' long weekly commutes for the estate's broader 'lifestyle' benefits.
2. Residents exhibit a certain possessiveness towards the open, rural and natural area components of the estate, which they see as directly related to their overall health. In turn there will be an expectation that these aspects are maintained as the master plan is developed to completion, and in future long-term management practices.
3. Renwick comprises an urban-fringe low density and generally car-based residential area. As such it risks being typical of such areas which have given rise to current concerns about the impact on residents' health from resultant lack of exercise. The design seeks to be innovative in this regard, prompted by a concern to not repeat existing the high levels of obesity evident in the region. As such Renwick has the potential to be a model for similar areas elsewhere, and for the retro-fit of existing residential areas in the region and other urban fringe locations. However, any such 'model' also needs to include the learning that there have been some critical deficiencies in how the exemplary design intentions in Renwick have not been carried through in implementation.
4. Ensuring residents achieve and maintain adequate levels of physical activity is considered to be the matter most needing on-going attention. Residents currently report that they meet minimum recommended levels of physical activity. However most of this is via 'moderate' recreation activities only (mainly gardening and walking around the estate). Such activities may not achieve the levels of exertion required to achieve the health benefits of physical activity, and these activities may not be maintained. It is of concern that the master planning of the open space areas of the estate provides for passive activities only. Attention needs to be given to the promotion of greater use of active transport modes and to amending the range of open space facilities to be provided to include active recreation uses. Participants indicate a potential to cycle more with the provision of dedicated routes they feel are safe.
5. One component of the estate design is that it include strong links with the existing community, including the provision of new facilities to be used by all (and formalised in a Voluntary Planning Agreement). However already there have been changes that need close attention to ensure the original objectives are achieved:

- (i) reasonably direct pedestrian and cycle links to Mittagong illustrated in the master plan cannot be achieved because they were proposed on land under different ownership, thus potentially reducing the uptake of these active transport links/modes. It is not known how this is to be addressed. An alternative cycle route along the Highway is unlikely to be used given safety concerns by residents, and the railway line presents a major obstacle to achieving a link to an existing well-connected cycle path.
  - (ii) contributions to a proposed leisure centre to provide for physical activity needs, have been replaced by contributions to a new Police Citizens Youth Club (under construction at the Mittagong sports centre at the time of this Report). This appears appropriate given an existing extensive range of active recreation facilities in the locality and the specific need for youth-focussed activities. Attention needs to be given to ensuring there are good active transport links to those existing facilities and to the new PCYC, and that the range of activities provided meets needs.
6. Residents cite good levels of social interaction. This should increase as the estate matures in terms of population and with development of the Village Centre and open space facilities. A particular local feature comprising a stroll around the estate meeting neighbours and checking out developments has been cited. This is worth investigating and promoting as a possible Renwick 'institution', being positive for both physical activity and social interaction.
  7. There is an expressed desire for an interim 'neighbourhood focus' prior to establishment of the Village Centre, which may not occur for some time. This should be investigated, possibly by early establishment of a permanent café or the like, or by temporary 'pop-up' venues.
  8. Given the small local market catchment, the proposed Village Centre will prove a challenge in terms of providing the range of facilities participants expect, including fresh foods, and with opening hours that cater to commuters' hours and weekend use. An innovative approach to the design and tenure arrangements will be critical; 'conventional' responses may not yield the desired healthy built environment results. The intended inclusion of a community centre to also serve surrounding residential areas is a positive in this regard given the potential to increase patronage to Centre businesses.
  9. There are no issues in respect to the availability and access to fresh foods even though there are no existing shops in Renwick. Access is facilitated by the 'default' use of the motor car in any case for all other activities. That said, the provision of healthy fresh food in the new Village Centre will reduce this dependence and encourage local access by active transport modes, and incidental social interactions. Again, the provision of such shops may require specific innovative attention given the small local market.
  10. The 'Welcome' program and Community Development Facilitator position received favourable comment. Care will be needed in terms of timing the completion of this program to ensure there is no 'gap' prior to the community centre and other more informal social engagement facilities (eg. recreation facilities, the Village Centre focus) coming on-stream. The current apparent high turnover of incumbents in this position needs to be resolved.
  11. Two 'annoyances' expressed by participants should be addressed as part of ensuring overall 'wellbeing': the speed of traffic on Renwick Drive, and the availability of medical services.

**Physical Activity**  
'Getting people active'

**Facilitating 'active transport'**

**Facilitating recreational physical activity**

**Current condition**

There is no use of active transport modes given: infrequency of bus and train services, cold temperatures discouraging cycle use (particularly when commuting late), poor bike parking at railway station, no direct pedestrian or safe cycle route to Mittagong or nearby facilities (which are otherwise close in a straight-line), and a general culture that this is a rural car-based area. Original direct cycle and walking route through estate to Mittagong in Master Plan not now (if ever) achievable. A willingness to use cycles (for non-work trips) expressed – but requires a safe, direct route (which could also then be used by children). Little apparent thought given by residents to future transport needs when not able to drive a car (due to age or disability). The 'casual' nature of the bus service (hail the driver, no designated stops) does not induce use – but rather confusion.

**Current condition**

Recommended hours of activity are achieved, but mainly by walking and gardening which may not achieve required levels of exertion. Activities also currently limited by short length and variety of walking paths, lack of exercise stations and other facilities. An expectation that these be provided with development of the open space areas – but the plans currently propose only passive pursuits, and funding for a leisure centre now allocated to a police youth club. Long commutes for some workers limits available time mid-week. Little apparent use of existing good range of active recreation facilities elsewhere in the local area (and which currently generally require car access). Footpaths on one side of roads cited as a frustration, but is unlikely to impact on activity levels (more a safety problem for young children).

**Response**

Master planning of cycle routes should be re-visited - respondents indicate potential for more cycling if direct, safe routes established to Mittagong and other local facilities. Cycle route along to Hume Highway unlikely to achieve this given safety concerns. Safe bike parking facilities need to be established at these destinations. Existing bus service needs to be promoted, and made a more legible. The proposed Village Centre should promote local walking and cycling (but direct routes from the eastern precincts will be required). Otherwise, 'active transport' unlikely to ever comprise a large proportion of trips in this semi-rural area – other recreational physical activities will be needed to compensate.

**Response**

The progressive development of open space areas should be re-planned to include formal and informal active recreation facilities, and organisation of group activities investigated. Development of walking and cycling paths in the open space and other areas should include a *variety* of circuits and interconnected routes to maintain interest and choice of length. Connecting paths to Mittagong and existing local active recreation facilities should be provided – as both access to those facilities and destination routes in themselves (worth reviewing existing Bicycle Plan to now incorporate needs and concerns of Renwick residents now that the estate is occupied). Planning of activities within and access to the PCYC important to ensure it is well-targeted to youth physical (and social) activity needs.

**Social Interaction**  
‘Connecting and strengthening communities’

**Facilitating incidental n’hood interaction**

**Making community spaces**

**Build for crime prevention**

**Current condition**  
General feeling that there is a satisfactory level of interaction from incidental meetings on the streets, notwithstanding there is no specific neighbourhood focus as yet. Suggestion this is due to the semi-rural ‘country’ ambience (and an identity as more than a dormitory suburb). Interesting suggestion by residents of an occasional evening social stroll. Some potential for future eastern precincts to be more ‘isolated’ from this early established ‘community’. Good appreciation of the work of the Community Development Facilitator cited.

**Current condition**  
A clear request for early establishment of a coffee shop/ cafe to act as a neighbourhood social focus, plus a more formal space for activities (which will be met in the future with the planned community centre). Favourable comment about the rectangular street design, suggesting it is seen as a positive community space. But also safety concern from speed of through traffic on Renwick Drive (in turn causing stress). Existing community spaces in Mittagong could possibly be ‘extended’ into Renwick by provision of better ‘active transport’ access.

**Current condition**  
Residents feel safe, and raise no issues or concerns. Street lighting, although sparse (to retain the ‘rural’ night-sky) is considered acceptable for the locality.

**Response**  
Existing street interactions and ‘country’ ambience likely to remain, but worth promoting as newer precincts open. Incidental interactions should increase when the village centre focus and recreation facilities in open spaces developed. Active transport links and common recreation facilities between the older and newer areas will be important. The Community Development Facilitator function is important – care needs to be taken in determining the finish date and to resolve an issue of high turnover.

**Response**  
Development of the planned village centre will generate a needed neighbourhood focus. Consider early (or interim) establishment of a coffee shop/café/food van to meet an expressed demand. Development of open space should include specifically designed social foci (refer also response on need for active recreation facilities). Make provision for better connecting pedestrian and cycle paths into Mittagong itself. Deal with traffic speed issues in Renwick Drive.

**Response**  
No existing issues or concerns requiring a response. Ensure detailed design of future parts of the estate, particularly the Village Centre and silo area re-use adopt ‘safer by design’ criteria (as cited in the *Healthy Urban Development Checklist*).

**Nutrition**  
 'Providing healthy food options'

**Facilitating access to healthy food**

**Promote responsible food advertising**

**Current condition**

Availability of fresh food is not a problem, though entails a car trip (as evidenced in the sales brochure-below!) to Mittagong and/or local farmers markets (but a need for a fresh fish retailer is cited).



Current lack of local shops cited more in relation to lack of a local social focus and convenient purchase of forgotten items. Propensity to grow own food is variable – some do others cite time and climate as constraints. An earlier 'herb network' established as a community development exercise. Interest in a community garden cited, but requires an allocation of land. Quality of diet not a particular concern, but quantity is for some.

**Current condition**

Awareness of the importance of fresh food does not appear to be an issue. There is no current advertising or availability of any food (healthy or non-healthy foods) in Renwick itself. The residential zoning of the suburb means prominent advertising panels are unlikely. A community garden or allotments, and the possibility of market stalls or food vans and the like will give a presence to healthy foods.

**Response**

Ensure the design and tenure management of the Village Centre gives prominence to healthy food, and provides spaces for different food outlets. It is not known if the Renwick population will support local retailing of all fresh food needs – but provision of larger floor space premises may encourage regionally-targetted business(es). Allocate some of the (extensive) open space areas for a community garden/allotments as a valid 'open space' use. Establish an associated management structure. The herb network may need to be re-invigorated. Establishment of a safer, direct cycleway to Mittagong may encourage 'active transport' to food shops there.

**Response**

Ensure the design and (lease) management of the new local shopping centre gives prominence (including advertising) to healthy food shops, and diminishes prominence of less healthy foods. A community garden or allotments and possible re-invigoration of the herb network will give healthy foods a presence in Renwick. Provision of managed spaces for different food outlets (market stalls, food vans and the like) can also increase the visibility of healthy foods.

### Attachment 3: Executive Summary and Overview of Study findings for NEW ROUSE HILL.

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The *Planning and Building Healthy Communities* Study explores how our built environments impact, positively and negatively, on the potential to contract current chronic diseases such as diabetes, various respiratory and heart conditions, various cancers, and depression; the so-called 'lifestyle diseases'. Using multi-disciplinary perspectives in the gathering and review of data four newly-developing residential areas are examined as case-studies. This report focuses on New Rouse Hill.

The New Rouse Hill is a significant urban achievement, comprising a major regional shopping centre (with a range of fresh food outlets) plus surrounding suburb with schools and extensive recreation facilities under the vision of a 'city in a garden'. Although there has been no conscious attention to residents' health there are obvious health co-benefits from its focus on environmental matters (eg. promotion of 'green' travel and establishment of extensive riparian areas to achieve energy and water conservation objectives); the provision of extensive open spaces, pedestrian and cycle paths and active recreation facilities as part of the community title; and the close proximity of the Town Centre with the residential area.

However the extent to which participants avail themselves of these attributes is variable. Levels of physical activity and incidental social interaction are low; and disturbingly similar to the more conventional low-density, car-orientated suburbs that have led to current concerns about 'lifestyle' diseases (even though high levels of satisfaction about New Rouse Hill are expressed by participants). Car use is high, only 60% achieve recommended levels of physical activity, and there is a lingering desire for a greater ability to meet people - all features risking future health issues.

This may be a passing phase: many participants are still establishing themselves. When participants were asked about what they needed to keep healthy responses were more about their behaviour than about any deficiencies in the built environment. It suggests a need for health-orientated interventions to be less about the provision of facilities and more about management, raising awareness of existing facilities, and encouraging use. The Study suggests:

- (i) a need to improve the detail of some elements of the overall structural layout and management. Eg. more direct rather than circuitous walking and cycling paths to the Town Centre, design of residential streets as 'complete streets' to address safety concerns about cycling, better connections to existing and proposed regional cycling and walking routes, attention to rules and management relating to the community title recreation facilities, and infilling the vacant areas surrounding the Town Centre to increase visitation by walking and by creating a more dynamic and inviting local destination.
  - (ii) using the existing single-ownership arrangements of the Town Centre, the 'Green Travel Coordinator' position, the social interaction potentials of the Community Title system, and the imminent establishment of the North West Rail Link to better engage with the residential population to generate a major change in travel patterns and other health-inducing behaviours. Eg. drawing on the key role of schools and churches by encouraging access by walking, making walking to the Town Centre with a shopping trolley 'trendy', starting an evening walking group, a *Crime Prevention Through Environmental Design* audit to resolve lingering safety concerns.
-

I think Rouse Hill is very good, kind of overall. I think they could spend a little bit more effort. Then they could really get what they intended from the area, if they just put a few more systems in place or stuff like that, to regulate things really. That's about it. Then they could get it to the stage where everything's as it was intended to be in the beginning. I don't think it would be too hard for them to achieve their initial goal of what they wanted for Rouse Hill.

