



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.

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).

STUDY AREA FINDINGS

for

RENWICK

City Futures Research Centre ■ University of New South Wales
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

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EXECUTIVE SUMMARY: *Planning and Building Healthy Communities* – Renwick.

The *Planning and Building Healthy Communities* Study explores how 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’. 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.

STUDY OVERVIEW – background and findings.

The Planning and Building Healthy Communities Study.

This Study appraises the impacts the shape of the built environment can have on human health, based on in-depth location-specific research in four case-study areas. The Study follows from an extensive review of the literature undertaken in 2011 by the Healthy Built Environment Program (now the City Wellbeing Program) within the City Futures Research Centre, and sought more local-specific information relating to, in particular, physical activity, social interaction and nutrition as key risk factors for contemporary chronic diseases such as diabetes, respiratory and heart conditions, some cancers, and depression.

The case-studies comprised different metropolitan and urban fringe areas in Sydney: Airds Bradbury, Renwick, New Rouse Hill and Victoria Park. All areas are currently undergoing development, and incorporate healthy planning interventions to various degrees. UrbanGrowth NSW (formerly Landcom) is a key facilitator in the development of each area. A feature of the development of Renwick, to which this Report relates, was an explicit working arrangement between UrbanGrowth NSW and the National Heart Foundation to implement healthy by design principles.

The Study was conducted between 2011 and 2015 for the project partners: UrbanGrowth NSW, the National Heart Foundation, and the South Western Sydney Local Health District (SWSLHD). It comprised detailed audit observations, in-depth semi-structured interviews with 20 residents of each area, and a subsequent focus group. Specific tools were designed for each of these stages, with the design of the interview questions also drawing on similar work in other locations in Australia in order to allow the potential for possible later comparisons. The SWSLHD supplied demographic data, and the Study also drew on a SWSLHD survey of the food environment of Sydney conducted at the same time.

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

The analysis of findings and the write-up report for each Study area uses a series of questions related to a set of Indicators as to what constitutes a healthy built environment, prepared by the City Wellbeing Program in a separate project. This will allow for consistent comparative on-going appraisals of the four Study areas, and for potential comparison from similar studies elsewhere.

The Study was funded through an Australian Research Council grant and by monetary and in-kind contributions by the Project partners. It addresses National Research Area Priority 2: Promoting and Managing Good Health. The project partners are key players within the fields of health and the built environment. This ensured a multi-disciplinary perspective in its aims and in the gathering and review of data. It also allows the Study, through its conclusions and recommendations, to directly influence the shape and management of existing and future built environments to achieve health-related outcomes.

This Report conveys the Study findings for Renwick. An additional Summation report brings together the findings from all four areas and details conclusions and recommendations applicable to the design of future built environments generally.

The Study findings for Renwick.

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 only newly-established and 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 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.
4. 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.
5. Although Renwick is in its early stages, the Study has through its engagement with residents nevertheless been able to determine various lessons about the health-related objectives of the development.
6. 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.
7. 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.
8. 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.
 9. 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.
 10. 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.
 11. 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.
 12. 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.
 13. 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.

A summary table of findings and responses based on the three key domains and seven specific actions for a healthy built environment follows.

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.

1. INTRODUCTION.

1.1 Study overview.

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 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 risk factors.

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 the research literature 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.¹ 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 (Table 1.1).

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:

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

All areas are currently undergoing development, and incorporate healthy planning interventions to various degrees (Table 1.2). A key facilitator in the development of each area is UrbanGrowth NSW

¹ 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).

Table 1.1: The basis of a healthy built environment – key domains and actions.

Key Domain	Specific Actions
<p>Getting People Active.</p> <p>The built environment can get people active by facilitating both utilitarian physical activity ('active transport') and recreational physical activity.</p>	<p>Facilitate utilitarian physical activity.</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>Facilitate recreational physical activity.</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>Connecting and Strengthening Communities.</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>Facilitate incidental neighbourhood interaction.</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>Make community spaces.</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>Build for crime prevention.</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>Providing healthy food options.</p> <p>The built environment can provide healthy food options by facilitating access to healthy food, and by responsible food advertising.</p>	<p>Facilitate access to healthy food.</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>Promote responsible food advertising.</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>

(formerly Landcom), the property development instrumentality of the State government.

The Study was conducted between 2011 and 2015. The Project partners were:

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

Table 1.2: The four Study Areas and their characteristics.

	Description	Current stage of development.
Airds Bradbury.	<p>Existing suburban fringe location, south-west Sydney.</p> <p>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>	<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.</p>
Renwick.	<p>Southern Highlands, adjacent to a township detached from the metropolitan area.</p> <p>New low density residential estate comprising 600 dwellings and an associated local commercial centre. Specific attention to integration 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>	<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.</p>
New Rouse Hill.	<p>Suburban fringe location, part of a metropolitan growth corridor, north-west Sydney.</p> <p>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>	<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.</p>
Victoria Park.	<p>Inner-urban Sydney, part of the major Green Square precinct urban redevelopment.</p> <p>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>	<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.</p>

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.

This Report conveys the Study findings for Renwick.

1.2 The aim and focus of the Study.

The aim of the Study is to:

- (i) better understand what makes up a healthy built environment by researching how diverse residential neighbourhoods with a range of design features, housing densities, land uses, open space and access to transport, and in different metropolitan and fringe localities support human physical and mental health.
- (ii) assist the future development of an urban environment within each of the four study areas that will promote good health and consequently reduce the individual, social and monetary costs of chronic disease.
- (iii) draw lessons that can then be applied within our built environments generally.

The Study focused on the following 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?

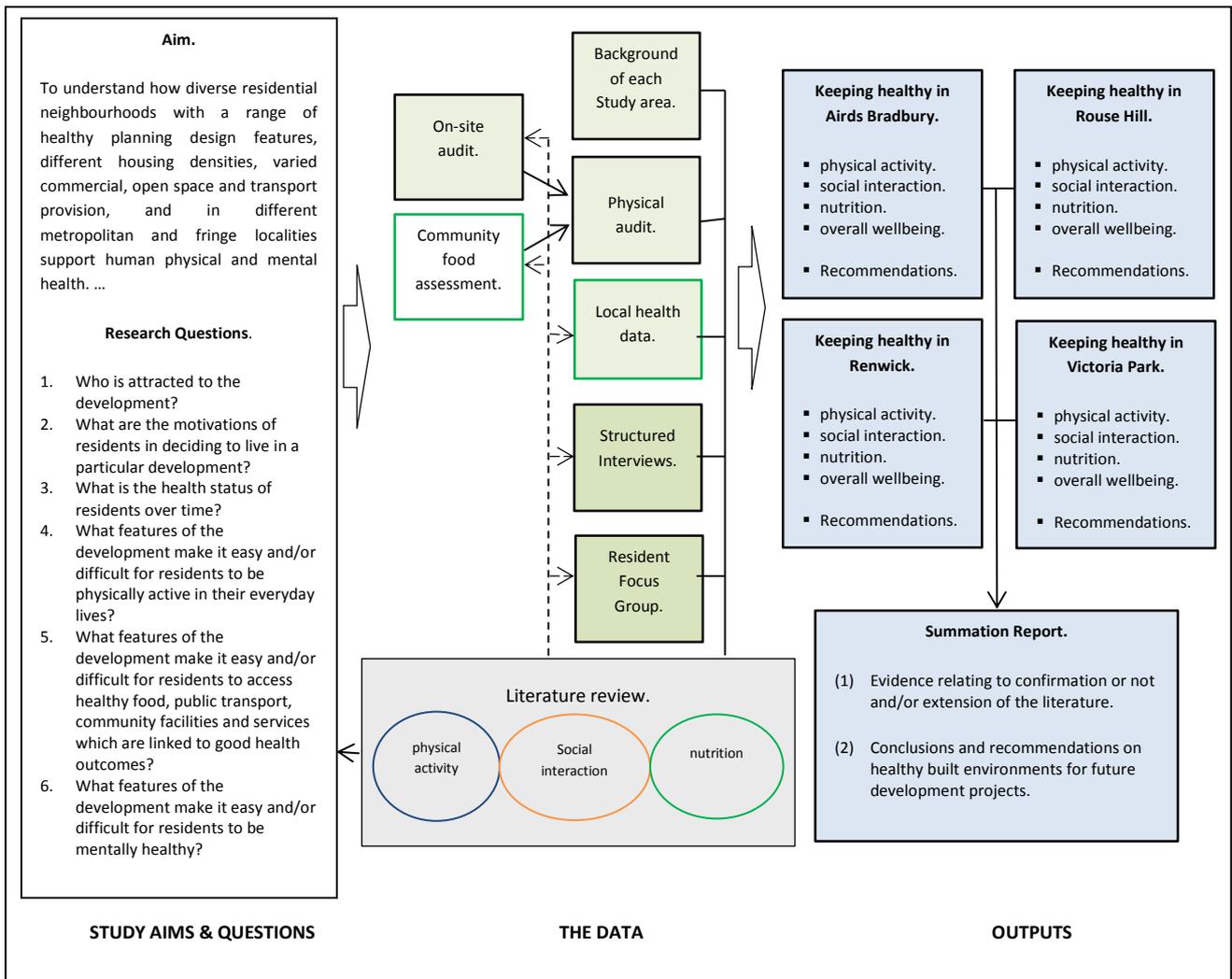
The Study used mixed quantitative and qualitative research methods, with an emphasis on the latter, to gather a 'rich picture' of data. The data collection methods comprised:

- on-site audits of the physical environment of each study area.
- in-depth semi-structured interviews with residents.
- a follow-up focus group with residents to explore the health and built environment relationships within each study area in more detail.

The Study also utilised where applicable a concurrent study conducted by the South Western Sydney Local Health District of the food environment within various localities in Sydney.

A 'map' of the aims, data sources and reporting outcomes of the study is at Figure 1.3.

Figure 1.3: Study Map.



Limitations due to the on-going development of each Study Area.

It was initially intended the study would include longitudinal appraisals of each Study Area. However this was not possible given the time-frame of the study and the current and on-going nature of the actual development of each Study Area (Table 1.2). As such the findings must necessarily comprise a ‘snapshot’ of the conditions of the time of the study. However the study as subsequently designed and conducted has also sought to address this particular constraint by:

- (i) structuring the key findings and conclusions around a set of healthy built environment indicators prepared by HBEP in a separate project for the NSW Ministry of Health. 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.
- (ii) structuring the focus group within each study area to add a temporal element to the discussion by asking participants to establish a desired ‘future’ that would be conducive to their health as they saw it, to then compare that vision with the current situation, and then discuss what that community needed to get there (or if already existing, what assisted this).

1.3 The determinants of our health - some background.

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%.²

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.
- (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 1.4)³ 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’⁴ (Figure 1.5) 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.

² 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.

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

⁴ 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>).

Figure 1.4: The Social Model of Health (1991).

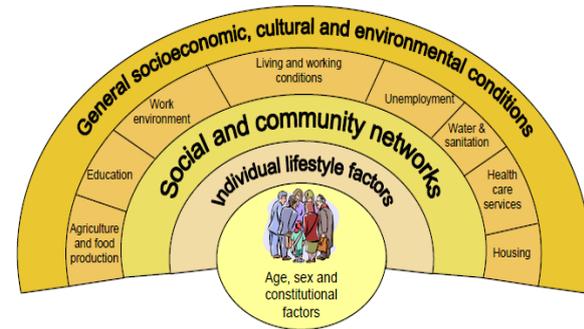


Figure 1.5: The Health Map (2006).



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.

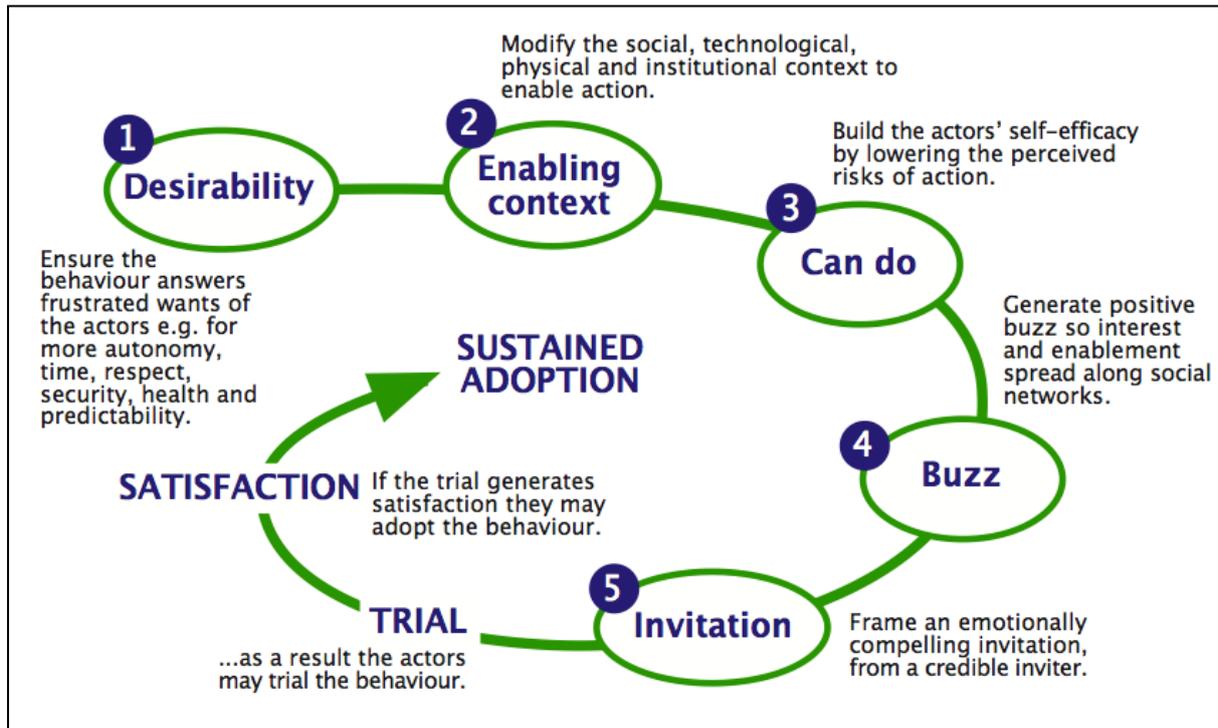
Of similar importance are then the various factors that act to influence actual personal behaviour. Again, the ways in which we act, adopt and respond to particular information and knowledge about matters is subject to numerous influences. For the purposes of this Study background reference has been made to the following particular grouping of five factors, derived from the ‘5 Doors’ Model of Behaviour Change (Figure 1.6)⁵:

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.

⁵ 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.

Importantly, raising individuals' knowledge or awareness about something comprises only part of one of the enabling factors of change, or 'doors' (Door 3). The other part of this door is that any information given must be targeted and be specific to individuals' needs if it is to be of influence. Further, as the model also illustrates, any behaviour change process needs to factor in a trial and error period, and so will not necessarily be immediate.

Figure 1.6: The '5 Doors' Model of Behaviour Change'.



1.4 Relationship of this Report with the other reports for this Study.

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

Four Study Area reports.

Separate reports, of which this is one, have been prepared for each of the four Study Areas. They include recommendations relating to features identified as important for the health of residents in that Area and which should be maintained, and for improvements to rectify any deficiencies.

Each report includes a separately-bound addendum comprising the Healthy Neighbourhood Audit of that Area. This audit appraises the physical features and the access to food characteristics of each Area from the perspective of the health of its residents (refer Section 3.2).

A Summation report.

The fifth report comprises a summation of the overall study findings and recommendations on healthy built environments, drawn from the understandings arising from the four Study Areas. These recommendations can be applied to future development projects in general.

Other reports.

In addition, the City Wellbeing Program has published various papers relating to the study design, process and findings. Papers published to date are listed on the City Wellbeing Program website, and in Appendix 1.⁶ Future published papers will be listed on the City Wellbeing Program website.

1.5 Relationship with other work by the Project partners.

Each of the Project partners has been involved in other work that addresses the relationship between human health and the ways in which we plan and manage our built environments. In particular:

- NSW Health is active in promoting healthy built environments and in submitting related comment and advice on development proposals, and has published a set of 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 and active living more generally, and maintains a website of reference material, guidelines and checklists for healthy urban design responses, including case-studies:

<http://www.heartfoundation.org.au>

The 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:

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

The brochure makes specific reference to the partnership with this Project, and to its emphasis on healthy by design considerations in the development of Airds Bradbury and Renwick.

⁶ For Papers listed on the City Wellbeing Program website, refer: <https://www.be.unsw.edu.au/city-futures/city-wellbeing/about>.

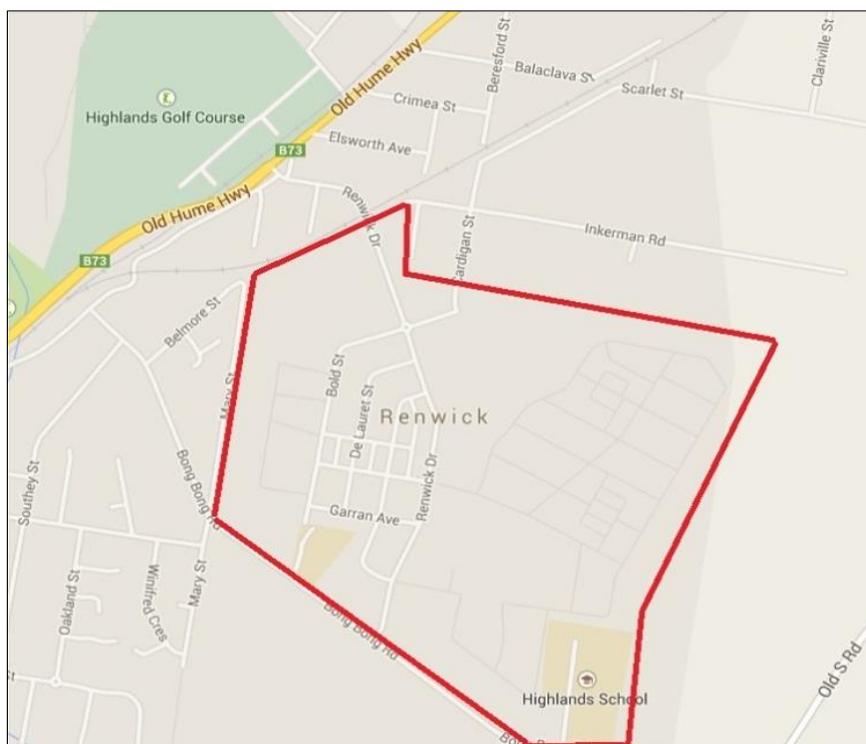
2. RENWICK – a description.

2.1 Location and history of development.

The Study Area comprises the new residential estate of Renwick, located on the south-eastern edge of the town of Mittagong in the Southern Highlands region and some 50 kilometres from the south-western extremity of the Sydney metropolitan area (Figure 2.1).⁷ The estate comprises 116 hectares of former rural land being the Mittagong Farm Homes, a then pilot government-run welfare facility for delinquent and disadvantaged children that operated from 1885 to 1994 (and renamed Renwick in 1976). The master plan (Figure 2.2) for the estate provides for:

- 600 dwellings for an anticipated population of approximately 1,500 residents, on lots ranging from 300-4,000 m².
- a village centre including retail, child care and community facilities.
- 30 hectares (25% of the site) of open space incorporating parks, local woodland and an extensive riparian corridor.
- an extensive list of works and monetary contributions to services off-site, formalised in a Voluntary Planning Agreement between Landcom and the local council.

Figure 2.1: The Renwick study area.



⁷ The Study area as originally identified (Figure 2.1) follows the boundary of the original Renwick estate master plan (Figure 2.2) and as such includes several existing private residential properties on Mary Street to the east of the estate and two special needs schools on Bong Bong Road to the south. However the intention of the Study was to research the healthy built environment aspects of the new development only, and as such the Study participants were only drawn from this area.

Figure 2.2: The Renwick master plan.



Source: Landcom, 2011.

The estate is being developed by Landcom for the NSW Department of Family and Community Services as owner of the land.

Renwick is being marketed as ‘not just a suburb; it is a burgeoning community’ and as ‘promoting a healthy lifestyle’. Key features include:

- a general rural ambience and openness, including views to the wider Southern Highlands landscape, walkways and cycleways.
- specific provisions in the local Wingecarribee Shire Council Development Control Plan (DCP), some of which are then also included by the developer in the Contract for Sale for the individual housing lots. The DCP contains a number of specific objectives as to the overall appearance and ambience of Renwick (see boxed text).
- the opportunity to purchase one of seven specific ‘display home’ designs being marketed concurrently by five builders.⁸
- design features that address the National Heart Foundation’s ‘Healthy by Design’ principles.
- a Community Development Program, with a Community Facilitator who ‘welcomes’ all new residents and organises events and information programs so that ‘Renwick develops organically as an integral part of the Southern Highlands’.
- inclusion of the estate on the local bus company route, as negotiated by Landcom.

⁸ See: <http://www.landcom.com.au/places/renwick-mittagong/packages/displayhomes.aspx>.

Some objectives of the *Wingecarribee Shire Council Development Control Plan* are that Renwick:

- looks and feels like it's always been there.
- has a strong sense of place that is also integrated with the existing Mittagong community.
- maintains key elements that will remind people of the past.
- ensures landscape is the dominant and memorable experience.
- increases opportunities for people to come together informally.
- includes an open space spine based on a re-vegetated creek corridor.
- includes a simple grid street pattern that facilitates integration and connectivity.
- includes a village centre focus for the new community.
- maintains a two-story height limit and a requirement for two car spaces per dwelling.
- includes some multi-unit housing in a 'big house' format.
- includes larger semi-rural lots on the perimeter.
- comprises a prevalence of family dwellings on traditional allotments.
- includes road and pathway connectivity with existing development.
- provides a combined pedestrian/cycleway linking to the Hume Highway.

The roads, open space areas and other infrastructure and services are being provided by Landcom and then dedicated to the Council which is then responsible for future maintenance. The Council has placed a special additional rate levy on the allotments to assist in funding this maintenance, on the basis that the provision of these items in Renwick is to a higher standard than available to residents in parts of the Council area.

Notably, the master planning process has included specific consideration of how the estate can facilitate the health of its residents. This initiative was in response to a finding in the preliminary *Social Sustainability Due Diligence Assessment* (and which Landcom undertakes prior to its master planning work for new residential estates⁹) that the Southern Highlands region has a higher than average rate of obesity. Landcom approached and formed a partnership with the National Heart Foundation to implement the Heart Foundation's *Healthy By Design* guidelines in the estate development. This characteristic now features in publicity material for the estate:

Features: Renwick will feature social and environmental sustainability initiatives that respect and reinterpret the unique Highlands character of the area. The project will also promote a healthy lifestyle, with the site masterplan addressing the National Heart Foundation's 'Healthy by Design' principles.¹⁰

Some key dates relating to this part of the development process are included in Figure 2.3. Interestingly the inclusion of these specific health objectives continues in a sense the earlier

⁹ See: *Healthy development. How Landcom plans for healthy places and healthy people.* (2010). Refer: http://www.landcom.com.au/downloads/uploaded/Healthy%20Development%20Brochure_d089_648e.pdf

¹⁰ Sourced from: www.urbangrowthnsw.com.au/work/urban-transformation-projects/renwick.aspx (January 2015).

operation of the Mittagong Farm Homes, which was based on the idea of the ‘healing’ effects of space, fresh air, and a rural lifestyle involving physical work.

Figure 2.3: **Key dates relating to involvement of the National Heart Foundation.**

(2005) Landcom undertakes a social assessment of the locality in preparation for development of the master plan for Renwick. This assessment indicates a number of health issues within the region. Landcom contacts the National Heart Foundation (NSW) to explore a joint working relationship to implement the Heart Foundation *Healthy by Design* guidelines in the Renwick development.

(2006) Landcom advises its consultants they are to include the *Healthy by Design* guidelines in the development of the Renwick master plan and development control plan; though some master planning work, such as the street layout, had already been undertaken. The Heart Foundation provides comments on the draft master plan and development control plan. Joint site visit to brief the Heart Foundation on the intended development application and to discuss a proposed Memorandum of Understanding for a 7 year partnership. Further discussions regarding the terms of the MOU and of a Project Control Group to manage the partnership.

(2007) Negotiations regarding the MOU continued. The Heart Foundation prepares a list of suggested community programs and evaluation options.

(2008) Landcom confirms commitment to work with the Heart Foundation in applying the *Healthy By Design* guidelines in the Renwick development. The Heart Foundation acknowledges Landcom’s continued interest in working together.

