BUILDING LIVEABLE COMMUNITIES IN THE LOWER HUNTER REGION

Developed by Hunter New England Population Health (March 2007)

This project was funded by The University of Newcastle Research Association (TUNRA) via a research program that investigated the health impacts of the urban environment, and the processes that shape it.

PROJECT TEAM

Venessa Wells	Project Officer, Hunter New England Population Health
Milly Licata	Project Officer, Hunter New England Population Health
Ailsa Mackenzie	Project Officer, Hunter New England Population Health
Karen Gillham	Service Director, Health Promotion, Hunter New England Population Health
Rebecca Hodder	Project Officer, Hunter New England Population Health
Dr Iain Butterworth	Senior Lecturer, School of Health and Social Development, Faculty of Health, Medicine, Nursing and Behavioural Sciences, Deakin University
Dr John Wiggers	Associate Professor, School of Medicine and Public Health, Discipline of Health Behaviour Science, Faculty of Health, University of Newcastle

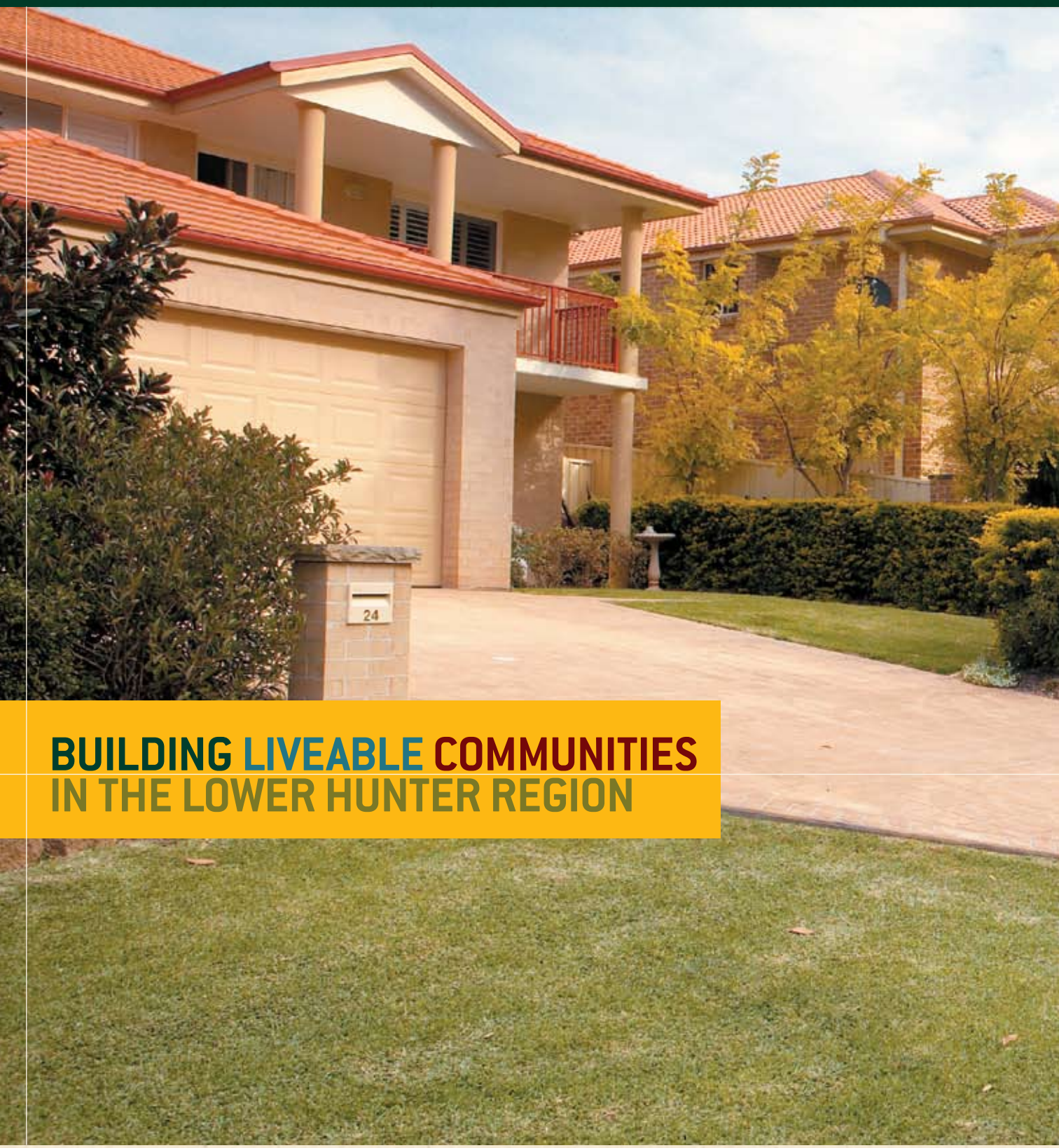
The authors would like to thank the members of the Liveable Communities Working Group and residents of the Lower Hunter Region who contributed to this project.

SUGGESTED REFERENCE

Wells, V., Licata, M., Mackenzie, A., Gillham, K., Hodder, R., & Butterworth, I. (2007). *Building Liveable Communities in the Lower Hunter Region.* Hunter New England Population Health.

If you would like further information on this project, please contact:

Karen Gillham
Service Director, Health Promotion
Hunter New England Population Health
Hunter New England Area Health Service
Locked Bag 10
Wallsend NSW 2287
Australia
Email: karen.gillham@hnehealth.nsw.gov.au
Phone: + 61 2 4924 6241
Fax: + 61 2 4924 6209



BUILDING LIVEABLE COMMUNITIES IN THE LOWER HUNTER REGION

CONTENTS

Foreword	4
How To Use This Resource	5
The Built Environment and Health	7
The Current Context	9
The Current Research	10
Connectivity	17
Sustainability	28
Accessibility	37
Flexibility	46
Assessment of Health and Social Impacts	50
References and Useful Documents	51

FOREWORD

With the release of the Lower Hunter Regional Strategy in late 2006, the possibility of further land development in the Lower Hunter Region has raised concerns about the region's 'liveability'. Agencies and community members in the Lower Hunter Region have questioned the potential impact of population growth and subsequent development on the environment and society, as well as whether the region's services and infrastructure have the capacity to accommodate such population growth. Developers and planners are the custodians of development and as such are challenged with creating new developments that will impact positively on the health and social wellbeing of Hunter residents.

The current research examined what constitutes a liveable community, and involved extensive consultation with developers, planners, health and social welfare agencies, and the community, in an attempt to identify the key elements of liveability in the Lower Hunter Region. The consultation resulted in the development of this guide.

Building Liveable Communities in the Lower Hunter Region is a resource that can assist the urban planning industry to incorporate health and social outcomes in proposed developments. This resource also acts as a guide for local government and health professionals interested in assessing the health and social outcomes of proposed development.

In the context of current climate change and proposed population growth, developers and planners are in a strong position to be catalysts for developing liveable communities. They have the tremendous opportunity of being able to deliver positive health and social wellbeing outcomes to the community.

This guide has been developed by a strong research partnership of interested professionals across the public and private development sectors, higher education, health and social services in the Lower Hunter Region. Funded by The University of Newcastle Research Association (TUNRA), the research investigated the health impacts of the urban environment, and the key components that shape it. The findings and discussions held with local stakeholders across sectors, have contributed to the contents of this guide.

It is envisaged that the findings from this investigation will be used to further discussions between the urban planning and health sectors.

HOW TO USE THIS RESOURCE

Building Liveable Communities in the Lower Hunter Region **is a region-specific resource for those who are interested in building liveable communities. The guide reports on key findings from the current research and aims to highlight design and planning considerations that can be utilised in existing and future planning processes to help create liveable communities across the Lower Hunter Region.**

Combined in one easy to use resource, this document not only collates design considerations from reputable sources of urban planning and health literature, but also documents community perspectives on what makes a liveable community. It does not list exhaustively the information on any given topic, but instead provides a summary of design and planning considerations with links to documents from which more detail can be obtained.

The layout of this document is divided into four sections which cover:

1. the relationship between the built environment and health;
2. the current context with regard to development;
3. the research process and outcomes; and
4. recommended design considerations, as identified by the current research.

The fourth section includes:

- the definition of the principle on which the design considerations have been based;
- comments from the community about each principle;
- relevant references;
- planning and design considerations for each principle;
- photographic examples from the Lower Hunter Region, and elsewhere in Australia, that incorporate the recommended design considerations.