1. The New Rouse Hill is a significant urban achievement, establishing within about five years one of Australia's largest regional shopping centres plus a surrounding suburb with schools and extensive recreation facilities under the vision of a 'city in a garden'. A key focus has been on environmental matters (energy and water conservation, riparian management, and 'green' travel). There has been no conscious attention to residents' health. However there are obvious co-benefits from the environmental features (eg. the green travel initiative); there are extensive walking and cycling paths, and active recreation facilities as part of the community title, and the close proximity of the Town Centre with the residential area is conducive to active transport and incidental social interaction.
2. However the extent to which the Study participants avail themselves of these attributes is variable. Levels of physical activity and incidental social interaction are low. In this sense, New Rouse Hill is similar to the type of outer-urban, low-density, car-orientated dormitory suburb that results in lifestyles that are comfortable (there are high levels of satisfaction expressed by participants), but which have led to current concerns about an epidemic of 'lifestyle' diseases. Participants currently present as healthy. However there is a risk that future health issues will arise as a result of their lifestyles. Car use is high, and only 60% of participants achieve recommended levels of physical activity. Participants also indicate some desire for a greater ability to meet people.
3. This may be a passing phase. Many participants are still establishing houses, gardens and social contacts at the same time as commuting. Time to make changes to perhaps previously-established lifestyle habits is limited. When participants were asked to nominate the things they should be doing, and needed, to keep healthy their responses were more about their own personal behaviours than about any deficiencies in the built environment. It suggests that any health-orientated interventions will need to be less about the actual provision of facilities and more about raising the awareness of existing facilities and encouraging use.
4. Here the Study suggests:
  - (iii) there is room to improve in detail some elements of the overall structural layout of New Rouse Hill, both in terms of its physical shape and in terms of its management.
  - (iv) there are opportunities to engage with the residential population further in respect to encouraging different, healthier ways to use the built environment of New Rouse Hill.

5. In particular an increase in the use of 'active' transport (walking and cycling) to access facilities within the local area would appear to be a good way to make some significant gains in levels of physical activity, as well as potentially achieving a co-benefit of increased incidental social interaction as more people use the streets (which currently are very quiet).
  
6. Two features of the development of New Rouse Hill can assist:
  - (i) the development process is not yet complete. The potential of the North West Rail Link to generate a major change in travel patterns should be used as an opportunity to increase local walking and cycling. 'active' transport modes. The infill of the periphery of the Town Centre will change the 'no-man's land' feel of this area and has the potential to provide 'activation' opportunities and hence increased destinations to walk and cycle to (consistent with the 'city in a park' vision). The completion of links in walking and cycling tracks within the wider local area will increase the variety of destinations and length of routes and hence time taken in active exercise.
  - (ii) the particular ownership and governance arrangements. The Community Title arrangement provides the opportunity for direct access in local governance, adoption of targeted policies relating to health, and for social interactions. The single ownership and management of the Town Centre can permit explicit management policies that assist health outcomes. Existing dedicated positions tasked with community development and 'green travel' can assist in implementing behavioural change initiatives.
  
7. Examples of specific actions include:
  - drawing on the key role that schools, and to some extent churches, play in New Rouse Hill by encouraging people to walk there as an essential component of the experience.
  - 'outside the box' initiatives such as giving all households a shopping trolley to encourage more people to walk to the Town Centre; starting an evening walking group.
  - rectifying gaps between local and regional walking and cycling routes, and the promotion of scenic walking and cycling destinations.
  - less circuitous links across the Caddies Creek open space, to promote active transport, plus an associated campaign to 'leave the car at home'.
  - a *Crime Prevention Through Environmental Design* audit with a commitment to action any deficiencies, to resolve lingering safety concerns by residents.
  - active establishment of the Community Associations to facilitate resolution of outstanding management issues with the community recreation facilities.
  
8. The Study suggests participants are knowledgeable about and have excellent access to fresh foods. There is still the potential to draw on a stated interest by participants to grow more of their own foods by re-invigorating the existing community garden spaces, which in turn can assist social interaction; and to promote the sourcing of foods direct from farms in the region.

**Physical Activity**  
'Getting people active'

**Facilitating 'active transport'**

**Facilitating recreational physical activity**

**Description**

Personal mobility levels are high. But although scale, topography and T-way facilitates active transport the propensity to use these modes is highly variable -some use them a lot; others very little, defaulting to their car. A perception that one needs to use the car to carry home shopping. The T-way only caters for some work destinations

The traditional street layout, but with reduced dimensions, has not increased feelings of safety for cyclists, even with low traffic volumes (frequency of driveway crossings and narrow carriageways are of concern).

Centre drainage swales inhibit walking. The central open space seen by some as an obstacle due to circuitous routes and some safety concerns.

'Management' of facilities contributes - not knowing if time-slots are available for tennis court or doctor means people use a car to reduce any wasted time.

Use of Parklea Markets and other surrounding facilities encourages car use (quick to drive to, too far to walk or cycle).

**Description**

There is good provision of a variety of recreation facilities. Usage is then largely dependent on individuals' actions.

Propensity to use community-title tennis court hindered by not being able to book time-slots (the community room system cited as a better model), and use of other facilities may be hindered for older children and teenagers by rules relating to key-access.

Access to the neighbouring oval area not direct/obvious.

Some suggestions of a need for more organised exercise groups/classes.

Cycle path system currently disjointed and incomplete and frequency of driveway crossings and narrow carriageways cited as a safety concern on roadways. Cycle path along Windsor Road often subject to broken glass litter.

There are different opinions as to whether there is sufficient variety and length of walking routes within and extending beyond the estate to encourage walking for recreation.

**Response**

The imminent North West Rail should assist the active transport viability. To maximise this, the directness, comfort and safety of linking walkways, footpaths and cycleways should be reviewed and upgraded if necessary (consider particularly the central open space routes).

Use the Town Centre Green Travel Coordinator position to actively promote walking for all internal trips in New Rouse Hill. Include associated 'management' of facilities, and 'aids' like personal shopping trolleys.

Consider managing internal roads as 'complete streets', and as an early trial area for a 40 (or 30) km/h speed limit.

**Response**

Resolve management issues about access to community title recreation.

Determine whether comment about need for organised exercise groups/classes is due to a lack of these facilities or lack of knowledge/publicity of classes that do exist (either at the private gym or at the community centre) – and action accordingly.

Opening of swimming pool on eastern side of estate will assist greater physical activity by residents there.

Ensure future stages of development results in well-connected, interesting and legible walking and cycling routes, and increase awareness of cycling and walking routes in the area.

**Social Interaction**  
‘Connecting and strengthening communities’

**Facilitating incidental  
n’hood interaction**

**Making community spaces**

**Build for crime prevention**

Description	Description	Description
<p>Interaction with neighbours is low, but respondents are generally happy with this; but unclear whether this will lead to future health problems (or whether sufficient interaction is gained through other ways). That said, there is also some desire for additional ways to meet people. Pedestrian and other activity in residential streets is low, though more so within the open space areas, and there appears to be a reasonable propensity for residents using the Town Centre to run into people they know.</p>	<p>Residential streets are quiet with low or no apparent informal surveillance. ‘Open’ design of Town Centre is well-liked. There is a good range of formal community spaces &amp; facilities. Playground areas and library cited as important. Opening of swimming pool on eastern side should create an additional community space. Various governance and social etiquette issues cited – use of pool area, booking of tennis courts, anti-social behaviour in the central open space (and concerns by external parties about potential restrictions in the Town Centre public space policies).</p>	<p>Feelings of personal safety and security is high, but with important exceptions:</p> <ul style="list-style-type: none"> <li>▪ rumours of house break-ins.</li> <li>▪ the lake and amphitheatre in the central open space have become teenage haunts, making others uncomfortable.</li> <li>▪ the Town Centre acts as a regional meeting place for some groups, requiring past police presence; a recent stabbing brawl was nearby. These issues may increase with the new rail link.</li> </ul> <p>Residential streets have low pedestrian volumes and low apparent informal surveillance. Street lighting is considered adequate, but only just.</p>
Response	Response	Response
<p>A successful ‘active transport’ strategy will assist in increasing pedestrian volumes in streets and hence potential for incidental interactions. Opening of the swimming pool on eastern side should create an additional potential for interaction there.</p>	<p>Design street frontages in future precincts to increase street activity/interactions (eg. direct verandahs, courts and shop fronts to the streets). Implement community title governance system to allow management and etiquette issues to be dealt with. Design subsequent stages of Town Centre to include potential for more informal (less controlled) uses. Consider possible usefulness of a men’s shed or workshop as an additional social space.</p>	<p>Conduct a <i>Crime Prevention Through Environmental Design</i> audit, with an commitment to act on deficiencies. A successful ‘active transport’ strategy will assist to increase pedestrian volumes and hence feelings of security. Design street frontages of new development to maximise casual surveillance potential. Engage with youth population and provide ‘things to do’. Consider a Town Centre police station as part of the new rail interchange.</p>

**Nutrition**  
‘Providing healthy food options’

**Facilitating access to healthy food**

**Promote responsible food advertising**

**Description**

High personal mobility levels and a large choice (shops in the Town Centre, the Town Centre farmers’ market, Parklea Markets, and nearby farm shop) means access to fresh food sources is high.

There is a high level of awareness of the importance of healthy eating, including some querying of the ‘freshness’ of supermarket and Parklea Markets foods.

Limited potential to grow own foods given small yard areas.

Some interest in a community garden, though the existing garden at Mungerie House appears to be in limbo and is not listed as a Community Association facility.

The purpose and permitted use of the Town Centre ‘kitchen garden’ is unclear.

**Description**

There is a wide variety of food premises within the Town Centre. Although the fresh food shops are located down arcades off the main streets, there is no particular over-presence or advertising of non-healthy foods.

The supermarkets have good promotion of fresh foods as part of current marketing strategies.

The opportunity to use community gardens to promote fresh foods and responsible diet is not really utilised – the community garden at Mungerie House appears to be in limbo, and the purpose and permitted use of the Town Centre ‘kitchen garden’ is unclear.

**Response**

Use the single-ownership and management structure of the Town Centre to ensure continued and perhaps expanded provision and emphasis on healthy food through explicit leasing and promotion policies. Dovetail such promotions with associated ‘active transport’ strategies encouraging walking and cycling to the Town Centre.

It would be worthwhile:

- for the Community Association to re-invigorate the community garden at Mungerie House.
- to re-design the Town Centre ‘kitchen garden’ to be more inviting and ‘legible.’

Promote the use of local farmers markets and regional farm-based food sources.

**Response**

Use the single-ownership and management structure of the Town Centre to promote healthy food via leasing policies which:

- ensure visual prominence of healthy food shops and reduce relative prominence of other food shops.
- exclude ‘fast food’ take-away food shops on the future development lands surrounding the Town Centre.
- do not allow over-prominent advertising of non-healthy (energy-dense-nutrient-poor (EDNP)) food.

To assist the presence of healthy foods it would be worthwhile to re-invigorate the community garden at Mungerie House and re-design the Town Centre ‘kitchen garden’ to be more inviting and ‘legible.’

#### Attachment 4: Executive Summary and Overview of Study findings for VICTORIA PARK.

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The *Planning and Building Healthy Communities* Study explores how our built environments impact, positively and negatively, on the potential to contract current chronic diseases such as diabetes, various respiratory and heart conditions, various cancers, and depression; the so-called ‘lifestyle diseases’. Using multi-disciplinary perspectives in the gathering and review of data four newly-developing residential areas are examined as case-studies. This report focuses on Victoria Park.

Victoria Park is a major urban achievement, comprising a new medium-high density suburb of some 8,000 residents on former industrial land with no particular residential amenity and limited services. Although there was little or no specific attention to healthy built environment matters at the time, there have been fortuitous health co-benefits from an emphasis on environmental and community actions (and a need to generate a marketable residential environment from scratch), including open spaces, water-sensitive urban design, light and ventilation, direct access paths to encourage ‘active transport’, and establishment of a sense of ‘community’ through provision of facilities and support. As such Victoria Park presents by and large as a healthy built environment.