At the time of the Study the development of Renwick included:

- construction of the principal roads for the western part of the development.
- the subdivision and sale of the first 250 lots, and construction of most houses thereon.
- provision a part-time Community Development Facilitator (through the local Highlands Community Centres Inc.).
- commencement of construction of recreation facilities on part of the central open space corridor, and one of the smaller neighbourhood parks; and of a Police Citizens Youth Centre elsewhere in Mittagong, as part of the development’s funding of other facilities in the locality.
- commencement of design planning for the Village Centre, and the delivery of the residential lots to the east.
- completion of a needs analysis for the proposed Community Centre.
- commencement of undergrounding of electrical wires.

Around the time of the initial development of Renwick, UrbanGrowth NSW (then constituted as Landcom), had adopted a ‘healthy places and healthy people’ policy to guide its work. Specific mention of this work as applied within Renwick, including its arrangement with the Heart Foundation, was made in the associated Landcom *Healthy Development* policy brochure.¹¹

¹¹ *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

Housing Affordability Fund.

Nominated lots under 2000 m² are eligible for a rebate of \$20,000 under the Australian government Housing Affordability Fund. Successful application for a rebate requires purchasers to either reside within the new dwelling or make it available for rent, and that the new dwelling meet minimum stated requirements for energy and water efficiency established in the Government's Sustainable & Accessible Housing Checklist. The Fund contributed to the infrastructure costs for the estate and the rebate passes these savings on to consumers.

Provision of facilities off-site by way of a Voluntary Planning Agreement.

Landcom, as developer, is providing a range of public facilities external to the actual development site via specific works or monetary contribution (Figure 2.4). Timing of these facilities is to be staged, related to development of the various precincts within the estate. These actions are formalised in a Voluntary Planning Agreement (the *Renwick Planning Agreement*) between Landcom and the Wingecarribee Shire Council initially signed in September 2008 and subsequently varied twice, the last in September 2014.¹² The Agreement includes:

- a community centre that is also intended to meet a current shortfall for existing residential areas in the immediate locality.
- regional-scaled open space areas and recreation facilities able to be used by the wider community.

Successful operation of both of these features should mean an increased level of visitation to Renwick, which in turn can mean a beneficial contribution to the level of incidental and formal social interactions available to Renwick residents (and others), and increased patronage and hence viability of the proposed Village Centre shops.

The original Agreement also included a monetary contribution to the establishment of a 'leisure centre' (not further defined) by the Council or, if work on such a centre had not commenced by a certain date, to an alternative facility within or near to the estate. The Agreement provides that the alternative facility 'provides a direct benefit to, and promotes the healthy living objectives of the Development' (emphasis added). A subsequent variation to the Agreement has now redistributed this contribution to other matters including a new item of a new Police Citizens Youth Centre (PCYC). This PCYC was under construction at the nearby Mittagong sports centre at the time of completion of this report.

¹² Refer: <http://www.wsc.nsw.gov.au/developer-contributions-plans-development-servicing-plans/voluntary-planning-agreements>. Voluntary Planning Agreements are made under the *Environmental Planning & Assessment Act 1979* and provide for legal arrangements whereby new developments make a contribution to works, facilities and services either projected to be required as a result of the increased demand generated by that development or as otherwise agreed between the parties.

Figure 2.4: Items in the *Renwick Planning Agreement*.

	Item	Description	Form of contribution
Capital contributions.			
1	Contributions plan administration.	Administration costs.	Monetary.
2	Resource recovery centre.	Upgrade.	Monetary.
3	Animal shelter.	Upgrade.	Monetary.
4	Contribution to Police Citizens Youth Centre.	New facility.	Monetary.
Infrastructure external to the estate.			
1	Inkerman Road.	Road, bridge & intersection upgrades, pedestrian & cycle way works.	Physical works.
2	Bong Bong Road.	Upgrade.	Physical works.
3	Mary Street.	Upgrade.	Works or monetary.
4	Colo Street.	Upgrade.	Works or monetary.
5	Cycleways.	Pedestrian/cycleways .	Works or monetary.
6	Willowdale cycleway connection.	Pedestrian/cycleways.	Works or monetary.
Infrastructure internal to the estate.			
1	Community centre.	Community centre building.	Physical works.
2	Village Green.	Open space facilities.	Physical works.
3	Village Square.	Open space facilities.	Physical works.
4	Tangara Park.	Open space facilities.	Physical works.
5	Silos and The Paddock.	Heritage restoration & open space facilities.	Works or monetary.
6	Detention basin.	Stormwater infrastructure.	Physical works.
7	Floodway.	Stormwater infrastructure.	Physical works.
8	Water quality management.	Water quality infrastructure.	Physical works.
9	Cycleways.	Cycleways.	Physical works.
10	Bus stops .	Bus stops, as required.	Physical works.
11	Short-term landscape maintenance.	Maintenance for two years.	Physical works.

2.2 The Study participants.

The Study included 20 residents of Renwick by way of an interview, and invitation to a subsequent focus group (see Section 3). A summary of the demographic characteristics of the participants are included in Table 2.1. Those participants who also attended the Focus Group are marked with an * (two Focus Group attendees did not participate in the earlier interviews).

Table 2.1: The demographics of the Study participants.

	Age	Gender	Occupation	Level of education	Household characteristic #	Current health status ##
1 *	22-34	M	Hospitality	Tertiary degree	Children	Very good
2	22-34	F	Professional	Post-graduate		Average
3	35-44	F	Professional/ at home parent	Post-graduate	Children	Very good
4	35-44	M	Professional	Tertiary degree	Children	Very good
5 *	35-44	M	Trade	Yr. 12		Good
6 *	35-44	F	Professional	Tertiary degree	Children	Good
7 *	35-44	F	Hospitality	TAFE	Children	Very good
8 *	35-44	F	Professional	TAFE	Children	Poor
9	35-44	F	Professional	Post-graduate	Children	Very good
10	35-44	F	Professional	Tertiary degree	Children	Very good
11	45-54	F	Technical	Diploma	Children	Very good
12	45-54	M	Professional	Post-graduate	Couple	Good
13 *	55-64	F	Professional	Yr. 12	Couple	Good
14	55-64	F	Professional	Post-graduate	Children	Very good
15	55-64	M	Professional	Post-graduate	Couple	Very good
16	55-64	M	Professional	Yr. 10		Good
17	55-64	F	Retired/home duties	TAFE	Couple	Good
18	65+	F	Retired	Yr. 10	Couple	Good
19	65+	F	Retired (business owner)	Yr. 10	Single	Good
20 *	65+	M	Retired (manager)	TAFE	Couple	Good

Where known. Participants were not explicitly asked about the household in which they lived. The entries here are from advices and understandings obtained during the interview and/or focus group.

As advised by the participant, as either poor, average, good, or very good.

2.3 'Visibility' of the Project in Renwick.

Particular reference to both the *Planning and Building Healthy Communities* study and the adoption by Landcom of the Heart Foundation *Healthy by Design* guidelines in the design of the master plan

was included in a press release by UrbanGrowth NSW in March 2014 as part of the marketing of land in precincts within the estate then being released (Figure 2.5).¹³

During 2014 the Community Development Facilitator made new residents aware of the Study when meeting with them as part of the estate 'Welcome' program, and passed the names of those who indicated they would be willing to participate to the Study officers.

Figure 2.5: UrbanGrowth NSW press release (20 March 2014).

Healthy living study focusing on Renwick



The Heart Foundation's involvement in the shaping of the 600-lot development at Mittagong as a 'healthy community' has led to Renwick being selected as one of four UrbanGrowth NSW's (formerly Landcom) residential projects to be included in the UNSW research project. The other three projects are Victoria Park, Rouse Hill and Airs Bradbury - all in Sydney.

Launched under the UNSW's Healthy Built Environments Program (HBEP), the 'Planning and Building Healthy Communities' study aims to research how residential localities can make healthy, everyday living a reality, with the focus on physical activity and social cohesion.

University researchers will interview Renwick residents as part of the study in a bid to find out how built environments can help residents combat chronic health issues such as diabetes, depression, cancer and heart disease.

As part of the master planning process for Renwick prior to the first land release in 2011, Landcom incorporated principles of the Heart Foundation's 'Healthy by Design' guidelines to create opportunities for residents to be active and improve their health. 'Active Living' initiatives incorporated into the planning of Renwick included dedicated cycling and walking paths, a village centre, public transport, well-connected grid-pattern streets that encourage walking as opposed to 'spaghetti' roads and the dedication of one third of the site for open space, parks and playgrounds.

'Incorporating guidelines from the Heart Foundation in the planning of Renwick was part of a deliberate bid to inspire residents to be active and to create a healthy, functional and cohesive community in the Southern Highlands,' said the Head of Retail Development for UrbanGrowth NSW, Robert Sullivan.

'We are proud Renwick has been included in the UNSW's healthy living study which will help ensure other new communities also embrace the same principles,' Mr Sullivan said....

.... Renwick is a 600-lot residential development in the NSW Southern Highlands 130km from Sydney. The fully serviced development offers wide, tree-lined streets and underground gas and electric wires. When completed, it will feature a village centre and walking and cycling paths, with a third of the 115-hectare site retained as open space and parks.

¹³ Refer: <http://www.landcom.com.au/places/renwick-mittagong/news-events/news/HealthylivingstudyfocusingonRenwick.aspx>

3. THE RESEARCH PROCESS - methodology.

3.1 Introduction – the difficulties of measuring place-based health relationships, and the approach of this Study.¹⁴

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 collected a mix of varied qualitative and quantitative data, in the manner of a ‘triangulation’ – an approach whereby researchers ‘make use of multiple and different sources, methods, investigators, and theories to provide corroborating evidence.’¹⁵ To assist rigour the Study gave particular attention to the design of the data collection tools. 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.
- 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.

¹⁴ 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.

¹⁵ Refer: *Qualitative Inquiry and research Design: Choosing among Five Traditions* (3rd edition). J.W. Creswell. Sage Publications, California, 2013 (p. 251).

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.

3.2 Auditing the environment of Renwick.

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 (NSW Health) in 2012.¹⁶

In relation to Renwick:

- the extent of the physical audit was limited by the early stage of development of the estate.
- the only survey work undertaken by the community food assessment was of local farmers' markets. As such it could only be drawn on in a limited way in this Report.

(i) Auditing the physical environment.

The design of the neighbourhood audit.¹⁷

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

¹⁶ *Planning & Building Healthy Communities* project officers from HBEP were also involved in this survey.

¹⁷ 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*, Volume 168 Issue DP4, 2015 (pp. 174-184).

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 (3).

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.

Undertaking the neighbourhood audit in Renwick.

The conduct of the on-site audit in Renwick was different to that undertaken in the other Study Areas due to the minimal level of development in Renwick at the time. Only one visit was made, being on Tuesday 21 January 2013, between 10.30am – 1.30pm (3 hours).

School holidays were on at the time, and the weather was cool and overcast, with a light drizzle. There were no night-time or weekend visits undertaken.

(ii) The community food assessment.

The design of 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*.¹⁸

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.

¹⁸ Refer: *Victorian Healthy Food Basket Survey* (Palermo and Wilson, 2007), and the *Queensland Healthy Food Access Basket* (Queensland Health, 2002).

Detailed information on the design and results of the community food assessment are available in separately published papers.¹⁹

Undertaking the community food assessment in Renwick.

At the time of both the community food assessment and this Project there were no shops operating in Renwick. The community food assessment did not include a market basket survey of the supermarkets in Mittagong.

Two farmers' markets in the local area were included in the farmers' market survey: the Bowral community markets and the privately-run Biota market (also in Bowral). At the time of the survey the Mittagong Markets did not fit the criteria as a farmers' market and so was not included (since then the range of produce for sale has changed such that it would now fit the criteria).

3.2 Seeking the views and experiences of the residents of Renwick.

The Study sought the views and experiences of the residents of Renwick via:

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

(i) The interview.

The interview design.

The interviews comprised a structured set of questions with set answer choices plus various opportunities to include additional observations (Attachment (4)). 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 (Table 3.1). The questions were established in a collaborative process involving all Study officers and Project partners. To assist future comparative

¹⁹ 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.

²⁰ 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:

- 3rd October 2012, amended 29 May 2013 (re Airids Bradbury, New Rouse Hill and Victoria Park) (Ref. 125073).
- 29th May 2013 (re Renwick) (Ref. 135036).
- 11th June 2014 (re all four Study areas) (Ref. 145057).

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 2003-08.²¹
- 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).²²
- 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).²³
- the *NSW Adult Population Health Survey* conducted by the NSW Ministry of Health in 2011.²⁴

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.

Recruitment and conduct of the interviews.

A structured interview was conducted with 20 residents, either face-to-face or by telephone. The interviews were conducted between October 2013 and June 2014. Participants were given a \$20 gift voucher to recompense their time. Generally the interviews took between 25 and 40 minutes.

The initial recruitment process comprised a flyer distributed throughout the neighbourhood via letterbox drop. Interviewees were also asked at the time to nominate other residents they knew who might also like to participate in the Study, however there were no additional recruitments by this process.

Although the initial distribution of flyers yielded a number of participants, achievement of the targeted number of interviews subsequently relied on residents being advised of the Project by the Community Development Facilitator when being contacted as part of her role to 'welcome' new residents. A high proportion of residents contacted in this way agreed to their names being passed on to the Study officers who then subsequently contacted them to arrange a suitable time.

²¹ Refer: <http://www.sph.uwa.edu.au/research/cbeh/projects/reside>

²² Refer: <https://www.planning.org.au/viccontent/selandra-rise>

²³ Refer: https://cityfutures.be.unsw.edu.au/publications/?pub_type=Research+Reports&search=green+square

²⁴ Refer: <http://www.health.nsw.gov.au/surveys/adult/Pages/default.aspx>

Table 3.1: Schedule of interview question topics.

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

(ii) The focus group.

The focus group design.

The design of 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 Project 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 Project 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 notation

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 3.1) in four columns as each question was completed, 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 cards and from their knowledge of Renwick from the audits and the interviews. The discussion was electronically recorded with the permission of the participants. Discussion prompts included questions such as:

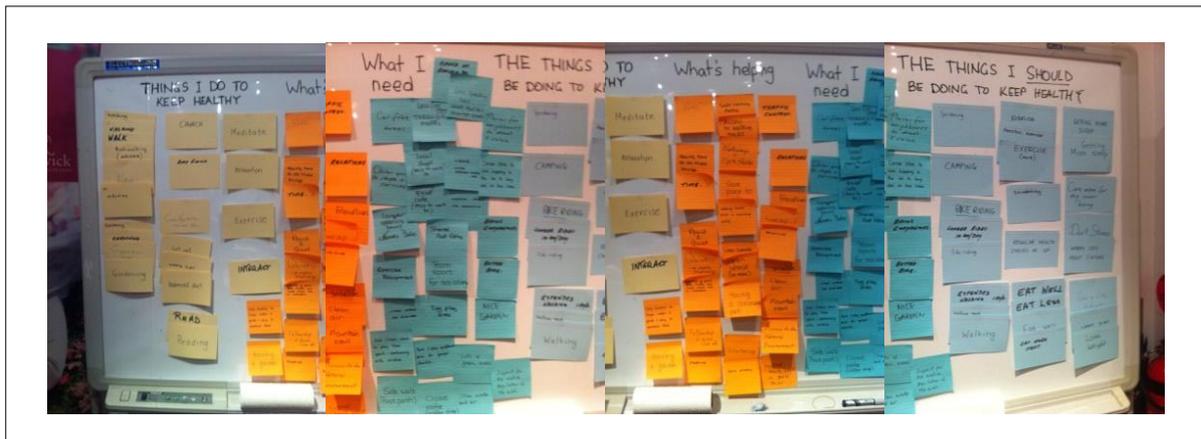
- *Are there any common features amongst the things that are ‘helping to keep us healthy’?*
- *Are there any common features amongst the things that ‘we need but do not have to keep healthy’?*
- *Do you have any suggestions for obtaining the things that ‘we need but do not have to keep healthy’?*
- *Can 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 Airds Bradbury to keep healthy?*

The completed cards provide a key word summary of participants’ health concerns, aspirations and experiences able to be transferred into an easy-to-read table (see Table 4.6) as part of the analysis. The transcript provided more detailed and in-depth information to assist.

Figure 3.1: The display of participants' completed comments cards at the Focus Group.



Recruitment and conduct of the focus group.

The focus group was held on Thursday 18th September 2014 at the Sales Office within Renwick itself (as the only conveniently located meeting area available). It started at 6.45 pm and finished at approximately 8.45 pm. The chosen day and time was made after an initial mail or email contact with prospective participants as to their preferences, given the Study officers were conscious that many residents had long commutes during the week. Refreshments were provided for dinner, and participants were given a \$50 gift voucher to recompense their time.

Prospective participants comprised those residents who had earlier undertaken the interview and had agreed at that time to be advised of the subsequent focus group. Interviewees were also asked at the time to nominate any other residents they thought may also like to attend.

There were nine participants, including two who had not earlier participated in an interview but were partners of those who had (and who also attended the focus group) and now expressed an interest. The participants did not demonstrate any hurry to leave once the formal part of the focus group was completed, and were happy to stay on and chat and wait for the Community Development Facilitator to arrive to close the meeting room.

3.4 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 – have 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 (Sections 4, 5 and 6) in this Report this rich picture is structured around:

- (i) the three domains and seven key actions relating to healthy built environments identified in the earlier review of literature (see Table 1.1).
- (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. The 34 questions are shown in Table 3.2. An explanation of the reasoning behind each question is included in the relevant component in Section 4.²⁵
- (iii) an ‘overview’ appraisal of the healthy built environment characteristics of Renwick and the needs and aspirations of the Study 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, without being 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 Renwick to the health of its residents to be similarly structured to permit comparison over time.

Two notes about the presentation of data.

(1) Comparisons of 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) (though sometimes a percentage is also given if it is considered to assist understanding).

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) Participant comments.

The reporting of findings includes comments made by participants in both the interviews and the focus group. Where necessary to give context for comments made in the focus group, the initial question or prompt made by the focus group facilitator is also given, and is written in *italics*.

²⁵ Refer: <https://cityfutures.be.unsw.edu.au/research/programs/city-wellbeing/>

Table 3.2: Keeping healthy in Renwick: the domains, actions and questions.

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

4. KEEPING HEALTHY IN RENWICK – our findings.

4.1 Physical activity – getting people 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.

Q.1. Do participants achieve the recommended number of hours of physical activity per week?

The Australian *Physical Activity & Sedentary Behaviour Guidelines* recommend that people aged 18 to 64 years achieve 2½ - 5 hours moderate physical activity or 1¼ - 2½ hours vigorous physical activity (or combination) each week.

Yes – 18 out of 20 participants (90%) achieved recommended hours of physical activity.

The Study participants were asked to estimate the number of hours per week they spent walking and cycling (for both transport and recreation) and undertaking other forms of moderate and vigorous physical exercise.

As shown in Table 4.1, 18 out of 20 participants (90%) achieve the recommended minimum number of hours.

This is a favourable finding. However there are also concerns:

- half of all participants who achieved the recommended minimum level of physical activity (9 participants) only achieved this through 'moderate' activity; and about half again of these only just reached the minimum.
- most 'moderate' exercise was via two activities only – walking for recreation and gardening.
- in practice this level of moderate activity may not achieve the cardio-vascular health objectives of undertaking exercise because the actual level of exertion combined with the total number of hours in any one activity 'session' may not be sufficient.
- further, it may be that the total amount of time spent gardening falls off in the future as current newly-establishing gardens become more mature and possibly needing less work.

Table 4.1: Time spent on physical activity (both for transport and recreation), and hindrances to additional activity.

	No. of hours spent on different activities.						TOTAL hrs: Moderate activity. Target: 2½ - 5 hrs / week # *	TOTAL hrs: Vigorous activity. Target: 1¼ - 2½ hrs/week *	Target achieved?	Type of recreation activity. moderate / vigorous	Participant comment on hindrances to more physical activity.
	'Active' transport.		Recreational activity.								
	Walking.	Cycling.	Walking.	Cycling.	Other moderate activity.	Other vigorous activity.					
1	0.6						2.6		✓	gardening	Destinations too far. Never felt safe cycling elsewhere, now too old to.
2			5		1.5		10.5		✓	gardening	Too far to carry shopping. Easier to drive with kids. No walkable local destinations (but would like some).
3			4	1.5	5		2	10	✓	heavy labour at work	Destinations too far. Laziness. Time. Easier to get in the car.
4			2			10	0.3		×		Lack of fitness (to cycle).
5			0.3				3	2	✓	gym	Prefer the car-more convenient. Time. Like to cycle for recreation, not practical for work/shopping.
6			3			2	3-4		✓	gardening/	Destinations too far. Lack of motivation (to walk more).
7			2-3		1		5		✓	home exercise	Destinations too far. not interested in cycling. Safety concerns when walking alone.
8			3		2		7		✓		Used to the car, good for multiple trips. Time, weather. No dedicated cycleway.
9			7				1	1.5	✓	swimming/	Destinations too far. Time. No cycleway to Bowral, and a big hill.
10			0.5		0.5	1.5	3-4	4	✓	tennis	Shops too far. I drive to work. Cycling unsafe (and I have a baby). Unsecured dogs makes walking difficult.
11			3-4			4	10-11	6	✓	Jogging	Destinations too far to walk.
12		3-4	1	1	5	6	3.5	3.6	✓	labouring in garden	Car too convenient. No regular bus. Too far to cycle. Time.
13			2		1.5	3.6	7-8		✓	gardening/	Will use public transport more in future-currently settling in.
14					7-8		8	5	✓	gym	Driving is the country way. No shops to walk to. Time. No cycleway connections. Don't understand public transport.
15			3	2	3	5	0.6		×		Destinations too far. Lack of cycling infrastructure-plan to when in place. Time.
16			0.6				7		✓		Destinations too far. Sometimes walk to Mittagong. Not a cyclist-feel unsafe.
17			7				4		✓	gardening	Don't need to-have a car. Waiting for cycleway-reason for moving here-was in the marketing.
18			2		2		3.5		✓	gardening	Walk to closest shops 40 minutes-too far. Too old for cycling.
19			2		1.5		2.6-4.6	4	✓	gardening/	Bike is a burden. Time (to walk, cycle). Children too young to put them on a bus-don't know where buses go to.
20			1	0.6	1-3	4	1.2	6	✓	gym	Destinations too far. Too much traffic to cycle. Time-setting up the house.
	1 (5%) walk for transport	1 (5%) cycle for transport	19 (95%) walk for recreation	5 (25%) cycle for recreation	12 (60%) engage in moderate recreation	9 (45%) engage in vigorous recreation	18 out of 20 (90%) achieve recommended hours of physical activity				

For the purposes of this Study total moderate activity comprises walking and cycling (as both transport and recreation) plus other moderate recreation activity.

* The 'targeted' number of hours is the amount of activity each week recommended for adults aged 18-64 years by *Australia's Physical Activity & Sedentary Behaviour Guidelines* (either all moderate or all vigorous, or in combination).

Actions (behaviours) to compensate for these characteristics will need to be established. This may be achieved in the future via longer recreational walks and via cycling for recreation as the estate develops and longer walking and cycling paths are constructed. However there are also potential inhibiting factors to this:

- (i) overall distances within the estate will still be relatively short, with the possibility that participants in walking and cycling will eventually become 'bored' by the sameness of the routes.
- (ii) there are substantial constraints on 'active' transport modes (see Table 4.2).
- (iii) most participants indicate they are not particularly interested in cycling (Table 4.1).
- (iv) there are also time constraints that hinder engagement in other physical activity (Table 4.1).

These issues are further discussed in the following sections.

Q.2. Do participants engage in active transport modes?

The relative number of trips by 'active transport' indicates levels of non-sedentary means of transport (such as by motor vehicle). It is also important to distinguish between types of 'active transport' as some are more conducive to physical activity than others – hence the subsequent questions about public transport, walking and cycling.

Only to a negligible extent.

Participants were asked to estimate their relative use of different transport modes for all trips taken in a usual week. The results are shown in Table 4.2:

- virtually all trips are undertaken by car. 15 out of 20 participants (75%) use the car for 100% of trips.
- only one participant undertook any significant proportion of trips by another means. In this case the participant worked locally and was able to cycle to work.
- only four participants (20%) used public transport or walked for any trips, and the proportion of trips undertaken by these means for each participant is very low (either 5% or 10% of trips). Further, comparison of this data with other advices by these participants suggests that these modes (public transport and walking) were all used as part of a larger trip undertaken by car, and did not constitute stand-alone trips.

As discussed under the following separate questions relating to walking, cycling and public transport:

- (i) the viability of all these modes as a means of transport is currently limited.
- (ii) the viability of walking and cycling and possibly use of the bus for local trips may improve as intended infrastructure is progressively established.
- (iii) potential mobility issues exist for:
 - adult residents if they are unable to use a car for transport due to age or other reason.
 - children who do not have the ability to drive to access facilities and wider social networks.