THE BUILT ENVIRONMENT AND HEALTH

"The built environment includes our homes, schools, workplaces, parks, recreation areas, business areas and roads. It extends overhead in the form of electric transmission lines, underground in the form of waste disposal sites and subway trains, and across the country in the form of highways. The built environment encompasses all buildings, spaces and products that are created or modified by people. It impacts indoor and outdoor physical environments (e.g., climatic conditions and indoor/outdoor air quality) as well as social environments (e.g., civic participation, community capacity and investment) and subsequently our health and quality of life." (Health Canada, cited in Srinivasan, O'Fallon, & Dearry, 2003, p. 1446)

There is a close relationship between our built environment, our health and our social wellbeing. The way we design cities, towns and subdivisions and organise our lives affects:

- our access to nutritious food, transportation, employment and social activities;
- our ability to feel safe and connected to others;
- our opportunities to exercise;
- our potential exposure to pollutants and toxins;
- all of our senses; and
- our emotions and memories.

Our physical environment also contributes to our individual and collective sense of place, of community, and a feeling of attachment or belonging, all of which are health promoting and each impacts on people's health, enjoyment and general wellbeing.

A body of evidence has looked at the positive and negative health impacts of the built environment (see References and Useful Document Section) which highlights the importance of creating neighbourhoods or communities that are both healthy and liveable for the people within them.

It is not surprising then that developers are increasingly interested in and being encouraged to build communities in a way that promotes the health and social wellbeing for residents. They are seen by many as the critical key players in building innovative liveable communities.

THE CURRENT CONTEXT

Countries, governments, corporations and communities around the world are presently facing the consequences of unprecedented changes to the physical and social worlds. These changes are described in Table 1. Australia is also experiencing major challenges to development. These are also described in Table 1. Research has shown that these crises are made even more complex in a decision-making environment in which the health, social and ecological impacts of a development may take many years to manifest, given the 10 to 20 year lead time on a development proposal (see also Butterworth & Breton, 2006).

TABLE 1 – CURRENT IMPACTS

GLOBAL PICTURE

- irrefutable evidence of global warming;
- extreme weather conditions;
- a global human population in excess of seven billion people;
- mass human migration across national boundaries because of environmental and other catastrophes;
- mass extinctions of species;
- peak oil;
- the search for sustainable energy supplies;
- unprecedented economic growth in India, China and other developing nations, in tandem with mass pollution;
- a globalizing economy, with land and property increasingly being bought, developed and traded by international conglomerates; and
- high levels of political withdrawal across Western societies; and
- an environmental 'crisis' which is regarding the relationship between human societies and the natural resources on which we depend for survival (Weintraub, 1995).

AUSTRALIAN CONTEXT

- the 'seachange' migration to coastal communities;
- increasing 'placelessness' through bland subdivision (Hiss, 1990; Relph, 1976);
- ensuring sustainable energy and water supplies;
- a loss of arable land;
- an increasingly complex regulatory environment; and
- a population showing increasing signs of health issues such as obesity, diabetes, heart disease and depression.

While many of these examples represent very real crises, or 'calamities', they also represent opportunities for positive change.

The private development sector has an opportunity to play a positive, decisive role in this turning point. Opportunities for engagement by the development sector are many, and include new emerging forms of governance, such as corporate citizenship, citizen participation, public-private partnerships, and ways of measuring 'capital' to include not just economic capital, but social and environmental (Hancock, 2001). Development corporations increasingly are employing their own 'sustainability consultants', community development workers, and social planners who submit their development proposals to health and social impact assessment as a matter of course. They are partnering with local governments to find ways to design walkability and physical activity 'into' their developments. These corporations are engaging with governments to find new ways of building sustainability policy and achieving 'smart growth' from the ground up.

The aims of the American Smart Growth movement have been identified as: "encouraging mixed uses, preserving open space and environmentally sensitive areas, providing a choice of housing types and transportation modes, including affordable housing, and making the development review process more predictable" (American Planning Association, 2006). Other dimensions to Smart Growth include: taking advantage of compact building design; creating walkable neighbourhoods; fostering distinctive, attractive communities with a strong sense of place; strengthening and directing development towards existing communities; and encouraging community and stakeholder collaboration.

In addition to making development decisions predictable, decisions also need to be seen to be fair and cost effective (Smart Growth Network, 2006).

This guide represents a local effort to support 'smart growth'. As such, it is part of a world-wide trend for developers, researchers and policy makers in the health and planning arenas to work more closely together to build truly liveable communities.

THE CURRENT RESEARCH

This research was initiated as part of a research program, funded by the University of Newcastle Research Association (TUNRA) investigating the urban environment and the processes that shape it. The research specifically aimed to establish the importance of the relationship between the built environment, planning and health and to develop a resource for those interested in building liveable communities. In order to achieve this aim, a number of research processes were conducted. Firstly, a literature review was undertaken to identify elements that were integral in creating liveable communities. Secondly, the research team investigated what constitutes a liveable community in the context of the Lower Hunter region. This was achieved via individual consultations, workshops with key stakeholders, and community consultation.

THE RESEARCH PROCESS

Community consultation was undertaken over a two-month period in 2006 and involved a community telephone survey of 703 people. The survey participants were drawn from suburbs within the Lower Hunter Region's five local government areas of Cessnock, Lake Macquarie, Maitland, Newcastle and Port Stephens. A random sample of households was selected from the Telstra White Pages. These households were sent a letter explaining the purpose of the telephone survey and then contacted by telephone. Consent to complete the survey was sought from the person in the household with the next birthday, to ensure the selection of survey participants was completely random.

Community consultation was undertaken using the Computer Assisted Telephone Interview method, where data is entered directly into a computerised database. Participants were asked a series of questions about the suburb and neighbourhood they lived in. The 25 minute telephone survey included questions on: the physical environment, the built environment, community facilities, crime and safety, social capital, employment and transport. Demographic information and general comments were also addressed, as well as an allocation task to determine general community priorities.

The stakeholder consultation process was undertaken over a six-month period in 2006 and involved a series of face-to-face interviews, telephone interviews and working group meetings. The consultation process aimed to:

- Explore the question: 'What is a liveable community in the context of the Lower Hunter Region?';
- Identify the key elements of a liveable community;
- Identify the avenues for intervention to enhance positive health impacts and minimise negative health impacts of new residential developments;
- Map the Lower Hunter residential development process, as shown in Figure 2; and
- Provide an opportunity for stakeholders to inform the development of this guide.

RESEARCH OUTCOMES

Consultation with the Lower Hunter community members and agency representatives identified four major components that make up a community: physical structures; natural features; service provision; and social principles, as shown in Table 2.

TABLE 2 – KEY ELEMENTS OF A LIVEABLE COMMUNITY

Physical Structures

- Affordable, acceptable, adaptable, manageable housing;
- Mixed use zonings including private and public housing;
- Public green space with community facilities such as BBQ, sporting and disabled access;
- High quality walking, wheelchair and cycling paths;
- A level of housing density which will promote walkability without adversely affecting housing affordability;
- Low traffic volume incorporated into housing design.

Natural Features

- Minimal pollution levels and good indoor air quality;
- Equitable access to a safe and reliable water supply;
- Availability of green space;
- Environmental sustainability; and
- Balancing housing needs with that of farming, agriculture, bushland, parks and open space.

Service Provision

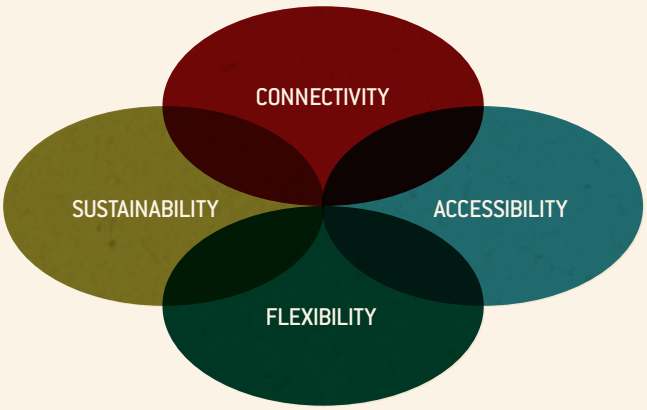
- Improved access to health services;
- Effective waste management;
- Local opportunities to access basic services such as post office, newsagent, library, GP, groceries, restaurants;
- Well maintained, easily accessible recreation sites;
- Accessible, well linked public transport services;
- Adequate street lighting; and
- Youth services.

Social Principles

- A socially inclusive and supportive neighbourhood fostering a sense of belonging;
- A legible, efficient and amenable environment;
- Strong social cohesion;
- Respectful of neighbourhood diversity, culture and choice;
- Participation in decision making process;
- Well designed and aesthetically pleasing indoor and outdoor spaces; and
- Ecologically sustainable.

In order to progress the development of this guide, the key findings of the literature review, the stakeholder consultation information and community survey findings were examined and synthesised into categories. The synthesis of information revealed a number of overlapping principles that should be considered when planning or building a liveable community, as shown in Figure 1. The remainder of this guide includes design considerations for the Lower Hunter community, that have been based on these principles.