When participants were asked to nominate the things that currently assist them to keep healthy, most matters cited relate to their local built environment. All achieve recommended minimum levels of physical activity, generally via a combination of active transport (walking and bus), recreation walking, and active recreation. Some use gyms and/or swimming pools at their work or in their residential building. Although active transport use is high there is still a high propensity to use the car for certain trips, particularly for household shopping. This may now have been reduced with the recent opening of a supermarket and other shops within Victoria Park. Car use is likely to further decrease when the extensive additional commercial, retail, recreation and social facilities and services in the larger surrounding Green Square also come on-stream. The provision of these facilities is also likely to address various frustrations expressed by participants about the lack of various ‘necessary’ local facilities including fresh food shops. Some were established during the Study – but the comments do point out an important timing issue for such developments.

Social interaction with neighbours is relatively low, but most participants are content with this, generally because they have sufficient avenues for social interaction elsewhere. That said, they also express some frustration about not knowing who their neighbours are, due to the ‘transitory’ nature of spaces in their multi-unit buildings coupled with the short-term tenures within certain (but not all) of these buildings. It has resulted in the open space areas (a central dog park with market area, a childrens’ playground, and a ball court) becoming important gathering spaces where, as suggested by participants, there is a propensity for incidental conversation. This suggests the ‘community’ aspects of the original design have been successful, but also that multi-unit building designs need further attention to address this limitation.

Participants do though express lingering concerns, for their health, from the anonymity of residential buildings (leading to concerns about drug-related crime, and a possible growing lack of trust generally); loss of outlook and light from (higher) newer buildings; inner-city noise and grit; and insensitive placement of driveways and garbage storage areas adjacent to residential living spaces.

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In Australia, like, they've built forever in the '50s and '60s, all these new suburbs...There was no public transport, no hospitals, no schools, but they were keen. It's a typical problem, here in Australia...[Even when] they've tried making complete new suburbs...within the inner city, they've tried to address that but they just haven't quite got it.

...can people agree upon a minimum service that should we provide while it is being developed. So, a chemist and post office and a doctor. Do you know what I mean? Just for every area? Because the basic things that [every] area needs...just a few essentials to make it easier for people while the places are building up....maybe, then, the whole, the road noise and the night works and the things like that - you wouldn't be so overcome by it all if then you just...post a letter, you can pay a bill, you can go to the chemist, things like that.

Looks like a lot of the issues that we have, though, will be resolved and we're working to rectify them with getting the shopping centre there. They'll have the chemist and there is one doctor, sounds like there'll be another one, there'll be less traffic, there'll be less noise, and pollution, all that kind of thing, because all of the extra [construction] traffic and the trucks will be stopped. So a lot of our issues are going to be resolved. It's already in the plans, so that's good.

1. Victoria Park is a major urban achievement, comprising the establishment of a new medium-high density suburb of some 8,000 residents within the space of some 10 years on a brownfield site in a transitory industrial area with no particular residential amenity and only limited services. Victoria Park also comprises the lead development in the similar, larger Green Square urban renewal project. Although not the first such developments in Australia, both Victoria Park and Green Square are somewhat experimental and innovative in their scale and conception.
2. A number of the innovative aspects of Victoria Park are also 'of their time', with an emphasis on 'green' environmental matters, water-sensitive urban design, and the establishment of a sense of 'community'. There was also a close fit between these aspects and the need to generate, in this industrial area, a marketable residential environment from scratch. Although there was little or no specific attention to the way the built environment influences health, there are fortuitous co-benefits from the environmental and community-building objectives. As such Victoria Park presents by and large as a healthy built environment.
3. Participants also currently present as healthy. Although this would be mainly due to their individual characteristics (generally a younger age group with high mobility and social connectivity, and with personal inclination to participate in physical activity), the built environment of Victoria Park and its location relative to the centre of Sydney also means there are substantial facilities to assist these inclinations. When participants were asked to nominate the things that currently assist them to keep healthy, most matters cited relate to their immediate built environment.
4. It is also true that when participants are asked to nominate those things they need to keep healthy and do not have access to, most matters cited also relate to the built environment.

Positively, for most of these matters this is likely to be a passing phase as a significant range of active transport, active and passive recreation facilities, other community facilities, and commercial retailing and services come on-stream as the surrounding Green Square renewal is progressively completed. Participants expressed frustration at the existing lack of such facilities, and suggested urban development processes need to ensure better up-front provision of these needs. Some matters (a local supermarket, other fresh food shops, a gym, and medical services) have already been provided in Victoria Park itself during the latter stages of the Study, and as such would now address most of these concerns.

5. All participants achieve recommended minimum levels of physical activity, even though most have other commitments (eg. work, family). Generally this is via a combination of active transport (walking and bus), recreation walking, and active recreation pursuits. Some use gyms and/or swimming pools at their place of work or in their residential building. Although active transport use is high there is still a high propensity to use the car for certain trips, particularly for household shopping. This may now have been reduced with the recent opening of a supermarket and other shops within Victoria Park; car use is likely to further decrease when the additional facilities and services in Green Square also come on-stream.
6. Few participants cycle, with most citing road safety concerns. This may dissipate as more local facilities able to be accessed by local streets become available, and as regional cycle paths are established as per the local Council's cycle strategy. These additional local facilities will also be easily accessed by walking, which will further assist levels of physical activity given the small scale of Victoria Park means that although the quality of its walking environment is high distances are short and so yield only low numbers of 'active' hours. Attention though will need to be given to a particular concern raised by participants – safety when crossing the busy main roads bordering Victoria Park and which have only limited crossing facilities. Further, the propensity for residents to undertake longer recreational walks to major (and high quality) regional open spaces is limited by a lesser quality of the adjacent walking environment. This needs to be similarly improved, perhaps in manner similar to the existing identification of cross-regional cycling routes).
7. Participants cite a range of responses when asked about their level of social interaction. Although interaction with neighbours is relatively low most are content with this, generally because they have sufficient avenues for social interaction elsewhere. That said, participants also express a level of frustration about not knowing who their neighbours are. The cause is a combination of (i) the 'transitory' nature of the physical spaces within their multi-unit buildings where people do 'bump into' each other (foyers, lifts, corridors), and (ii) the inability to know whether those other people are long-term or short-term residents or visitors, coupled with a difference of view as to the level of social interaction considered appropriate. This situation may be a causal factor in the popularity of the main open space area of Victoria Park as a general gathering space where, as suggested by participants, there is a propensity for incidental conversation. This, along with the provision of a ball court which is actively used by younger groups, a neighbourhood branch library, a Saturday market, and various casual meetings of particular interest groups suggests the 'community' aspects of the original development design have been successful. These opportunities will increase as the

surrounding Green Square renewal also develops. Further, most participants feel very safe at all hours in the local streets and public spaces. Nevertheless, innovative solutions that encourage better social interactions with immediate neighbours also deserves attention; there is a risk the current 'anonymity' might lead to a level of insecurity and lack of trust in the community, and which could be already discerned, to a minor extent, in some comments.

8. Participants have a good range of sources of fresh food, and there is a low visibility and provision of non-healthy food shops. Attention may need to be given to supporting the viability of fresh food stalls at the Saturday markets, which appear to have been affected by the new local retail development; and to taking advantage of an apparent semi-active interest by participants in growing their own foods.
9. Victoria Park as a case-study has also identified a range of other lingering frustrations about high-density living and which deserve recognition and attention when designing other similar areas: the impact on local amenity of the higher scale of the most recent developments, local safety due to traffic speeds, inner-city air pollution and grit, and poor interface design between residential units and garbage storage areas and building driveways.

**Physical Activity**  
'Getting people active'

**Facilitating 'active transport'**

**Facilitating recreational physical activity**

**Description**

Personal mobility is high in terms of both physical health and access to a variety of transport modes. Use of active transport (walking, bus) is high, though local walks are generally of short duration. Cycling is rare due to road safety concerns, and bicycles have been stolen. Participants also often use their car to access shops and recreation facilities (and sometimes work) because these are lacking in the immediate neighbourhood. However overall proportion of trips by car is relatively low. Some use car-share schemes. The pedestrian environment is good within Victoria Park, except for current construction traffic; but can be variable in surrounding area. Frustrations expressed about erratic bus services (with acknowledgment this is often due to traffic and not the service provider) and safety in crossing busy boundary roads due to inadequate pedestrian crossings. Proposed light rail is viewed positively provided the route is well-positioned.

**Description**

Although facilities within Victoria Park are limited, overall access to facilities is high given high levels of mobility and high provision in surrounding area, at places of work, or within residential buildings (gyms, pools). All participants meet minimum weekly levels of physical activity. Victoria Park is conducive to walking and jogging (but less so in surrounding areas and in streets now with high-rises) and to active exercise in parks (though dog droppings are a problem, and the half basketball court has been 'taken over' by one user group). There is a regular tai chi group. Suggestion that installation of outdoor exercise stations and an (affordable) personal/group trainer or similar at a regular set time would induce greater use of facilities/opportunities. Future access to a swimming pool and other active recreation facilities will be high when constructed nearby in next few years.

**Response**

Use of active transport should increase and car use for local trips should decrease as shopping and recreation facilities are progressively established in the local area as planned (and traffic & parking congestion is likely to discourage car use generally). Concerns regarding the local pedestrian environment should reduce as construction levels decrease and other facilities come on-stream. Immediate improvements re pedestrian crossings could be implemented, particularly to the new Town Centre. Need to monitor efficacy of bus services (routes/timetables/running times), and to maintain longer-term plans for light rail.

**Response**

Need to improve management of existing dog park open space to ensure diversity of use possible. Consider whether quantity of overall provision of active recreation facilities in the larger Green Square Renewal Area will meet demand for all anticipated age groups (eg. the diverse facilities at Prince Alfred Park cited as a good example to follow). Consider non-built services to encourage physical activity in the public spaces already provided (eg. exercise groups, trainers) (with associated social interaction co-benefits).

**Social Interaction**  
‘Connecting and strengthening communities’

**Facilitating incidental  
n’hood interaction**

**Making community spaces**

**Build for crime prevention**

**Description**

Potential for interaction is high in public streets and park given good design and seating (there is always someone about) and new retail development provides an additional meeting point; but variable in individual buildings given the ‘transient’ nature of most common areas, queries about just who is a long-term resident or not, and inactive management of common areas (eg. potential cinema area not used). Suggestion that interaction in social housing blocks is actively discouraged. Some comment that balcony use is restricted because of air pollution-which may reduce interaction. Some individuals have chosen to act as catalysts, to establish informal conversations, etc.

**Description**

There are four well-maintained and used social foci – the dog park, Saturday markets, main playground, and basketball court (for youth). The new retail development now provides another. The streets generally are also seen as pleasant, safe and well-lit. There are also frustrations:

- dog droppings in park restrict use by others.
- the ball court is taken over by one user-group
- reduced amenity of streets with new high-rises.
- limited range of activities for younger age-group.
- library/community programs not continuous and not kept pace with population inflow.
- dust, grit, construction noise and traffic limits amenity.

**Description**

Satisfaction with personal safety is high notwithstanding apparent crime issues within the more anonymous multi-unit buildings. Lighting in public areas is good, and presence of others on streets even at late hours is viewed as a positive. General ambience of area is amiable. Concerns expressed over apparent drug manufacturing activity within buildings, prevalence of break-ins and bicycles being stolen, and effectiveness of surveillance cameras is reduced due to poor positioning. Anonymity of these buildings could result in future increases in levels of anxiety, thus diminishing further incidental social interactions and overall wellbeing.

**Response**

Consider how the design and management of common shared spaces within residential buildings might better promote incidental interactions with immediate neighbours - as a case study for similar developments elsewhere. Consider ‘formalised’ support for individual residents acting as ‘social catalysts’.

**Response**

Design of public environment appears successful but need to ensure management allows for intended diversity of use. Ensure continued viability of Saturday markets now that the new food retailing complex is open. Ensure new planned facilities in the Green Square Town Centre meet needs of all age-groups. Overall amenity should improve as construction diminishes.

**Response**

Existing design of the public environment appears to be successful. Future uses of non-residential floor space should recognise the predominant residential nature of the area. Action to increase social interactions with immediate neighbours may be important to ensure existing high levels of community trust are not diminished.

**Nutrition**  
'Providing healthy food options'

**Facilitating access to healthy food**

**Promote responsible food advertising**

**Description**

A frustration about lack of fresh food shops in the immediate neighbourhood (other than the Saturday markets which are seen as too expensive for 'everyday' household shopping) now likely to be dissipated with opening of new retail complex. Nevertheless, access to other fresh food sources is high given high personal mobility, though a general feeling that supermarket food is not particularly fresh. Some use of a local subsidised 'food boxes' network by those with limited mobility or income; and concerns if it is not continued. There are some public planter boxes of herbs etc. maintained by a local 'growers' group – but use of the produce by others was not really mentioned. A reasonable number of participants have tried to grow their own food (supported by the local 'growers' group), but with overall limitations due to space and concerns about air pollution.