The responses also suggest an interesting dynamic in attitudes towards ‘active’ transport. On the one hand use of the car for travel is seen as the ‘normal’ way of getting about in a semi-rural/peri-urban area such as this given the distances generally involved, the ease of car use given a general lack of congestion, and the limited availability of public transport.

However, comment in the interview surveys and the focus group also suggests some desire to use active transport for more trips. In part this may be due to a desire to live a ‘more healthy’ lifestyle - consistent also with the overall design objectives and the marketing of the estate. In part it may also be due to a concern, by at least some participants, about future mobility should they be unable to use their car. Here reference can be made to the extended focus group conversation included under Q.3. *Is public transport viable (convenient, comfortable, safe and affordable)?*

Table 4.2: Relative mode of travel in a usual week.

Participant	Relative use of each travel mode (%)			
	Car	Public transport	Bicycle	Walking
1	100			
2	100			
3	100			
4	100			
5	100			
6	100			
7	90			10
8	100			
9	90			10
10	100			
11	30		70	
12	100			
13	100			
14	100			
15	100			
16	100			
17	100			
18	95	5		
19	100			
20	95	5		
Total trips using this mode (%) *	95 %	0.5 %	3.5 %	1 %
Participants using this mode (%) #	20 (100%)	2 (10%)	1 (5%)	2 (10%)

* Percentage of total number of trips undertaken by all participants via this mode of transport.

Percentage of participants who use this mode of transport for at least some trips (total across the Table exceeds 100 because some participants use multiple modes).

Comment by interview participants about their means of travel.

- No real need to do so [use 'active' transport].
- Prefer the car – it's more convenient/ too convenient (2 entries)
- Just used to the car – use it for multiple destinations with the one trip.
- If there was a local shop, would walk to it but everything around is too far to walk to, and drives a car to work.
- Driving is more the mode in the country – don't really get public transport. No shops for them to walk to yet.
- Don't need to – have a car. But has chosen to live here so when she's older she'll be able to walk to transport.

Q.3. Do participants use public transport?

The relative number of public transport trips indicates levels of active rather than sedentary means of transport. Public transport is regarded as active transport because it generally involves a greater degree of walking than car use.

Only to a negligible extent.

As indicated in Table 4.2 there is almost no use of public transport.

Only 2 out of 20 participants (10%) indicated they use public transport, and in each case it was for only 5% of their trips, resulting in only 0.5% of the total number of trips undertaken by all participants being made by public transport.

Q.4. Is public transport viable (convenient, comfortable, safe and affordable)?

Satisfactory access to public transport can encourage usage, and other associated active travel modes (often also provided there are accommodating facilities such as bus shelters and bicycle racks). In addition, public transport can facilitate access to destinations further afield than can be achieved by walking or cycling.

No. Viability may increase *a little* in the future.

Responses regarding the viability of public transport as a mode of travel are quite variable:

- participants are evenly divided as to whether the ability to catch public transport is important to being healthy, with eight out of 20 participants (40%) regarding it as important and another eight (40%) regarding it as unimportant (with four participants (20%) neutral).
- there is a general satisfaction with the level of access to public transport, with:

- eight participants (40%) satisfied (though only two (10%) were 'strongly' satisfied).
- only four participants (20%) dissatisfied.
- and seven participants (35%) neutral (neither 'satisfied' or 'dissatisfied').
- However, as indicated in Q. 2. *Do people use public transport?* almost no trips are made by public transport.

It is concluded that this variability could be explained by a general acceptance that in a peri-urban location such as Renwick/Mittagong with low population densities and longer distances to employment and other services public transport is only ever likely to be viable for a restricted range of trips. Some comment about the viability of public transport was made in the interviews and was subject to detailed discussion at the focus group (see boxed text). The following comment from the focus group provides a good summation of the conclusions:

So is there a way of getting a viable bus service into Mittagong and Bowral that would make you use it as opposed to taking the car?

No.

Not at the moment.

No. If it's once an hour, yes.

There are two modes of public transport available to Renwick residents: the train service from Mittagong, and a local bus service.

By train it takes just over an hour to travel to Campbelltown, and between 2.5 and 2.6 hours to travel between Mittagong and central Sydney. Although this is probably not dissimilar to the trip by car, it will be longer from destinations further afield and the frequency is between one train per hour and one per 1 hour and 20 minutes during the week, and sometimes two-hourly at weekends. A change of train is required to travel to Liverpool.

The bus service to Mittagong (and surrounding localities, though Mittagong and Bowral would be the main desired destinations) is the source of some confusion, including in relation to:

- timetabling. The focus group discussion indicated different understandings about the frequency of the service; and some understandings differed to the actual timetable (on the bus company website).
- routing. Whether it was a one-way loop that only stopped in Renwick on one leg (and on the highway on the return leg).
- lack of formal bus stops. The bus stopped wherever someone flagged it down, contributing to a lack of clarity about the service generally (though in itself indicative of a very 'personalised' service).

A separate more networked service operates for school children and there is some suggestion, though still not clear, that others can also use this service.

It is understood that the inclusion of Renwick within the local bus route is as a result of negotiation with Landcom. The *Renwick Planning Agreement* also includes:

- the installation of bus stops as required but not further defined. To assist the viability of bus travel they should include shelter, seating, lighting and timetable advice.
- advice that the local bus company has indicated that it will accommodate the new bus stops in their future route planning.

The inclusion of public transport as 'active' transport and thus able to assist the health of users is because although not in itself involving physical activity it is often the case that a public transport trip includes a walking or cycling component. Although this characteristic would be applicable to residents of Renwick if they used the local bus service, it is less likely for travel by train. As commented at the focus group, after a long train journey from Sydney the desire is to then get home as quickly as possible, particularly in winter. Further, when travelling to the train station at Mittagong one does not want to risk missing the train given it would then involve a wait of over an hour for the next service. As such, the propensity for train users to travel to the station by car will remain high (unless a connecting bus service becomes viable).

The current reliance by residents on their private motor vehicle is likely to present difficulties if they are no longer able to drive due to age or illness, and the community at large will need to consider the provision of alternative transport modes.

The following extended extract from the focus group conversation is included because it gives a good illustration of the variable nature of the feelings of participants towards the viability of public transport.

Comment by interview participants about public transport:

- Public transport would take 10-15 minutes to get to.
- Train station is too far away.
- Buses don't run on a regular basis – only 2 a day.
- No – plans to use public transport more in the future.
- Driving is more the mode in the country – don't really get public transport.
- Don't know where the buses go.

Focus Group discussion on public transport.

So is there a general public bus service?

Yes service right through here - Renwick Drive.

How frequent is that?

Hourly.

Which is quite good.

Is that satisfactory?

I don't use it too much...

I feel we must use it.

Why don't you use it?

Well I don't even know there's a bus stop designated in this area.

No there's not you stand and you wave them down.

Yeah and he stops.

What's his route? I don't even know the route.

He doesn't come back - he only goes in. Does it come back the other way?

I've only seen him going that way.

He only goes that way and then he does the highway.

Then you get left off at the highway.

Yeah he goes - return the same route.

So he just goes in a circle one direction.

Yeah I think so.

So if you were coming from Mittagong...

He leaves you on the highway.

Is it direct or do you have to go all over the countryside before you can...

Some go fairly direct to destinations and some as you say go all by the countryside and you can take half an hour or more to get to somewhere where in the car you take 10 minutes.

Yes.

That's the same on the school bus.

I know it's got workers on it.

Also they have other people in there too. They don't have just students because I remember seeing other people before.

So again coming back to the question, why haven't any of you used that bus?

It's not - well I don't know how well publicised it is.

It's not.

You need to know one, when does it run, where do you pick it up and where does it go and none of that is really - there's no sign or you've got to check.

No bus stop.

My grandchildren get dropped off in front of our house and I just go over the other side of the road and stand there and wait for him to come. That was done because we contacted them and asked them if they would come up Renwick Drive and they said yes. He just drops them off there and I think he drops another little girl off further up the street and then he turns around and goes back.

There's no bus stop?

It just stops wherever.

I just stand out the front - I stand on the other side of the road and he stops there.

It's the same with the rail service - but then it's I guess it's a freight line so City Rail had to squeeze in but the service is very few and far between. You know when it's running but if you miss it then you've got a long way.

I think that's once an hour as well as isn't it.

At best.

Except in the afternoon.

I suppose the advantage of having a bus stop on Renwick Drive is there'll be the shelter for the weather and a seat to sit on for elderly people if they've got to wait that 20 minutes or whatever for the bus at least they can sit in a spot and not be standing beside the road.

So is there a way of getting a viable bus service into Mittagong and Bowral that would make you use it as opposed to taking the car?

No.

Not at the moment.

No. If it's once an hour yes.

Well I've not seen the bus go through once an hour.

No it doesn't.

I'm in Renwick Drive and I've seen it go through but he certainly doesn't - I've not seen it go through once an hour particularly when I was working out the front on the garden.

I've never seen him go through once an hour so I don't know what that bus is but it certainly goes through round about 10 o'clock but that's the only time I've ever seen him go through. So I don't know whether there's any more and I've missed them.

There's more but...

My kids catch the bus to school and home and it's a 50 minute run just to get into Bowral and they actually have to swap buses too so it's not just one bus. So by the time they've done that five days on the weekend they're not going to stand and wait for buses. No it's easier just for mum to drive them into town - it's quicker.

Maybe if there was more frequent the kids would use it?

Yeah probably. Bit more independence for them.

Then the buses finish early as well. I think six o'clock or something.

I don't think there's the number of people that would use the service.

Not yet no.

I think as we get older and probably can't drive then there'll be a change. Well I do know of some people who don't drive and are using the bus but I keep saying I'll use it just to encourage them that we need it.

So apart from the frequency what else would you need?

Well the frequency but not only that it doesn't always go on a direct route and you can go all around the countryside and it takes so long.

There's also the fact that there is no physical bus shelter?

Well no that doesn't worry me but I think it's never advertised what the times are or how often or where they're going. As I say you've got to look it up on the internet and not everyone bothers to do that. I think if the bus company made the effort to advertise a bit better.

Now that can change of course when we have more people in here.

Yeah.

Yep and if they use smaller buses and they take a direct route and they could make it more viable and more frequent.

To the marketplace and that.

And the RSL Club and back, and have some drinks.

It would be good if there was an express bus once and a while, into the main centres.

So it's not like an all stations. It doesn't have to run every hour but if you knew it was there and knew where to catch it you'll say I'm going to get there and get to where I need to get to.

Also coming out of the interviews is that a number of people have moved here see it as a good place to retire – to live out their old age. If you're all so dependent on a car I'm wondering how people are perhaps working out in their heads how they will get around when they can't use a car.

I didn't even think about it - didn't even think about that.

No.

It wasn't part of the process you know. Mine was coming from Bowral, and downsizing and that was really the whole driver.

It is a concern if more and more older people move into the area and they can't drive anymore they're going to have to have some services - better services.

Taxis are not that great. The main taxi rank is in the middle of Bowral. There's nothing at this end.

Q.5. Do participants walk as a means of transport?

The relative number of trips by walking or cycling indicates levels of active rather than sedentary means of transport. Emphasis tends to be on walking, but similar health benefits arise if people cycle for otherwise walkable trips.

No.

As indicated in Table 4.2, only 1% of all trips made by participants are undertaken by walking. Further, these trips were made by two participants (10%) only, and then comprised only 10% of their total number of trips. Viewing these figures in conjunction with other advice by these participants also suggests that these walking trips were a component of a larger trip undertaken by car, and did not constitute stand-alone trips.

Comment by interview participants regarding barriers to walking for transport:

- Distance to destinations (10 entries)
- Do lots of shopping etc. in Sydney, Bowral and Mittagong. Too far to walk.
- Too far to carry the shopping. It's easier to drive with kids.
- No local shop or café that's walkable. Would be nice to be able to walk to a local shop or café.
- Walk to the closest shops is 40 minutes – too far.
- No shops to walk to, and everything else is too far away.
- Not required – if there was a local shop, would walk to it but everything around is too far to walk to, and drives a car to work.
- It's easier to drive with kids.

Q.6. Is walking viable for 'active transport' (convenient, comfortable, safe)?

The grouping, layout and travel distance between land uses, particularly destinations accessed daily influence the quantity and quality of walking, and therefore propensity to walk.

Not at present. Viability may increase in the future.

There are a number of reasons why walking is not currently viable as a means of transport:

- there are no current destinations within reasonable walking distance, including within the estate itself.
- the convenience, comfort and safety of walking to destinations further away, such as Mittagong township and the recreation area, is low, enticing car use instead.
- a perception that in rural areas the car is the 'natural' or default mode of transport.

That said, it may be possible as the estate develops to change this pattern and thus increase levels of utilitarian physical activity through increased walking:

- (i) there is a realization of the beneficial connection between walking and individual health. In the interviews 19 out of 20 participants (95%) indicated they felt walking was important to keeping healthy (with 15 participants (75%) citing it as ‘very important’, and the remaining participant being neutral).
- (ii) a similar proportion (19 out of 20, or 95%) of participants do already walk as part of their weekly routine –for recreation rather than ‘travel’.
- (iii) participants indicated a desire for early establishment of a neighbourhood focus for convenience shopping and to socialise. These comments also tended to suggest they would access this future centre by walking.
- (iv) as indicated in the Audit the quality of the walking infrastructure in Renwick (as constructed) is high. This situation is likely to continue as the rest of the estate is developed.
- (v) participants express high levels of satisfaction (19 out of 20 (95%), with one participant neutral) in respect to ‘how easy and pleasant it is to walk in the neighbourhood’, and in respect to feelings of safety in local streets (with no negative feelings expressed).
- (vi) the Voluntary Planning Agreement includes an upgrade in the quality and directness of walking routes to facilities in Mittagong.

In relation to (vi) above, the actual design of these works needs to be carefully considered given these destinations may still psychologically, at least for a time, be beyond the ‘walking horizon’; with the temptation to default to using the car remaining. Further, future stages of the estate development are further away from these Mittagong-based destinations than it is for current residents (and who comprised the Project participants).

Q.7. Do participants cycle as a means of transport?

Relative number of trips by cycling indicates levels of active rather than sedentary means of transport.
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No.

As indicated in Table 4.2, only one participant (5%) cycled as a means of transport. That participant worked locally and as such cycling was viable, as well as being a distinct personal choice (he also cycled for recreation).

Interview comment about barriers to cycling for transport:

- Never lived anywhere where felt safe enough to cycle, so never took it up. Now feel too old.
- Age.
- Laziness!
- Fitness.
- Don't have a bike, but would like to get one for recreation.
- Not interested (2 entries).
- Don't have time.
- Preoccupied with the move and building the garden, but plan to in the future.
- Not something to do for utility in the country.
- Bike is a burden.
- Too far to destinations – in the country everything is too spaced out (4 entries).
- Wouldn't ride for transport – work is too far, and wouldn't be able to carry a load on a bike from the shops.
- Would have to go up a massive hill.
- There are no bike paths between Mittagong and Bowral.
- Poor access to cycle ways in the region – safety concern having to cross a Hume Highway to get to the cycle way that leads to Mittagong. Lack of infrastructure.
- Lack of cycling infrastructure at present – when it's more developed, plan to get a bike.
- Too unsafe – not a cycling person.
- Not confident riding amongst traffic – would only ride on separated bike lanes.
- Amount of traffic on the main road.

Q.8. Is cycling viable for 'active transport' (convenient, comfortable, safe)?

The grouping, layout and travel distance between land uses, particularly destinations accessed daily influence the quantity and quality of cycling, and therefore the propensity to cycle.

Not at present. Viability may increase in the future.

Participants were asked to rate 'how easy and pleasant it is to bicycle in your neighbourhood' whether for transport or recreation. The satisfaction ratings are reasonably high: 13 out of 20 participants (65%) indicated they were satisfied (with seven participants (35%) 'strongly' satisfied and six participants (30%) 'somewhat' satisfied). Four participants (20%) were neutral, representative that a fairly high proportion of participants either did not cycle or were not confident with cycling.

There are though a number of reasons why this level of satisfaction does not translate into the use of cycling as a means of transport:

- distance is cited as a deterrent for some.
- a more commonly cited barrier is the absence of cycling routes to main destinations that participants feel are safe to use, given concerns about traffic.

- the reduced ability, compared with taking the car, to carry shopping loads.
- a general unfamiliarity with using the bicycle as a means of transport.
- a perception that in rural areas the car is the 'natural' or default mode of transport.

Overall, and as different to cycling for recreation, although there are good cycling facilities within the estate itself, there are as yet no actual destinations within the estate and so cycling for transport must necessarily then also utilise surrounding streets where facilities for cycling are minimal and the road configuration, with narrow and cambered carriageways with poor edges, often actually unsafe for cycle use.

The Audit found that in terms of infrastructure for cycling:

- the quality of the infrastructure as provided at the time within the estate itself was good.
- there is a lack of infrastructure to support cycling generally within the wider region.

However, there are also some features that suggest that even though the initial design intention may have been to facilitate cycling (and walking), there has been a lack of application to the carry-through of this intention. Since the time of the Audit, it is apparent that some of the intersection designs are primarily orientated to facilitate easy of vehicle turning movements, by including sweeping kerb lines. This in turn has resulted in a less direct routing of the associated pedestrian and cycle paths with deviations into the secondary street and, more critically for cyclists, a need for sharp right-angle turns on the pathway itself.

The other important deficiency results from a major difference between the master plan and the actual land ownership of the estate development land. The initial master plan included a joint pedestrian and cycle path running diagonally south-west to the junction of Bong Bong Road and Mary Street that would assist reasonably direct access into Mittagong. However this is shown as traversing privately-owned that has not been incorporated into the estate. In response, there are two alternative routes:

- (i) One is via a newly-constructed cycle path along Renwick Drive and over the new bridge across the railway line to connect with the Old Hume Highway. However the efficacy of this route is very deficient in that there is no continuation of the route across the Highway to the existing cycle path that runs along the golf course because of the intervening main railway line which runs here in a cutting. This means that cyclists must use the Highway itself but which participants cite as too unsafe for them to use.
- (ii) The other route is to Mary Street via a new pedestrian and cycle path from Bold Street in the estate and across the creek-line here via a new bridge. However, Mary Street itself is narrow and its configuration is not well-suited for joint vehicle and cycle use. Further, the linking pathway has been constructed with, seemingly unnecessary, awkward right-angle bends, and at the time of this Report the junction with Mary Street was gated which would require cyclists to dismount to get around.

That said, it may be possible as the estate develops to increase levels of utilitarian physical activity through increased cycling:

- (i) there is some realization of the beneficial connection between cycling and individual health (though not as much as for walking). In the interviews 11 out of 20 participants (55%) indicated they felt that being able to cycle around the local area was important to keeping healthy. A further five participants (25%) were neutral. Combined this means that perhaps 16 out of 20 participants (85%) may consider cycling for transport.
- (ii) in addition to the provision of additional separated cycle routes within the estate itself a wider network of routes is proposed in the larger Council-wide Bicycle Strategy and will give access to the Mittagong township and recreation area.

It would seem prudent to review the new cycle routes in the immediate area proposed in the Bicycle Strategy (which was adopted in 2008 prior to residents moving in to Renwick) to ensure that the actual routes proposed and the design of the paths themselves and crossings on main roads address the safety and comfort concerns expressed in this Study. Particular attention should be given to the route along the Old Hume Highway given it was subject to specific concern, as evidenced in this discussion in the Focus Group, and to the immediate connecting linkages from the Renwick estate to these wider cycling routes.

Comment in the Focus Group on cycling safety:

Are there any places to ride that are safe, convenient?

Around here it's good.

Around here it is, but once you get away from here - once you go up on to Bong Bong Road there's nowhere safe to ride because if there's...

Or walk.

...two vehicles pass one another it pushes you off the road. Go out here onto the highway you're likely to get blown off the road by trucks going by. ... There have been accidents there.

Q.9. Do participants use stairs?

Using the stairs rather than a lift or escalator provides an opportunity for incidental physical activity.

No – buildings are predominantly single storey.

Residents were not asked about their use of stairs and so there is no data to answer this question.

That said, most dwellings in Renwick are single storey (as encouraged by the Development Control Plan provisions) and as such there is no opportunity to gain incidental physical activity by this means. Future development of the medium density housing and the neighbourhood centre components of the estate will likely include a greater number of double-storey buildings given the smaller allotment sizes and so use of internal stairs in these buildings will be obligatory.

Q.10. Is use of stairs viable?

The visibility of, and ease of accessibility, convenience and comfort of stairs increases the propensity to use them.

Not applicable.

Most dwellings in Renwick are single storey and so do not include internal stairs.

Where future development includes stair access to a second storey, then use of stairs will be obligatory regardless of the building design (given the small scale of development is not consistent with the provision of lift access).

Q.11. Do participants walk for recreational physical activity?

Recreation walking (either leisurely or vigorously) is a good way to achieve required minimum hours of physical activity to maintain health.

Yes – nearly all participants walk for recreation.

Nearly all participants (19 out of 20, or 95%) indicate they walk for recreation (Table 4.1) and 13 participants (65%) indicate they walk between three to six times a week. This is consistent with:

- 19 out of 20 participants also identifying ‘being able to walk around your local area’ as being important to their health (with 15 participants (75%) rating it as ‘very important’, four (20%) as ‘important’, and one participant indicating they were ‘neutral’).
- discussion in Section 4.3 (Social interaction) relating to the propensity for participants to combine walking around the streets with social interaction with fellow residents.

Time spent walking for recreation is quite variable, with only eight out of 20 participants (40%) achieving the minimum recommended levels of moderate physical activity through this activity alone. Most walks (76%) are undertaken around the streets of Renwick. The remainder are undertaken in bushland or on other walking trails.

Currently, the opportunities to walk within Renwick are limited to the streets within the relatively small part of the estate already developed. Opportunities will increase as the estate expands and as walking paths are developed within the open space areas. The latter will also mean a greater variety of routes thus hopefully increasing walking participation in terms of both time and distance. This is likely given there is a well-established pattern of walking around the neighbourhood as it exists at present.

The eventual development of the village centre, thus generating a particular destination, should also increase the propensity to walk for recreation, as well as for transport. This possibility is supported by a desire, expressed by participants themselves, for:

- (i) a local shop selling convenience goods, thus negating the current necessity to use the car to purchase such items, and
- (ii) a café or the like as a further meeting place for social interaction.

* The Study did not distinguish between moderate and vigorous walking. All walking is classed as moderate physical activity.

Q. 12. Is walking viable for recreational physical activity (convenient, comfortable & safe)?

The provision of comfortable, safe, convenient and attractive routes can encourage the propensity to walk (either leisurely or vigorously) for recreational physical activity.

Yes.

Participants were asked to rate ‘how easy and pleasant it is to walk in your neighbourhood’ (whether for recreation or transport). The satisfaction ratings are very high: 13 out of 20 participants (65%) were ‘strongly’ satisfied and six participants (30%) ‘somewhat’ satisfied (with one participant ‘neutral’). This would be expected given:

- the area is new, with the provision of footpaths and cycle paths an integral part of the development.
- as the Audit identified, the overall quality of walking infrastructure is high.
- distances are short or moderate.
- participants generally feel safe in the area and, as also noted in Section 4.3 (Social interaction), many residents see a walk around the neighbourhood as an opportunity for social interaction and to ‘check out’ the latest developments.

The viability of walking for recreation should increase further as the estate develops. This should also address the more physical ‘barriers’ to walking for recreation identified in the interviews (see boxed text) by increasing the number of destinations and, as the number of people in the area increases, improving perceptions of safety as a result of increased informal surveillance.

Interview comment about barriers to walking for recreation.

- Not having a park directly accessible – need a destination.
- Time (11 entries)
- Lack of motivation
- If by herself, would only walk in public areas – concerned about safety.
- Unsecured/roaming dogs in some parts of the neighbourhood – because people are still moving in and don’t have fences yet.
- Only wants to walk in daylight
- Weather

Discussion in the focus group also pointed to a desire for a more viable walking route between the estate and Mittagong itself:

There should be also be a better way of walking there, like you can cut across the back but there's nothing really, there are no footpaths.

No.

There are here....

Yes, but when you go out of here there's nothing.

I'm sure that if there was a nice walkway like say cut across here into Mary Street that people will go to a coffee shop or something - walk in the afternoon, have a nice coffee or whatever and walk back.

That's right.

Yes that's right.

I'm sure that a lot of people would do that but there's nothing that's flat.

Well you can't sort of walk direct. Even if you go up to the highway like you were saying you don't really have a path to get to the other side.