FIGURE 1: THE PRINCIPLES OF A LIVEABLE COMMUNITY



This research also revealed that the most opportunistic time to influence developer planning of new residential developments is during the early feasibility stages, before a development application is submitted, and that Impact Assessments (eg, Health Impact Assessment (HIA) or Social Impact Assessment (SIA)) offer best practice in terms of assessing and addressing impacts at the planning stage. At the end of this guide, you will find some information on how to undertake an Impact Assessment.

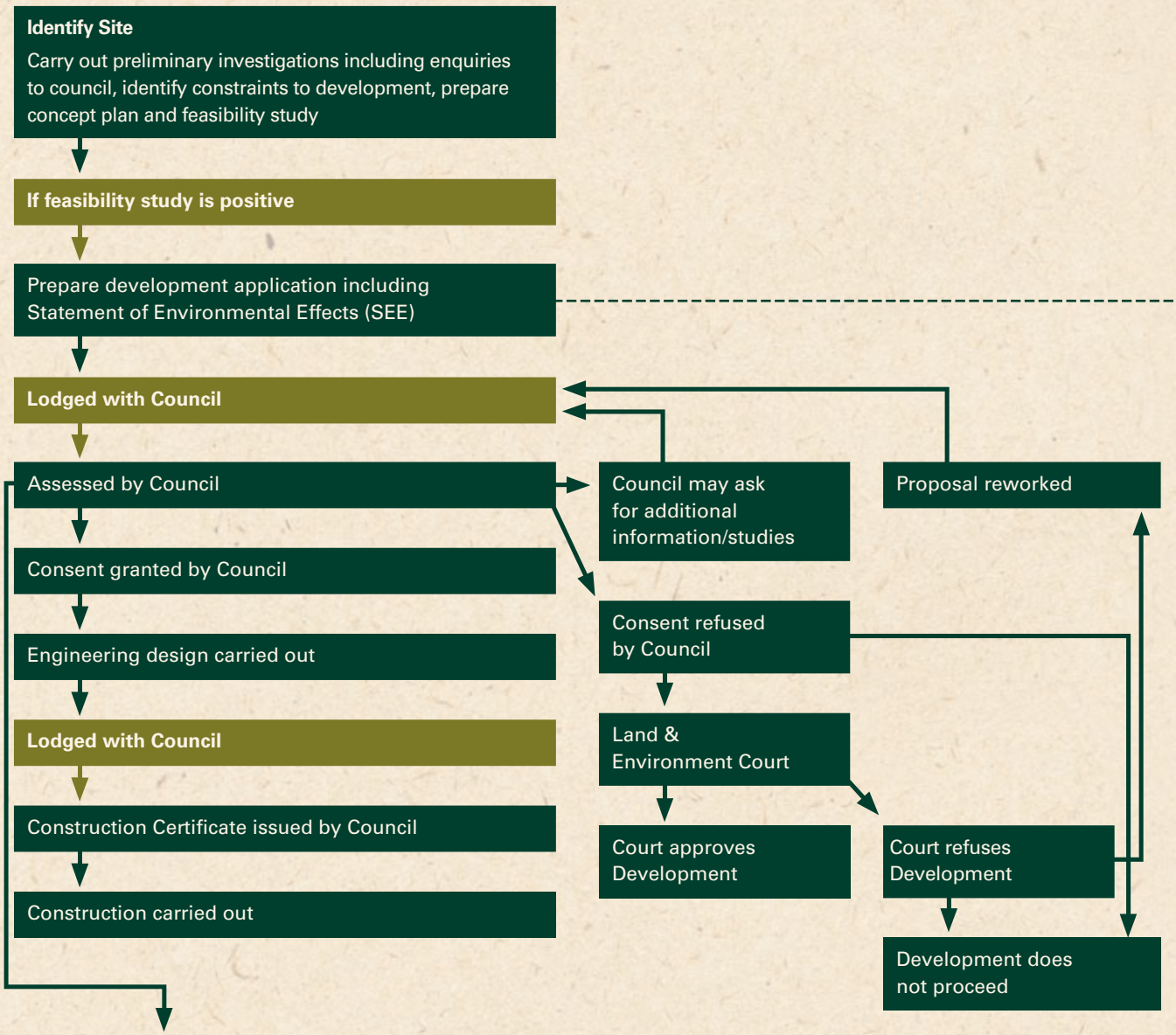

Identify Site
Carry out preliminary investigations including enquiries to council, identify constraints to development, prepare concept plan and feasibility study
If feasibility study is positive
Prepare development application including Statement of Environmental Effects (SEE)
Lodged with Council
Assessed by Council
Council may ask for additional information/studies
Proposal reworked
Consent granted by Council
Consent refused by Council
Engineering design carried out
Land & Environment Court
Lodged with Council
Court approves Development
Court refuses Development
Construction Certificate issued by Council
Development does not proceed
Construction carried out
DA sent to these departments / authorities for comment (depending on development)
• Roads and Traffic Authority
• Mines Subsidence Board
• Hunter Water Corporation
• NSW Police Service
• Department of Planning
• Department of Natural Resources
• The Local Traffic Committee
• Rural Fire Service
• Department of Environment and Conservation
• Department of Land
• Fisheries
• Energy Australia
• NSW Heritage Office
• Relevant Member of Parliament

FIGURE 2: FLOW CHART OF LOWER HUNTER RESIDENTIAL DEVELOPMENT PROCESS, AS IDENTIFIED BY STAKEHOLDER CONSULTATION PROCESS

Must address:

- Regional Environment Plans (REPs)
- State Environment Planning Policies (SEPPs)
- Local Environmental Plans (LEPs)
- Development Control Plans (DCPs)

Relevant Acts (and Associated Regulations) may include:

- Local Government Act 1993
- Environment Planning and Assessment Act 1979
- Native Vegetation Act 2003
- Threatened Species Conservation Act 1995
- Fisheries Management Act 1994
- Heritage Act 1977
- Mine Subsidence Compensation Act 1961
- National Parks and Wildlife Act 1974
- Protection of the Environment Act 1997
- Rivers and Foreshores Improvement Act 1948
- Roads Act 1994
- Rural Fires Act 1997
- Water Act 1912
- Commonwealth Environment Protection and Biodiversity Conservation Act 1999
- Contaminated Land Management Act 1997

Studies required may include:

- Bushfire assessment
- Flora and fauna
- Aboriginal archaeology
- Flooding and drainage
- Geotechnical including acid sulphate soils, slope stability and mine subsidence
- Landscape plan
- Traffic study and traffic management plan
- Air and noise studies
- Preliminary engineering design plans
- Servicing strategy
- Stormwater management
- Contamination study
- Social Impact Assessment

Reference: Developed as part of the Liveable Communities Working Group meetings (2006).

CONNECTIVITY

Being connected implies that something, or someone is united, linked or joined together. Building connectivity into developments is about providing the pathways that enable people to come together and to use the facilities and amenities in their local area, including footpaths, bicycle paths and public transport.

Key elements of connectivity that residents identified as being important:

The places people wanted to be within walking distance from were:

- Public transport links
- Work
- Schools
- Parks with BBQ areas and green open space
- Shops
- Libraries
- Sporting fields and swimming pools
- Community facilities
- Restaurants

How they wanted to get there:

- A high degree of car dependence was reported. For those without a car, getting to shops, health services and entertainment were seen as problematic.
  - Residents were in favour of:
    - increased number of footpaths
    - places to cycle
    - easy access to bus stops
    - easy access to train station
- The features that encouraged people to travel by foot were:
  - street lighting
  - shade

Having reliable public transport services also remains a key issue in the Lower Hunter.

PLANNING & DESIGN CONSIDERATIONS

DESIGN FOR THOSE WHO WALK AND CYCLE VIA:

ENHANCING THE DESIGN OF THE FOOTPATHS AND SHARED PATHS

Provide footpaths and shared paths that:§*^#†

- are made from durable, non-slip, semiporous material
- require minimal maintenance
- have tactile ground surface indicators at bus stops and traffic signals
- have gentle gradients from streets to pathways
- have railings on gradients
- have kerb ramps to ensure those who are less mobile or those pushing prams are able to follow the path

Footpaths should be:^#

- a minimum of 1.5m wide and 2m wide near services such as schools
- continuous across driveways

Shared paths should:^#

- ensure a comfortable distance, at least 2m to 2.5m, so that wheelchairs, prams, learner cyclists and walkers can use the facility side by side
- have a centre line
- include a variety of paths, leisurely, on and off road, direct and indirect
- include a variety of options for experienced and less experienced cyclists

Ensure continuity of walking and cycling routes through local streets and other paths.^

COMMON BARRIERS TO PEOPLE NOT WALKING INCLUDE A PERCEIVED LACK OF SAFETY AND INADEQUATE FOOTPATHS AND PARKS. PEOPLE WALK AND CYCLE MORE WHEN STREETS AND PEDESTRIAN FACILITIES CONNECT WITH KEY DESTINATIONS.[1C, 2C]