**Description**

There is good awareness of the importance of fresh food, eg. as evidenced by the questioning of freshness of supermarket food, use of the Saturday market, and mention of lack of fast food shops as one of the things assisting participant health. Fresh foods are given prominence in the new retail centre, and there is no noticeable availability or advertising of non-healthy foods. The local neighbourhood social media advertise a local 'growers' group and there are visible 'communal' planter boxes in public spaces. However any effect of this and use of the produce from the boxes by others is not particularly noticeable. The closely built-up and residential character of the built environment means a limited number of food premises generally in the area, and that prominent advertising panels are unlikely.

**Response**

Concerns about local access to fresh foods should have been resolved with the opening of the new retail complex in late 2014. However this appears to have a negative impact on the provision of fresh food stalls at the Saturday markets. This may require attention to ensure a diversity of outlets and its role as a 'neighbourhood focus'. The subsidised community food-boxes network should be maintained as long as required. Use of the public planter boxes could be re-invigorated, and that ability of all residents to use the food grown in there could be better promoted (this may then prompt more individuals to grow their own as well).

**Response**

Monitor and action if required the relative prominence of advertising and presence of healthy compared to unhealthy foods as additional food premises are established as the population grows and new retailing floor space comes on-stream. Ability of all residents to use the food grown in the public planter boxes could be promoted (this may prompt individuals to grow their own as well).

Attachment 5: Other papers and reports from the *Planning and Building Healthy Communities Study* (as of September, 2016).

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**(1) Papers relating to the Study methodology.**

The Healthy Neighbourhood Audit Instrument: Understanding the Environmental and Socio-Cultural Conditions to Support Healthy, Happy and Resilient Residential Communities.

Mitchell, E. and Thompson, S.M. (2012):

*7th Australasian Housing Researchers' Conference*, 6-8 February 2013, Fremantle, Western Australia.

Developing a Comprehensive Healthy Neighbourhood Audit for Urban Planners.

Thompson, S.M. & Mitchell, E. (2012):

*Presentation to UPE 10: Next City. University of Sydney, 24-27 July 2012.*

A Methodology to Understand How Environments Support Health.

Thompson, S.M. and Mitchell, E. (2015):

*Proceedings of the Institution of Civil Engineers: Urban Design and Planning*, 168 (DP4), pp. 174-184.

doi: 10.1680/udap.14.00034

**(2) Papers relating to the Study outcomes.**

Planning and Building Healthy Communities.

Thompson, S., Mitchell, E. & Crawford, B. (2013):

*6th State of Australian Cities Conference*. Sydney, November 2013.

Planning and Building Healthy Communities: Exploring the Relationship Between the Built Environment and Walking.

Thompson, S. M. & Mitchell, E. (2014):

*Walk21*. Sydney, 21-23 October 2014.

Planning and Building Healthy Communities: Creating health supportive environments in Australian neighbourhoods.

Thompson, S.M., Mitchell, E. & Paine, G. (2015):

*52nd International Making Cities Livable Conference*. Bristol, UK, June 29 - July 3 2015.

Creating Environments that Support Healthy Living Using Methodologies for Deep Understandings.

Thompson, S.M., Paine, G. & Mitchell, E. (2015):

*7th State of Australian Cities Conference*. Gold Coast, December 2015.

### **(3) Papers relating to the Community Food Assessment.**

Cost, availability and quality of food in high and low socioeconomic areas of Sydney.

Crawford, B., Byun R., Mitchell E., Kennedy L., Torvaldsen S., Thompson S. & Jalaludin B. (2013):  
*Poster presentation at the Public Health Association of Australia Annual Conference, Melbourne, September 2013.*

Seasonal fresh food and a sense of place: Exploring farmers' markets in Sydney.

Crawford, B., Byun, R., Mitchell, E., Torvaldsen, S., Thompson, S. & Jalaludin, B. (2013):  
*Public Health Association of Australian Annual Conference, Melbourne, September 2013.*

Healthy Food and a Sense of Place: Attitudes and Perceptions of Customers and Stallholders toward Farmers' Markets in Sydney.

Crawford, B., Byun, R., Mitchell, E., Thompson, S., Torvaldsen, S. & Jalaludin, B. (2013):  
*Report to Farmers' Market Managers and Stallholders, Sydney and South Western Sydney Local Health Districts and UNSW.*

\* This example from the New Rouse Hill Study area.

The flyer has a green header with the UNSW Australia logo on the left and the HBEP logo on the right, with the text 'HEALTHY BUILT ENVIRONMENTS PROGRAM' below it. The main title 'PLANNING AND BUILDING HEALTHY COMMUNITIES' is in green. Below the title are three icons: a blue circle with people, an orange circle with a heart, and a green circle with wheat. The main heading 'INVITATION TO PARTICIPATE IN A RESEARCH PROJECT' is in red. The text is organized into two columns with blue sub-headers. The right column includes contact information for Emily Mitchell.

**UNSW AUSTRALIA**

**HBEP**  
HEALTHY BUILT ENVIRONMENTS PROGRAM

## PLANNING AND BUILDING HEALTHY COMMUNITIES

### INVITATION TO PARTICIPATE IN A RESEARCH PROJECT

**The Healthy Built Environments Program at the University of New South Wales is undertaking research on what makes a neighbourhood healthy for community members. This information sheet has been prepared for residents of the New Rouse Hill.**

**Who is involved in the project?**

The project is being run by the Healthy Built Environments Program at the University of New South Wales, in partnership with Landcom, the National Heart Foundation and the South Western Sydney Local Health District.

**What is the research about?**

Chronic diseases such as heart disease, diabetes, depression and cancer are the most common cause of death worldwide. The built environment has a significant impact on three of the main behavioural risk factors for these diseases - physical inactivity, social isolation and obesity.

The aim of the project is to understand how different residential localities can make healthy everyday living a reality, and reduce the burden of chronic disease.

**Where is the research taking place?**

The research is being undertaken in four neighbourhoods in NSW – Victoria Park, Rouse Hill, Airs Bradbury and Renwick.

**Who is eligible to participate in the project?**

Participants in the research must be over 18 years of age, and currently living in the New Rouse Hill (within the area bounded in red on the map overleaf).

**What will I be asked to do?**

The first stage of the research involves structured individual interviews. This interview includes questions about the place where you live and the way you experience your neighbourhood and city. The interview can be undertaken by telephone or in person.

**You will receive a \$20 GIFT VOUCHER for your participation in an interview.**

As the study progresses you may be invited to participate in further aspects of the research.

**How do I get involved?**

If you or someone in your household is interested in participating in the project, please register your interest at:

[www.surveys.unsw.edu.au/survey/157498/10fd/](http://www.surveys.unsw.edu.au/survey/157498/10fd/)

Alternatively, you can contact us by phone or email:

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Attachment 7: *Healthy Development. How Landcom plans for healthy places and healthy people.*  
(Landcom, 2010).

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# Healthy development

How Landcom plans for healthy places and healthy people



## Healthy Development

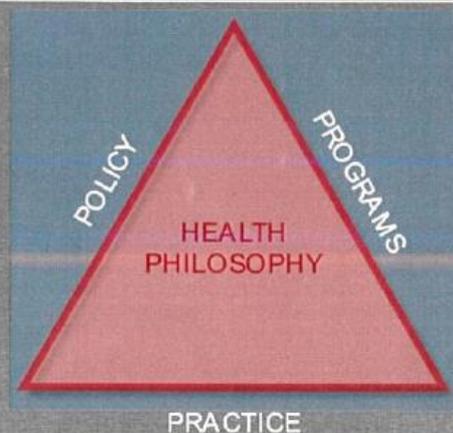
In Australia we are now seeing a groundswell of interest in the relationship between urban development, and the health and wellbeing of communities. Landcom is proud to be at the forefront of innovative thinking and practice in this area.

Landcom has been working hard to understand the links between place and wellbeing. We are now integrating a health-based approach to urban development across our business – in our overarching development policy, in the delivery of community programs, and in the practice of our work.

### Health philosophy model

policy, programs and practice

Landcom is integrating a health-based philosophy across its policy development, in programs and in the practice of its work



As the State Government's masterplanner and developer, Landcom is charged with delivering the State's plans for urban growth and change. Landcom's mission is to lead the development industry in creating better communities. We do this through best practice place-making. To maximise our impact in this role, Landcom focuses on projects that are strategic and complex.

Landcom's contribution to health outcomes is significant because of its reach – its ability to influence strategic projects and partners, and leverage private sector investment.

## Sustainability and health

Sustainable development is about balancing often competing objectives. For Landcom, sustainability is synonymous with health. Landcom uses an adaptation of Trevor Hancock's 'Healthy City Model' to describe its approach to sustainable development. In all projects, Landcom aims to balance the environmental, economic and social goals to achieve equitable, liveable and viable neighbourhoods – healthy places that support healthy people.

### The sustainability model

achieving viability, liveability and equity

Adapted from 'Healthy City Model'  
from Trevor Hancock, Health Promotion International





## Philosophy

Landcom's health focus has grown out of the organisation developing a robust social sustainability policy. Landcom began to look strategically at our social policy in late 2004. At that time the organisation had a range of discrete community-based or social initiatives in place, but it did not have a strategic direction or systems to ensure social issues were consistently considered through planning and development processes.

Landcom adopted the World Health Organisation's Social Determinants of Health, and their application to land use, as the basis for our strategic social planning philosophy. Landcom now undertakes Social Sustainability Due Diligence Assessments for all new residential and mixed-use projects to identify social risks and opportunities. Based on this assessment, we prepare Strategic Social Plans as part of the masterplanning process, to set out the actions required to achieve social sustainability and healthy

communities. These planning tasks are tracked and will be reported in our annual Sustainability Report from 2010.

Making new places that will support health relies on more than providing ways for people to be physically active. While this is of course fundamental, the characteristics of the population are also critical. The 'social determinants' tell us that relative inequality impacts on everyone's wellbeing. In unequal societies, both the advantaged and the disadvantaged are less well. Landcom's overarching aim, then, is to do development in a way that minimises inequality and ensure that new development does not have a negative social impact on existing and future communities. And so support healthy communities.

This philosophy is the foundation of Landcom's policy, programs and practice for healthy places and healthy people.

## Policy

### Overarching social sustainability policy

Landcom aims to ensure that our developments are socially sustainable (i.e. healthy) places in which to live, work, learn and visit by:

- Providing opportunity for mixed communities with diversity in housing and land use. Mixed communities ensure effective use of existing housing and infrastructure, support local economic development, and provide for different life-stage groups.
- Providing homes that will enable ageing in place. This will enable people to remain in their existing area as they get older, maintaining established networks and effectively using the housing and infrastructure provided.
- Providing homes for moderate income households. Access to affordable housing is essential to overall social wellbeing and Landcom is committed to providing housing opportunities for moderate income households.
- Integrating socially, culturally and physically with the existing community. Inclusive development promotes social and cultural harmony while providing improved access to existing services, infrastructure and community networks.
- Ensuring access between new and existing areas. This will ensure access to existing services and infrastructure while supporting active lifestyles and sustainable transport options.
- Contributing towards community infrastructure which addresses community needs. These needs include lifelong learning, community health, transport, food, employment, information technology, community safety, public art and social support services.
- Benefiting the existing community members as well as the new. This ensures sustainability through the better use and coordination of existing and future resources.

## Supporting policies and guidelines

Landcom has a range of 'issue-specific' policies and guidelines to support the broader objectives. Our guidelines for Universal Housing and Housing Diversity are examples of these.

### Examples of our work

#### Housing Diversity Guide

Landcom's Housing Diversity Guide aims to support socially mixed communities by promoting diversity in house types. Mix is a key determinant of healthy communities.

Housing diversity is important because it enables neighbourhoods to provide for changing demographics, lifestyles and life stages. Smaller homes on smaller lots also ensure more affordable housing to provide for mixed income neighbourhoods.

This guide was initially developed in response to the increasing housing affordability problems in Sydney. It provides design guidelines and models that can be readily adopted by local governments and other developers.