The initial master plan for the estate included a joint pedestrian and cycle path running diagonally south-west to the junction of Bong Bong Road and Mary Street that would assist reasonably direct access into Mittagong. However this included land that is privately-owned and has not actually been incorporated into the estate. Alternative potential routes are unfortunately longer and may not prove attractive. A new pathway connecting to Mary Street from Bold Street near to Connolly Close has been constructed since the time of the Audit and focus group, but there is then no formed footpath along Mary Street itself. The negotiation of a right-of-way to Bong Bong Road through the Tangara Schools, as an extension of Bold Street may be slightly more convenient.

Although the Audit concluded that the quality of the walking infrastructure within the estate itself was high it did also note that overall the estate appeared to have been designed predominantly to accommodate the car. In particular:

- there are no traffic calming elements, with the exception of two roundabouts on the main Renwick Drive which may result in slowing vehicle speeds.
- while good footpaths are provided on all streets they are not always provided on both sides of the road (and contrary to the Heart Foundation *Healthy By Design* guidelines).

Further, and since the time of the Audit, it is apparent some of the intersection designs are primarily orientated to facilitate easy of vehicle turning movements, by including sweeping kerb lines. This in turn has resulted in a less direct routing of the associated pedestrian and cycle paths with deviations into the secondary street.

These matters of traffic speed and the lack of foot paths on both sides of some streets were also mentioned by participants in the focus group.

The issue of traffic speeds was raised as part of a broader discussion about recreation facilities (see Q. 15). Concern was raised about the compatibility of streets being used by children to play in and walk along (consistent with the quiet, rural objectives of the estate) and the use of estate by through traffic:

Well we've got in our street we've got a family with three boys - young boys and they use skateboards in the street. Over in Cupitt Street we've got some traffic coming through there fairly fast and the other day it was very dicey there with one of the boys nearly copped a car coming through.

That's something we notice here is speeding.

Yes.

If it's going to be a family area and all that you don't want people just going past like 70 or 80 kilometres an hour.

They don't recognise the disaster because the people from east Bowral use this way to get out on the highway.

They cut through the back way up Old South Road and cut through. They'll come through here and they'll be doing 70, easily 70 kilometres an hour. There's no way I'd let the grandkids walk across from that side of the road of an afternoon to this side of the road. I'll go across and get them and bring them across and they're nine years old so they understand how to cross the road but the traffic just seems to come out of nowhere. There was talk about putting traffic calmers...

That's going to be an issue as more and more people come in.

Especially if there's going to be a park across the road for children. Because a lot of people will come here as well because there's not really much for children in the Highlands.

Traffic speeds in Renwick Drive will to an extent be reduced by the presence of two roundabouts, though these are quite widely-spaced. As the Audit also notes, the inclusion of roundabouts is not particularly favoured in the Heart Foundation *Healthy By Design* guidelines given they can hinder pedestrian and cycling movements. The guidelines do however note that where roundabouts are used as a way to slow vehicles they should include marked pedestrian crossing points. In this regard it is noted that the existing roundabouts in Renwick are also located at cycleway crossing points. The designs do include designated crossing locations and as such can be considered to be a reasonable solution to the joint design issues of ameliorating traffic speeds while also catering for pedestrians and cyclists. The indicative design of the neighbourhood centre also includes traffic calming measures on Renwick Drive where adjacent to the proposed village green, and allowing kerb-side car parking here will also generate some 'friction' that should also assist in slowing vehicle speeds. This will be particularly important in this location given the intended community focus of this area and inter-connection between the facilities in the neighbourhood centre and those in the village green. Attention needs to be given to ensure these traffic measures are undertaken.

The focus group participants also questioned why in some streets footpaths were provided on only one side of the road:

I was just wondering why do they have footpaths or sidewalks on the one side of the road and not on the other side of the road?

I don't know.

It's cheaper.

Maybe it's the big expense involved.

Yep, they're very expensive.

Is having footpaths on one side of the road and not the other a problem?

Yes I think so. I would like to walk on this side rather than on that side and also there are small children on this side so they always have to cross the road if they want to ride their tricycles. I see they live on the corner and it's always very dangerous there.

The reason for this has been canvassed in an earlier review of the design of Renwick (which included interviews with various people involved in the project).²⁶ It was advised the reason was principally financial – that footpaths are expensive to provide in developments with low densities and allotments with wide frontages. A further reason was a desire, in some precincts, to retain a more semi-rural appearance. Although this aspect of the design is contrary to the Heart Foundation *Healthy By Design* guidelines, it is consistent with the similar NSW Health *Healthy Urban Development Checklist* which although including a primary aim of providing footpaths on both sides of the street, also notes that this may not be appropriate in some locations including semi-rural areas – and which would seem appropriate to apply here in Renwick.²⁷

A further point raised in the Focus Group is also worth mentioning here. The street layout adopts the *Healthy By Design* guideline that they be more rectilinear than curved, to assist the directness and legibility of walking routes. Although not directly related to this objective, favourable comment about the road layout was made at the Focus Group in terms of the general ‘open’ feel that has resulted – and which participants also attribute, in part, to the general success of the estate in making them feel connected with the rural-ness of the area and with wider nature (and which in turn figures prominently in advices given in the Focus Group about the things that are ‘helping me to keep healthy’ - see Table 4.6):

The other thing too is that they've done the roads in a parallel way like squares and not too many curves because that creates that feeling of concentration.

What does - the curves?

Yeah too many curves. Too many cul-de-sacs.

Yes, it makes a difference.

Makes it feel more closed in?

Yeah just feels like, and also having the footpaths along quite good sized medium strips. I guess it's all even all the way round.

Gives us symmetry.

Yeah because it gives a sense of openness instead of being closed in.

Q.13. Do participants cycle for recreational physical activity?

Recreation cycling (either leisurely or vigorously) is a good way to achieve required minimum hours of physical activity to maintain health.

Five out of 20 participants (25%) cycle for recreation.

Five participants (25%) indicate they cycle for recreation (Table 4.1). This also includes the single participant who cycles for transport.

The time spent cycling for recreation is quite variable. If the cycling is conducted on the basis of achieving a ‘moderate’ level of physical activity no participants achieve the recommended minimum

²⁶ Kylie O’Brien-Pratt (2008): *Creating supportive environments for health: a case study of the Renwick project*. (Unpublished undergraduate thesis, Bachelor of Planning, University of New South Wales).

²⁷ NSW Health *Healthy Urban development Checklist* (Code PA2.9, p.60).

hours per week. If conducted on the basis of achieving a 'vigorous' level of activity, two participants achieve the minimum recommended hours per week.

The Study did not distinguish between moderate and vigorous cycling. All cycling is classed as moderate physical activity.

Q.14. Is cycling viable for recreational physical activity (convenient, comfortable & safe)?

The provision of comfortable, safe, convenient and attractive routes can encourage the propensity to cycle (either leisurely or actively) for recreational physical activity.

Yes, though limited. Viability is likely to improve.

Participants were asked to rate 'how easy and pleasant it is to bicycle in your neighbourhood' (whether for recreation or transport). The satisfaction ratings are reasonably high: 13 out of 20 participants (65%) indicated they were satisfied (with seven participants (35%) 'strongly' satisfied and six (30%) 'somewhat' satisfied). Four participants (20%) were 'neutral', representative that a fairly high proportion of participants either did not cycle or were not confident with cycling.

The Audit found that in terms of infrastructure for cycling:

- the quality of the infrastructure, as provided at the time, was good.
- while overall provision is currently insufficient due to the stage of the development, cycling for recreation within the estate should be well supported in the future.
- however, there is a lack of infrastructure to support cycling generally within the wider region.

However, there are also some features that suggest that even though the initial design intention may have been to facilitate cycling (and walking) for both recreation and transport, there has been a lack of application to the carry-through of this intention. Since the time of the Audit, it is apparent that some of the intersection designs are primarily orientated to facilitate easy of vehicle turning movements, by including sweeping kerb lines. This in turn has resulted in a less direct routing of the associated pedestrian and cycle paths with deviations into the secondary street and, more critically for cyclists, a need for sharp right-angle turns on the pathway itself.

The other important deficiency results from a major difference between the master plan and the actual land ownership of the estate development land. The initial master plan included a joint pedestrian and cycle path running diagonally south-west to the junction of Bong Bong Road and Mary Street that would assist reasonably direct access into Mittagong. However this is shown as traversing privately-owned that has not been incorporated into the estate. In response, there are two alternative routes:

- (i) One is via a newly-constructed cycle path along Renwick Drive and over the new bridge across the railway line to connect with the Old Hume Highway. However the efficacy of

this route is very deficient in that there is no continuation of the route across the Highway to the existing cycle path that runs along the golf course because of the intervening main railway line which runs here in a cutting. This means that cyclists must use the Highway itself but which participants cite as too unsafe for them to use.

- (ii) The other route is to Mary Street via a new pedestrian and cycle path from Bold Street in the estate and across the creek-line here via a new bridge. However, Mary Street itself is narrow and its configuration is not well-suited for joint vehicle and cycle use. Further, the linking pathway has been constructed with, seemingly unnecessary, awkward right-angle bends, and at the time of this Report the junction with Mary Street was gated which would require cyclists to dismount to get around.

More positively, a wider network of locality-wide cycling routes is proposed in the larger Council-wide Bicycle Strategy. These are intended to give access to the Mittagong township and recreation area. These works should eventually support a wider engagement in cycling for recreation particularly given that a number of participants did indicate an interest in cycling in the future as personal circumstance (more time, age of family, gaining confidence) changed and in particular if the overall cycling infrastructure improved in terms of length, connectivity and safety (of routes outside the estate).

It would seem prudent to review the new cycle routes in the immediate area proposed in the Bicycle Strategy (which was adopted in 2008 prior to residents moving in to Renwick) to ensure that the actual routes proposed and the design of the paths themselves and crossings on main roads address the safety and comfort concerns expressed in this Study. Particular attention should be given to the route along the Old Hume Highway given it was subject to specific concern, as evidenced in this discussion in the Focus Group, and to the immediate connecting linkages from the Renwick estate to these wider cycling routes:

Are there any places to ride that are safe, convenient?

Around here it's good.

Around here it is, but once you get away from here - once you go up on to Bong Bong Road there's nowhere safe to ride because if there's...

Or walk.

...two vehicles pass one another it pushes you off the road. Go out here onto the highway you're likely to get blown off the road by trucks going by. So you're really confined to just going around and around in a circle which gets a little boring after a little you know.

With me with having younger children too yeah they'll go around the block here but often I've got to put the bikes in the car to drive into Bowral or to drive to Moss Vale for the bike track and it would literally take five or 10 minutes up the road if there was that decent connecting bike track. For safety I wouldn't let the children ride along the main road.

There have been accidents there.

Interview comment about barriers to cycling for recreation:

- Time (6 entries)
- Age
- It's easier to get in the car
- Don't have a bike.
- Not interested
- Fitness
- Have a baby – don't feel confident.
- Weather
- Thinks she will start cycling for fun when the cycle ways are fully developed, so it's safer. Would only do it if there was a dedicated cycle way separate from the road.
- No bike paths yet connecting to any interesting locations. The bike path in Renwick is too short, no point going on it. If there was a couple of kilometres long tracks, would ride on that.
- Lack of cycle ways and connections within the region (2 entries)
- Waiting for recreational cycling tracks to be developed – reason she bought here was because they promoted this in the marketing.
- Too unsafe – not a cycling person.

Q.15. Does public open space provide for recreational physical activity?

An important function of public open space is to provide facilities for both vigorous and less-vigorous recreational physical activity, especially for those activity modes which require spatial area and/or dedication of particular facilities and/or groups or teams.

No, not at present. However this will change.

At the time of the Study there was limited access only to the proposed open space areas of the estate, and there were no formalised facilities.

This will however change. The Master Plan provides for extensive open space areas with different functions and the *Renwick Planning Agreement* provides for the development of facilities within three of these: the Village Green opposite the proposed village centre, Tangara Park in the south-west residential precinct, and The Paddock within the future eastern precinct. The Council's Development Control Plan includes explicit design objectives for these areas:

- (a) To ensure that the landscaping of local parks is attractive and memorable, contributing to the making of a high quality public realm.
- (b) To facilitate passive recreation, pedestrian and cyclist access.
- (c) To preserve the rural landscape character of the Paddock, Silos and creek corridor, the views to the silos and promote its use for informal active recreation.
- (d) Provide shared pedestrian and cycle paths and ancillary recreation facilities sensitively integrated to minimise disturbance to existing vegetation and landform.
- (e) To sensitively integrate overland stormwater flows and manage bushfire risks to adjacent residential areas.

- (f) To make local parks neighbourhood community and recreational nodes, providing visual and open space amenity to local neighbourhoods.

An immediate potential issue is that these objectives appear to envisage a predominantly passive recreation role. While this role would also cater for personal activities which generate physical activity (walking, cycling, jogging and children's play) it is not clear if the inclusion of more active recreation facilities has been considered.

Development of facilities within the Village Green and within Tangara Park was imminent at the time of this Report and proposed layout plans were available. These showed the provision of certain 'active' facilities, but limited to swings and other children's play equipment, and a flying fox in the Village Green.

This matter was the subject of discussion in the focus group. The need for exercise stations along walking routes, facilities for older children, and facilities for team or group sports was raised. The latter was also mentioned in conjunction with the social benefits that could also be derived, both in respect to adults and children (and families together):

In this set of cards, people are saying yes we do need to do more exercise. What sort of things are you thinking about here?

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. I've seen them overseas in big parks overseas.

Also in the city, some places in Sydney.

Things like that to encourage you to do something as you're walking past - just stretch or to...

Do you think you would use them?

Yeah.

I would.

Yes, yes.

That's what I'm looking for to do when I'm walking about it just gets a big monotonous - you're trying to do a little bit extra.

You've got to keep thinking what route will I take today?

Yeah. We don't have much choice do we?

I think it's encouraging if you see other people do it and if it's a nice area to walk then you feel like doing it as well.

We're a big enough area where you could have exercise stations and it would get you to go all the way around Renwick and not just in your own little area.

So how far around would it be?

I don't know.

Not long.

It's not far.

Not long enough?

Yeah.

Once it's opened up, yeah you can go up some of the hills and down again and that gets your heart rate going but it's just a little bit more.

They're small hills.

Yeah once it's finished though...

Yeah once that's finished that may help.

Just thinking too when we were talking about the walking tracks and whatever it would be nice if you had a little bubbler or whatever so you didn't have to carry a water bottle.

The focus group also raised the possible provision of a dog play area given there is dog ownership is quite high. Such an area would accord with current healthy built environment research which concludes that dog walking assists in:

- higher levels of physical activity for their owners, and
- higher levels of social interaction especially where there are particular places (especially off-leash areas) for dog owners to take their pets to and thus also gather socially.

Two other points from the focus group are though also important here. The first is that any such leash-free areas need to be strongly defined, or even enclosed. The other is that there needs to be concurrent action to ensure good social etiquette in terms of compliance with laws about picking up dog droppings and which was cited as an existing issue (though also with the suggestion that some dog-owners currently at fault were coming from outside the area). This is something that would require action by the local Council's enforcement staff. The conversation is copied here for reference:

This card suggesting a dog play area as something that would assist you in keeping healthy. What sort of area are you thinking and how many people are interested in that?

There's a lot of people that walk around with their dogs and just an area you can let them off the leash and have a good run around and things like that.

An exercise yard.

Exercise only for dogs - enclosed.

Yeah fenced off.

Just on the importance of having a place that supports you having pets, is there anything else that you could add to that? Are there any particular health benefits you derive from having a pet?

There are some not so many good benefits because a lot of people don't take little bags with them.

It's really, it's getting worse.

So people aren't picking up after their dogs?

The Community Development person has already put something in the newsletter about it but it hasn't made any difference. It's just really getting quite bad.

I've noticed there's a car - couple of cars come there during the day and let their dogs out opposite us where we are on the corner and there's open area there. The dogs just roam through and they whistle and the dog comes back and all that but they don't pick up.

They're not no.

No well there's even in the last couple of weeks there's been dogs actually doing it on the footpath.

We had one in the front of the house, and it's been left there.

They need to have the little plastic bags in various spots as you walk along.

Well they do but it's just as easy to put a bag in your pocket. I do every morning when I take my dog for a walk. But it just seems as though it's too much trouble for people to do it.

I agree. Where we used to live in Baulkham Hills it had the walkways, every so often you'd have a bag dispenser - it had the exercise, the fenced area for the dog and it worked so much easier once the Council did that it solved the problem. It wasn't everywhere because they knew that's where the dogs would go because they're going that way to the exercise place and such. It worked really well. It was funny because you headed that way was the route for the dogs and then when you looked there was another route which you didn't even realise that was for the people because it had that's where the exercise stations were. So you subconsciously that separated them out and everyone was happy.

I get a lot of exercise walking everywhere, hopping around trying to miss [the dog poo]!

Q.16. Are other facilities available (by either public or private providers) for recreational physical activity?

Some recreational physical activities will not be able to be provided within public spaces at the neighbourhood scale (e.g. sporting ovals, larger parklands, trails) – but still need to be accessible to invite use. Private spaces (e.g. indoor gymnasiums, yoga studios) if accessible (distance, operating hours, provision of child care, etc.) allow additional opportunities for recreational physical activity.

Yes.

A good range of active recreation facilities are available in the local Mittagong area, and further afield at Bowral. They include:

- golf courses at both Mittagong and Bowral.
- heated outdoor swimming pools at Mittagong (being refurbished at the time of the Study) and Bowral, and an indoor pool and gym at Moss Vale.
- public swim training and pool-based fitness classes at the indoor swimming pool at nearby Frensham School (The Centenary Pool), and which are required to be provided as part of a Voluntary Planning Agreement associated with that development.
- a tennis club in Bowral.
- a sports and recreation centre, including an oval and indoor facility in Mittagong.
- a commercial gym at Mittagong.

This would appear to validate the transfer of funding initially identified in the Voluntary Planning Agreement for a leisure centre to instead assist establishment of a Policy Citizens Youth Centre (and thus also address participant comment about the availability of facilities for both younger and older children).

Various matters relating to recreation facilities were raised at the Focus Group:

- (i) In relation to the physical provision of facilities themselves, the following items were noted:
 - park play equipment for younger families.
 - an oval and/or tennis court to play team sports, particularly with children.
 - indoor space for exercises.
 - exercise equipment (outdoor, in parks).
- (ii) Comment listing a desire for certain ‘non-physical’ organizational actions that would then assist recreational physical activity:
 - cycling companions.
 - team sport for socializing.
- (iii) In relation to access to existing facilities, the following desire for safer and more convenient walking and cycling routes to facilities in Mittagong, and for improvements in the standard of upkeep of some facilities should be noted:

There's a gym in Mittagong - Highlands gym it's like two minutes up the road to drive.

Would that be accessible by cycle if you had a direct route to it?

Yeah.

One of the things that would be good is there's Mittagong pool which I know they're working on and there's the big exercise community thing also there but it's hard to get to from here because you've actually got to cross the Highway and there's no footpath to connect to it.

Need an overpass.

Are you saying you need a better more direct access to facilities which are already there?

Yeah, yeah exactly. The opening hours of the pool might even improve because that was one of the things - the opening hours here can be quite short.

The pool closes by six.

The thing is that the pool closes by six but they're putting money into it and fixing it up but getting there from here. It's short in distance but it's not safe to cross the highway and walk down if a truck's coming this way.

Yeah if you cross over the Highway there are lights there but then there's a big ditch that prevents you from reaching the concrete path that takes you along the way to the golf course.

Yeah you can't cross to the pathway.

Even if we have a bit of a bridge.

It's like just getting to the golf course. There's a perfectly lovely golf course there but again you've got to cross across the rail line. It's not the main line, that's got a bridge over it. It's the service line and you have to walk down the highway to eventually join the main footpath and that's the dangerous side and at night crazy.

Is the swimming pool also here?

Yes they are they're doing a really big renovation this summer. So whether they're going to heat it... ?

Wow.

Yeah they are.

They've also got the big basketball thing.

There are a lot of facilities there like the tennis courts and the basketball and an oval and the golf course. So there are lots to do there if you can get there.

The tennis court needs renovation. It's in a bad state the tennis because I would play tennis there but I've got to drive into Bowral. The tennis court is in a bit of disarray.

Rundown, yeah overgrown with weeds and the net is broken so it's hopeless.

- (iv) The following additional Focus Group conversation in relation to activities for older children is also relevant:

We have got things for the younger children coming up planned but I think it's probably when they get to about nine or 10 and up that's where there's going to be a gap isn't it for them - there's a gap there.

Are there things for them to do in Mittagong if they can get there safely on their own?

There are youth groups.

There's ten pin bowling.

The swimming pool - the football field.

That's a fair way for them to go.

Yeah.

It's a long way.

The ten pin bowling is the five kilometre - the basketball and that that could easily be done it's just got to be a safe route there. There's no point saying but there's traffic lights because when you cross there's no footpath and you're forced onto the road.

In response to these matters, the following suggestions are made:

- (i) the various pedestrian and cycle way works to be undertaken as part of the *Renwick Planning Agreement* should assist access to facilities in Mittagong. However before undertaking these works a review of the proposals against the comments raised here would assist in ensuring they are effective.
- (ii) the provision in the *Renwick Planning Agreement* of a contribution to the establishment of a Police Citizens Youth Centre has the potential to address comment about the need for recreation facilities for children. In addition to the actual type of facilities available, a key matter here will be the accessibility of the Centre to its intended users.
- (iii) a further requirement in the *Renwick Planning Agreement* for restoration and adaptive reuse of the old silos on the estate may provide opportunity for the establishment of additional active recreation facilities.
- (iv) addressing the comment that there is a need not just for the provision of physical (built) facilities but also for some organizational arrangements to support more informal group (or 'team') physical activity within the open spaces and walking and cycling infrastructure proposed would assist residents in achieving recommended levels of physical activity.
- (v) participants did not mention the existence of the aquatic facility at Frensham School even though it is relatively close. Some publicity may encourage use, to the advantage of increasing levels of recreational physical activity.

Summation – Physical Activity.

- (i) Although a high proportion of residents achieve recommended minimum number of hours of physical activity per week, this is mainly via ‘moderate’ (rather than ‘active’) physical recreational activity. There is a risk that participants may not actually achieve the cardiovascular objectives of such exercise because of insufficient exertion and possible under-reporting of time spent on such exercise, particularly given most physical activity is undertaken via the ‘recreational’ modes of gardening and walking. There is also a risk that the amount of time and degree of effort spent gardening may decline in the future as gardens are established into less labour-intensive stages of development.
- (ii) There is also virtually no contribution to physical activity by ‘active transport’. Use of the private motor vehicle is the accepted mode of transport in this semi-rural area.
- (iii) The master planning for the estate has given considerable attention to physical activities, in:
 - providing a network of pedestrian and cycling paths within the estate, and connecting paths external to the estate to facilitate access to Mittagong township and the intended wider network of cycling paths in the Council’s Bicycle Strategy.
 - the inclusion of passive recreation facilities within the estate open space areas.
 - the inclusion of funding for a ‘leisure centre’ orientated to active physical activity.
 - the negotiation of routing the local bus service to pass through Renwick.
- (iv) However, there are also gaps apparent between these intentions and the on-the-ground implementation, raising concern about attention to detail in the implementation of the estate development and suggesting the need to re-visit certain matters:
 - the recreation facilities proposed within the (extensive) open space areas cater largely to passive recreation modes only (walking and cycling tracks, and children’s playgrounds).
 - further, in relation to cycling (and possibly also walking) there is a potential that the short distances within the estate itself will not be conducive to meaningful exercise unless repeated laps are undertaken which may then become boring for participants, reducing use, and emphasising the importance of good connections outside of the estate.
 - however there are design limitations in the walking and cycling connections to areas outside of the estate given land identified for this function in the master plan is not actually part of the estate ownership and thus development. Although connecting accesses have been constructed there are substantial issues in terms of viability, especially safety, in relation to the roads to which these routes connect.
- (v) To address these concerns:
 - additional attention needs to be given to the inclusion of more active recreation facilities, which can be on a semi-formal basis such as exercise stations, paved ball courts, a tennis court, an informal oval space. The required adaptive reuse of the old silos on the estate should be investigated as an opportunity to establish additional active recreation facilities.