RESEARCH SHOWS THAT ACCESSIBILITY OF FACILITIES SUCH AS CYCLE WAYS, FOOTPATHS AND PERCEIVED AESTHETICALLY PLEASING ENVIRONMENTS ARE IMPORTANT ENVIRONMENTAL FACTORS RELATING TO PHYSICAL ACTIVITY.[3C, 4C]

ENHANCING THE LOCATION OF THE FOOTPATHS AND SHARED PATHS

Paths should be established between the residential areas to enable people to cycle or walk between them, ensuring the shortest route. Pedestrian and cyclist only corridors should be provided particularly through road closures and cul de sacs ensuring the shortest route.^#

Footpaths and shared paths should be provided:#†^

- on at least one side of residential streets, particularly where pedestrian activity is high
- on both sides of major roads
- on both sides near services such as schools, train stations or shops, which link to local destinations

Footpaths should:#

- be separated from the street pavement and located close to the property boundary
- only be located abutting kerbs where site constraints preclude alternative siting and where vehicle volumes are low

PLANNING & DESIGN CONSIDERATIONS

DESIGN FOR THOSE WHO WALK AND CYCLE VIA:

ENHANCING THE USABILITY & AESTHETICS OF FOOTPATHS, SHARED PATHS AND STREETS

Provide high quality landscaping and enhance aesthetics along footpaths, shared paths and streets by:§^#†

- lining the streets with trees which have large canopy to provide shade
- using indigenous natural vegetation
- using low maintenance drought resistant plants
- including community artwork
- providing trees that will not cause damage to infrastructure via their roots system

Provide street and business signs that both drivers and pedestrians can read easily.†

Design attractive, interesting, and welcoming street frontages by:^*#

- including porches, verandas, and windowed shop fronts
- not building high solid walls, security shutters, garages or dense hedges
- creating a relatively continuous street frontage
- providing lots which facilitate safe and efficient vehicle access without street frontages being dominated by garages and parked cars

Provide seating that:^†

- is in an accessible position
- has space next to it for wheelchairs
- has back and arm rests
- is not too low
- is a minimum of 1m away from the pathway
- is positioned to facilitate interaction
- is near points of interest in the park or along the path
- has shade

PEOPLE ARE MORE LIKELY TO EXERCISE IF FOOTPATHS ARE PRESENT, ATTRACTIVE, UNOBSTRUCTED, MAINTAINED AND IF THE SCENERY IS ENJOYABLE.[5C]

TRAFFIC CALMING MEASURES HAVE BEEN SHOWN TO HAVE A SIGNIFICANT POSITIVE IMPACT ON WELLBEING, SAFETY, CRIME, THE ENVIRONMENT AND THE ECONOMY.[6C]

ENHANCING THE SAFETY OF FOOTPATHS, SHARED PATHS AND STREETS FOR ALL USERS

Provide pedestrian and cyclist road crossings that:^#†§

- are well marked
- can be used by those pushing prams, trolleys or wheelchairs
- have pedestrian-operated lights that are adequately timed in streets where traffic volumes during peak periods are a perceived threat to pedestrians' access and safety, particular to children and those less mobile
- are in a convenient position for pedestrian and cyclist movement, locating crossings as close to the direct line of travel to minimise diversion
- are designed to take into account the mobility, visual and hearing capacity of all community members^†

Introduce street calming techniques and reduce speed zones:^†§

- around schools, childcare facilities and primary medical facilities
- to encourage cyclist movement along residential and collector streets
- at designated drop off zones around schools, childcare facilities and primary medical facilities, to create safe and efficient pedestrian and bike access to the school or on-site parking where practical

Include the crime prevention through environmental design (CPTED) principles when designing streets.^†§*

Provide narrow streets as this can slow cars down. For wider streets provide median strip.†

Shared zones for pedestrians, cyclists and vehicles should be designed:#^

- to enable pedestrians and vehicles to share the same pavement with a sense of equal priority
- to provide protection from cars for people on paths by providing kerbs that are a barrier

Footpaths, shared paths and streets need adequate lighting, particularly in areas that are well used at night. Lighting should be sufficiently high enough to provide maximum visibility.#^†

Provide lanes for cyclists in areas of over 50 km/hr.^

Ensure clear lines of sight along walking and cycle ways so that people can be seen by other residents, pedestrians, cyclist and motorists. This can be done with appropriate landscaping and design by:^#*

- avoiding tunnels and underpasses that limit visibility
- using low permeable fencing
- installing effective lighting
- avoiding blank walls and solid fences
- avoiding full height dividing fences next to shared paths
- prohibiting obstructions in the path of cyclists such as parked cars in driveways
- ensuring that foliage at least 1m back from path

PLANNING & DESIGN CONSIDERATIONS

DESIGN FOR THOSE WHO WALK AND CYCLE VIA:

PROVIDING END USE INFRASTRUCTURE

Provide suitable and secure infrastructure in key destinations that can be used at the end of a walking or cycling journey. This can include:^

- cycling lockers
- bike racks
- showers, change rooms and lockers
- toilets

ENHANCING STREET CONNECTIONS

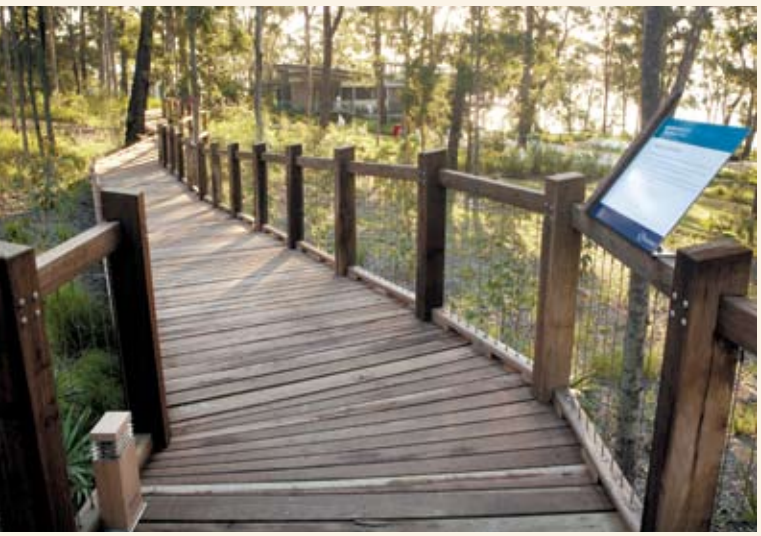
Limit the use of cul de sacs and dead end streets. If these types of streets are used establish corridors and public laneways to connect cul de sacs to other residential areas.*§^#

Ensure that street networks:*#

- are an interconnected grid design; crossroads are favoured over T-junctions with more geometrically linear streets
- are designed to optimise the use of major roads by ensuring they can operate at high capacity ratios at peak times
- encourage the convenience of long distance traffic via major roads than the local street network
- are designed to not dissect residential areas
- enable relatively direct local vehicle trips in and between neighbourhoods and to local activity points

ENCOURAGING KEY DESTINATIONS SUCH AS SCHOOLS, PLACES OF EMPLOYMENT AND RECREATION AREAS TO PROVIDE END USE INFRASTRUCTURE SUCH AS BIKE RACKS, SHOWERS AND CHANGE ROOMS OFFERS PEOPLE CHOICE IF THEY WISH TO TRAVEL BY ACTIVE TRANSPORT METHODS SUCH AS WALKING OR CYCLING.

LIVING IN PROXIMITY TO GREEN SPACE IS ASSOCIATED WITH REDUCED SELF-REPORTED HEALTH SYMPTOMS, BETTER SELF-RATED HEALTH, AND PERCEIVED BETTER GENERAL HEALTH.[7C]



ENHANCING CONNECTION TO SERVICES

Provide footpaths and shared paths that lead to:#^§†¤

- key destinations or popular focal points through residential areas
- link homes, workplaces, commercial centres, public transport and community facilities

Ensure that:^§†#

- essential services such as healthy food outlets, workplaces, shops, health services, schools, childcare, youth facilities, retirement villages, parks and open spaces and other destinations are within easy walking (400-800m) or cycling distance from residential areas
- major educational and employment institutions have reliable public transport options

On shared paths, provide clear signage that requires minimal maintenance. Include remarks about:†^

- distances to specific services and locations
- direction to specific services and locations
- locally relevant information

Signage should use:^

- large lettering
- contrasting colours
- plain fonts
- non reflective surfaces

Encourage local businesses to sponsor community shuttles to shops and other commercial centres.[†]

Encourage compact development, or development that is well connected with reliable public transport options.[§]