The Housing Diversity Guide is available online at [www.landcom.com.au/whats-new/publications-reports](http://www.landcom.com.au/whats-new/publications-reports)

#### Universal Housing Design Guidelines

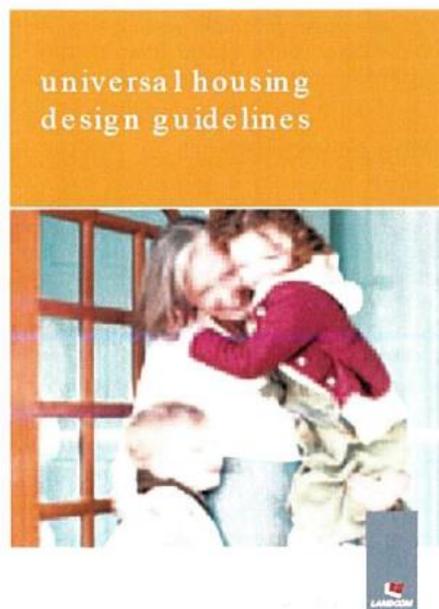
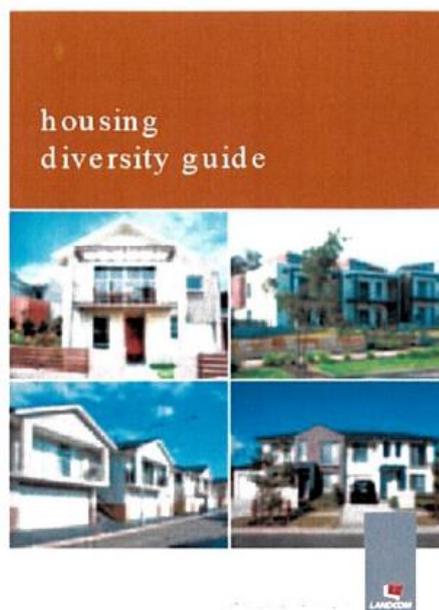
The Universal Housing Design Guideline aims to encourage mixed communities by providing homes where people can 'age in place'. The guide is a response to a very real and urgent urban planning issue: that of our ageing population. The guide encourages mainstream housing that will meet the needs of an increasingly older population.

Older people live independent and active lives and are involved in a wide range of social, leisure and community activities. Only 4-5% of people aged 65 and older live in retirement villages and of these, about 80% have moved only out of necessity because their homes no longer suit them.

As people get older they want to stay living in their own homes and as part of the community they know, for as long as possible. This guide encourages the design of homes that meet their principal needs, so that this can occur.

It has been used by the Commonwealth Government as a key resource for the national Liveable Housing Design Guideline.

The Universal Housing Design Guideline is available online at [www.landcom.com.au/theguidelines](http://www.landcom.com.au/theguidelines).



## Programs

Landcom facilitates a range of community development and education programs in new neighbourhoods. They are developed through the health-based social planning process. Many are specifically designed to encourage people to be more physically active while also building community connections.

### Examples of our work

#### Welcome Program

The Welcome Program is Landcom's key community development initiative for major new developments. It is currently in place in ten new neighbourhoods.

As its name implies, the Welcome Program is about fostering a culture of welcome and hospitality, and a sense of belonging for new residents. Landcom partners with community-based agencies to deliver the program on the ground. These agencies provide information to new residents about local services, facilities and programs, and also directly facilitate community networking. Many networks are developed around active-living activities, such as walking groups, exercise classes, dog-socialising groups and sport groups. Through the Welcome Program, Landcom also sponsors several local sporting organisations.

Landcom aims to deliver the program in a way that encourages the growth and participation of the community and ensures sustainable outcomes in the long term. The program also seeks to complement existing services (including local and state government and other services) and contribute to the effective network of community resources.

#### Walking School Bus

The Walking School Bus is a component of the Welcome Program in many new areas. The 'buses' are groups of school children walking with volunteer parents along set routes at set times, to and from school. The buses are primarily aimed at improving the health and fitness of participants, and they also help to build community connections and reduce traffic congestion around schools.

Landcom currently sponsors and facilitates three walking buses in Sydney's northwest. A total of 220 students and 37 parent volunteers walk to and from schools regularly. With the help of The Hills Shire Council, the program is being rolled out to another eight schools in the area.

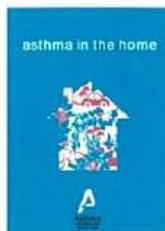


Community facilitator Tuula Schaeffer welcoming new residents in Woodlands, Shellharbour.



The first Landcom Walking School Bus started in 2007 at Parklea Public School. At Parklea there are now three walking bus routes operating morning and afternoon and more than 100 students and 15 parents who walk regularly.

## Sustainable Living and Health Education



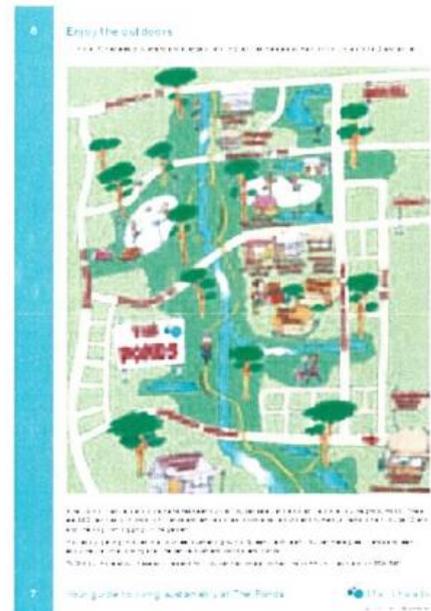
Landcom actively promotes community education on sustainable (including active) living and health.

For example, Landcom recently partnered with the Asthma Foundation of NSW to produce a booklet which promotes asthma-friendly homes. It is distributed in welcome packs through the Welcome Program.

Landcom also ensures that new landscaping (as referenced in its Street Tree Guidelines, for example) is asthma-friendly.

At The Ponds in the northwest, Landcom (with development partner Australand) prepared a guide to sustainable living for all new residents. The Ponds is a three stage, ten year project that will provide 3,200 dwellings, two schools, community facilities, a retail centre and extensive open space and recreation facilities.

In the southwest Landcom has engaged Macarthur Centre For Sustainable Living to deliver environmental education workshops and information to residents, and to establish a local bush care group to manage remnant bushland adjacent to the Garden Gates estate.



Extract from 'Your guide to living sustainably at The Ponds'

## Practice

Landcom puts policy into practice. The point of doing health-based planning at the due diligence stage of new projects, is so that health (and other) risks and opportunities can be identified early and planned for. We are actively applying our health-focused policy and learning to new projects.

We also continue to be involved in new research and share what we are learning with our stakeholders.

### Examples of our work

#### Integrated Health Impact Assessment and Social Planning at Airds-Bradbury

Landcom is managing the masterplanning for the renewal of the Airds-Bradbury public housing estate on behalf of the landowners, which also include Housing NSW, Campbelltown City Council and the Department of Planning. The planning process includes an integrated Health Impact Assessment, Social Due Diligence Study and Social Plan.

We are partnering with NSW Health to guide this integrated planning, and we have a working group which also includes the Centre for Health Equity Research and Training. There is enormous goodwill around this project and the partners are working very collaboratively.



At Airds-Bradbury, the community engagement process has included tours to different parks and playgrounds, to educate residents about possibilities for their own neighbourhood.

### Healthy by Design at Renwick

Landcom has worked closely with the National Heart Foundation (NSW) to incorporate their 'Healthy by Design' principles into the masterplan for the Healthy Renwick project in the Southern Highlands. The social plan for the development is very much health-focussed, in response to obesity problems in the target market area, and also in response to the wonderful opportunities for healthy living in the Highlands.

Landcom will engage the Heart Foundation to design and deliver programs that encourage active living, when the first residents begin to arrive.

### Research Partnership

Landcom has recently partnered with the University of New South Wales Faculty of the Built Environment, the National Heart Foundation and NSW Health in an Australian Research Council Linkage research project. The longitudinal study will examine the links between patterns of urban development and health, using four Landcom projects: Airds-Bradbury in the southwest, Rouse Hill in the northwest, Victoria Park in South Sydney, and Renwick in the Southern Highlands.

### Industry Support

Landcom actively supports other agencies and stakeholders involved in health and development. For example, Landcom has contributed to NSW Health's recent award-winning project, the Healthy Urban Development Checklist. Landcom also works closely with the Premier's Council for Active Living and the National Heart Foundation.

For enquires about Landcom's approach to healthy development please contact:

Anna Petersen  
Social Sustainability Manager  
on 9841 8652 or [apetersen@landcom.nsw.gov.au](mailto:apetersen@landcom.nsw.gov.au)



When complete, Renwick in the Southern Highlands will have 600 homes, a small retail centre and a community facility.



Rouse Hill is one of the projects to be studied in the ARC Linkage research project.



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## HEALTHY NEIGHBOURHOOD AUDIT INSTRUMENT

### CONTENTS:

- I. Audit Particulars
- II. Land Use
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  - b. Further Detail of Land Uses
- III. Street Network
  - a. Street Network Maps
  - b. Further Detail of Street Networks
- IV. Overall Issues/Impressions
  - a. Relationship of the Site to the Broader Area
  - b. Social Interaction
  - c. Psychological, Emotional and Spiritual Belonging
  - d. Overall Impression
- V. Improvements
- VI. Additional Thoughts

## I. AUDIT PARTICULARS

a. Names of auditors:

--

b. Date (including the day of the week) and time of audit:

--

c. Description of weather conditions:

--

d. Please note any other particulars which may have an impact on the results of the audit (e.g. whether the audit is being undertaken during the school holiday period):

--

## II. LAND USE

a. Land Use Map

Using a cadastral map of the site, note the category of land use on each allotment according to the following table.

(NB. Aerial photos and site plans can be used to collect land use information, however, it is important to ensure that any photos, maps and plans utilised for audit purposes are up to date - if possible, please note the date. Further, data from aerial photos and site plans must be verified through site visits and windscreen observations - this needs to be noted on the audit.)

Nature of land use		Ref. on map
<i>Residential:</i>	Detached dwelling	R1
	Terrace/ townhouse	R2
	Duplex/semi-detached	R3
	Dual occupancy	R4
	Unit (up to 3 storey)	R5
	Unit (3 storeys and above - note the amount of storeys on the map)	R6
	Other	Describe on map
<i>Mixed use:</i>	Commercial/Residential - Note the specific uses on the map	MU
<i>Recreational:</i>	Open/green space	Rec1
	Park	Rec2

	Playground	Rec3
	Equal access playground	Rec4
	Sports field	Rec5
	Recreational walking path/cycleway	Rec6
	Outdoor gym	Rec7
	Basketball/tennis court	Rec8
	Swimming pool	Rec9
	Lawn bowling green	Rec10
	Amenities for people with physical impairments (describe on map)	Rec11
	Water Sensitive Urban Design/open space	Rec12
	Private open space	Rec13
	Other	Describe on map
<i>Institutional/ services:</i>	Hospital or 'long hours' medical centre	S1
	Doctor's surgery	S2
	Chemist	S3
	Dentist	S4
	Other health/medical facility (describe on map)	S5
	Child care centre	S6
	Nursing home/aged housing	S7
	Primary school	S8
	Secondary school	S9
Other	Describe on map	
<i>Commercial:</i>	Fast food/takeaway shop	F1
	Café/restaurant	F2
	Pub/bar	F3
	Supermarket/grocery store	F4
	Convenience store	F5
	Retail store (describe on map)	C1
	Office (describe on map)	C2
	Other	Describe on map
<i>Community facilities:</i>	Community centre	Com1
	Library	Com2
	Town square	Com3
	Other	Describe on map
<i>Community gardens/edible plantings:</i>	Note the location of community, verge or school gardens	Com.G
<i>Derelict buildings/spaces:</i>	Note the location of derelict buildings/spaces (if possible note last use)	D
<i>Vacant buildings/spaces or construction:</i>	Note the location of vacant buildings or spaces (if possible note last use)	V
	Note the details of any construction (i.e. future use)	Con

b. Further Detail of Land Uses:

*General*

What overall quality/character dominates the land use?

(N.B. Take note of the residential density, types of housing, extent of commercial development, and any other key built, natural or social features present within the neighbourhood).

Describe the number of people present in the locality at the time of the audit. What spaces are they using? Make a note of particular spaces which are popular with children, young people, adults and older adults.

***Commercial and Food Access***

Is there a sufficient mix of retail to serve the local community?

**Prepared Meals**

What is the general price of a meal in a fast food/takeaway shop? (Entrée, main & drink?)

What is the general price of a meal in a café/restaurant? (Entrée, main & non-alcoholic drink?)

What is the general price of a meal in a pub/bar? (Entrée, main & alcoholic drink?)

Overall comments about the quality of prepared meals available – quality and value

## Community Gardens & Farmers' Markets

Describe the types of crops in the garden/s.

If there are no edible gardens in the area, is there potential for some? Where?

Nearest location of farmers' market:

Frequency of farmers' markets:

What is the price of a kilo of a basic vegetable or fruit (i.e. carrot, lettuce, apple, orange) at the farmer's market?

What is the price of a kilo of organic carrots at the farmers' market?

## ***Built Form***

Consider the form and style of the residential, institutional and commercial buildings.

Does the built form provide an opportunity for passive surveillance (i.e. through allowing people to overlook the street)?

Do the buildings and their uses encourage pedestrian activity?

How does the building relate to the human scale? (i.e. is it welcoming, does it contribute to a pleasant and safe environment for those walking past?)

How easy is it to identify the land use from the facade of the building?