- in addition, some participants indicate a desire for organised informal group activities to encourage take-up of active physical activity, with also a co-benefit of encouraging additional social interactions.
 - there is some need for a greater awareness of existing active recreation facilities in the locality, and for improvement in the walking and cycling access to encourage 'active' transport modes as part of the recreation experience.
 - specific attention needs to be given to the provision of effective walking and cycling links to destinations external to the estate to compensate for the inability to achieve the original master plan provisions in this regard.
- (vi) The establishment of a new 'leisure centre' as part of the Voluntary Planning Agreement has now been replaced with funding for a new Police Citizens Youth Centre (PCYC) which is currently under construction at the Mittagong recreation Centre. This is not considered to be an issue given:
- the existence already of a range of formal active recreation facilities in the Mittagong Recreation Area, and elsewhere in the locality.
 - the proposed PCYC is likely to be valuable in terms of providing opportunities for physical activity (and social interaction) for the youth age group. It will be important to ensure the activities within the proposed Centre do actually address need, and again that there are good 'active' transport facilities to get there.
- (vii) In terms of promoting utilitarian physical activity ('active transport'):
- there is the potential for walking and cycling to increase when the new 'destination' of the proposed village centre is built. Attention will need to be given to ensuring there are convenient direct walking and cycling routes to the centre from the more distant parts of the estate so that the 'rural' tendency to default to using the car does not prevail.
 - as with the need to facilitate recreational walking and cycling, attention needs to be given to the provision of effective walking and cycling routes to destinations external to the estate to compensate for the removal of the original direct 'desire-line' links to the south-west as shown in that Master Plan.
 - advantage can be taken of an apparent latent desire/willingness of residents to cycle more, but will require action to address safety concerns about cycling along the Highway.
 - although the local bus service is unlikely to result in any substantial reduction in car use, attention should be given to increasing its viability by reviewing the routing and legibility of the existing service.
- (viii) Use by non-Renwick residents of the informal active recreation facilities suggested above will have the co-benefit of incidental and perhaps also formal social interactions between Renwick and the wider community.

4.2 Social interaction – connecting and strengthening communities.

“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.

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

Newspoll (isolation survey, Nov. 2013).

- 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).

Q. 17. Do participants interact with other residents?

Interaction with others on either a planned or incidental way is critical in supporting mental health and wellbeing. The ways in which the built environment is designed and managed is able to support or hinder such levels of social interaction.

Yes.

Participants report high levels of interaction with their neighbours and high levels of satisfaction with that interaction :

- 12 out of 20 participants (60%) indicated they speak with their neighbours occasionally and another 7 out of 20 (35%) participants indicated they regularly socialise with their neighbours.
- 12 out of 20 participants (60%) visited a neighbour in the last week. This equates with the NSW average of 61.8%, but is slightly lower than the average for the local government area which is 73.5%.
- 19 out of 20 participants (95%) ran into friends or acquaintances when shopping in the local area. This is higher than both the NSW average (82%) and the average for the local government area (84.5%).
- 15 out of 20 participants (75%) were either strongly or somewhat satisfied with the opportunities they have to meet people in the neighbourhood, with 25% neutral.
- 16 out of 20 participants (80%) were either strongly or somewhat satisfied with the number of people they know in the neighbourhood. There were no expressions of dissatisfaction (the remaining four participants were neutral).
- 16 out of 20 participants (80%) were also either strongly or somewhat satisfied with the number of friends they had in the neighbourhood, with three participants being neutral (and one indicating ‘don’t know’).
- all participants (100%) were satisfied with the level of interaction they currently have with their neighbours.

These advices are consistent with responses given when asked to rate whether 'being able to meet with friends and neighbours in our local area' was important to their personal health. 85% of participants rated this as either 'important' or 'very important', with 45% citing it as 'very' important. Only two participants indicated it was not important, with one participant neutral.

Participants were also asked to nominate the location where they socialised with their neighbours:

- 'the street' was most frequently cited, comprising 33% of all places nominated.
- 'front yard' comprised 10% of all places nominated.²⁸
- the second most cited location was 'your/their home', nominated 30% of times.

There is however an apparent disparity between these figures and:

- (i) comment by the Auditors that they did not observe any social interactions amongst residents, noting that there were only a very few people in the streets – construction workers, some residents conducting household tasks on the properties, and a lone cyclist.

Here it is most likely the discrepancy can be explained in terms of timing. First, the Audit was undertaken early in the development of the estate, whereas the majority of participant interviews and the later focus group were undertaken when more residents had become established. Second, the Audit was undertaken between 10.30 am and 1.30 pm on a weekday whereas, as noted in participant responses, most street interactions occur in the evenings or at weekends when more residents are 'at home' on the estate. Further, participants indicate that 30% of social interactions occurred in their home and another 26% elsewhere in locations outside Renwick (eg. shops, school, community centre). As such 56% of social interactions would not be visible to the auditors.

- (ii) more detailed responses by the participants themselves about the extent to which they interact. Here there is also some variation.

Discussion in the focus group and also an anecdote recorded in a newspaper article on Renwick (Figure 4.2) supports the contention that there is a reasonable degree of social interaction, including a current tendency for residents to 'promenade' in the evening 'checking out' what is happening in neighbours' gardens and the like. This activity would also be supported by the relatively high proportion (13 out of 20, or 65%) of participants who already knew other residents of Renwick before moving in themselves – largely from all having grown up or otherwise previously lived in the wider area (see boxed text).

However, when asked generally about their level of interaction with neighbours participants indicated a desire for a greater level of interaction. Comments in this regard did though also suggest a general feeling that any lack of interaction was probably a temporary situation, due to the new-ness of the area and the need for new residents to 'settle-in'. This characteristic

²⁸ There is likely to be an overlap between those nominating 'the street' (and which was explicitly listed in the question as a possible place of socialisation) and those nominating 'front yard' (which was not explicitly listed, but was nominated by individual participants under the option: 'somewhere else'). Note that participants could nominate more than one location.

may also explain why this desire for more interaction exists at the same time as participants also express high levels of satisfaction with current levels of interaction.

Two other features are worth noting here:

- (i) focus group discussion included a suggestion that the apparently more relaxed and open rural nature of the locality (consistent with the overall design intent of Renwick led to a corresponding more open attitude to social interaction.
- (ii) participants report high levels of feelings of security within their neighbourhood, which would be conducive to an open attitude to neighbours and residents generally (see also Q. 26).

It is likely that the level of social interaction will increase in Renwick as the estate develops to include a larger population and a greater range of specific destinations that will facilitate both incidental and organised interactions. These potential destinations would include:

- the intended local store and community centre in the proposed Village Centre, and any possible neighbourhood café.
- the neighbourhood parks, particularly if the recommendations in this Report about the inclusion of a greater range of recreation facilities is adopted.

Interview comment about social interaction and already knowing others living in Renwick.

- People are still moving in and getting set up so that limits interaction (3 comments).
- We are just getting to know our neighbours – have only been living here 8 months.
- Only have 1 neighbour at the moment, people are still building and moving in – no-one to talk to yet!
- Don't have any immediate neighbours yet
- Still early days – still getting to know each other, but can see it turning into friendships later.
- Anticipates things changing when retired – more regular interaction.

- Lots of socialising occurs in front yards, over fences.

- Desires own space and privacy – wants to maintain distance with neighbours so they don't invade privacy.
- Time is precious
- Difference in age limits interaction – other people are younger and in a different phase of life.
- Have a conflict with one of the neighbours over noise (a barking dog) – makes him want to avoid social situations.

- Knew work colleagues (7 entries)
- Through school
- Close friends for years
- Knew 5 other families – from growing up in the local area, friends from school and family members
- From living in the local area for 14 years
- Knew friends from living in Bowral/ Mittagong/ the Southern Highlands
- Church friends
- Neighbours of sister
- Parish community – lived in Bowral for 20 years.

Focus Group discussion on social interaction in Renwick.

Also because we are all new houses and all 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.

We're all the same.

Yet you go into another suburb where everyone's been there for years you'll never meet a soul.

Yes, although our Study is also looking at another new suburb, in the north-west of Sydney. That's a new area too and people are just moving in and getting themselves established. They don't seem to know each other or talk to each other as much as you say you do here. When we ask them why they say they are busy establishing themselves, the house the garden and so on. So there seems to be something in the dynamic in Renwick seems to be different somehow.

Because we're an original area. City people tend to be more isolated. In the country - this is not country but it's sort of country - people are more open.

We're from north-west Sydney so we know that area and such but yes it's a different area though.

Is it a different age group - a bit more younger families?.

Yes.

Also people more working all the time.

Yes, the survival job.

We've got a good mix here of older people and younger people.

Yeah.

I think that works in very well because I think it's particularly at weekends you often find some of the younger families that are working are out doing their bit - doing a bit of walking and whatever and it gives you an opportunity to have a chat to them.

Also in the city there's a sense of rushing - you've got traffic that is busy. You come here and it's like very nice. It's really relaxing.

Finally, it is important to note comment by a participant in the interviews which is at odds with the general overall feeling of 'community' suggested by others – where that participant felt a degree of exclusion because they did not fit with the typical make-up of other households. This matter was not further investigated, but could point to a certain 'closed' attitude to difference that is worth recognising and possibly addressing in future work in establishing opportunities for incidental and organised social interaction in the Village Centre, the proposed community centre, and the open space recreation facilities.

Q.18. Does the design of common areas in buildings foster incidental person-to-person contact?

The design of common areas can foster incidental person-to-person contact. Residents, shoppers, commuters, workers and tourists can be invited to sit and linger with others provided there are seating arrangements and a certain level of activity to engage their interests.

Not applicable.

This consideration is only applicable for larger buildings of a commercial or multi-residential nature, and as such is not applicable to Renwick either currently or in the future.

The scale of development in the commercially-zoned Village Centre is restricted to two storeys; and where multi-dwelling housing is permitted the Development Control Plan envisages a building form that replicates the usual detached house arrangements of individual entrances and front yard spaces accessed from the street.

Q.19. Does the design of building frontages foster incidental person-to-person contact?

The design of building frontages can foster incidental person-to-person contact. Residents, shoppers, commuters, workers and tourists can be invited to sit and linger with others provided there are seating arrangements and a certain level of activity to engage their interests.

Yes.

The Development Control Plan includes explicit provisions relating to building frontages. These are consistent with the fostering of incidental social contact. For example:

- in residential areas – dwellings and living areas are to be orientated so as to address and overlook the street (though achievement of this may be competitive with other controls which require northerly access for main living areas); front entry doors are to be visible from the street; and dwellings on corner lots are to address both street frontages.
- in the future Village Centre – buildings are to have ‘active edges’; live-work housing is encouraged (which will promote activity); and public outdoor areas will include seating.

The Audit assessed that the existing housing in the residential areas appeared to provide both a good level of passive surveillance and the opportunity for social interaction with neighbours and passers-by via verandah areas with outdoor seating and ‘active’ front yard space where residents could garden and the like.

Part of the marketing of the estate includes the opportunity to choose a house and land package utilising seven different standard housing designs. A perusal of these designs confirms the inclusion of passive surveillance and ‘active’ frontage features.²⁹

As discussed elsewhere there appears to be a reasonable level of incidental social interaction within the streets themselves. It could be concluded that, as intended, the design of building frontages is a factor, in conjunction with the propensity of residents to use the public streets for recreational walking and the stated overall ‘open’ ‘rural’ attitude to socialisation amongst residents.

²⁹ See: <http://www.landcom.com.au/places/renwick-mittagong/packages/displayhomes.aspx>.

Q.20. Does the design of public space foster incidental person-to-person contact?

The design of public space can foster incidental person-to-person contact. Residents, shoppers, commuters, workers and tourists can be invited to sit and linger with others provided there are seating arrangements and a certain level of activity to engage their interests.

Unable to be assessed at this stage (except for the public streets).

The Master Plan includes a number of public spaces, with different functions:

- a 'village square' and other outdoor spaces within the Village Centre.
- a 'village green' within the open space area located opposite the Village Centre, to include toilets, picnic shelters, play equipment and garden areas.
- various 'pocket' parks within the residential areas.

The Development Control Plan includes explicit provisions for these areas. These are consistent with the facilitation of incidental social contact. For example:

- in relation to the overall urban structure, an objective is that the Village Centre is to be the main urban focus for the new community.
- in relation to open space, an objective is to make local parks neighbourhood community and recreational nodes.
- in relation to the Village Centre, the objectives include: the encouragement of residents to meet, communicate and work together in their common interest; the provision of maximum convenience and comfort; and that it comprise an attractive destination (with good winter sun, summer shade and shelter from adverse wind and rain) and a concentrated focal point for local economic, social, cultural and community activities (refer Figure 4.1).

In addition, the proposed internal network of cycleways and pedestrian paths should also engender incidental person-to-person contact by encouraging residents to walk and cycle rather than drive.

Construction of these public spaces had not commenced at the time of the Audit and preparation of this Report. As such there has not been the opportunity to assess whether the design objectives have been achieved.

That said, the Study was able to ascertain that there appears to be a reasonably high level of incidental social interaction within the existing public street spaces:

- 12 out of 20 participants (60%) indicated that they spoke with their neighbours occasionally and another seven (35%) indicated they regularly socialised with their neighbours.
- when asked to nominate where they socialised with their neighbours, 'the street' was most frequently nominated (18 times, or 33% of all places nominated), with 'front yard' nominated 5 times, or 10% of all places nominated.³⁰

³⁰ There is likely to be an overlap between those nominating 'the street' (and which was explicitly listed in the question as a possible place of socialisation) and those nominating 'front yard' (which was not explicitly

- the existing roadways are already utilised for recreational walking and as such allow opportunity for incidental person-to-person contact.

The following factors would support the degree of incidental social interaction nominated by participants:

- (i) the inclusion of 'active' building frontages and garden spaces facing the street, as required by the Development Control Plan.
- (ii) the relatively high proportion (13 out of 20, or 65%) of participants who already knew other residents of Renwick before moving in themselves.
- (iii) a contention by participants in the focus group that the apparently more relaxed rural nature of the locality led to a corresponding more open attitude to social interaction. While this attitude would be generated initially by the external local and regional environment, it would also be supported by the specific objective to maintain a 'rural' feel in the design of the estate.
- (iv) the high levels of personal security felt by residents (refer also Q. 25).

Figure 4.1: Indicative design of the Village Centre.



listed in the question but nominated by individual participants under 'somewhere else'). The second most nominated location for socialising with neighbours was 'your/their home' (nominated 30% of times). Note that participants could nominate more than one location.

Q.21. Are there formal public and semi-public spaces accessible to the community at large?

Perceived accessibility of neighbourhood destinations may increase use and thus promote physical activity; reduce vehicular trips and increase neighbourhood cohesion and safety.

No. There are currently no such spaces available.

At the time of the Study there were no formalised community spaces in Renwick other than the streets themselves.

The role of the streets in providing existing opportunities for incidental social contact and the potential future role of other planned public spaces in this regard is discussed above under Q.20.

The current absence of any formal 'community' spaces has led to the estate Sales Office, although not designed for this function, to be used from time-to-time by the Community Development Facilitator to hold events when not being used for its primary purpose. It is not really suitable for this purpose, being quite small – it was for example barely able to accommodate the nine residents and two facilitators who attended the focus group held there.

This lack of a formal community space was the subject of comment in both the interviews and the focus group. Participants expressed a desire for a neighbourhood focus such as a café or coffee shop, as well as the early establishment of the planned neighbourhood retail area. Focus group participants also made a direct link between such facilities and their health, including the following entries in response to the question 'What I need to be healthy':

- places for neighbours to meet and relax.
- a meeting place for socialising.
- a close coffee shop.
- a sunny quiet café (easy to walk to).
- shops (coffee, corner store, etc.).

These entries (and the subsequent conversation, see below), do not explicitly call for such formal space to be publicly-owned, but rather suggest that a commercially-provided space but managed in a way that encourages social interaction would be able to serve this purpose.

However, the subsequent conversation does also allude to an expectation that a community hall space or the like would be provided in the future. It is reasonable to assume that the 'multi-purpose community centre' identified in the indicative plans for the Village Centre in the Development Control Plan and funded under the Voluntary Planning Agreement would achieve this expectation if managed appropriately.

Later conversation in the focus group about the possibility of a community garden in Renwick (see Q.31) also included comment about its potential to facilitate similar social interactions.

Focus Group discussion about places to meet in Renwick.

So in these cards - 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.

Yeah something bigger than this room!

That's right, a meeting point.

A newsagent.

A meeting point yeah.

A coffee shop is a good place to do that.

Yeah.

We do it regularly in at Bowral.

They're talking about a community hall later on but I think you can even have something in between that in size, or even a community hall with a smaller area like for our craft group, that sort of thing.

Yeah, yeah.

Are there other groups that people would like to have a community space for?

We've already got a craft group going.

Where do you meet?

In here.

We'd to do like Tai Chi as well and...

Other things like that would be really good.

Q.22. Is the design of formal public and semi-public space inviting to the community at large?

The design of spaces can support psychological health by fostering feelings of belonging.

Unable to be assessed at this stage. There are currently no such spaces available.

The development of the estate has not reached the stage where the proposed formal public and semi-public spaces (such as in the Village Centre and the open space areas) have been constructed.

The role of the streets in providing alternative existing opportunities for incidental social contact is discussed under Q.20.

There are two existing formal community spaces in Mittagong – a community hall and a library. These received little comment from participants, with the exception that longer opening hours for the library (as well as for local cafes) was mentioned in the focus group as one of the things that would assist them to keep healthy. (Here it is noted that the library opening hours are 10.00 am to 5.30 pm Tuesdays, Thursdays and Fridays; 1.00 pm to 5.30 pm Wednesdays; and 9.00 am to 12 noon Saturdays).

Q.23. Can participants be involved in the broader design and governance of their community spaces?

Participation can facilitate orderly social interactions through removing ambiguity in expectations and creating behavioural norms in the broader governance of the community. Group membership and participation is associated with improved personal health.

Yes, to a degree.

The public areas of the estate (the roads and open spaces) are being provided by UrbanGrowth NSW as the estate developer and then dedicated to the local Council for future control and management.³¹ As such participation in the broader design and management of these areas would be via engagement with the local Council, the same as for any other area. In this regard:

- the overall structural layout of these areas and the design of the roadways (as adopted within the Master Plan and subsequent Council Development Control Plan) was established prior to there being any residents in Renwick.
- the detailed design of a number of open space areas and of the Village Centre is still to be carried out. This presents an opportunity for residents to be involved. However, the provisions of the Council's *Policy for Community Engagement and Notification of Development and Planning Proposals (2012)* is silent on these types of proposals. It would seem to be advantageous, in terms of generating the strong feelings of community being sought within Renwick, for the Council to ensure there is early participation by residents in these aspects of Renwick's future.

UrbanGrowth NSW undertook community consultation in June 2013 (involving both Renwick residents and the wider community) to ascertain likely needs to be met by the proposed community centre to be located in the new Village Centre.

No specific questions about the management and broader governance arrangements of the estate were asked in the interviews, and no particular comments were made by participants regarding actual governance processes. Some comments were however made in respect to:

- (i) safety concerns, particularly for children using the streets, from the speed of through traffic. Residents would need to approach the local Council with these concerns, in the same way as residents in other areas.
- (ii) the extra rate levy applied by the local Council to properties in Renwick, the reason for which was not known. The Community Development Facilitator made enquiries about this levy to Council on behalf of residents. The response was that the additional levy was to fund the

³¹ The description of the role of the Community Development Facilitator position, as part of the broader Community Development Program for the estate, refers to 'assistance with the Residents' Association' (see Q. 24), suggesting that some of the public facilities and open space areas in the estate may have been intended to be owned and therefore governed under Community Title arrangements rather than by the local Council. This does not however appear to be the current situation.

anticipated higher level of maintenance that would be required for the higher-than-usual provision of public facilities within the estate.

Notwithstanding the above example, the intended role of the Community Development Facilitator does not include liaising with Council on behalf of residents. Advice from the Facilitator is that residents are encouraged to do this themselves if they wish.³²

Q.24. Do new developments include a 'Welcome' program to initiate on-going social interaction?

Awareness initiatives can be as simple as proper placement of signage or a more developed 'welcoming program' creates an awareness of community events, locations of social and cultural programs, etc. to encourage feelings of community connection.

Yes.

Renwick includes a specific 'welcome' as part of its wider Community Development Program which is managed by an appointed part-time Community Development Facilitator funded by Landcom. The Program is described as follows:

Renwick is not just a suburb; it is a burgeoning community where, through the Renwick Community Development Program, residents are welcomed and able to connect with others. It is a place to make new friends, be involved in community activities, events and participate in special interest groups.

The Renwick Community Development Program nurtures a positive, supportive and cohesive neighbourhood, so that Renwick develops organically as an integral part of the Southern Highlands. Upon moving into Renwick, residents will meet their Community Facilitator, who will develop and implement a Welcome Program that will help residents settle into the area, meet neighbours and feel at home in the community through the following:

- Events
- Assistance with the Residents' Association
- Special Interest groups

Landcom is dedicated to creating communities, so the Community Facilitator's role will be vital in nurturing a strong sense of community at Renwick as it expands.³³

The Community Development Facilitator position is by contract with the Highlands Community Centre based in Bowral and was first appointed in 2013. The Facilitator produces a regular newsletter which includes advice of events in the wider community, and organises events including periodic welcome functions for new residents, a gardening workshop, wine and cheese nights, family days in the local reserve and a weekly (Tuesdays) craft group. Indoor activities are generally held in the Sales Office given the current lack of any other community space on the estate.

³² Email, 2 February 2015.

³³ Brochure: *Welcome to Renwick*. May 2014. Refer:

http://www.landcom.com.au/downloads/file/SalesPlans/Renwickbrochure_updatedMay2014.pdf

A Community Information Pack is provided to residents when they move in, and includes: a map of the local area; discount vouchers; information about waste collection, Council rates, sustainable gardening and facilities and services in the area; and a Seniors' Directory. Generally, the Community Information Pack is delivered face-to-face by the Community Development Facilitator meaning that the Facilitator personally meets all new residents.

The incumbent Community Development Facilitator at the time of the focus group received favourable comment during discussion in terms of her organisation of activities and of the newsletter, and of her general 'presence' in the area.

However this incumbent was the second during the course of the Study, and the position was again vacant at the time of preparing this Report. It suggests a need to determine whether there are any particular common reasons for this apparently high turn-over, and any consequent lessons that might be learnt about how this position is designed and implemented.

Q.25. Does the design and governance of public and private space allow contact with nature?

Providing opportunities for contact with nature (green features as well as water amenities) can also support psychological health by fostering feelings of restoration.

Yes.

Renwick is well served in this regard, consistent with both the intentions in the Master Plan intentions and the objectives of the Development Control Plan. These objectives include that the development:

- look and feel like it's always been there.
- integrate new homes around the natural features of the site.
- ensure landscape is the dominant and memorable experience.
- retain the area's rural feel.

These objectives are achieved in various ways including:

- retention of approximately one-third of the site as open space in various different configurations, including a riparian area along existing creek lines and an area of remnant vegetation zoned for environmental conservation.
- the generally large size allotments, allowing for vegetation and views between houses.
- a low scale of buildings, allowing for retention of views out of the estate to the surrounding rural landscape.

These aspects have also been a key element in the marketing of the estate, as evidenced in the following text from sales brochures:

Imagine waking up to the sounds, colours and fresh, clean air of one of the most beautiful and historic rural area of New South Wales ...

... this distinctive development has been thoughtfully designed to capture the essence of the region
... a community that is sympathetic to the existing natural and historical features.

Consistent with this marketing, 16 out of 20 participants (80%) nominated 'lifestyle' as a reason for locating in Renwick.³⁴ Further, participants placed a high level of importance in terms of their own health that participants also placed on 'low levels of air pollution' (17 participants stating it was either important or very important), 'low levels of noise pollution' (15 participants), and 'being close to parks and open/green spaces' (18 participants). Contact with nature and the general peacefulness of the area also feature in responses to the focus group question: 'What is helping me to keep healthy?':

- peaceful and quiet (little traffic noise)-aids in relaxation.
- quiet-no noise relatively.
- peace & quiet.
- having a garden.
- clean air (two entries).
- access to natural environment.
- mountain views.
- wildlife.
- natural beauty around us-good for the soul.

The early stage of overall development of the estate does not allow this Study to assess:

- (i) the success of the actual landscape designs for the open space areas in achieving the Development Control Plan objectives, and the 'lifestyle' intentions in the marketing material for the estate.
- (ii) whether the on-going management and maintenance of the open space areas (to be the responsibility of the local Council) and the built form generally within the estate maintains these objectives.

However, participants in the focus group expressed a high level of satisfaction with these elements as they exist now, as evidenced in the following description:

One of the things I like about here besides it's so well planned is that you look around and you do get that view - you come over the bridge, you see the mountains, you see all that and that's really relaxing to come in.

Slightly elevated, yes.

There's nothing worse where you see some estates where unfortunately it's flat as far as the eye can see and no matter how magnificent the house might be built there there's still, what do I see? - I see houses as far as the eye can see.

³⁴ The question relating to why participants moved to Renwick allowed for multiple reasons to be given. Other highly ranking reasons were affordability (17 participants), geographical location (15 participants) and a desire to build a new home (15 participants). (This question was not asked of participants in the other three Study Areas).