ENHANCING CONNECTIONS TO PARKS, OPEN SPACE AND PUBLIC SPACE

Provide:^†§

- open space with a minimum of 500m walking distance from dwellings
- access via public transport, walking or cycling to an area's natural resources, whether they are reserves, freshwater lakes, rivers and beaches, or forests
- a variety of paths that allow recreational walking around the park or direct paths that connect to a broad network
- access to open space for those with limited mobility, for example via kerbed ramps
- pedestrian crossings that lead to the park entrance
- multiple entry and exit points that have adequate lighting

LOCALLY PRODUCED FOOD THAT IS EASILY ACCESSIBLE IN LOCAL HEALTH FOOD SHOPS REDUCES FOOD TRANSPORT DISTANCE, THUS REDUCING ENVIRONMENTAL IMPACTS FROM TRANSPORT POLLUTION, AS WELL AS COSTS TO THE CONSUMER.[8C]

PLANNING & DESIGN CONSIDERATIONS

DESIGN TO INCREASE USE OF PUBLIC TRANSPORT OPTIONS VIA:

PROMOTING & ENHANCING ACCESS TO PUBLIC TRANSPORT

Facilitate pedestrian access to reliable public transport stops via:^§#*

- direct paths to the transport stops
- providing public transport routes that are within a comfortable walking distance (300-500m) from homes
- focusing development around reliable public transport nodes
- improving and ensuring reliable public transport options
- restrict car use and car parking in the city
- improving existing sidewalks, intersections and streetscapes around public transport locations
- ensuring public transport stops are located in active locations, that is, where there is a high level of activity
- locating bus stops adjacent to traffic lights and median islands on major roads to provide highly accessible and relatively direct routes wherever practical

Ensure that:#

- traffic management devices are bus friendly
- streets that have bus routes are designed to be bus friendly

WALKING, CYCLING OR CATCHING PUBLIC TRANSPORT TO WORK AND OTHER KEY DESTINATIONS ASSISTS PEOPLE TO MEET THE MINIMUM REQUIREMENTS FOR PHYSICAL ACTIVITY. HEALTH BENEFITS OF MODERATE LEVELS OF PHYSICAL ACTIVITY INCLUDE A REDUCED RISK OF PREMATURE MORTALITY AND REDUCED RISKS OF CORONARY HEART DISEASE, HYPERTENSION, COLON CANCER, AND DIABETES MELLITUS.[9C, 10C]

ENHANCING USABILITY & SAFETY OF PUBLIC TRANSPORT STOPS

Provide:^§#

- shelter
- clear signage and service information
- adequate seating
- clear, convenient crossing points to public transport stops
- adequate lighting particularly at public transport stops that are likely to be well-used at night
- if necessary, gentle gradients in the approach to public transport stops and provide railings where possible

Address requirements for those with limited mobility.^

Ensure the public transport stop site is clearly visible from surrounding development, shops and homes, that is, ensure there is natural surveillance of the transport stop.*

AFFORDABLE PUBLIC TRANSPORT PROVIDES PEOPLE WITH THE OPPORTUNITY TO ACCESS A RANGE OF SERVICES, FACILITIES AND AMENITIES WHICH CAN POSITIVELY CONTRIBUTE TO ONE'S HEALTH. IT ALSO PROVIDES THE OPPORTUNITY FOR SOCIAL ENGAGEMENT.[11C]

PLANNING & DESIGN CONSIDERATIONS

DESIGN FOR NEIGHBOURHOOD CONNECTIONS VIA:

ENHANCING CONNECTIONS BETWEEN SURROUNDING RESIDENTIAL AREAS

Residential developments should not be provided in 'gated' street formats. Avoid these types of developments where residents are not encouraged to connect with the public realm.^

Where lifestyle, retirement or other special interest developments are proposed, these must incorporate the majority of their development on public streets, with good linkages to surrounding urban areas.#

ALTHOUGH GATED COMMUNITIES OFFER RESIDENTS A NEIGHBOURHOOD FOR "THEMSELVES", IT HAS BEEN ARGUED THAT THEY CREATE PHYSICAL AND SOCIAL BOUNDARIES WHICH INHIBIT CONNECTEDNESS WITH SURROUNDING DISTRICTS AND SERVICES.[12C, 13C]

Proposed communities and developments should:#§

- connect well to existing or proposed services
- connect with proposed developments on adjacent sites
- take into account the existing urban structures of adjoining areas
- connect with the street network of existing residential areas to maximise interconnection between the new and existing communities
- link with area plans that achieve an appropriate urban density to support relatively self-contained mixed use centres and good levels of public transport

Major linear, district or regional open spaces and regional or arterial drainage, should be located to define boundaries of neighbourhoods rather than dissect them.#

ENHANCING THE CONNECTIONS TO THE NEIGHBOURHOOD CENTRES

The centre of the neighbourhood should:§#

- be located and distributed to provide a centre for most residents within a 400-500m walk or a five minute walk
- be located on or at the intersection of relatively busy local streets and served by public transport
- have strong links between it and the local larger town centre
- have interconnected street network
- have workplaces, shops, schools, health care facilities and other services integrated into it

Neighbourhood centre layout should enhance local identity by responding to the:#

- site context
- site characteristics
- setting
- landmarks
- views
- incorporate key elements of natural and cultural significance

ENHANCING THE CONNECTIONS TO THE TOWN CENTRE

A town centre:#

- should be central to the cluster of neighbourhoods, well linked and in reasonable walking distance of most residents
- should have one or more major public transport stops
- should not be in an area isolated from major streets

New development should support and enhance existing town centres.#

Large single supermarket-scale neighbourhood centres should not be provided unless it can be demonstrated that such centres will not detrimentally affect the growth of surrounding neighbourhoods and town centres.#

REFERENCES

* The Planning Group Pty Ltd. (2005). *Sustainable Urban Village Demonstration Project: Phase 3 Report. Project sustainability assessment: Assessment of project sustainability against sustainability matrix*. Accessed 26/02/2007 at http://www.dhw.wa.gov.au/landsales/site_files/corporate/sustainability_phasethree.pdf

Western Australian Planning Commission Liveable Neighbourhoods. (2004). *Liveable neighbourhoods: A Western Australian Government sustainable cities initiative*. 3rd Edition. Western Australia Planning Commission.

^ National Heart Foundation of Australia (2004). *Healthy by design: A planner's guide to environments for active living*. National Heart Foundation of Australia (Victorian Division).

§ Edwards, P. and Tsouros, A. (2006). *Promoting physical activity and active living in urban environment: The role of local governments*. World Health Organization, Europe.

¤ Daley, J. W. (2002). *Recreation and Sport Planning and Design*. 2nd Edition. Champaign, Human Kinetics.

† Ageing and Disability Department, NSW Health (1998). *NSW Healthy Ageing Framework, 1998-2003*. NSW Department of Health.

1C. Jackson, R. J. & Kochtitsky, C. (2001). *Creating a Healthy Environment: The impact of the built environment on public health*. Washington DC.

2C. Edwards, P. & Tsouros, A. (2006). *Promoting physical activity and active living in urban environment: The role of local governments*. World Health Organization: Europe.

3C. Ball, K., Bauman, A., Leslie, E. & Owen, N. (2001). Perceived environmental aesthetics and convenience and company are associated with walking for exercise among Australian adults. *Preventative Medicine, 33*, 434-440.

4C. Humpel, N., Owen, N. & Leslie, E. (2002). Environmental factors associated with adults' participation in physical activity. *American Journal of Preventive Medicine, 22(3)*, 188-99.

5C. Lavin, T., Higgins, C., Metcalfe, O. & Jordan, A. (2006). *Health Impacts of the Built Environment: A Review*. Institute of Public Health, Ireland.

6C. Baum, F. (2002). *The New Public Health*. 2nd Ed. Melbourne: Oxford University Press.

7C. de Vries, S., Verheij, R. A., Groenewegen, P. P. & Spreeuwenberg, P. (2003). Natural environments - healthy environments? An exploratory analysis of the relationship between green space and health. *Environment and Planning A, 35*, 1717-1731.

8C. La Trobe, H. (2001). Farmers' markets: consuming local rural produce. *International Journal of Consumer Studies; 25(3)*, 181-192.

9C. Besser, L. M. & Dannenberg, A. L. (2005). Walking to public transit: steps to help meet physical activity recommendations. *American Journal of Preventive Medicine, 29(4)*, 273-80.

10C. Ewing, R., Frank, L. & Kreutzer, R. (2006). *Understanding the relationship between public health and the built environment: A report to the LEED-ND Core Committee*.

11C. Cave, B., Molyneux, P. & Coutts, A. (2004). *Healthy sustainable communities: What works?* Milton Keynes and South Midlands Health and Social Care Group.

12C. Butterworth, I. (2000). *The relationship between the built environment and wellbeing: A literature review*. Prepared for the Victorian Health Promotion Foundation, Melbourne, Australia.

13C. Low, S. M. (2001). The edge and the center: Gated communities and the discourse of urban fear. *American Anthropologist*, 103(1), 45-58.