### III. STREET NETWORK

#### a. Street Network Maps

Using a cadastral map of the site, create a number of street network maps by noting and describing elements of the street pattern and road network; parking; walking and cycling infrastructure; street furniture; and public transport systems. The tables below provide reference codes for the different elements. Add comments to the maps to describe elements in more detail where necessary.

(NB. Aerial photos and site plans can be used to collect street network information, however, it is important to ensure that any photos, maps and plans utilised for audit purposes are up to date - if possible, please note the date. Further, data from aerial photos and site plans must be verified through site visits and windscreen observations - this needs to be noted on the audit.)

Map	Element	Ref. On map
<b>Roadways:</b>	Traffic lanes	Note the number of lanes and direction of traffic on the map
	Posted speed limits	Note speed limits for each street on the map
	Road use	Light (T-L) Moderate (T-M) Heavy (T-H)
	Signage/way finding	Note and describe the directional and instructional signage around the site
	Other	Describe on map
<b>Parking:</b>	Unrestricted parking	P1
	Metered parking	P2
	Time restricted parking (note time on	P3

	map)	
	Parking station	P4
	Resident only parking	P5
	Disabled parking	P6
	Mothers with prams parking	P7
	Car share parking spaces	P8
	Motorcycle parking	P9
	Bicycle parking	P8
	Loading zones	P10
	Taxi rank	P11
	Bus stop	P12
	Other	Describe on map
<b>Walking/Footpaths:</b>	Footpaths	W1
	Signalised pedestrian crossings	W2
	Painted pedestrian crossings	W3
	Note whether crossing the street is accessible for all (e.g. people with limited mobility or parents with prams)*	Accessible (Acc.) Not accessible (N/Acc.)
	Material of footpaths	Dirt (D) Concrete (Con) Bitumen (Bit) Paving (Pav) Cobblestone (Cobb) Other (describe on map)
	Quality of footpaths (i.e. consistency and evenness of surfaces, presence of trip/slip hazards)	Poor (M-P) Average (M-A) Good (M-G)
	Width of footpaths	Measure and note the width of footpaths on the map
	Gradient of footpaths	Flat (G-F) Moderate (G-M) Steep (G-S) Other (describe on map)
	Type of buffer between footpath and street (i.e. trees, fence/railing)	Note and describe on the map
	Types of obstructions along the footpaths (e.g. overgrown vegetation, café dining)	Note and describe on the map
	Visibility along footpaths	Poor (V-P) Average (V-A) Good (V-G)
	Connectivity of footpaths	Continuous (Cont.) Abrupt end (Abr.)
	Type of shading of footpaths	Awning (Awn.) Shade structures (Sh.St) Vegetation (Veg) Other (describe on map)
	Quality of shading of footpaths	Poor (Sh-P) Average (Sh-A) Good (Sh-G)
	Other	Describe on map
<b>Street furniture/amenities:</b>	Street lights	A1

	Benches/seating	A2
	Shade structure/awnings	A3
	Trees	A4
	Gardens/plants	A5
	Telephone booths	A6
	Bubblers/ drinking fountains	A7
	Public toilets	A8
	Rubbish bins	A9
	Flagpoles/banners	A10
	Community noticeboards	A11
	Public art (describe on map)	A12
	Dog litter bags and bins	A13
	Post boxes	A14
	Other	Describe on map
<i>Cycling:</i>	Recreational cycling lanes	C1
	Utilitarian cycling lanes (i.e. for transport)	C2
	Shower/changing facilities	C3
	Bicycle storage	C4
	Types of obstructions along cycle lanes (e.g. overgrown vegetation)	Note and describe on the map
	Connectivity of cycle lanes	Continuous (Cont.) Abrupt end (Abr.)
	Other	Describe on map
<i>Traffic calming:</i>	Speed hump	TC1
	Chicane/ one way slow point	TC2
	Roundabout	TC3
	Flashing lights	TC4
	Restricted street entry	TC5
	Landscaping	TC6
	Designated share zones	TC7
	Traffic calming absent but required (describe particular issues on the map)	No TC
	Other	Describe on map
<i>Public Transport:</i>	Bus stops	PT1
	Train stations	PT2
	Time schedule	TS
	Frequency of service arrival	Note and describe on the map
	Signage/ way finding	Note and describe the directional and instructional signage relating to the public transport stop
	Amenity of public transport stops	Lighting (L) Shade/ weather Protection (Sh) Benches/seating (Be) Bubblers (Bu) Other (describe on map)
	Quality of amenities	Poor (PTA-P) Average (PTA-A) Good (PTA-G)
	Natural surveillance - include	Poor (PTS-P)

	comments on how natural surveillance is provided or inhibited	Average (PTS-A) Good (PTS-G)
	Other	Describe on map
<i>Safety/Surveillance:</i>	Surveillance cameras	SC
	Natural surveillance – include comments on how natural surveillance is provided or inhibited	Poor (S-P) Average (S-A) Good (S-G) Other (describe on map)
	Note the adequacy of the street lighting in each area (i.e. is it evenly distributed and of a level which would allow a face to be identified at a distance of 15 metres).	Poor (SL-P) Average (SL-A) Good (SL-G) Other (describe on map)
	Note if any street lights are not working	Equipment failure (No SL – EF) Damage/vandalism (No SL – D)
	Sightlines (i.e. open and uninterrupted vision of the street ahead. Examples of obstructions to sightlines include overgrown vegetation, corners, curving streets and hills)	Poor (Sight-P) Average (Sight-A) Good (Sight-G) Other (describe on map)
	Signs of physical disorder (e.g. vandalism, graffiti, broken bottles, rubbish etc.)	Note and describe on the map
	Other	Describe on map

\*To assess accessibility, consider 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.

b. Further Detail of Street Networks

The following general questions relate to the entire site area.

How does the street balance the needs of all users – is one user privileged over others? (e.g. cars, buses, bicycle, pedestrians, prams)

What is the amenity of the street like? (e.g. in relation to air quality/pollution, noise pollution, quality of drainage, odours, pools of still water etc.)

How well does the street network connect with the following areas, and which modes of transport are accommodated?

Residential:

Recreational:

Institutional:

Commercial:

#### IV. OVERALL ISSUES/IMPRESSIONS

a. Relationship of the Site to the Broader Area

Consider how the site relates to the broader area in terms of access, transport, and use of shops and services.

What public transport nodes surround the site? What is the relationship between these nodes and public transport services within the site?

What key services, shops and destinations surround the site? How can these be accessed?

b. Social Interaction

Consider each of the residential, recreational, institutional and commercial areas. Do you feel safe? Would you feel safe at night? Mark on the map if there are any particular areas which may be unsafe and/or perceived to be unsafe.

Would other people feel safe in this area? During the day? At night?

Is there a gendered presence in the area? For example, would a man/woman feel comfortable in the area? Why/ why not?

Are there signs of social inclusion, cultural diversity and religious diversity within the neighbourhood? Consider whether people of different sexual orientations, cultures and religions would feel comfortable within the area, and whether there are specific facilities, services and spaces provided for different groups. Take note of any 'physical' manifestations of culture – buildings, gardens, monuments etc.

Do people congregate in the area with a common purpose? (e.g. pram walkers, book club, adolescents hanging out). How does one find out about these groups and when they meet?

c. Psychological, emotional and spiritual belonging

What aspects of this environment might contribute to a feeling of belonging in this locality? Consider the physical features as well as the socio-cultural features.

What specific facilities – person made and natural – might enhance these feelings?

What specific facilities – person made and natural – might detract from these feelings?

Any other comments?

d. Overall Impression

- What is your overall impression of the neighbourhood?
- How do you think others from different backgrounds would feel about this area?
- What is the general accessibility of the area?
- What is the general level of safety in the area?
- Is it easy to be physically active in this area?
- Is it easy to access healthy foods in this area?
- What is the aesthetic condition of the neighbourhood?
- Is this neighbourhood a healthy built environment?
- Would you live here? Why/why not?

**V. IMPROVEMENTS**

What improvements would you recommend to make the area healthier?

**VI. ADDITIONAL THOUGHTS**

Did you need extra room to record your thoughts? Place them here. OR are there additional observations made not covered by the Healthy Neighbourhood Audit? If so, what are they?

\*\*\*\*\*



**PLANNING AND BUILDING HEALTHY COMMUNITIES STRUCTURED INTERVIEW**

**Eligibility for this interview**

1. Are you over 18 years of age?

Yes  No  → Thank you for your interest, but you are not eligible for this interview.

**Disclaimer:** This interview includes questions about mental and physical health that some people may find confronting. You are not obligated to answer a question if you would prefer not to do so. Please be assured that all answers you give will be confidential.

**Your Neighbourhood<sup>1</sup>**

In this section, I'm going to ask about which features of the environment you think are most important in keeping you healthy. I will also ask you to rate your level of satisfaction with different elements of your neighbourhood.

2. I am now going to read out a list of things that you may or may not think are important in keeping you healthy. Please tell me how important each feature is to you. Are they very important, important, neither important nor unimportant, unimportant, or very unimportant?

	VERY IMPORTANT	IMPORTANT	NEITHER IMPORTANT NOR UNIMPORTANT	UNIMPORTANT	VERY UNIMPORTANT	DON'T KNOW
Low levels of air pollution	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Low levels of noise pollution	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Being able to walk around your local area	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Being able to cycle around your local area	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Being able to catch public transport	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Being close to parks and open/green spaces	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Being able to go to gyms/exercise equipment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Being able to go to a farmers' market	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<sup>1</sup> Some questions in this section are adapted from: Maller, C. & Nicholls, L. 2012. *The Selandra Rise Neighbourhood Health and Wellbeing Survey*. Unpublished research, RMIT University Melbourne.

Continuation of Question 2: Please tell me how important each feature is to you. Are they very important, important, neither important nor unimportant, or very unimportant?

	VERY IMPORTANT	IMPORTANT	NEITHER IMPORTANT NOR UNIMPORTANT	UNIMPORTANT	VERY UNIMPORTANT	DON'T KNOW
Being close to a community garden	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Being able to spend time with a pet in your local area	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Being able to meet with friends and neighbours in your local area	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Are there any other things you think are important for keeping you healthy that we did not mention?

---

3. I am now going to read out a list of things that you may or may not be satisfied with in your current neighbourhood. Please tell me your level of satisfaction with each item. Are you strongly dissatisfied, somewhat dissatisfied, neither satisfied nor dissatisfied, somewhat satisfied or strongly satisfied? You may also indicate if an item does not apply to you.

	STRONGLY DISSATISFIED	SOMEWHAT DISSATISFIED	NEITHER SATISFIED NOR DISSATISFIED	SOMEWHAT SATISFIED	STRONGLY SATISFIED	DON'T KNOW/ NOT APPLICABLE
Access from your home to major roads or freeways	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Access to public transport in your neighbourhood	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Access to car parking in your street	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Your travel time to work	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Your travel time to your place of study	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Your travel time to your child- ren/s school or place of study	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Speed of vehicle traffic in the local streets near your home	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Noise from traffic near your home	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Continuation of Question 3: Please tell me your level of satisfaction with each item. Are you strongly dissatisfied, somewhat dissatisfied, neither satisfied nor dissatisfied, somewhat satisfied or strongly satisfied?

	STRONGLY DISSATISFIED	SOMEWHAT DISSATISFIED	NEITHER SATISFIED NOR DISSATISFIED	SOMEWHAT SATISFIED	STRONGLY SATISFIED	DON'T KNOW/ NOT APPLICABLE
How easy and pleasant it is to walk in your neighbourhood	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
How easy and pleasant it is to bicycle in your neighbourhood	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Safety from threat of crime in your neighbourhood	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Personal safety in your neighbourhood streets after dark	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Access to entertainment in your neighbourhood (e.g. movies, clubs...)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Access to fresh food shops in your neighbourhood (e.g. green grocer, supermarket, butcher)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Access to cafes and restaurants in your neighbourhood	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Opportunities to meet people in your neighbourhood	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Number of friends you have in your neighbourhood	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Number of people you know in your neighbourhood	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Child care in your neighbourhood	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Primary schools in your neighbourhood	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
High schools in your neighbourhood	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Number of parks in your neighbourhood	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Continuation of Question 3: Please tell me your level of satisfaction with each item. Are you strongly dissatisfied, somewhat dissatisfied, neither satisfied nor dissatisfied, somewhat satisfied or strongly satisfied?

	STRONGLY DISSATISFIED	SOMEWHAT DISSATISFIED	NEITHER SATISFIED NOR DISSATISFIED	SOMEWHAT SATISFIED	STRONGLY SATISFIED	DON'T KNOW/ NOT APPLICABLE
Quality of parks in your neighbourhood	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Community Centres in your neighbourhood	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Access to medical services in your neighbourhood (e.g. GPs)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Your neighbourhood as a good place to live	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Your neighbourhood as a good place to raise children	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Are there any other issues that you are satisfied or not satisfied with in your neighbourhood?