Other aspects of the general layout of the estate cited in the focus group as contributing to this general level of satisfaction are:

- wide roads, when compared to other nearby developments (with Mount Annan specifically mentioned) where cars cannot pass each other when there is also a car parked at the kerb.
- a more 'spread out' appearance.
- 'proper' street gutters, able to cope with large storms.
- the more rectilinear street pattern, compared to having too many curves and cul-de-sacs which create a 'feeling of concentration'.
- footpaths and wide nature strips.
- undergrounding of power lines, and street lighting that is not intrusive but still maintains a 'reasonably good' light spill.

A particular feature of the focus group responses was that entries citing 'lots of green areas', 'clean water and air' and 'support for native population of the area' and the like and made in response to the question 'what is helping me to keep healthy (now)', were repeated in response to the later question 'what I need to keep healthy (but did not currently have)'. The participants were asked why it was thought necessary to make these dual entries. The response was a detailed discussion (see boxed text below) that exhibited a strong 'possessiveness' towards these features of the estate coupled with a concern that they could be easily be lost. The discussion suggests:

- a strong conviction of the importance of these features to their personal health, and
- a 'warning' of possible expressions of dissatisfaction if these features are diminished in the future due to changed governance arrangements.

Focus Group discussion about the importance of contact with nature.

One thing these cards show is there are similar entries about a need for clean water and air, lots of green space, support for nature, a nice garden on both the 'what is helping me to keep healthy' side and the 'what I need to be healthy'. So, can you explain what this is about? Don't you have those things already?

The houses are coming.

Yeah so it's encroaching.

The houses are coming. We watched them come to our block. We get used to the open air and you can see them approaching. You knew it was going to happen. They'll still be spaces, but still it's one of those things where you move to the country. Our block in Sydney was 700 square metres – now we have 800 square metres. I think, well that was a huge leap. We've got the mountains and such, it's not as flat, and it's not people rushing, rushing, rushing. You joke when you say peak hour is 10 minutes but when you think about it you think isn't that great - none of this chaos when you go to Sydney.

So you're worried about it changing when the developments come in?

They're coming.

I don't think it's going to change hugely. We're lucky the way the estate is being done is we've got two metres on each block from the side - so four metres between each set of houses. Some places even in Bowral you can reach out the window and shake hands with the fella next door. We have a much more open environment that doesn't seem as though you're jammed up. We came off a half acre block out at Bowral and we don't feel as though we're jammed up. We feel quite comfortable in that.

Bit more space.

So it's not so much that you feel like you're losing it, it's just that you will still need it in the future?

Yeah.

Yeah definitely.

Preserve it.

Let's not change the rules and say well let's bring them into a metre now and or go two storeys anywhere.

You get smaller and smaller. That's another thing is that you don't have two storey houses all over the place.

Yeah the council is quite strict.

Are you allowed a two storey house?

Yeah. There is one.

You are. I don't know how. And there's another one going up in the back up there.

I think you're supposed to have only a little bit at the top - what was it, or less than a third.

The top has got to be such to allow for the sun to be able to still get in.

That's one of the other issues we've got to look at - there's people planting trees that are going to block the sunlight into other yards. You're back where you started from. It defeats the purpose of being able to have the sunlight coming into your yard and doing the things that you want to do.

That space and distance can also important in terms of privacy. But privacy and overlooking hasn't come up on any of these cards. Is it not an issue here?

Not a problem for me.

No.

We have it at our place. We are on a slab but next door decided to go on bearers and joints and then split level. So they do look down and we will have to do some screening. I've got a landscape architect working on it so we can cover that without saying 'I'll shade you so you stop looking in', because I'm on his north boundary. So I've got access to the sun but he's got access looking down my back yard as part of it at an angle so that's how you can do that. It's one of those things you have to work carefully.

So good neighbourly relations come in there?

Yeah.

Q.26. Is use of public space for active transport and for incidental and organised physical activity and social interaction facilitated by low actual or perceived threats to security?

Fostering a sense of belonging, caring and commitment also involves increasing a perception of safety. People will not interact within, or feel part of, a community that they perceive to be unsafe. Actual and perceived levels of security can inhibit or promote choices to actively travel, engage in recreational physical activity and/or engage in social interaction.

Yes.

Participants considered Renwick as a safe place to live and felt secure there, with only a few concerns raised as exceptions. No participant indicated any level of feeling unsafe.

- 19 out of 20 participants (95%) indicated they were satisfied with levels of safety from threat of crime (with 12 participants (60%) 'strongly' satisfied, and seven participants (35%) 'somewhat' satisfied).
- All participants agreed that their neighbourhood had a reputation as a safe place to live (eleven (55%) 'strongly agreed', and nine (45%) 'agreed'). This is significantly higher than the NSW average of 75.7% and the average for Wingecarribee Shire of 86.6%.³⁵
- All participants felt safe when walking in the street after dark (eleven (55%) 'strongly agreed' and nine (45%) 'agreed', though a higher number (13 out of 20, or 65%) were 'strongly' satisfied when asked to rate their own personal safety in streets after dark). Again this is significantly higher than the NSW average of 72.4% and the average for Wingecarribee Shire of 81.1%.³⁶

The only exceptions mentioned were about minor past events that are not now present: the presence of skateboarders and the use of roads as a drag strip. These events were described in the focus group, prompted by a question by the facilitator as to whether the inclusion of rear laneways to access some properties had resulted in any issues regarding security (see boxed text, below).³⁷

The estate was in its very early stages of development at the time of the Audit. No night-time assessment was undertaken because of this. However, the Audit concluded that Renwick presented as a very safe place. Particular comment was made that there appeared to be a good level of passive surveillance as a result of the houses being designed to have active front yards, balconies with outdoor seating, and windows that overlook the street. Although there were very few people noticeable on the streets, the Audit concluded that once residents had arrived home from work and school the estate would be more populated and active thus providing more passive security in the evening.

³⁵ NSW Ministry of Health (Centre for Epidemiology and evidence): *NSW Adult Population Health Survey 2008-2010* (refer Attachment 2 to this Report: Health assessment and population profile).

³⁶ NSW Ministry of Health (Centre for Epidemiology and evidence): *NSW Adult Population Health Survey 2008-2010* (refer Attachment 2 to this Report: Health assessment and population profile).

³⁷ These properties have a narrower allotment width thus restricting the possibility of vehicle access at the front of the dwelling.

This conclusion was not confirmed by comment at the focus group, which referred to this element of incidental social interaction as happening at weekends rather than during the week. It was however supported by other comment, from a newspaper article on Renwick:

Most evenings 'the streets are alive' with people out walking dogs and children, waving friendly hellos and 'checking out each others' gardens.'³⁸

Focus group comment about safety concerns:

So you don't have any security concerns about the laneway?

No.

Security? No - not really.

It's not an issue here.

No - not at all.

Yeah, you would have thought perhaps people would come down from Campbelltown, but no.

They haven't as yet.

Places are well fenced off too, at the back.

I think when there were less houses built this used to be a bit of skate park - the whole of Renwick. There were a lot of skateboarders and skaters. They used to leave their rubbish on my front area and on the side block but since more homes have gone up and there's more traffic they've sort of disappeared.

So where did they come from?

No idea.

The same with tyre marks - there used to be a bit of drag strip here.

Yeah they used to set up the witches hats down De Lauret Street.

Yeah that's right.

Generally speaking in the Highlands there's not been a problem with break and entry or anything like that. The main thing is cars that are parked in town and nine times out of ten people get out and leave them unlocked. When we first came down here we used to leave our car unlocked as well but you wouldn't leave the car unlocked now.

Two other attributes, mentioned by focus group participants when discussing the general ambience of the estate are also relevant here:

- a general satisfaction with the amount of light from the street lights, even though they are purposefully widely-spaced as part of the intended 'rural' ambience.
- the rectilinear street layout which allowed an open feel and can thus also assist levels of passive surveillance.

* Considerations of safety from the perspective of risk of accident is dealt with in the other sections of this report dealing with the viability of utilitarian and recreational physical activity.

³⁸ From 'When a healthier lifestyle lies just outside the door' (Daniela Ongara), *Daily Telegraph*. 9 June 2014. See full article at Figure 4.2.

Summation – Social Interaction.

- (i) Participants report a high level of satisfaction with their level of social interaction. There also appears to be good levels of actual social interaction, with a certain ‘closeness’ (as different though to ‘close-knit’) amongst residents discerned. Exceptions to this appear to be mainly due to the ‘newness’ of the area.
- (ii) One reason is that a high proportion of participants knew each other in some capacity prior to moving in. However the overall level of incidental social interaction also appears to be high, with residents using the street as a place of engagement assisted by the inclusion of ‘active’ frontages to dwellings and front yard spaces.
- (iii) The ‘Welcome’ program is also likely to contribute by making individual residents and households feel they belong to a larger Renwick ‘community’. The program appears to be well-committed to this task, in particular through its ‘personalised’ approach of a face-to-face initial meeting with new residents, and individual letterbox drops of newsletters. An apparent high turn-over of incumbents in the Community Development Facilitator position should however be investigated and resolved.
- (iv) Future on-going formal and incidental social interactions will be assisted by the construction of the Village Centre and associated community centre, and development of the recreation facilities discussed under Section 4.2.3 (Facilitating recreational physical activity). Promotion of the Village Centre as a ‘walk or cycle-to’ rather than ‘drive-to’ destination will also assist in retaining and perhaps expanding existing incidental street interactions should the current interest in taking an evening stroll to view what is happening in neighbouring streets develop wears off as the development of the estate overall ‘matures’.
- (v) The intention for the community centre to also cater for residents in the wider locality will assist in the integration of Renwick residents with that wider community. In turn, patronage of the future businesses in the Village Centre by those visitors will assist their financial viability.
- (vi) There is the potential for a lack of integrated social engagement between the existing and future residential precincts still to be developed in the eastern part of the estate given the two areas will be geographically and visually separated to an extent by the riparian open space area. Here it will be important to:
 - continue the Welcome program.
 - ensure the development of common recreation facilities, and the silo area as a common use area.
 - ensure there is a good range of connecting pedestrian and cycle paths across the open space area for easy connection by non-vehicle means between the new precincts and the intended ‘social hub’ of the neighbourhood centre.

- (vii) Explicit attention will need to be given to the social interaction needs of older children and teenagers. This can include:
- provision of active and passive recreation facilities within the open space areas and the Village Centre.
 - effective cycleway connections to existing facilities in the locality.
 - consultative engagement with users as to the on-going management program for the new Police Citizens Youth Club Facility.
- (viii) The local Council may need to monitor and respond to any demand for longer opening hours for existing facilities that it provides and which contribute to social interaction, such as the library and recreation centre in Mittagong.
- (ix) Renwick presents as a safe environment from the threat of crime, and participants report high levels of feelings of security.
- (x) Participants give a high level of importance in terms of their health to those aspects of the estate that give access to nature and contribute to a 'rural' feel. Participants also indicate a 'possessiveness' about this attribute, suggesting a need to ensure it is not diminished over time and with the development of the remaining parts of the Master Plan and through future governance and maintenance practices.

Figure 4.2: **When a healthier lifestyle lies just outside the door.** (Daily Telegraph, Sydney, 9 June 2014, General news, p.28).



When a healthier lifestyle lies just outside the door

Daniela Ongara

Imagine leading a healthier life because your home and neighbourhood has been purposefully designed to encourage you to become more active, to eat better and be more socially connected.

That is the reality for about 200 families, couples and retirees who have bought into a unique Urban Growth housing development in the Southern Highlands.

With a master plan designed in full collaboration with the Heart Foundation, Renwick, on the outskirts of Mittagong, has been created as an environment that supports people to make healthy choices in everyday living – by getting them out of their front doors, out of their cars and more connected with nature and each other.

“From the ground up they wanted to design a community that was really framed around ‘healthy by design’ considerations,” says the Foundation’s Julie Ann Mitchell.

“From research we know people who live in areas of urban sprawl where design features aren’t good are more likely to be overweight or obese.”

Bearing in mind people’s behaviour and psychology (read laziness), the streets of Renwick are designed in a grid pattern rather than winding, making it easier to walk and cycle to places.

All the foot and bike paths are on a direct route to places of interest, such as the village centre, convenience stores and the cafe, which link seamlessly to connecting roads and paths outside the

development. A third of the development is given over to open spaces and parks to encourage active pursuits.

Joining In

To foster community spirit, a facilitator welcomes all new residents who are invited to gatherings such as wine and cheese nights and who are encouraged to pull their green fingers out with classes on how to grow, produce and compost.

While the natural beauty of the Highland’s undulating landscape should be enough to get anyone outdoors, these homes are specifically designed to look out to the street with patios and large open front windows.

This

“passive surveillance of the area’s streetscape” promotes a sense of safety but also aims to get people out to join the passing traffic,” says Urban Growth’s Rob Sullivan.

If it sounds a little Wisteria Lane meets Truman Show it is, but without any of the bad bits, say the residents. Most evenings “the streets are alive” with people out walking dogs and children, waving friendly hellos and “checking out each other’s gardens,” says Kell Dunnohew

A year ago she and husband Jerad moved into their new home, leaving behind city life and a two-bedroom apartment in Redfern to give their sons Henry, 6, and Gram, 4, “a simple childhood”.

Now with a quarter of an acre as a backyard, the boys have freedom and space for “plenty of adventures” and the family are proud owners of five chickens, a thriving vegetable garden and a mini orchard. “All summer long we ate all our own produce,” Kell says.

“We have amazing neighbours and one of the most amazing things is we share produce.”

As evidence of their much healthier life, Kell, who is training for a marathon, says the children watch almost no TV. Jerad cycles every day to his job as head chef at Berrima’s Eschalot and most days and every weekend the family are outside cycling or working in the garden.

Even though Kell makes the three-hour round trip commute to Bondi Junction four days a week she says the sacrifice is more than worth the reward.

Community support

Friend and neighbour Jasmine Pycroft, 37, who also commutes to Sydney for work, agrees.

She has lost 22kg of “baby weight” since moving into Renwick little more than a year ago and credits this to her new address and the influence of her active and supportive neighbours.

“I scoffed at first but certainly since we moved here we are outside more often and I feel healthier,” Pycroft says. “You see people are out walking all the time and playing outdoors with the kids and it promotes you to get out and do that as well.”

Exactly how healthy Renwick is for its residents is being assessed by researchers at the University of NSW who will release the findings of their three-year study at the end of this year.

But the Dunnohews and Pycrofts have proof enough and both families agree that no amount of money would ever entice them to leave their healthy, happy homes.

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4.3 Nutrition – providing healthy food options.

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).

Q.27. Is fresh healthy food available?

The built environment can be shaped to support or inhibit the sale and marketing of healthy eating options through zoning and land use regulation of the extent to which it provides space for retail and other food uses. A greater diversity of such space will then assist in providing variety in food options – to fulfill different needs in food type, affordability, cultural preference.

Yes.

Although there are no shops (selling food or other goods) currently within Renwick itself there does not appear to be any issues in respect to the availability of fresh food.

There is a range of shops and three farmers' markets in the general locality. There are two supermarkets in Mittagong plus separate fruit and vegetable, chicken and meat shops (one of each) in the main retail mall in Mittagong (Highlands Market Place, sited a short distance from the original strip-shopping street). A similar range of shops are also available in Bowral.

The Community Food Assessment undertaken to investigate access to healthy food in Sydney did not include the Renwick area. As such there is no comparative data on prices, quality and variety of fresh produce to further assess this question.

That said, in the survey interview:

- 12 out of 20 participants (60%) indicated they were either somewhat or strongly satisfied with their access to fresh food.
- two participants (10%) were neutral.
- five participants (25%) indicated levels of dissatisfaction.

Additional comment by the participants suggest that the expressions of dissatisfaction relate primarily to issues of access to fresh food (addressed below under Q.29: *Are the shops selling fresh healthy food accessible?*) rather than to any actual lack of availability. In particular comment was made about the desirability of a closer general store for the purchase of convenience goods such as bread and milk.

Currently the closest shop to Renwick is a Coles Express store as part of a petrol station located on the Old Hume Highway approximately 1.3 km (a 16 minute walk or 3 minute drive by car) from Renwick. This store does not retail any fresh foods. Food items in this store are very limited and have an emphasis on snack foods. There is bread and milk available but no fresh foods.

A general store is planned as part of the future Village Centre. It will be important that this store include fresh foods given it will be the most accessible shop for residents. This will require specific attention given the market catchment, and therefore viability, of the Village Centre is likely to remain small. One response might be to ensure the floor areas available are such that businesses with a regional rather than just local catchment could locate there if an operator so desires.

A viable fresh food store in the Village Centre will also in part serve to address participant comment about a current lack of a neighbourhood focus in Renwick, and as such also increase the potential for incidental social interaction.

A final point is worth noting. One comment in the focus group raised the 'dilemma' of an over availability of richer gourmet foods in the region generally, as a result of its role in servicing a niche market in this regard for visitors from Sydney. As the comment suggested, this availability raised the temptation to over-eat:

In this list of things about what I should be doing to keep 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!

Q. 28. Are the shops selling fresh healthy food accessible?

The placement and relative accessibility of supermarkets, green grocers, and farmers markets can promote or hinder consumption of healthy foods.

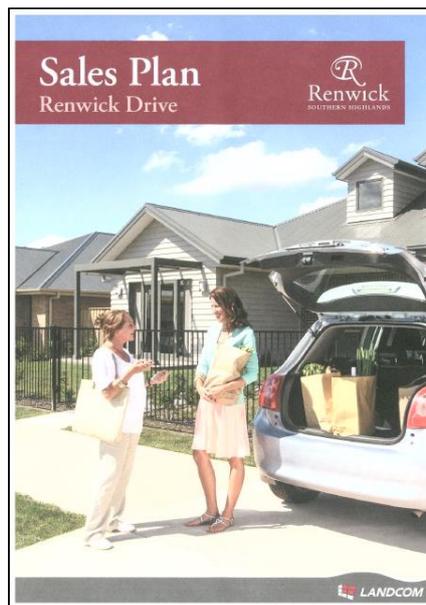
Yes, though with some expressions of dissatisfaction.

Although there are no shops (selling food or other goods) currently within Renwick itself there does not appear to be any critical deficiency in respect to the accessibility of fresh foods. There is a good range of shops and other sources of fresh food in the general locality. The main location of food shops in Mittagong (Highlands Market Place) is 4 kilometres from Renwick, about a 50 minute walk

or 10 minute car trip. Accessing this location, and other food sources, by car is not currently an issue for residents given their 'default' use of the car for all other destination-trips.

Participants were asked how long it took them to travel to their most frequent place for fresh food shopping. All advised that it took them between five and fifteen minutes which can be considered to be a reasonable travel time. This 'default' mode of accessing food is captured, perhaps unwittingly, in an image in an early sales brochure for the estate – and which, positively, includes shopping bags of obviously fresh food (Figure 4.3).

Figure 4.3: Sales Plan brochure cover. Landcom. March 2013.



That said, five out of 20 participants (25%) indicated a level of dissatisfaction with their access to fresh food shops. Three matters were raised when this was further discussed in the focus group.

- (i) The first relates to overall convenience. Instructively it also indicates an apparent lingering desire to be able to walk to food shops rather than having to use the car, as illustrated in this conversation:

So are you saying, or suggesting that you think you're not eating sufficient fresh fruit and vegetables at the moment?

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.

This issue will be potentially resolved with the establishment of a general store in the Village Centre – though as noted particular attention will need to be given to the 'management'

aspects of the provision of this store to ensure that it does actually provide an appropriate level of fresh food retailing. As suggested in the focus group successful attention to this will also yield the co-benefits of increasing physical activity through increased use of 'active transport' modes, and increased social interaction.

- (ii) Some frustration was also expressed about the cost of fresh foods sold in non-supermarket shops. This concern arose in conjunction with comment about a 'blandness' (actual freshness did not appear to be questioned) of produce sold in supermarkets.

Are there places to buy fresh fruit and veges in Mittagong other than the supermarket?

Yes.

Yep there's one.

There's a vege shop and it's quite expensive I find.

It's expensive - yeah I think it's expensive.

There's Harris Farm but you've got to go to Bowral. See that's the problem if it was here, you'd come and go to it. You've got to go out to get what you want. You're sort of put off

You sort of say to yourself 'I'll go later in the week', so what do you do in between?

I find it expensive.

It is nice I love shopping there.

But expensive isn't it

It is.

If it was - that's the thing I found that if you go to the big supermarkets their fruit and vegetables they just taste so bland. That's one of the things we like about here is that if you buy fresh grown - whether it be eggs or whatever it just tastes so much better.

- (iii) Mention was made about a specific lack of access to a fresh fish retailer, again in conjunction with an unwillingness to purchase seafood from a supermarket. The resultant conversation also revealed a not-uncommon dilemma for new residents (which in part a 'Welcome' program seeks to address), being a lack of local knowledge about availability of particular services and facilities. In this case it was a lack of awareness of a travelling van which sold seafood, though it is also noted that:

- the van only visits one day a week, and would not be accessible for residents who work weekdays.
- there was still confusion as to whether there was one or two such vans.
- it was not clarified at the time whether the produce sold was fresh or frozen.

One thing that's missing from the Highlands actually which I miss from moving up from Wollongong is a fish market.

There's no fish around here.

To buy seafood from Woolworths or Coles it's just not the same as a fish market.

You've got the one at BP and the one at Anchors but they're only there only there one day a week.

Yeah Friday isn't it?

How do you know when they're going to be there?

They're always at the same time.

Always there Friday. Always the same day.

A frozen truck comes up it's only once a week...

Although not specifically mentioned by Study participants, there may be issues in the future regarding accessibility (for all facilities, not just in relation to fresh food and other shopping) if residents are no longer able to use their car due to age or some incapacity. This would be resolved by having a fresh food shop in the Village Centre but, as already discussed, this may require specific management attention to ensure an appropriate range of foods is provided at reasonable quality and price. Other potential actions would include:

- the facilitation of alternative transport modes into Mittagong in order to increase accessibility generally, as discussed in section 4.1.
- the facilitation of a diversity of opportunities to retail food within Renwick itself, as discussed under Q.32.

Q. 29. Is there a relative over-abundance of shops selling energy-dense, nutrient-poor food?³⁹

The placement and relative accessibility of fast food outlets, pubs and convenience stores may entice consumers away from or even prevent consumers from purchasing healthier alternatives.

Not currently applicable. Requires future consideration.

This is not an issue because there are no shops currently within Renwick itself. Participants did not raise any concerns in this regard in respect to the wider region, and themselves appeared to have a reasonable level of motivation to eat healthily.

It is however a potential issue in respect to the future make-up of shops within the planned Village Centre particularly if there is insufficient market demand to support the retailing of fresh healthy foods. This will be difficult to control through the standard Council development approval system which has limited powers to consider such matters. Rather it should be given consideration through the intended ownership and management of the new Village Centre itself.

Q. 30. Do participants have an ability to grow healthy food?

The provision of space and resources may encourage people to grow some or a lot of their own food. This assists freshness and thus nutrition, and also raise interest and awareness of healthy eating generally. Visibility of fresh food growing can also raise such interest and awareness.

Yes, generally.

³⁹ Food that has both high levels of energy (energy-dense) and low levels of nutrients (nutrient-poor) (EDNP in abbreviation) are regarded as being essentially unhealthy, leading to poor dietary outcomes. Such food tends to be characterized by high content levels of fats and sugars. Examples include what are typically referred to as 'fast' takeaway foods as well as many pre-packaged/processed 'snack' foods. See, for example: http://www.publish.csiro.au/?act=view_file&file_id=HE11210.pdf.

The general size of allotments means that most residents have the ability to grow their own foods within their own yard space.

Although the growing of food is not specifically mentioned within the marketing material for the estate, it is consistent with the idea of the 'rural' lifestyle which is promoted. In practice, 55% of participants indicated they grew their own food and for some this is undertaken keenly although there were differing opinions in the focus group as to the suitability of the local climate, and the consequent amount of work required.

The Audit noted that edible gardens could be seen within the rear yards of a number of properties, and occasionally within front yards. Such visibility is also conducive to social interaction and to the awareness of fresh food and nutrition generally. This was supported by comment at the focus group, particularly in relation to the extensive produce garden of one particular resident (who was also a participant in the Study).