SUSTAINABILITY

Sustainability is the ability to provide for the needs of the world's current population without damaging the ability of future generations to meet their own needs. It is about conducting business in a resource conservative and resource efficient manner. When a process is sustainable, it can be carried out over and over without negative environmental effects or impossibly high costs to anyone involved.

Increased environmental protection was a strong feature in the community survey.

Specifically, the survey identified the need to:

- spend more money on parks and open space;
- slow the rate at which open space is developed;
- conserve forests and farming land outside existing suburbs; and
- protect wildlife habitat.

PLANNING & DESIGN CONSIDERATIONS

DESIGN TO PROMOTE LESS ENERGY CONSUMPTION VIA:

ENHANCING DESIGN TO CONSERVE ENERGY USE

Consider:

- energy efficient heating and cooling options for buildings¥
- solar panels on roof tops for electricity generation and hot water heating systems*¥
- insulation in ceilings and walls†
- skylights¥
- natural ventilation via windows that can be opened¥
- direct sunlight in kitchen, bathrooms and toilets¥
- draught proof measures in the house†
- unshaded outdoor clothes lines which receive a minimum of two hours of sunlight during winter¥
- landscaping around the house with drought resistant indigenous plants and trees to provide shade†
- building materials that have a high thermal mass, that is, the ability to store heat†
- construction materials that require low levels of energy to produce, that do not give off toxins once installed and contain highly recyclable material*
- public lighting with regard to energy efficient practices and technologies#

PASSIVE SOLAR DESIGN AND SOLAR ORIENTATION

Orientate lots, dwellings, and private open space to take advantage of winter solar access and summer sun deflection, prevailing breezes, landform and environmental features by:*†#

- north facing glazing and outdoor areas
- living areas facing north with the long axis of the house running east-west
- installing large windows on the north side of the house to let the sunshine in during winter, but can be easily shaded from the summer sun
- solar pergolas
- natural indigenous vegetation for shading

DESIGN FOR BETTER WATER MANAGEMENT VIA:

SUSTAINABLE LOCAL WATER SUPPLY

Development must only occur in locations where there is an adequate water supply for domestic use and fire fighting purposes.#

SUSTAINABLE WATER USE IN BUILDING AND COMMUNITY DESIGN

Promote and investigate efficient water use such as:*¥ł

- installing water saving fixtures
- landscaping with low water using plants
- promoting smaller gardens
- the use of grey water to maintain green playing fields to enhance the playing surface quality relevant to standard of participation

With regard to the installation of rainwater tanks¥, ensure residents are knowledgeable about how to maintain their tank. In large urban areas access to a reticulated potable (drinkable) water supply remains the most reliable source of drinking water for the community. In these areas NSW Health supports the use of rainwater tanks for all non-potable uses, such as garden watering, and car washing. The use of rainwater tanks for drinking purposes is not recommended where reticulated potable water supply is available.Ø

BETTER WATER RE-USE SYSTEMS

Stormwater and wastewater re-use systems must:œ#

- be considered as a secondary water source and provision for their infrastructure should be included in street design
- comply with relevant legislation, standards and codes of practice to prevent public health risks and must be approved by relevant authorities

Consider using man made structures containing ecological function to convey, treat and infiltrate stormwater that do not create mosquito breeding sites.*

PLANNING & DESIGN CONSIDERATIONS

DESIGN FOR BETTER WATER MANAGEMENT VIA:

PROTECTING NATURAL WATERCOURSES

Retain and enhance natural watercourses, wetlands and their riparian vegetation.#

Land identified with significant flood risk is to be protected from urban development.#

CREATING ARTIFICIAL WATERCOURSES

Consider the use of artificial lakes, ponds or other permanent water bodies as features in urban areas in an appropriate site where they can contribute significantly and cost-effectively to enhance urban density, business establishment and have an urban water management function. However, ensure that they do not create mosquito breeding sites.#

EXAMINING WATER HABITATS

Consider:

- development proximity to all water sources and mosquito prone areas[oe]
- mosquito risk assessment as part of a flora and fauna assessment or in the assessment of the terrain features to ensure any potential mosquito breeding sites are identified[oe]
- development of a mosquito management plan, if constructed wetlands are proposed in the urban development[oe]

DESIGN TO CONSIDER WASTE MANAGEMENT ISSUES VIA:

WASTE MANAGEMENT CAN HAVE SIGNIFICANT CONSEQUENCES FOR HUMAN HEALTH AND THE ENVIRONMENT. RISKS TO HUMAN HEALTH MAY EVENTUATE FROM THE COLLECTION, STORAGE OR PROCESSING OF WASTE MATERIALS AND MAY RESULT IN HEALTH IMPACTS SUCH AS RESPIRATORY ILLNESSES.[15]

ASSESSMENT OF WASTE MANAGEMENT OPTIONS

Consider proximity and availability to waste management facilities.[oe]

Assessment of the slope, soils and geotechnical characteristics should be used to inform subdivision block size and capability for on site disposal of waste water.[oe]

PLANNING & DESIGN CONSIDERATIONS

DESIGN TO CONSIDER & INCORPORATE EXISTING LANDSCAPE VIA:

LOT AND STREET DESIGN

Streets near high bushfire hazard areas should be designed, located and connected to allow safe and efficient movement of emergency vehicles.#

Lots, house design and building materials should incorporate bushfire protection measures.#

LOCATION OF DEVELOPMENT

Consider the previous use of the proposed development site, particularly if the site was previously used for industry. Ensure the land is not contaminated from business industrial activity.oe

Consider the services, vegetation, natural features, animal habitats and industries that border a proposed development.oe

Engage with Aboriginal communities to protect Aboriginal cultural sites of significance.

Promote the maintenance of culture and the natural environment by designing:*#

- lots that allow dwellings to be sited to protect natural or cultural features
- open space with as little as possible obtrusive effects on the living environment
- green open space that is cost-effective to maintain
- open space that contribute to the legibility and character of the development.

THE PRESENCE OF FORESTS, TREES AND OTHER VEGETATION HAVE BEEN DEMONSTRATED TO ACT AS POSITIVE HEALTH DETERMINANTS. THERE IS EVIDENCE THAT NATURE VIEWS IMPROVE RECOVERY FOR VARIOUS TYPES OF PATIENTS, REDUCE STRESS AND ENHANCE PEOPLE'S WORK PERFORMANCE, IMPROVE DISCIPLINE AND ATTENTION OF YOUNG PEOPLE AND DECREASE MORTALITY AMONG SENIOR CITIZENS.[2S, 3S, 4S]

DESIGN TO CREATE A LESS CAR DEPENDENT NEIGHBOURHOOD VIA:

PROMOTING WALKING, CYCLING AND PUBLIC TRANSPORT OPTIONS

See the Connectivity Principle for details.

MORE EFFICIENT USE OF CAR PARKING SPACE

As far as practical, on-street parking should be encouraged.* However, ensure there is safe transit for cyclists.§

If there is off-street car parking, it should be located, designed and managed to maximise efficient use of spaces and thus minimise the total area of land provided for parking by:#§

- ensuring car parks serve multiple businesses and different uses
- ensuring car parks have peak demand requirements at different times
- minimise single use car parks
- wrap shops, cafes and green space around parking structures
- relocate car parks underground

REFERENCES

* The Planning Group Pty Ltd. (2005). *Sustainable Urban Village Demonstration Project: Phase 3 Report. Project sustainability assessment: Assessment of project sustainability against sustainability matrix.* Accessed 26/02/2007 at http://www.dhw.wa.gov.au/landsales/site_files/corporate/sustainability_phasethree.pdf

¥ NSW Department of Planning. (2007). BASIX: *Building Sustainability Index.* NSW Government Accessed 26/2/2007 at http://www.basix.nsw.gov.au/information/index.jsp

ł Department of Transport, Energy and Infrastructure (2007). *Energy Efficient Housing.* Government of South Australia.

Western Australian Planning Commission Liveable Neighbourhoods. (2004). *Liveable Neighbourhoods: A Western Australian Government Sustainable Cities Initiative.* 3rd Edition. Western Australia Planning Commission.

œ Environmental Health, Hunter New England Area Health Service.

^ National Heart Foundation of Australia (2004). *Healthy by design: A planner's guide to environments for active living.* National Heart Foundation of Australia (Victorian Division).

§ Edwards, P. and Tsouros, A. (2006). *Promoting physical activity and active living in urban environment: The role of local governments.* World Health Organization, Europe.

Ø NSW Department of Health (2004) *Rainwater Tanks.* Available from http://www.health.nsw.gov.au/pubs/r/pdf/rainwater020067.pdf

1S. Cave, B., Molyneux, P. & Coutts, A. (2004). *Healthy sustainable communities: What works?* Milton Keynes and South Midlands Health and Social Care Group.

2S. Cave, B. & Molyneux, P. (2004). *Healthy sustainable communities: A spatial planning checklist.* Milton Keynes and South Midlands Health and Social Care Group.