---

### Being Active<sup>2</sup>

In this section, I am going to ask you about the different kinds of physical activities you do during a usual week. This includes walking and cycling for transport, walking and cycling for recreation, sports and other forms of exercise like gardening.

#### Getting around your neighbourhood to do the things you need to do

4. In a usual week, do you walk around your neighbourhood to get to or from somewhere, such as going to and from work, walking to the shop or walking to public transport? (If no, skip to Question 8).

Yes  No

5. How many times do you walk as a means of transport in a usual week? (e.g. walking to and from work once a week = 1 time).

1-2 walks   
 3-6 walks   
 7-10 walks   
 More than 10 walks

<sup>2</sup> The following questions have been adapted from Giles-Corti B, Cutt H, Timperio A, Pikora TJ, Bull FL, Knuiaman M, Bulsara M, Van Niel K, Shilton T. *Development of a reliable measure of walking within and outside the local neighborhood: RESIDE's Neighbourhood Physical Activity Questionnaire*. Preventive Medicine (In press, accepted January 26, 2006).

6. Please estimate the total time you spend walking as a means of transport in a usual week (e.g. 5 times by 10 minutes = 50 minutes).

Hours \_\_\_\_\_ Minutes \_\_\_\_\_

7. Please tell me the places where you walk to as a means of transport in your neighbourhood in a usual week.

Places interviewee might walk to as a means of transport in their neighbourhood in a usual week	Tick ALL the places interviewee <u>WALKS</u> to in a usual week
To or from work (or study)	<input type="checkbox"/>
To or from public transport	<input type="checkbox"/>
To or from shops (for small purchases – e.g. a bottle of milk)	<input type="checkbox"/>
To or from shops (for large purchases – e.g. a full grocery shop)	<input type="checkbox"/>
To or from school	<input type="checkbox"/>
To or from café or restaurant	<input type="checkbox"/>
To or from friend's house	<input type="checkbox"/>
To recreation (e.g. gym, organised sport etc.)	<input type="checkbox"/>
Somewhere else: Please write where	

8. Is there anything that stops you from walking for transport around your neighbourhood? Please describe the main reasons.

\_\_\_\_\_

9. In a usual week, do you cycle around your neighbourhood to get to or from somewhere, such as cycling to a shop or to public transport? (*If no, skip to Question 13*).

Yes  No

10. In a usual week, how many times do you cycle as a means of transport, such as going to and from work, cycling to the shop or cycling to public transport in your neighbourhood? (e.g. cycling to and from work once a week = 1 time).

1-2 rides   
 3-6 rides   
 7-10 rides   
 More than 10 rides

11. Please estimate the total time you spend cycling as a means of transport in your neighbourhood in a usual week (e.g. 5 times by 10 minutes = 50 minutes).

Hours \_\_\_\_\_ Minutes \_\_\_\_\_

12. Please tell me the places where you cycle to as a means of transport in your neighbourhood in a usual week.

Places interviewee might cycle to as a means of transport in their neighbourhood in a usual week	Tick ALL the places interviewee <u>CYCLES</u> to in a usual week
To or from work (or study)	<input type="checkbox"/>
To or from public transport	<input type="checkbox"/>
To or from shops (for small purchases – e.g. a bottle of milk)	<input type="checkbox"/>
To or from shops (for large purchases – e.g. a full grocery shop)	<input type="checkbox"/>
To or from school	<input type="checkbox"/>
To or from café or restaurant	<input type="checkbox"/>
To or from friend's house	<input type="checkbox"/>
Somewhere else: Please write where	

13. Is there anything that stops you from cycling for transport around your neighbourhood? Please describe the main reasons.

\_\_\_\_\_

***Enjoying active recreation in your neighbourhood***

14. In a usual week, do you walk around your neighbourhood for recreation, health or fitness (including walking your dog)? (If no, skip to Question 18).

Yes  No

15. In a usual week, how many times do you walk for recreation, health or fitness around your neighbourhood?

- 1-2 walks
- 3-6 walks
- 7-10 walks
- More than 10 walks

16. Please estimate the total time you spend walking for recreation, health or fitness around your neighbourhood in a usual week (e.g. 5 times by 20 minutes = 100 minutes).

Hours \_\_\_\_\_ Minutes \_\_\_\_\_

17. Please tell me the places where you walk for recreation, health or fitness in your neighbourhood in a usual week.

Places interviewee might walk for recreation, health or fitness in their neighbourhood in a usual week	Tick ALL the places interviewee <u>WALKS</u> in a usual week
Park	<input type="checkbox"/>
Sports field	<input type="checkbox"/>
Bushlands	<input type="checkbox"/>
Around the neighbourhood using the streets/footpaths (no specific destination)	<input type="checkbox"/>
Walking trails/bicycle paths NOT in a park	<input type="checkbox"/>
To or from café or restaurant	<input type="checkbox"/>
To or from a shop	<input type="checkbox"/>
Somewhere else: Please write where	

18. Is there anything that stops you from walking for recreation, health or fitness around your neighbourhood? Please describe the main reasons.

\_\_\_\_\_

19. In a usual week, do you cycle around your neighbourhood for recreation, health or fitness? (If no, skip to Question 23).

Yes  No

20. In a usual week, how many times do you cycle for recreation, health or fitness around your neighbourhood?

- 1-2 rides
- 3-6 rides
- 7-10 rides
- More than 10 rides

21. Please estimate the total time you spend cycling for recreation, health or fitness around your neighbourhood in a usual week (e.g. 5 times by 20 minutes = 100 minutes).

Hours \_\_\_\_\_ Minutes \_\_\_\_\_

22. Please tell me the places where you cycle for recreation, health or fitness in your neighbourhood in a usual week.

Places interviewee might cycle for recreation, health or fitness in their neighbourhood in a usual week	Tick ALL the places interviewee <u>CYCLES</u> in a usual week
Park	<input type="checkbox"/>
Sports field	<input type="checkbox"/>
Bushlands	<input type="checkbox"/>
Around the neighbourhood using the streets/footpaths (no specific destination)	<input type="checkbox"/>
Walking trails/bicycle paths NOT in a park	<input type="checkbox"/>
To or from café or restaurant	<input type="checkbox"/>
To or from a shop	<input type="checkbox"/>
Somewhere else: Please write where	

23. Is there anything that stops you from cycling for recreation, health or fitness around your neighbourhood? Please describe the main reasons.

\_\_\_\_\_

***Other recreational physical activities***

In this section I am going to ask you about other kinds of recreational physical activities you take part in during a usual week. First, I will ask about how often you take part in **moderate intensity** recreational physical activities, and then then I will ask about **vigorous intensity** recreational physical activities. I will also ask about the places where you take part in recreational physical activities, and the modes of transport you use to get to these places.

24. In a usual week, do you do any **moderate intensity recreational physical activities** (i.e. activities which do not make you breathe harder or puff and pant, such as gentle swimming, social tennis, golf or heavy gardening)? Do not include any walking or cycling. *(If no, skip to Question 28).*

Yes  No

25. In a usual week, how many times do you do moderate intensity recreational physical activities?

Write in number of times \_\_\_\_\_

26. What do you estimate is the total time you spend doing moderate intensity recreational physical activities in a usual week? (e.g. 1 time for 1 hour = 1 hour)

Hours \_\_\_\_\_ Minutes \_\_\_\_\_

27. Please tell me all the places where you do moderate intensity recreational activities in a usual week, including whether or not the places are in your neighbourhood. Then please tell me which method of transport you use to get to each place.

Places interviewee does moderate intensity recreational activities in a usual week	Tick ALL the places INSIDE their neighbourhood	Tick ALL the places OUTSIDE their neighbourhood	How do they get there? (i.e. by car, walking, cycling, public transport, or a number of modes)
Home	<input type="checkbox"/>	<input type="checkbox"/>	
Garden	<input type="checkbox"/>	<input type="checkbox"/>	
Beach	<input type="checkbox"/>	<input type="checkbox"/>	
Park	<input type="checkbox"/>	<input type="checkbox"/>	
Sports field	<input type="checkbox"/>	<input type="checkbox"/>	
Bushlands	<input type="checkbox"/>	<input type="checkbox"/>	
Around another neighbourhood using the streets/footpaths (no specific destination)	<input type="checkbox"/>	<input type="checkbox"/>	
Walking trails/bicycle paths NOT in a park or beach	<input type="checkbox"/>	<input type="checkbox"/>	
Gym	<input type="checkbox"/>	<input type="checkbox"/>	
Sports centre/recreational facility	<input type="checkbox"/>	<input type="checkbox"/>	
Somewhere else (1): Please write where	<input type="checkbox"/>	<input type="checkbox"/>	
Somewhere else (2): Please write where	<input type="checkbox"/>	<input type="checkbox"/>	

28. In a usual week, do you do any **vigorous intensity recreational physical activities** which do make you puff and pant, such as jogging, aerobics, soccer or competitive tennis? Do not include walking or cycling or moderate intensity physical activities. (If no, skip to Question 32).

Yes  No

29. In a usual week, how many times do you do vigorous intensity recreational physical activities which make you breathe harder or puff and pant?

Write in number of times \_\_\_\_\_

30. What do you estimate is the total time you spend doing vigorous intensity recreational physical activities in a usual week? (e.g. 3 times for 20 minutes = 60 minutes)

Hours \_\_\_\_\_ Minutes \_\_\_\_\_

31. Please tell me the places where you do vigorous intensity recreational activities in a usual week, including whether or not the places are in your neighbourhood. Then please tell me which method of transport you use to get to each place.

Places interviewee does vigorous intensity recreational activities in a usual week	Tick ALL the places INSIDE their neighbourhood	Tick ALL the places OUTSIDE their neighbourhood	How do they get there? (i.e. by car, walking, cycling, public transport, or a number of modes)
Beach	<input type="checkbox"/>	<input type="checkbox"/>	
Park	<input type="checkbox"/>	<input type="checkbox"/>	
Sports field	<input type="checkbox"/>	<input type="checkbox"/>	
Bushlands	<input type="checkbox"/>	<input type="checkbox"/>	
Around another neighbourhood using the streets/footpaths (no specific destination)	<input type="checkbox"/>	<input type="checkbox"/>	
Walking trails/paths NOT in a park or beach	<input type="checkbox"/>	<input type="checkbox"/>	
Gym	<input type="checkbox"/>	<input type="checkbox"/>	
Sports centre/recreational facility	<input type="checkbox"/>	<input type="checkbox"/>	
Somewhere else (1): Please write where	<input type="checkbox"/>	<input type="checkbox"/>	
Somewhere else (2): Please write where	<input type="checkbox"/>	<input type="checkbox"/>	

32. In an average week, how do you normally travel? If, in the average week, you usually travel by different modes, please nominate an approximate percentage for each mode (e.g. 50% by car, 50% by public transport):

Mode	Tick ALL the modes of transport usually used in an average week	Approximate % breakdown for each mode
By car/motorbike/scooter	<input type="checkbox"/>	
By public transport	<input type="checkbox"/>	
By bicycle	<input type="checkbox"/>	
By walking	<input type="checkbox"/>	
Other (please specify)	<input type="checkbox"/>	

### Your Community<sup>3</sup>

In this section, I am going to ask you about your relationships with your neighbours. I will also ask about the places you use in your local area to meet with and spend time with your neighbours (i.e. people living in adjacent/nearby apartments or houses). I will also ask about any social or community activities you may take part in.

33. Please tell me which of the following options most accurately describe how well you know your neighbours.

- I do not speak to or socialise with my neighbours
- I speak to my neighbours occasionally
- I regularly socialise with my neighbours
- I consider my neighbours to be close friends

34. Are you satisfied with the level of interaction you have with your neighbours?

- Yes  No  Don't know

35. I am going to read you a list of things that may or may not limit the extent to which you socialise with your neighbours. Please tell me whether or not the following things have an impact on your interactions with your neighbours.

	YES	NO	DON'T KNOW
Not enough time due to other commitments (e.g. family, work)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Language difficulties or barriers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Health reasons	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Financial reasons	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Don't feel welcome	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Not interested	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Other (please specify):

---

<sup>3</sup> Some questions in this section are adapted from the NSW Adult Population Health Survey, Centre for Epidemiology and Evidence, NSW Ministry of Health (<http://www.health.nsw.gov.au/surveys/pages/default.aspx>); and the Green Square Snapshot Survey, City Futures Research Centre, UNSW.

36. *If interviewee indicated above that they do not socialise with their neighbours, skip to Question 37.* When you meet with your neighbours and spend time together, do you use the following places?