Interview comment about growing own foods:

- Grow moderate size passionfruit, apple trees, lemon tree, peach and nectarines; herbs; blueberries. In front and back yards.
- Grow tomatoes and strawberries in backyard in pots.
- Grow lettuce and tomatoes, rhubarb, lemons and herbs in vege beds in the backyard.
- Grow food in the backyard and front yard – 6 fruit trees, 4 different citrus trees, potatoes, herbs, tomatoes, lettuce, strawberries.
- In backyard have 6 kinds of citrus trees, 18 raspberry plants, blackcurrant, tomatoes, rocket, lettuce, strawberries, asparagus, rhubarb, apple tree, fig tree. Mulberry tree in front yard. Have plans for several other fruit trees and a 40 square metre vege patch.
- Grow vegetables (all kinds), fruit trees (apples, cherries, peaches, lemons, mandarins), herbs. In the backyard, 4 vege beds and fruit trees around the fence line.
- Working towards self-sufficiency – have just started a garden. Vegetables, fruit trees, herbs, berries. Hoping to have chickens. Use both back and front yards.
- Grows lemons and oranges.
- Grow herbs (parsley, rosemary, sage, basil) and lettuce in a garden bed.
- Vege patch in backyard. Grow whatever's in season – tomatoes, cucumbers, spinach.
- Planning to put a vege garden in when more settled (3 participants)
- Would be interested/ keen to join a community garden if they set one up (6 participants)
- Would be interested in growing food in a community garden to donate to a charity like Meals on Wheels.
- Planning to grow herbs and veges when garden is set up. Maybe will have some chickens too.
- Setting up garden – planning to grow veges and herbs. Mostly in back yard, but herbs out the front. There is a community herb initiative.

A neighbourhood 'herb network' established by the initial Community Development Facilitator was mentioned at the focus group. Although the actual aim of this project is not known it is likely that its emphasis was more as a way to initiate social interaction between early residents. The subsequent Community Development Facilitator was not familiar with this project. It may be worthwhile to establish whether it is still of interest to residents.

There is no community garden in Renwick. When asked in the interviews whether they thought a community garden was important in keeping healthy only eight out of 20 participants (40%) gave it some level of importance, with 10 participants (50%) indicating it was not important. This response may be a result of residents having sufficient space within their own allotments to grow food.

However, some six out of 20 participants (30%) did also indicate a potential interest in joining a community garden, with one indicating an interest in growing food to donate to local charities. It was also the subject of discussion at the focus group. There is ample open space areas within the estate to establish a sizeable community garden. It would be worthwhile to investigate whether there is sufficient interest in this, particularly given:

- (i) community gardens can also facilitate social interaction.
- (ii) it may be of interest to residents in the future higher density areas which will have less available personal yard space.

The following conversation from the focus group details both the difficulties and the opportunities relating to food gardening in Renwick:

In the interviews lots of people talked about growing their own food. But for some of you here there seems to be some difficulties in this. What are the reasons?

Time.

Time.

The time it takes to maintain it?

Probably, yeah.

Also frost - in winter.

Yes, it's too cold.

You can grow tomatoes but that's about all.

But Karl grows everything!

Set a stall up - we'll come and buy it !

So, what makes it successful for you?

I just designed the garden to be a fruit and vege growing area. I've got planter boxes growing vegetables. I have fruit trees espaliered along the fence. Just things like that - compost heap, garden sheds - all designed around growing veges. It's a hobby of mine - an interest of mine.

I sounds like it would take a bit of time.

I've retired so

Once you set it up maybe half an hour a week. You can grow quite a few veges just with that sort of time commitment..

Does your garden satisfy most of your needs, and do you feel like you eat well because of it?

There are certain times of the summer season when we're not buying very much veges or fruit at all – just topping up on a few odds and ends that we're not growing.

That's good.

I heard from someone that being able to grow your own veges and so on was part of the marketing for Renwick. Was that the case?

They've talked about it but it hasn't happened. [continued]

Why hasn't it happened?

You could do a community garden.

A community garden yeah.

I don't know if that's been allocated but you could easily have a community garden. It certainly works in Sydney. Here we've got the space but I don't know if that's been thought through yet.

I asked about that when I went to one of those information sessions and the lady said we had to organise it ourselves. They're not doing it.

I don't think there's been anything put aside from the point of view of land.

I know from the interviews that there are quite a few people who would be interested in a community garden.

Especially people who are not good gardeners like myself if I can just pitch in and there are other people and it will grow for me.

A workshop person that could help us.

It doesn't have to be huge.

No.

In Chester Hill where there's houses everywhere there's a spot where they decided with Council this will be a community garden. It's been going gangbusters for years. Everyone grows everything and they just all drift in. Like you wouldn't think where it is that - it's sort of like wow why is this here? It was there because people said well we just don't have the room or the time or whatever. I think it was more the room or the know-how. So they came together and away they went and they all share and do what they do.

Q. 31. Can (farmed) healthy food be sourced (fresh) close to participants?

Healthy food needs to be fresh. Ensuring agricultural areas close to urban areas are retained can assist by reducing the necessity for extensive transport infrastructure to get food grown elsewhere to urban areas within critical time-frames, and reduce need to treat food to maintain freshness. Visibility of fresh food growing can raise interest and awareness of healthy eating generally.

Yes.

Renwick is within a rural area, although farming activity is varied and not particularly intense.

Participants did not indicate any particular use of farm shops or the like to source fresh foods. However 12 out of 20 participants (60%) indicated they visited a farmers' market; though only one participant said it was their principle source of fresh food, and the rate of attendance is a little less than the number of participants (14 out of 20, or 70%) who indicated that being able to go to a farmers' market is important in keeping healthy. The motivation of one participant was summarised in a comment at the focus group:

... that's the thing I found that if you go to the big supermarkets their fruit and vegetables they just taste so bland. That's one of the things we like about here is that if you buy fresh grown - whether it be eggs or whatever it just tastes so much better.

There are three nearby farmers' markets:

- (i) in Mittagong, held on Saturdays twice a month from 9am to 3pm at the Uniting Church. This is about a 40 minute walk or 5 minute drive from Renwick.
- (ii) in Bowral, held on Saturdays once a month from 8am to 1pm at the Public School. This is about a 40 minute cycle or 10 – 15 minute drive from Renwick.
- (iii) in Bowral, held on Sundays once a month from 10am at Biota Dining, a private commercial venue.

The survey of farmers' markets as part of the Community Food Assessment did not include the Mittagong Markets given they did not at the time fit the criteria as a farmers' market. Since then the range of produce for sale has changed such that it would now fit the criteria. The two markets at Bowral were surveyed. Of these the Biota market sold only limited produce (on the day of the survey it consisted of potatoes only) and as such was not further included in the assessment.

As shown in Table 4.4 the survey found that the Bowral Public School market had a significantly higher level of produce sourced from either the stallholder's own farm or from the local area than the average for all farmers markets in Sydney surveyed. A survey of the retail cost of selected produce also showed that some 78% of items were either similar to or cheaper than the average for all farmers markets surveyed in Sydney.

Table 4.4: Source of market produce.

Source of produce *	Bowral Public School market	All markets surveyed
Own farm or property	4 (36%)	26 %
Within local area	6 (55%)	20 %
Within state	7 (64%)	27 %
Interstate	4 (36%)	15 %
Overseas	1 (9%)	12 %

* The figure represents the number of stallholders stocking produce from a particular source. Most stallholders sourced their produce from more than one location.

Q.32. Is there a diversity of sources available for the sale or other distribution of healthy food (eg. markets, co-ops, food trucks)?

Maintaining a diversity of potential outlets for healthy food (ie. not just shops and supermarkets) increases the potential for variety of food available, responsiveness to particular local demands and needs, and fresh food environments that will also facilitate a variety of incidental social interactions.

Not currently applicable. Requires future consideration.

Within Renwick itself the only planned location for retail or commercial activity is within the future Village Centre. The make-up of the Centre is not yet finalised, but is proposed to comprise a general store and two or three other shops.

It would be desirable for the other shops to be available for alternative food sources. However the practicality of this also needs to be recognised – they should complement rather than take business away from the proposed general store in order to ensure the viability of the overall Centre and, as discussed, the market catchment for all businesses is likely to be small.

That said, the management of the Village Centre should allow for the possibility of different food sources to become established whether permanently, part-time or intermittent, including on public areas and roadways. Examples include stalls, markets and food vans. This would permit lower-cost smaller-scale retailing commensurate with the smaller available market in Renwick.

The focus group discussion included some examples of these possibilities. One is the existing van that sells fresh fish once a week in Mittagong. The other was the suggestion of a similar arrangement for the selling of fruit and vegetables, and which sparked a reminiscence of just such a previous arrangement in a nearby town:

... 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.
Yeah or a truck that comes in regularly.
Yeah.
Yeah, once upon a time in Bowral, in the earlier days in Bowral we used to have a truck that used to go around. He had fruit and veges on the truck and you could just go out and you knew what day he was going to come through and you'd just go out and just get what you wanted to get from him.

Q. 33. Might eating habits be adversely affected by local advertising?

The relative marketing and advertising of healthy and unhealthy foods influences consumption habits. Public exposure to signage advertising healthy food in, around and near public spaces, sporting grounds and schools may affect patterns of consumption.

Not currently applicable. Requires future consideration.

There are currently no advertising signs in Renwick. This is also likely to be the case in the future given the residential zoning of the estate. The zoning of the proposed Village Centre does permit advertising signs however its small scale means that large advertising signs are unlikely.

The future management of the Village Centre should give attention to the relative advertising of healthy and non-healthy foods.

Q. 34. Is the presence of healthy food options visible?

The relative marketing and advertising of healthy and unhealthy foods influences consumption habits. If healthy food options are hidden away they are less likely to be taken up.

Yes, in private gardens; otherwise not currently applicable but requiring future consideration.

There are no fresh foods sold in the closest shop to Renwick, the Coles Express store attached to a petrol station on the Old Hume Highway. This shop does though sell other foods, various of which would fall within the category of energy-dense and nutrient-poor, and as such the relative presence of healthy and non-healthy foods here is not favourable.

The future management of the Village Centre should give attention to ensuring that this situation is not replicated in the proposed food store there.

As noted, the growing of fresh foods within some private gardens is visible from the street. The establishment of a community garden would reinforce this positive contribution.

Summation – Nutrition.

- (i) The general availability of fresh food in the locality does not present problems for residents even though there are no local shops as yet in Renwick, and access to shops in Mittagong and Bowral necessitates a car trip.
- (ii) There appears to be sufficient awareness amongst participants of the importance of fresh food. One adverse temptation was however specifically mentioned – the possibility of over-consumption of the rich gourmet foods that are abundant in the region.
- (iii) The current need to access food shops by car is not seen as an imposition by residents given travel by car is used for all other destination activities. That said:
 - (a) the establishment of a direct cycleway to Mittagong may encourage ‘active transport’ to food shops there.
 - (b) other alternative transport modes into Mittagong may need to be canvassed to cater for residents who may be unable to drive in the future (and to also access other services, not just food).
 - (c) there is a stated desire for a food shop in Renwick that residents can walk to.
 - (d) the encouragement of a diversity of food retailing options within Renwick itself (eg. stalls, markets, food vans would assist in catering for different food needs without the need to travel to external locations.
- (iv) Comment about the current lack of a local fresh food shop in Renwick was primarily in relation to the lack of a neighbourhood social focus and the convenient purchase of forgotten items within walking distance. Importantly, such comments were made in the context of an understanding that a general store would be established in the near future, suggesting a high expectation that:
 - (a) such a shop will be established within a reasonable time-frame.
 - (b) it will reail items that meet participants’ awareness of the importance of fresh foods.
 - (c) its operation will also deliver positive social interaction outcomes.

The way in which the Village Centre is designed and managed will need to give explicit attention to these matters; and to an overall prominence of healthy food shops (and advertising) relative to other foods. It is not known if the Renwick population will support local retailing of all fresh food needs – but provision of different scaled retailing opportunities (larger floor space premises to encourage regionally-targetted businesses; smaller-scale pop-up businesses) could assist.
- (v) There are a number of farmers markets in the locality. The market surveyed in Bowral demonstrated a high level of quality and lower prices on average compared to all Sydney markets surveyed. Subsequent to the Community Food Assessment there is now also a farmers market located in Mittagong.

- (vi) Residents generally have sufficient yard space to grow their own food, though the propensity to do this is variable. Some do so keenly, while others cite time and climate as constraints. A community 'herb network' had previously been established, though its currency is not clear. This could be investigated to determine whether it should be re-invigorated.
- (vii) Participants cite an interest in a community garden. This will require a specific allocation of land from the areas planned as general open space. This is considered potentially worthwhile in conjunction with an appropriate management structure, and interest should be canvassed. A community garden will give additional visual presence to healthy foods and facilitate social interactions and physical activity. The format could be as individual planter beds in a common area and/or, given the large areas of open space that are available, as 'allotments'.
- (viii) There is no current advertising or availability of any food (healthy or non-healthy) in Renwick itself. This is unlikely to be a concern in the future given the residential zoning of the suburb and the small-scale nature of the business zoning of the Village Centre.

4.4 Wellbeing - the overall attributes of Renwick as a healthy place.

Introduction.

The previous sections (Sections 4.1 to 4.3) have assessed the Study findings against the known healthy built environment determinants as described in each of the three domains and seven key actions identified in the earlier literature review, and the related series of 34 questions.

This Section takes a further look at these findings, now from the perspective of the ‘overall’ relationship between the physical make-up of Renwick and the health of its residents. In this sense it is about how all the elements of Renwick interact to generate a level of ‘wellbeing’. It is structured around four topics:

- (1) participants’ overall satisfaction with Renwick as a ‘good place to live’ and in terms of whether they would be ‘sad to leave’.
- (2) participants’ overall satisfaction with specific health-related matters as experienced when living in Renwick.
- (3) the degree to which participants have access to the factors they need to keep healthy.
- (4) the nature of any on-going annoyances expressed by participants.

The assessment in item (2) draws in particular on responses to a series of questions asked in the interviews. The results are illustrated in Table 4.5, in two ways:⁴⁰

- (i) by including the *actual numerical* total of participants citing the particular ‘level’ of satisfaction with the particular matters asked in the interview questions (out of a total of 20 participant interviews).
- (ii) by representing the *relative* levels of satisfaction and dissatisfaction with the various matters via bands of shading. Darker bandings represent higher ‘scores’ or numbers of participants citing a particular level of satisfaction; the lighter bandings represent fewer numbers of participants citing that particular level. When looking at the Table as a whole they give a quick visual indication of:
 - whether participants are *overall* satisfied or dissatisfied with the experience of living in Renwick (as measured through this list of specific matters).
 - those matters which stand out (i.e. as darker shadings) as leading to high levels of satisfaction, or to high levels of dissatisfaction and thus requiring attention.

⁴⁰ The list of matters is the same as those used in a similar study of Selandra Rise, a new residential estate in Melbourne, Victoria (*The Selandra Rise Neighbourhood Health and Wellbeing Survey*; Maller, C. & Nicholls, L. (2012), unpublished research, RMIT University). They were chosen as a way of enabling future comparative assessments of projects in different areas in Australia. However, two matters have been deleted from Table 4.5 on the basis they are not directly applicable to the healthy built environment focus of this Study: ‘access to major roads or freeways’, and ‘access to car parking in your street’.

Table 4.5: Living in Renwick - overall levels of satisfaction.

	STRONGLY DISSATISFIED	SOMEWHAT DISSATISFIED	NEITHER SATISFIED NOR DISSATISFIED	SOMEWHAT SATISFIED	STRONGLY SATISFIED	DON'T KNOW/ NOT APPLICABLE
1. Access to public transport in your neighbourhood.	2	2	7	6	2	1
2. Travel time to work.			1	8	6	5
3. Travel time to your place of study.	1					19
4. Travel time to children's school or place of study.	1			1	7	11
5. Speed of vehicle traffic in the local streets near your home.	3	4	4	4	5	
6. Traffic noise near your home.		2	1	9	8	
7. How easy and pleasant it is to walk in your neighbourhood.			1	6	13	
8. How easy and pleasant it is to cycle in your neighbourhood.		1	4	6	7	2
9. Safety from threat of crime in your neighbourhood.			1	7	12	
10. Personal safety in neighbourhood streets after dark.				6	13	1
11. Access to entertainment in your neighbourhood.	2	2	6	7	2	1
12. Access to fresh food shops in your neighbourhood.	2	3	2	7	5	1
13. Access to cafes and restaurants in your neighbourhood.	2	3	1	9	4	1
14. Opportunities to meet people in your neighbourhood.			5	7	8	
15. Number of friends you have in your neighbourhood.			3	7	9	1
16. Number of people you know in your neighbourhood.			4	5	11	
17. Child care in the neighbourhood.	2		1	2	1	14
18. Primary schools in the neighbourhood.		1		3	5	11
19. High schools in the neighbourhood.	1	2	1	2	4	10
20. Number of parks in your neighbourhood.	7	2	4	1		6
21. Quality of parks in your neighbourhood	7	3	1	1		8
22. Community Centres in your neighbourhood.	5	2			1	12
23. Access to medical services in your neighbourhood.	4		4	9	3	
24. Your neighbourhood as a good place to raise children.				2	8	10
25. Your neighbourhood as a good place to live.				7	13	

(1) Participants' overall satisfaction with living in Renwick.

Overall levels of satisfaction with living in Renwick are very high.

Participants were asked to rate their level of satisfaction with Renwick 'as a good place to live'. As shown in Table 4.5 (Item 25), there is an overwhelming positive response, with all participants (100%) advising they are satisfied, and 13 out of 20 participants (65%) indicating they were 'strongly' satisfied. This high level of overall satisfaction is also illustrated when looking at Table 4.5 as a whole in that the darker bandings of colour, representing higher 'scores', are clearly weighted towards the right-hand or 'satisfaction' side of the Table. As discussed below, the fewer higher scores of dissatisfaction (the left-hand side of the Table) tend to relate to aspects not yet provided in the estate given its early stage of development but which are planned.

Participants were also asked, in a separate question, whether they would be 'sad' to leave Renwick. The responses are similar, with 18 out of 20 participants (90%) indicating they would be sad to leave, and one participant each indicating they would not be sad to leave, or were neutral. This is considerably higher than both the NSW average (where 73.4% of residents would be sad to leave their neighbourhood) and for the Wingecarribee Shire (82.4%).⁴¹

This overall high level of satisfaction is usefully summed up in the following comment made at the Focus Group:

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.

The participant who indicated they would not be sad to leave did not indicate any particular dissatisfaction with any individual aspect of Renwick as asked in the interview (i.e Items 1 to 24 in Table 4.5). They did however indicate two additional matters of concern to them. One was the overall resultant density of Renwick as the estate was progressively developed. As they said:

- Building too many cottage homes. Packing them in. Some people wish they hadn't sandwiched themselves in – there's been a bit of conflict. Making people live on top of each other.

The other matter was, as earlier noted in Section 4.3 (Social interaction), a sense of some personal exclusion from social activities in Renwick on the basis of difference in household make-up.

⁴¹ NSW Ministry of Health (Centre for Epidemiology and Evidence): *NSW Adult Population Health Survey 2008-2010* (refer Attachment 2 to this Report: Health Assessment and Population Profile).

(2) Participants' overall satisfaction with specific health-related matters.

In addition to the more composite matter of 'your neighbourhood as a good place to live', participants were asked to rate their levels of satisfaction with the 24 individual matters relating to living in Renwick (Items 1-24 in Table 4.5). As noted above, there is a generally high level of satisfaction with most items; though also with some 'stand-out' items generating high levels of dissatisfaction, in particular the speed of traffic in local streets, the number and quality of parks, community centres, and, to an extent, access to medical services.

Most of these responses have been discussed in the preceding sections relating to each of the three domains of physical activity (refer Items 1, 7, 8, and 21), social interaction (refer Items 9, 10, 14, 15, 16, and 22), and nutrition (refer Item 12). In summary:

- There are high levels of satisfaction with the ability to walk and cycle in Renwick, and this should improve as internal and external walking and cycling links are progressively implemented.
- The low levels of satisfaction with the quality of parks is one of the 'stand-out' matters of concern, and is relevant in that the provision of active recreation facilities can encourage physical activity. At the time of the Study there were no parks constructed and satisfaction levels should increase as these works are completed particularly given that some 25% of the estate is to be dedicated as open space. However, there also needs to be attention to amending these works as proposed to include facilities for active recreation, not just for the passive pursuits currently envisaged.
- There are reasonable levels of satisfaction with the provision of public transport (a form of 'active transport') even though public transport use is very low. Given the viability of public transport in this location will always be difficult, additional emphasis will need to be placed on encouraging walking and cycling as a way of contributing to achieving necessary levels of physical activity.
- There are high levels of satisfaction with the ability to meet people and with the number of people that participants know in the area, with no levels of dissatisfaction expressed.
- There are also very high levels of satisfaction with actual and perceived levels of security in Renwick (and which can be a factor in assisting or hindering social interaction), with no levels of dissatisfaction expressed.
- However the number of 'neutral' responses in relation to these 'social interaction' aspects also indicate the situation could be better. As discussed in Section 4.3 potential reasons for this relate to the early stage of development of Renwick, to lack of time, and to age differences. It is possible that some of these will be addressed once the neighbourhood centre, the associated community centre, and the planned parks are constructed; and a greater 'pool' of people to get to know is established as the estate develops. However this will also depend in part on specific management actions to ensure the community centre facility is appropriately targeted, and that there are also, for instance, group recreation activities established.
- The dissatisfaction expressed in relation to about community centres is likely to, again, be primarily a factor of the current early stage of development of Renwick. A community centre is proposed as part of the neighbourhood centre, and is included in the Voluntary Planning

Agreement. It is intended to service the wider locality and as such should assist in expanding overall opportunities for social interaction for Renwick residents. At the time of this Report a study of needs for this Centre has been undertaken by UrbanGrowth NSW and was under consideration by the local Council. Attention will though need to be given to ensuring the on-going management of the centre in terms of facilities and programs offered and operating hours, is targeted to need. A similar appraisal of existing facilities in Mittagong may also be beneficial (the opening hours of the library were for example raised by some participants).

- 12 out of 20 participants (60%) indicate they are satisfied with their access to fresh food shops, even though there are currently no shops at all in Renwick, given a good range of shops in Mittagong and nearby Bowral, and the high level of mobility of residents.
- This means there is also a reasonable level of neutral or dissatisfied responses (8 out of 20 participants, or 40%) which, from discussion, generally relate to the lack of a food shop in Renwick itself. Reversal of these levels of dissatisfaction will though depend on specific management action to ensure this shop (or shops) does actually stock fresh foods, is open at extended hours to cater for residents with long commutes, and yet remains affordable. It would also be appropriate to provide for and encourage other types of food outlets (permanent or casual) in the proposed neighbourhood centre, such as food vans, market stalls and the like.

In addition, the responses indicate two further matters generating high levels of dissatisfaction and as such should be given attention:

- (i) Concern about the speed of traffic in local streets (Item 5). Discussion in the Focus Group indicated that this is primarily in relation to Renwick Drive and relates to its use as a short-cut and through-route by external traffic. It may be possible to address this by designing the section of Renwick Drive adjacent to the proposed neighbourhood centre in a way that increases 'friction' and so also slow vehicle speeds. If not, additional measures will need to be investigated and implemented.
- (ii) A concern about access to medical services (Item 23). This was not further explored in the Study. It is worth following up to ascertain the exact nature of any deficiency and the extent to which it can be addressed.

(3) Access to factors participants advise they require to keep healthy.

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

- those matters they currently had access to, and as such were currently assisting them to keep healthy, and
- those matters they currently did not have access to, and as such, if available, would 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 participants could advise (see Section 3: 'Methodology'). The responses to all questions are shown in Table 4.6.

Most matters 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). Additional matters that fall outside of the three domains were also identified by the participants. They are shown circled in Table 4.6.

Matters relating to the three domains.

The responses to the questions about matters participants do or do not currently have access to are shown in Columns 2 and 3. The matters that can be addressed through built environment actions are highlighted in two ways:

- actual 'direct' built environment matters are shown in darker highlighting.
- associated, more 'management' related items are shown in lighter highlighting.

Addressing these matters will assist participants to achieve the things they list as important for their health and which they also need to give more attention to in terms of their personal behaviour (Column 4).

There are relatively few built environment matters cited in Column 3 (matters participants currently had access to, probably reflecting the early stage of development of Renwick where as yet relatively few facilities have been constructed. The 'open', 'rural' nature of the estate which was an explicit design intention is however mentioned, in terms such as 'quiet', 'peaceful', 'mountain views', etc. This early stage of development and associated lack of existing facilities is also reflected in Column 3 (matters participants do not currently have access to but consider that they need) where the majority of the matters listed comprise things that can be addressed through built environment actions. Most matters listed have already been covered elsewhere in this Report. Importantly, most comprise matters which are included in the existing master plan to be provided either on-site or off-site (as part of the Voluntary Planning Agreement). Many of the entries do however emphasise the importance to amend some of these existing proposals to better target need and/or give particular attention to how some aspects are to be delivered in order to ensure initial objectives are achieved. In summary:

- (i) The matter of closer local shops residents can walk to and use as a social meeting place will be addressed with the future development of the Village Centre. However particular attention needs to be given to the way the Centre is delivered to ensure it does provide the desired range and quality of services and opening hours, particularly given the limited market catchment. Success will assist all three of the healthy built environment domains: physical activity (access via walking and cycling), social interaction (places for both formal and incidental social contact), and nutrition (easy access to fresh food outlets).
- (ii) Current planning of recreation facilities in the open space areas appear to emphasise passive recreation and as such do not address a stated need for informal active recreation facilities as well. This needs to be reversed. The suggestion of a dog play area could also be incorporated.