3S. Takano, T., Fu, J., Nakamura, K., Uji, K., Fukuda, Y., Watanabe, M. & Nakajima, H. (2000). Age-adjusted mortality and its association to variations in urban conditions in Shanghai. *Health Policy, 61(3),* 239-253.

4S. Frumkin, H. (2003). Healthy Places: Exploring the evidence. *American Journal of Public Health, 93(9),* 1451-1456.

ACCESSIBILITY

A community which provides equal opportunities is an environment that ensures people are not excluded from the activities of society and everyone has access to the necessary items in order to achieve a task or goal. Opportunities can be built 'into' communities, through provision of infrastructure and services that encourage active participation by people of different ages, ethnicities, abilities and genders.

Access to services was a strong element in the resident survey.

Services and facilities that people wanted access to were:

- shops;
- restaurants;
- office and local employment opportunities;
- parks and open space; and
- heath services.

Residents also wanted more places to cycle to, more footpaths to walk along and viewed landscaping and street light as important aspects of a liveable community.

PLANNING & DESIGN CONSIDERATIONS

DESIGN TO INCREASE ACCESS TO SERVICES VIA:

PROVIDING LOCAL DESTINATIONS

Encourage more local facilities in the neighbourhood to be within close walking distance (400-800 m) to dwellings and businesses.^*†§

In particular:

- healthy food stores
- shops
- employment opportunities
- schools and other educational institutions
- health services
- childcare
- recreational facilities
- youth services/facilities
- places of worship
- post office
- small local businesses
- support services
- natural space such as lakes, forests, beaches, reserves

Increase access to these services by providing public transport.§

Promote mixed land use development.*§

Create clusters through the use of corner stores and cafes to increase viability for business owners. Co-locate with, or within 200m of community centres, schools, parks and public transport.^

DESIGN TO INCREASE HOUSING OPTIONS VIA:

BARRIERS FOR CHILDREN WALKING OR CYCLING TO SCHOOL INCLUDE THE LONG DISTANCES THEY HAVE TO TRAVEL TO GET TO SCHOOL AND TRAFFIC RELATED DANGERS.[1A]

PROVIDING AFFORDABLE HOUSING

Provide housing that those on low and moderate incomes can afford.*

PROVIDING HOUSING DIVERSITY AND APPROPRIATE DENSITY

Promote age-friendly built environments, and foster age-friendly community planning and design. Also see the Flexibility Principle for details.

PROVIDING HOUSING IN APPROPRIATE LOCATIONS

Provide lots in appropriate locations which are near to business development, services and public transport.^*†§

Ensure that urban development lots have a suitable level of amenity.#

DESIGN TO INCREASE USE OF PARKS, OPEN SPACE AND PUBLIC SPACE VIA:

ENSURING THAT THERE IS AN ADEQUATE AMOUNT OF OPEN GREEN SPACE AND PARKS

Conserve and rejuvenate green space.§†

Local parks:#^

- should be up to 3000m sq
- should be within 150m to 300m of safe walking distance of all dwellings
- can include small parks, special purpose parks, children's playgrounds and squares

Neighbourhood parks:^#§

- should be a minimum of 1ha
- should provide for active (formal playing fields) and passive use
- should be within 400m to 500m of most dwellings
- should service approximately 600 dwellings

BEING ABLE TO ACCESS PLACES FOR PHYSICAL ACTIVITY, THE PROXIMITY OF A NEIGHBOURHOOD PARK TO ONE'S RESIDENCE AND THE TYPE OF AMENITIES AT THE PARK IS ASSOCIATED WITH INCREASED FREQUENCY OF PHYSICAL ACTIVITY.[2A]

District parks:#

- should be of at least 3.0ha
- should provide a combination of passive and active (formal playing fields) use
- should be within 2km of most dwellings

Consider and minimise the cost of maintenance of public and green open space.#

PROVIDING CULTURAL AND NATURAL RETENTION IN PARKS, OPEN SPACE AND PUBLIC SPACE

Aim to retain natural vegetation, significant landscape or historical landmarks.

Include local public art.^

Work with Aboriginal communities to protect and revitalise Aboriginal cultural sites of significance.

REVITALISE OLD OR DISUSED AREAS

Retrofit run-down areas into green or open space.*§

ENHANCE SAFETY IN PARKS, OPEN SPACE AND PUBLIC SPACE

Include the Crime Prevention Through Environmental Design (CPTED) principles when designing open and public space. Consider whether the open space is overlooked by housing and actively used facilities, especially on routes to and from schools, public transport stops and other routes used at night.*

Cluster activities such as cafes within or on the edge or parks and open space.^

Adequately illuminate open space that is likely to be well-used at night.^#

PLANNING & DESIGN CONSIDERATIONS

DESIGN TO INCREASE USE OF PARKS, OPEN SPACE AND PUBLIC SPACE VIA:

ENHANCE USABILITY AND AESTHETICS OF PARKS, OPEN SPACE AND PUBLIC SPACE

Maximise shade over paths, rest stops, play equipment, BBQ settings and seats ensuring that the shade is maintained to a high standard so that it is useable and clean.^

Provide natural shade.^ Consider including:

- drought resistant plants
- low maintenance plants, those that do not require frequent watering or pruning
- trees that have trunks, broad leaves and structured shade to compliment natural shade

Provide facilities and open space areas for a range and combination of uses and ages including:^§*¤

- play equipment or markings on the ground, such as hopscotch, for young people
- informal and passive recreation for older people
- formal sporting activities and associated activities
- community activities and events
- pedestrian and cycle movement services and facilities
- linear recreation and sports areas along creeks and drainage reserves where possible
- bush trails and walking areas
- community gardens

Provide seating that:^†

- is in an accessible position
- has space for wheelchairs next to it
- has back and arm rests
- is not too low
- is a minimum of 1m away from the pathway
- is positioned to facilitate interaction
- is near points of interest in the park or along the path
- has shade

THE QUALITY OF NEIGHBOURHOOD AESTHETICS, WHICH CAN INCLUDE THE PRESENCE OF GREEN AND OPEN SPACE, INTERESTING ARTWORK, NATURAL FEATURES AND PLEASANT SURROUNDINGS, AND THE PERCEPTIONS ABOUT CONVENIENCE OF FACILITIES HAVE A STRONG CORRELATION WITH PHYSICAL ACTIVITY LEVELS. PEOPLE REPORTING LESS AESTHETICALLY PLEASING SURROUNDINGS AND LESS CONVENIENT FACILITIES ARE LESS LIKELY TO PARTICIPATE IN PHYSICAL ACTIVITY.[3A, 4A, 5A]

Consider the inclusion of:^

- drinking water fountains
- signage
- toilets including children's toilets
- change rooms
- lockers
- rubbish bins
- bike racks
- low maintenance play equipment
- play equipment for those who are less mobile
- on and off leash walking areas for dog owners
- artwork

Encourage low walls, transparent fencing, low vegetation (up to 200mm) or bollards along the open space.^

PLANNING & DESIGN CONSIDERATIONS

DESIGN TO INCREASE USE OF RECREATIONAL SPACE VIA:

POOL FENCING DESIGN

Ensure home pool fencing meets legislated standards.

CO-LOCATION AND INTEGRATION OF FACILITIES

Wherever possible, recreation, sport facilities and open spaces should be integrated with other community facilities such as town centre or shopping centres, not isolated.¤

Preferences should also be given to multiple use of recreation and sport facilities for compatible activities.¤

THESE FACILITIES ARE ALL IN ONE AREA WHICH IS ACCESSIBLE VIA PUBLIC TRANSPORT AND CYCLE WAYS.

DESIGN TO INCREASE EDUCATIONAL OPTIONS VIA:

LOCATION OF MAJOR INSTITUTIONS

Major institutions such as universities, TAFE, hospitals and other institutions should be located and integrated into the neighbourhood, or adjoining town centres, not isolated. They should be highly accessible via public transport, and be easily accessible via walking and cycling.#

Primary schools should generally be located between neighbourhoods to enable sharing amongst two or three neighbourhoods.#

Secondary schools should generally be located on major routes near public transport.#

WHEN THERE ARE LIMITED PUBLIC TRANSPORT OPTIONS, PARTICULAR IN THE EVENINGS OR ON THE WEEKEND, EMPLOYMENT, EDUCATIONAL AND SOCIAL ACTIVITIES ARE OFTEN RESTRICTED, PARTICULARLY FOR THOSE WITHOUT ACCESS TO A CAR SUCH AS YOUNG PEOPLE, THE ELDERLY AND PEOPLE OF LOW SOCIO-ECONOMIC STATUS.[3A]

DESIGN TO INCREASE EDUCATIONAL OPTIONS VIA:

PROVIDING ALLOCATION OF LAND FOR EMPLOYMENT

In any new urban development, provision of sufficient and appropriate sites for employment and business is needed in order to provide:#

- adequate jobs for the new residential population. It has been suggested that district structure plans should provide for jobs by allocating land for around 60% of the jobs needed by a new population
- business and employment generation

The layout and location of land for employment and business uses should ensure that, as much as practical, it is integrated into mixed use centres and is within walking distance of public transport stops.#

Sites for use by heavy industry or large-scale warehousing or distribution need good highway access, and should usually not be in walkable urban areas.#

Identify and exclude from residential use, any potential strategic business sites. These sites may include freeway interchanges, frontages to freeways, major roads intersections or sites with strategic suitability related to local resources.#

Identify appropriate sites along the coast or other high amenity areas that are suited to development for mixed use tourist or recreation nodes.#

DESIGN TO PRESERVE HISTORICAL HERITAGE VIA:

CONSULTATION AND PRESERVATION

Consult on Aboriginal and other cultural heritage issues.