	YES	NO
Your/their home	<input type="checkbox"/>	<input type="checkbox"/>
The street	<input type="checkbox"/>	<input type="checkbox"/>
Town square	<input type="checkbox"/>	<input type="checkbox"/>
Local shops	<input type="checkbox"/>	<input type="checkbox"/>
Shopping mall	<input type="checkbox"/>	<input type="checkbox"/>
Local café/ restaurant	<input type="checkbox"/>	<input type="checkbox"/>
Park	<input type="checkbox"/>	<input type="checkbox"/>
Sports field	<input type="checkbox"/>	<input type="checkbox"/>
Bushland	<input type="checkbox"/>	<input type="checkbox"/>
Community centre	<input type="checkbox"/>	<input type="checkbox"/>
School or child care	<input type="checkbox"/>	<input type="checkbox"/>

Somewhere else: Please write where

---

37. In the last 12 months, have you participated in any of the following activities (either inside or outside your neighbourhood)?

	YES	NO	DON'T KNOW
Recreational group or cultural group activities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Community or special interest group activities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Church or religious activities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Went out to a café, restaurant or bar	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Took part in sport or physical activities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Attended a sporting event as a spectator	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Visited a library, museum or art gallery	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Attended the movies, a theatre or a concert	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Visited a park, botanic gardens , zoo or theme park	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

38. Are you an active member of a local organisation, church or club, such as a sport, craft, or social club?

Yes, very active  Yes, somewhat active  Yes, a little active  No, not an active member  Don't know/Not Applicable

39. If you were caring for a child and needed to go out for a while, and could not take the child with you, would you ask someone in your neighbourhood for help?

Yes, definitely  Yes, possibly  No, probably not  No, definitely not  Don't know/Not Applicable

40. How often have you visited someone in your neighbourhood in the last week?

Frequently  A few times  At least once  Never (in the last week)  Don't know

41. When you go shopping in your local area how often are you likely to run into friends and acquaintances?

Nearly always  Most of the time  Some of the time  Rarely or never  Don't know

42. Would you be sad if you had to leave this neighbourhood?

Yes  No  Don't know

43. Most people can be trusted. Do you agree or disagree?

Strongly agree  Agree  Disagree  Strongly disagree  Don't know

44. I feel safe walking down my street after dark. Do you agree or disagree?

Strongly agree  Agree  Disagree  Strongly disagree  Don't know

45. My area has a reputation for being a safe place. Do you agree or disagree?

Strongly agree  Agree  Disagree  Strongly disagree  Don't know

### Your Food

In this section, I am going to ask you about where, and how often, you buy fresh fruits and vegetables. I will also ask about how you get to the places where you buy your food. Then I will ask about other means of getting food – such as growing your own, or participating in a community garden.

46. In a usual week, how many times do you buy fresh fruits and vegetables?

None  1 time  2 times  3 times  More than 3 times

47. Please tell me all the places you buy fresh fruits and vegetables.

- |                           |                          |                     |                          |
|---------------------------|--------------------------|---------------------|--------------------------|
| Supermarket               | <input type="checkbox"/> | Farmers' market     | <input type="checkbox"/> |
| Fruit and vegetable store | <input type="checkbox"/> | Other (write where) | <input type="checkbox"/> |
- 

48. Where do you buy fruits and vegetables **most often**?

---

49. For the location you just mentioned, why do you buy your fruits and vegetables from there?

- |                                  |                          |                                    |                          |
|----------------------------------|--------------------------|------------------------------------|--------------------------|
| Easy to travel to                | <input type="checkbox"/> | Variety of fruits and vegetables   | <input type="checkbox"/> |
| Affordable                       | <input type="checkbox"/> | Selection of other foods available | <input type="checkbox"/> |
| Quality of fruits and vegetables | <input type="checkbox"/> | Other (please specify)             | <input type="checkbox"/> |
- 

50. How do you get to the place where you buy fruits and vegetables from **most often**?

- |            |                          |                                       |                          |
|------------|--------------------------|---------------------------------------|--------------------------|
| By car     | <input type="checkbox"/> | By public transport                   | <input type="checkbox"/> |
| By bicycle | <input type="checkbox"/> | Multiple modes (e.g. cycling and bus) | <input type="checkbox"/> |
| By walking | <input type="checkbox"/> | Other (please specify)                | <input type="checkbox"/> |
- 

51. For the mode of travel you just mentioned, how long does the journey take you?

- |                     |                          |                     |                          |
|---------------------|--------------------------|---------------------|--------------------------|
| Less than 5 minutes | <input type="checkbox"/> | 30 – 45 minutes     | <input type="checkbox"/> |
| 5 – 15 minutes      | <input type="checkbox"/> | 45 minutes – 1 hour | <input type="checkbox"/> |
| 15 – 30 minutes     | <input type="checkbox"/> | More than 1 hour    | <input type="checkbox"/> |

52. Do you grow any foods at home? If so, please describe where/how, as well as the types of foods you grow.

---

53. Do you participate in a community garden? *(If no, skip to Question 56).*

Yes  No

54. Where is the community garden located?

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55. What is your role in the community garden?

---

56. Do you regularly go to a farmers' market? *(If no, skip to Question 58).*

Yes  No

57. Where is the farmers' market located?

---

#### **Your Health<sup>4</sup>**

In this section, I am going to ask you about how you would rate your physical and mental health, and whether you have experienced any changes in your health since moving to your current location. Just to remind you, you are not obligated to answer a question if you would prefer not to do so. Please be assured that all answers you give will be confidential.

58. How do you rate your general health?

Very Good  Good  Average  Poor  Very Poor  Declined

Please outline any health problems you have, if relevant.

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<sup>4</sup> Some questions in this section are adapted from the NSW Adult Population Health Survey, Centre for Epidemiology and Evidence, NSW Ministry of Health (<http://www.health.nsw.gov.au/surveys/pages/default.aspx>).

59. What was your health status before you lived in this location?

Very Good  Good  Average  Poor  Very Poor  Declined

Please outline any health problems you had before moving to this location, if relevant.

---

60. During the past 30 days, how much difficulty did you have doing your daily work or activities?

No difficulty at all  A little bit of difficulty  Some difficulty  Much difficulty  Could not do work/activities  Don't know  Declined

61. During the past 30 days, how much bodily pain have you generally had?

No pain  Very mild pain  Mild pain  Moderate pain  Severe pain  Don't know  Declined

62. During the past 30 days, about how often did you feel nervous?

All of the time  Most of the time  Some of the time  A little of the time  None of the time  Don't know  Declined

63. During the past 30 days, about how often did you feel hopeless?

All of the time  Most of the time  Some of the time  A little of the time  None of the time  Don't know  Declined

64. During the past 30 days, about how often did you feel restless or fidgety?

All of the time  Most of the time  Some of the time  A little of the time  None of the time  Don't know  Declined

65. During the past 30 days, about how often did you feel that everything was an effort?

All of the time  Most of the time  Some of the time  A little of the time  None of the time  Don't know  Declined

66. During the past 30 days, about how often did you feel so depressed that nothing could cheer you up?

All of the time  Most of the time  Some of the time  A little of the time  None of the time  Don't know  Declined

67. During the past 30 days, about how often did you feel worthless?

All of the time  Most of the time  Some of the time  A little of the time  None of the time  Don't know  Declined

### About You and Where You Live

In this section, I am going to ask you for a few details about yourself and where you live. We need this information to see if there are any links between specific personal characteristics, specific locations and health outcomes. We will not use any of the information you share in this section to identify you by name in our research.

Note gender of interviewee:

Male  Female

68. What is your age?

18 – 21  22-34  35-44  45-54  55-64  65 and over  Decline  → If interviewee declines to answer, please estimate age: \_\_\_\_\_

69. What is your occupation?

\_\_\_\_\_

70. What is your highest level of education? (i.e. primary school, TAFE, high school, bachelor degree, postgraduate degree)

\_\_\_\_\_

71. Where, approximately, do you live?

Your street: \_\_\_\_\_

A nearby cross street: \_\_\_\_\_

Your suburb: \_\_\_\_\_

(Please note that providing this information does not disclose your address).

72. We would like to talk further about the impact of the neighbourhood on health outcomes with some people in a focus group. The focus group will take approximately two hours. It will involve a discussion with a facilitator and other residents about how your neighbourhood supports you being healthy. Participants will receive a \$50 gift voucher to thank them for their time. Would you be willing to participate in a focus group?

Yes  No

(Please note that by saying yes, you have indicated that you allow us to contact you to arrange a focus group. The number of participants selected for focus groups is limited, and we cannot guarantee that you will be contacted).

73. *Ask only if interviewee answered yes to Question 72.* Could you please provide your contact details, so that we can be in touch to organise the time and location of the focus group. Please be assured this information will be filed separately from this questionnaire to ensure your privacy.

Name: \_\_\_\_\_

E-mail address: \_\_\_\_\_

Phone no: \_\_\_\_\_

74. Do you know any other residents in [Study Area] who may be interested in participating in our research? (List contact details if provided).

Name: \_\_\_\_\_

E-mail address: \_\_\_\_\_

Phone no: \_\_\_\_\_

This is the end of the interview.

Thank you for participating. In appreciation of your time, you will receive a \$20 gift voucher. (*Interviewer to organise how to deliver gift voucher to the interviewee.*)

(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	<b>\$3.49</b>					✓			✓

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	<b>\$3.49</b>					✓		✓	
Fuji Apples	<b>\$4.20</b>				✓			✓	

### 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
<b>Cereal group</b>		
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	
<b>Fruit</b>		
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)
<b>Vegetables, legumes</b>		
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)
<b>Meat and alternatives</b>		
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	
<b>Dairy</b>		
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	
<b>Non-core foods</b>		
Polyunsaturated margarine	500g	
White sugar	1kg	
Canola oil	750ml	
<b>Unhealthy Items</b>		
Mars bar	53g	
Coca Cola	600ml	

**PART B: AVAILABILITY SURVEY**

<b>Vegetable</b>	<b>Present</b>	<b>Number of varieties</b>
Broccoli		
Cabbage		
Capsicum		
Carrot		
Cauliflower		
Cucumber		
Green beans		
Lettuce		
Mushroom		
Onion		
Potato		
Pumpkin		
Sweet corn		
Sweet Potato		
Tomato		
<b>Fruit</b>	<b>Present</b>	<b>Number of varieties</b>
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)
- Bruised:** Bruising, breakage of skin (only portions are still edible)

**Key (Clean)**

- Yes:** Free from dirt or dust
- No:** Dirt or dust visible on skin

**PART D: PRODUCT PLACEMENT at CHECKOUT.**

<b>Products</b>	<b>Aisle 1</b>	<b>Aisle 2</b>	<b>Aisle 3</b>	<b>Aisle 3</b>	<b>Aisle 4</b>	<b>Aisle 5</b>	<b>Aisle 6</b>	<b>Aisle 7</b>
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, razers, magazines)								
<b>Drinks</b>								
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			
<b>Fruit</b>						
Apple						
Apricot						
Avocado						
Banana						
Blueberry						
Cantaloupe (Rockmelon)						
Grape						
Honeydew melon						
Lime						
Mango						
Nectarine						
Orange						
Papaya (PawPaw)						
Peach						
Pear						
Plum						
Pineapple						
Strawberry						
Watermelon						
Other fruits:						
<b>Vegetable</b>						
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			
<b>Fruit</b>						
Apple						
Apricot						
Avocado						
Banana						
Blueberry						
Cantaloupe (Rockmelon)						
Grape						
Honeydew melon						
Lime						
Mango						
Nectarine						
Orange						
Papaya (PawPaw)						
Peach						
Pear						
Plum						
Pineapple						
Strawberry						
Watermelon						
Other fruits:						
<b>Vegetable</b>						
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

<b>Stall Information</b>	<b>Stall Name:</b>	<b>Stall Name:</b>	<b>Stall Name:</b>
Suburb product sourced or grown			
Organic certification visible			
Direct from farmer			
Wholesale			
<b>Produce Items</b>			
<b>Meat, Seafood and Eggs</b>			
Chicken			
Lamb			
Beef			
Pork			
Bacon / ham			
Mince			
Sausages			
Game meat			
Fresh fish			
Smoked fish			
Eggs			
Other:			
<b>Dairy Products</b>			
Milk			
Yoghurt			
Cheese			
Other:			
<b>Bakery Items</b>			
Bread			
Cakes / Muffins			
Other:			
<b>Gourmet foods and special dietary items</b>			
Pre-prepared food			
Gluten free / yeast free			
Sugar free			
Other :			
<b>Other items</b>			
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?	<input type="checkbox"/> English <input type="checkbox"/> Other (Please specify) <input type="text"/>
7. In which country were you born?	<input type="checkbox"/> Australia <input type="checkbox"/> Other (Please specify) <input type="text"/>
8. How many people live with you?	Adults <input type="text"/> Children (<16 years old) <input type="text"/>
9. How far did you travel to get to the market today?	<input type="text"/>
10. How did you get to the market today? (Answer in km)	<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) <input type="text"/>
11. In what year were you born?	<input type="text"/>

**SHOPPING BEHAVIOURS**

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

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

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

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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)

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

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

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END OF SURVEY