Table 6: Focus Group responses: Renwick.

What I do to keep healthy.	What is helping me to keep healthy. (things I have now)	What I need to keep healthy. (things I do not have now)	What I should be doing to keep healthy.
Exercise	Work	Closer local shops (easier to walk to)	Exercise
Bike riding	Time	Closer access to shops and services	Exercise (more)
Walk / walking (5 entries)	Having time to do these things	Longer opening hours- library, cafes	Aerobic exercise
Bushwalking (walking)	Friendliness	Places for neighbours to meet and relax	Bike riding (2 entries)
Keep busy	Friendship	Meeting place for socialising	Longer [bike] rides 10 km/day
Gardening (4 entries)	Socialising	Close coffee shop	Extended walking -1 hr/day
Grow vegetables – and eat them	Reading	Sunny quiet café (easy to walk to)	Walking more
Balanced diet	Fellowship –church, club, etc.	Corner store to save taking car to buy one or two items	Walking
Watching diet	Peace & quiet	Shops (coffee, corner store, etc)	Stretching
Interact	Volunteering	Riding [cycling] companions	Lose weight
Church	Quiet-no noise relatively	Team sport for socialising	Lose a little weight
Read (2 entries)	Help others	Dog play areas	Gardening
Relaxation	Relations	Better bike	Check diet
Meditate	Natural beauty around us - good for the soul	Park/play equipment for younger families	Eat well (2 entries)
	Peaceful & quiet (little traffic & road noise) aids in relaxation	Oval/tennis courts to play team sports-particularly with children	Eat more fruit
	Clean air (2 entries)	Indoor space for exercises	Eat less
	Having a garden	Exercise equipment	Don't stress
	Close location to shops makes it quick and easy to purchase food	Less speeding -streets that do not encourage speeding	Worry less about the future
	Access to natural environment	Speed in Renwick Drive	Care more for my inner being
	Mountain views	Less (or slower) through traffic	Getting more sleep (2 entries)
	Traffic control	Car-free areas	Regular health checks at GP
	Safe walking paths	Side walk (footpath)	Camping
	Save place to walk	Shared footpaths	
	Walkways & cycle paths	Nice garden	
	Walking tracks assist in exercising safely	Support for native population of the area	
	Wildlife	Lots of green areas	
	Access to walking tracks	Clean water and air	
	Having a community park		
	Open spaces		
	Open space (to relax)		

- (iii) The matter of indoor facilities for exercise should be addressed in the current needs assessment relating to the development of the community centre, and in the management of the Police Citizens Youth Centre current (at the time of this Report) under construction.
- (iv) The need for better regulation of traffic speeds is dealt with above.
- (v) The reference to footpaths mainly relates to their provision on only one side of the street in some parts of the estate. As discussed in Q.12 this Study accepts that it is unlikely to be financially realistic in a low density estate such as Renwick to provide footpaths on both sides of the street. Further, the low likely traffic volumes is unlikely to mean that an unreasonable safety risk when crossing the carriageway and thus should not hinder overall walkability).⁴²

The inclusion of entries relating to wildlife, clean air and water and green areas in both Column 2 (existing matters) and Column 3 (matters that are required) is interesting. When participants in the focus group were asked about the reasoning behind these dual entries it was indicated that they reflect a concern that these existing attributes may be lost over time if not managed well. It suggests a quite possessive attitude by participants for the open rural feel of their area, which in turn is consistent with the marketing of the estate and the reason why many purchased there. Similar comment applies to the entry referring to car-free areas, and which in discussion was clarified to mean open space generally. Although, as the discussion indicates, there is an acceptance that this feel will change as the rest of the estate develops, there is also a noticeable tinge of 'regret'. This feeling is echoed in the comment included above made by the single participant who indicated that they would not be sad to leave Renwick. One can only speculate whether additional residents will also feel this way once the estate is more fully developed; and also whether any of this will have a detrimental impact on the actual health of residents. Alternatively, it may be that levels of satisfaction and health may be maintained or even increase as additional facilities are provided, such as including for active recreation in the open space areas, an easy-to-access neighbourhood centre, and easier walking and cycling links into Mittagong. The following responses are suggested:

- (i) the provision of the planned open space areas needs to be maintained as originally envisaged, and the central riparian open space area regenerated to encourage wildlife. The additional provision of more active recreation facilities as suggested elsewhere need to be designed in a way that maintains the general open ambience.
- (ii) overall building heights should ensure the maintenance of existing expansive outlooks to the surrounding locality.
- (iii) traffic volumes and speeds need to be managed to maintain a rural ambience.

Additional matters.

The matters raised by participants that fall outside the three domains are also worth noting. Most tend to relate to quite personal issues and behaviours. Some can however also point to potential built environment responses (either through the provision of physical infrastructure or the

⁴² Further, as discussed under Q.12, the situation is consistent with the NSW Health *Healthy Urban Development Checklist* which accepts that providing footpaths on both sides of the street may not be appropriate in semi-rural locations – and which would seem appropriate to apply here in Renwick.

management of that infrastructure or the provision of community services) in order to maximise the achievement of overall health. For example:

- the interest in meditation and reading could be complemented by meditation groups and book clubs, with the co-benefit of increased social interaction and also physical activity if active transport modes are used to get there.
- the support of a good local doctor could encourage more regular check-ups.
- an additional range of social activities could assist in 'keeping busy'.

(4) On-going annoyances.

As a final determinant of the extent to which the built environment of Renwick contributes to the wellbeing of participants the Study noted any particular annoyances that were expressed on the basis that:

- a low level of annoyances can suggest that participants are overall contented with the area, contributing to high overall levels of wellbeing and hence general health.
- certain on-going annoyances or an unreasonable number of concurrent annoyances can lead to an accumulation of frustrations which in turn may reduce wellbeing and impact negatively on general health.

Three annoyances became apparent, particularly during the discussion in the focus group.

Concern about the speed and noise of traffic generally along the main central access road (Renwick drive) is considered to be a valid issue requiring attention on safety grounds and as a constant potential 'intrusion' into residents' lives. Suggested ameliorative measures have been made above.

The construction of paved footpaths on one side only of certain streets has been discussed above and is not considered to be significant in terms of impact on participants' health. Similarly, comment in the focus group about the unreasonableness of current restrictions on driveway width (where they do not match the exact width of double-garages) is also not considered significant in terms of participants' health.

Summation – Wellbeing.

- (i) There are high levels of satisfaction with the experience of living in Renwick, suggesting that it supports a high level of overall wellbeing amongst participants.
- (ii) Expressions of dissatisfaction with particular matters primarily relate to aspects of the estate which are proposed but not yet established due to its early stage of development, rather than to any on-going deficiency. However, this situation also means that there are high expectations for delivery of these aspects as originally intended. This includes, in particular, development of the neighbourhood centre and the community centre, and the establishment of parks and associated recreation facilities within current open space areas.
- (iii) Similarly, there is a strong expectation that the general open and rural nature of the estate will be retained even though it is as yet less than 50% complete.
- (iv) The lack of any proposed active and group recreation facilities, whether formal or informal, is a particular deficiency in the current master plan and associated Development Control Plan provisions. This should be reversed.
- (v) The citing by participants of the importance of the various functions of the proposed neighbourhood centre, community centre and parks also suggests that attention needs to be given to not just constructing these physical facilities and spaces, but that equal attention will need to be given to their management to ensure the services they offer meet expectations.
- (vi) Two particular ‘annoyances’ are evident. Concerns about traffic speeds should be given attention through physical built environment measures. Access to medical facilities is initially more of a non-physical or spatial ‘management’ matter that needs investigating; if a spatial response is required this may need to be addressed in the design and management of the spaces in the proposed neighbourhoods centre and the associated community centre.

5. CONCLUSIONS – key needs for Renwick as a healthy built environment.

Introduction.

Renwick represents an early attempt by UrbanGrowth NSW to design-in to a new residential area a range of built environment features that will assist residents to establish healthy living behaviours. While such an objective has often characterised new discrete urban developments (the ‘garden suburb’ movement, and ‘Radburn’ planning being recent examples), the prompting of its inclusion here is perhaps unique in the current regime of property development – the desire to avoid a repetition of a current regional health statistic, being a particularly high level of obesity amongst residents of the Southern Highlands.

Part of the response by UrbanGrowth in this regard has comprised a formal collaborative engagement with the Heart Foundation in developing the design of the estate, including use of the Foundation’s *Healthy By Design* guidelines.

A further feature of the overall development is also important – that achievement of the healthy built environment objective is not reliant solely on the design of the estate itself but will also comprise contributions to existing facilities and the establishment of new facilities in the surrounding locality. This is by way of both in-kind works and monetary payments, the cost of which is then built into the land price.

The ability of this Study to fully assess the success of Renwick as a healthy built environment is limited by the current extent of development. A little less than half of the proposed residential allotments are complete and occupied; and the neighbourhood centre, development of the open space areas, and construction of off-site facilities are not yet commenced or completed. That said:

- parts of the estate have now been lived in for some two years.
- residents have been active participants in the Study, offering advices as to their experiences about living in Renwick and about future potential needs.
- sufficient of the physical built environment has been established to enable assessments as to whether it is likely to be conducive to the long-term health of its residents.
- a similar assessment can be made in respect to the overall master planning proposals.

Further, the current assessments even though to some degree preliminary provide a basis for future on-going comparative assessments of the success of the health-supportive objectives of the estate.

Co-benefits.

As evidenced in the Study findings there is a high degree of interrelationship between:

- individual physical aspects of the built environment,
- the ways in which that built environment is managed governed, and
- personal individual health-related behaviour.

In turn, these strong interrelationships also mean that actions or inactions in one area can have important leverage or flow-on affects in another. Positively, it can mean a compounding effect

whereby resources and attention applied to one matter can produce, often with no additional inputs, important benefits ('co-benefits') in another.

The comments in this Section and the subsequent Recommendations are drafted, in part, around these understandings.

Renwick as a healthy built environment?

Overall, Renwick presents as a healthy living environment.

Overall levels of satisfaction are very high and most of the matters participants consider as necessary for their health are either currently present within Renwick or the surrounding locality or are proposed in the near future as part of the estate master planning and subsequent development – again either within the estate itself or within the surrounding area.

However, although participants also currently present as being healthy, a maintained personal health will be dependent on continued sufficient physical activity, social interaction, and utilisation of opportunities to consume healthy foods. In this regard Renwick is somewhat of a leading-edge experiment in achieving healthy outcomes at this lower-density scale of development, lessons from which can then be applied in other locations in the area as a way of reducing the high levels of obesity in the region.

In addition to the expressions of satisfaction made by the Study participants themselves, assessment of Renwick from the perspective of the three core domains of what makes up a healthy built environment is also essentially positive:

- (i) although virtually entirely car-dependent, and with some residents having to make a long work commute, overall levels of physical activity are high with most residents achieving the minimum recommended number of hours of physical activity.
- (ii) there appears to be a high level of social interaction amongst estate residents, with a certain sense of 'community' discerned by the Study.
- (iii) there are no particular problems relating to access to fresh foods, and residents appear to understand the importance of healthy eating.

That said, continued attention to the original objective of supporting the health of residents will need to be maintained to ensure it does not become lost amongst the various issues that will invariably arise during implementation of the master plan and on-going management of the estate. In particular:

- (i) it is likely that achievement of the objective of a healthy built environment within Renwick itself will always be a struggle given the essential characteristics of the estate as outer-urban, lower-density and dependent on facilities that are scattered in the locality and which essentially require access by car. A further key concern will be whether the low total overall population, even in conjunction with residents of adjacent areas, will be sufficient to support a viable neighbourhood centre (enabling the retailing of fresh food, providing a social focus, and having extended opening hours, all able to be accessed via 'active transport') and bus route to the adjacent township and associated recreation facilities. Particular attention will likely need to be given to exploring and introducing innovative ways to achieve these outcomes.

- (ii) some deficiencies in how the original intentions in the master plan have been implemented are already evident. They serve as a ‘warning’ that sometimes even apparently small variations can serve to diminish the ultimate objective of facilitating healthy behaviours amongst the estate residents. For example:
- (a) the original master plan and associated Voluntary Planning Agreement envisaged good direct pedestrian and cycleway connections from the estate into Mittagong using local streets. This would have supported a greater use of active transport modes and is consistent with participant comment about a desire to use such modes if routes are direct and safe. However this feature has already been diminished because the connections shown in the master plan relied on the inclusion of privately owned land to the south-west of the estate, which has not been achieved. Further, participants, particularly those who are not currently comfortable with cycling but are willing to consider it as a future transport mode, have expressed concern in respect to both safety and amenity about the intended replacement cycleway route that follows the Highway. The establishment of a new cycle path along Renwick Drive to meet the Highway is likely to remain underutilised because of this and because a critical link across a railway line to an established cycle path is missing.
 - (b) although the estate planning provides for substantial open space areas including, beneficially, the retention and rehabilitation of natural areas, the current vision in terms of facilities appears to be for passive recreation pursuits only. The need for active recreation facilities appears to have been addressed via inclusion of provisions for pedestrian and cycleway links to existing facilities in Mittagong and the funding of a ‘leisure centre’ in the Voluntary Planning Agreement. Inadequacies in respect to the ‘active transport’ linkages are noted above. The leisure centre contributions have now been re-directed to a Police Citizens Youth Centre (PCYC). The Study has not reviewed the logic of this decision; though it is noted that there is an extensive range of active recreation facilities already in the locality, and a PCYC is likely to be beneficial in providing activities directed to the younger generation of Renwick residents. Project participants have however expressed a need for facilities in Renwick itself that would cater for active and group recreation activities. There would appear to be sufficient available open space for such facilities. These can be provided in an informal way (eg. a paved area that can be used as a ball court, and open grassed area that can be used as an oval, exercise stations that can be used by individuals) to reduce both establishment and on-going maintenance costs.
 - (c) while the developers to be congratulated in negotiating the routing of the local bus service through Renwick, discussion with the Study participants also suggests that its current impact is minimal other than for school children given a confusing one-way ‘loop’ routing, timetabling, and passenger pick-up arrangements.
 - (d) the configuration of some pedestrian and cycle paths suggests only limited consideration of the practicalities and ease of use, particularly for cyclists. Examples include some intersection designs that include sweeping, large diameter corner alignments that encourage higher car speeds and dislocate straight-line movements for pedestrians and cyclists; and the access path to Mary Street which includes seemingly

unnecessary right-angle junctions that are similarly contrary to pedestrian and cyclist desire-lines.

Key needs for Renwick as a healthy built environment.

(1) Encouraging adequate levels of physical activity.

Although residents currently achieve minimum recommended number of hours of exercise, such activity is predominantly on the 'moderate' scale and comprises primarily gardening and recreational walking around the estate. Additional more strenuous physical activities need to be encouraged. Suggestions are:

- specific attention to facilitating longer walking and cycling trips, from the estate to existing destinations in Mittagong. This will involve implementation of intended walking and cycle paths, but with review to ensure the routes are direct enough to encourage use (given the original routing in the master plan cannot be achieved, and safety concerns in respect to routes that follow the Highway. Ensure there are sufficient secure bicycle parking facilities at destination points.
- incorporation of informal *active* recreation facilities within the development of the open space areas of the estate (the current plans only refer to passive facilities). Examples include exercise stations, paved ball court(s), a tennis court, and an informal oval space.
- the establishment of 'non-built' services such as group exercise classes, allocation of off-leash dog areas, and the promotion of the existing 'evening stroll' by some residents.
- the establishment of a community garden or allotment spaces, which will also achieve 'healthy food options' objectives.
- determining the location of and range of activities to be provided within the intended Police Citizens youth Centre are determined in collaborative engagement with residents to ensure a close fit with need and hence uptake.
- promotion to residents of existing public and private active recreation facilities in the locality in order to raise awareness of their existence.

(2) A more legible and usable local bus service.

The existing bus service into Mittagong needs to be made more legible and promoted. The routing also may need to be reviewed to ensure it gives sufficient service in both directions.

(3) Specific action to ensure the *vibrancy* of the proposed neighbourhood centre.

The development of a *vibrant* local neighbourhood centre will assist it to become an additional destination within the estate and as such encourage walking and cycling trips and establish additional opportunities for incidental and formal social interactions. This will require close attention to the type and range of retail and other facilities available including a relative dominance of healthy rather than non-healthy food retailing, and to opening hours. These may need to be built into tendering or leasing arrangements. The range of activities

currently proposed within the Development Control Plan provisions for the centre are consistent with these needs; care needs to be taken to ensure they do not become watered-down in the implementation stages. (As an example of how to achieve this, there could be a variety of different sized spaces and operators during different times of the day/night, as in a 'market' style, with then different rental levels reflecting the different likely patronage).

(4) Ensure residents in future stages do not default to the car for local trips.

The directness of proposed walking and cycling routes from the future development areas in the north-east of the estate, particularly to the neighbourhood centre, should be tested on-the-ground in terms of directness and other viability to counter the potential for residents in these areas to 'default' to using their car. Where joint pedestrian/cycle paths are proposed this should also include an assessment of adequate width and how joint use can be managed to maintain amenity for both user types. All new residents in this area could be provided with a free shopping trolley to encourage them to walk to the new neighbourhood shop(s).

(5) Control traffic speeds along Renwick Drive.

Existing concerns about the speed and volume of through-traffic movements need to be addressed, both as a potential pedestrian/cyclist safety issue and in terms of impact on overall amenity. A higher level of 'friction' along Renwick Drive may need to be considered and/or a closure to remove through traffic all together (or force it onto a longer more circuitous route once the roads within the eastern precincts are constructed. The indicative plan for the neighbourhood centre included in the Development Control Plan (with angled on-street parking, street-tree planting, a significant pedestrian crossing, and an active street frontage) is consistent with the need to add friction to Renwick Drive; care needs to be taken to ensure they do not become watered-down in the implementation stages.

(6) Ensure future development does not erode the open, semi-rural ambience.

Consistent with the original design and marketing of the estate, residents cite its open semi-rural nature as an important element that assists their overall health. Care needs to be taken to ensure this aspect of Renwick is not lost.

(7) Provide an interim neighbourhood social 'focus'.

An interim 'neighbourhood focus' in the area of the future neighbourhoods centre should be investigated. This could comprise early establishment of a permanent café or the like, or by temporary 'pop up' venues such as food vans or stalls (which could then be maintained as part of the continued vibrancy of the developed neighbourhood centre).

(8) Maintain 'Welcome' program until a more permanent community feeling is established.

The 'Welcome' program has received favourable comment. Care needs to be taken when determining the timing of the completion of this program that there is no 'gap' prior to the community centre and more informal social interaction facilities (eg. recreation facilities, the Village Centre) coming on-stream. Further, particular attention may need to be taken to

ensure integration of residents in the newer but more detached (by the central open space area) areas to the north and east of the estate when they are constructed.

(9) Attention to ensure that Renwick maintains its ambience of security.

Undertake *Crime Prevention Through Environmental Design* (CPTED) audits of the designs, when developed, for the Village Centre and the silo area to ensure existing high levels of feelings of security are maintained.

(10) Anticipate future transport needs for those unable to access a private car.

It is likely that car usage will continue to dominate utilitarian transport modes given low overall population densities and distances to facilities outside the estate. In particular to maintain social interaction levels and access to active recreation facilities, early attention should be given to developing transport and activity options for future resident cohorts who are likely to have no or limited access to a private motor vehicle, being older children/teenagers and older adults no longer able to drive.

6. RECOMMENDATIONS.

- (1) Establish opportunities that will encourage greater levels of 'vigorous' physical activity (to complement current reliance on gardening and recreational walking to achieve minimum recommended levels of physical activity), such as:
 - facilitating longer walking and cycling trips, from the estate to existing destinations in Mittagong (including the Mittagong sports centre), including implementation of intended walking and cycle paths but with review to ensure routes are direct (to replace the original routing in the master plan that cannot now be achieved), and safe (particularly in respect to routes that follow the Highway). Ensure sufficient secure bicycle parking facilities at destination points.
 - incorporation of informal *active* recreation facilities within the development of the open space areas of the estate. For example exercise stations, paved ball court(s), a tennis court, and an informal oval space.
 - establishment of 'non-built' services such as group exercise classes, allocation of off-leash dog areas, and the promotion of the existing 'evening stroll' by some residents.
 - establishment of a community garden or allotment spaces (to also achieve 'healthy food options' objectives).
 - give specific attention to active (and passive) recreation facilities that cater for adolescents. Ensure the location of and range of activities within the Police Citizens Youth Centre have a close fit with need and hence uptake.
 - promoting existing public and private active recreation facilities in the locality to increase uptake.
- (2) Promote and make more legible the existing bus service into Mittagong. Review the routing to ensure it gives sufficient service in both directions. Bring forward the provision of formal bus stops with shelter, seating and scheduling information.
- (3) Give specific attention to the type and range of retail and other facilities to be provided in the neighbourhood centre, the relative dominance of healthy rather than non-healthy food retailing, and opening hours to ensure the development of a *vibrant* centre that will encourage patronage and thus increase local walking and cycling trips and establish additional opportunities for incidental and formal social interactions. This will require close attention to both built form, leasing and on-going management arrangements. Provide all residents with a free shopping trolley to encourage them to walk to the new neighbourhood shop(s)
- (4) Prior to construction, test the on-ground directness and viability (including width) of proposed walking and cycling routes from the future development areas in the north-east of the estate to the neighbourhood centre and other destinations to counter the potential for residents in these areas to 'default' to using their car.

- (5) Address existing concerns about speed of traffic in Renwick Drive, and which are likely to increase as the estate develops. Possible actions include a higher level of 'friction', particularly adjacent to the neighbourhood centre and/or a closure to remove through traffic all together (or force it onto a longer more circuitous route once the roads within the eastern precincts are constructed).
- (6) Ensure that the open semi-rural nature of the estate, and which participants cite as important to their health, is not diminished as development of the estate progresses.
- (7) Establish an interim 'neighbourhood focus' prior to completion of the future neighbourhood centre (for example via early establishment of a permanent café or the like, or by temporary 'pop up' venues).
- (8) Ensure the timing of the completion of the Welcome' program does not result in a 'gap' prior to the community centre and more informal social interaction facilities (eg. recreation facilities, the Village Centre) coming on-stream. Give particular attention to ensuring the integration of residents in the newer but more detached areas to the north and east of the estate when constructed.
- (9) Undertake *Crime Prevention Through Environmental Design* (CPTED) audits of the designs, when developed, for the Village Centre and the silo area to ensure existing high levels of feelings of security are maintained.
- (10) Give early attention to development of transport and activity options for future resident cohorts who are likely to have no or limited access to a private motor vehicle, being older children/teenagers and older adults no longer able to drive.

ATTACHMENTS.

- 1. Renwick Healthy Neighbourhood Audit** - Refer separately bound document.
- 2. The Study flyer, as distributed as part of the recruitment of participants.**
- 3. The Neighbourhood Audit Instrument.**
- 4. Interview questions.**

Attachment 2: The Study flyer (as distributed as part of the recruitment of participants).



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 Renwick.

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 either currently residing in or planning to move to Renwick.

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 will be undertaken by telephone.

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/

Alternatively, you can contact us by phone or email:

Emily Mitchell, Research Officer
Healthy Built Environments Program, UNSW
Email: e.mitchell@unsw.edu.au
Phone: (02) 9385 6441

Please visit our website www.be.unsw.edu.au/healthy-built-environments-program/research for more information.

Attachment 4: The NEIGHBOURHOD AUDIT INSTRUMENT.

HEALTHY NEIGHBOURHOOD AUDIT INSTRUMENT

CONTENTS:

- I. Audit Particulars
- II. Land Use
 - a. Land Use Map
 - 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:

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

--

c. Description of weather conditions:

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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):

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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
Residential:	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
Mixed use:	Commercial/Residential - Note the specific uses on the map	MU
Recreational:	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 farmers' 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
<i>Roadways:</i>	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
<i>Parking:</i>	Unrestricted parking	P1
	Metered parking	P2
	Time restricted parking (note time on map)	P3

	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
Walking/Footpaths:	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	
Street furniture/amenities:	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 comments on how natural surveillance	Poor (PTS-P) Average (PTS-A)

	is provided or inhibited	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?

Attachment 5: INTERVIEW QUESTIONS.



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 Neighbourhood¹

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"/>

¹ 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 Active²

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

² 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 WALKS 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 Community³

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):

³ 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?

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 Health⁴

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.

⁴ 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*).