Ensure neighbourhood character is respected when new communities are built.*

Preserve significant items and places keeping in mind the local context.*

PLANNING & DESIGN CONSIDERATIONS

DESIGN TO INCREASE OPPORTUNITIES FOR PARTICIPATION IN SOCIAL LIFE VIA:

ENGAGEMENT IN THE PLANNING AND DESIGN PROCESS

Engage community members, including young and old, in the planning process to accommodate their ideas of their local community; particularly on issues that will affect them, such as changing the density mix in their neighbourhood, or facility development/reduction within their neighbourhood. Planning and designing of a centre or area should be informed wherever practical by the community it is intended to serve.^§†Þ

In particular, pro-active methods for community participation should be incorporated into the design development phase.§

PROVIDING PUBLIC SPACES FOR COMMUNITY MEMBERS

Design spaces to accommodate community events and cultural programs.^

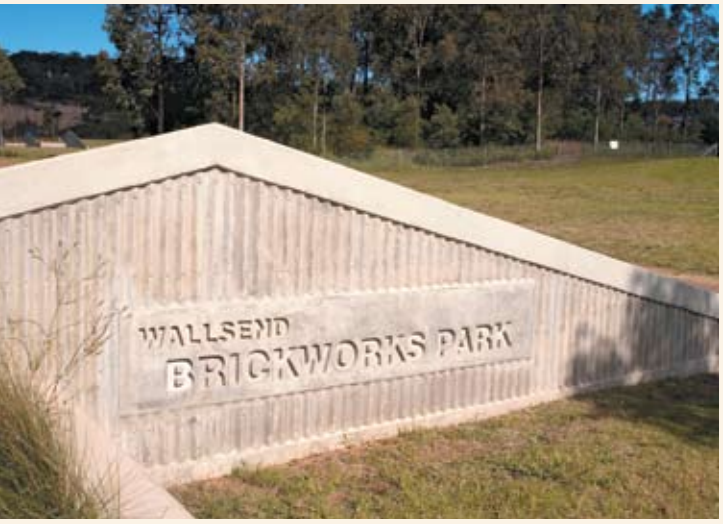
Consider the opportunities for establishing community gardens.^

Consider the inclusion of squares or plazas.¤

Provide a quality public realm with numerous and diverse spaces for groups and individual activity.¤

Ensure that there is welcoming public space in which young people can meet friends.Þ

Incorporate some areas in the community that are calm and reflective places, with other zones for more active public activity. Provide a quality public realm with numerous and diverse spaces for groups and individual activity.*



COMMUNITY PARTICIPATION IN THE PLANNING PROCESS CAN PROVIDE AN OPPORTUNITY FOR PEOPLE TO FEEL EMPOWERED REGARDING DECISIONS THAT WILL AFFECT THEIR LIVES. [3A, 6A, 7A,8A]

ACCESS TO COMMUNITY RECREATIONAL FACILITIES AND AESTHETICALLY PLEASING PUBLIC SPACES PROVIDE AN OPPORTUNITY FOR SOCIAL ENGAGEMENT AND ENCOURAGE SOCIAL NETWORKS TO DEVELOP. [9A, 10A]

REFERENCES

* The Planning Group Pty Ltd. (2005). *Sustainable Urban Village Demonstration Project: Phase 3 Report. Project sustainability assessment: Assessment of project sustainability against sustainability matrix*. Accessed 26/02/2007 at http://www.dhw.wa.gov.au/landsales/site_files/corporate/sustainability_phasethree.pdf

¥ Western Australian Planning Commission Liveable Neighbourhoods. (2004). *Liveable neighbourhoods: A Western Australian Government sustainable cities initiative*. 3rd Edition. Western Australia Planning Commission.

^ National Heart Foundation of Australia (2004). *Healthy by design: A planner's guide to environments for active living*. National Heart Foundation of Australia (Victorian Division).

§ Edwards, P. and Tsouros, A. (2006). *Promoting physical activity and active living in urban environment: The role of local governments*. World Health Organization, Europe.

¤ Daley, J. W. (2002). *Recreation and Sport Planning and Design*. 2nd Edition. Champaign, Human Kinetics.

† Ageing and Disability Department, NSW Health (1998). *NSW Healthy Ageing Framework*, 1998-2003. NSW Department of Health.

Þ The Office of Children and Young People (2002). *2002 -2006 NSW Youth Policy: Working together, working for young people*. NSW Government.

1A. Dellinger, A. & Staybtib, C. (2005). Barriers to Children Walking and Bicycling to School. *Morbidity and Mortality Weekly Report, 54*, 949-952.

2A. Kahn E. B. (2002). The effectiveness of interventions to increase physical activity. *American Journal of Preventative Medicine, 22(4S1)*:73-107.

3A. Cave, B., Molyneux, P. & Coutts, A. (2004). *Healthy sustainable communities: What works?* Milton Keynes and South Midlands Health and Social Care Group.

4A. Humpel, N., Owen, N. & Leslie, E. (2002). Environmental factors associated with adults' participation in physical activity. *American Journal of Preventive Medicine, 22(3)*, 188-99.

5A. Ball, K., Bauman, A., Leslie, E. & Owen, N. (2001). Perceived environmental aesthetics and convenience and company are associated with walking for exercise among Australian adults. *Preventative Medicine, 33*, 434-440.

6A. Butterworth, I. (2000). *The relationship between the built environment and wellbeing: A literature review*. Prepared for the Victorian Health Promotion Foundation, Melbourne, Australia.

7A. Putnam, R. D. (1993). The prosperous community. Social Capital and economic growth. *American Prospect*, 35-42.

8A. World Health Organization. (1986). *Ottawa Charter for Health Promotion*. First International Conference on Health Promotion Ottawa, 21 November 1986. Available from http://www.who.int/hpr/NPH/docs/ottawa_charter_hp.pdf

9A. Edwards, P. & Tsouros, A. (2006). *Promoting physical activity and active living in urban environment: The role of local governments*. World Health Organization: Europe.

10A. Semenza, J. C. (2003). The intersection of urban planning, art, and public health: The Sunnyside Piazza. *American Journal of Public Health, 93 (9)*, 1439-1441

FLEXIBILITY

Flexibility can be defined as the ability to change, to fit to particular circumstances or to accommodate and support a range of needs of various persons. Flexibility includes concepts like adaptability, diversity and adjustability.

A number of survey respondents reported that there needed to be:

- a mixture of housing types within suburbs
- affordable housing for low and middle income earners
- availability and use of land for multiple purposes

PLANNING & DESIGN CONSIDERATIONS

DESIGN TO MEET A VARIETY OF PEOPLE'S NEEDS VIA:

PROVIDING HOUSING THAT IS ADAPTABLE

Consider accessibility and design features of homes that make it adaptable to meet changing needs (universal design). For example access for people who are less mobile or use a wheelchair.†*

Consider building some houses that could be efficiently converted to include a home business.*#

Promote ageing-in-place as a preference for seniors with services such as home modification and maintenance programs.†

THE IMPACT OF A DISABILITY OR AGE CAN BE ALLEVIATED OR ACCENTUATED BY THE DESIGN OF THE BUILT ENVIRONMENT. PROVIDING SAFE, BARRIER-FREE, AGE-FRIENDLY ENVIRONMENTS SUPPORTS OLDER PEOPLE, PARTICULARLY THOSE WITH A DISABILITY, TO REMAIN INDEPENDENT AND ACTIVE AND IMPROVE ACCESSIBILITY FOR ALL.[1F, 2F]

PROVIDING HOUSING DIVERSITY WITHIN A NEIGHBOURHOOD

Include a variety of lot sizes, mixed housing types, housing for a variety of income levels and densities.*#†

Provide smaller residential lots and higher density housing in areas close to town and neighbourhood centres, near public transport stops, and in areas with high amenity such as next to parks.#

Provide housing types with residential densities that increase towards the centre so that the town can, over time, support sufficient population to foster good local self-containment.#

PROVIDING SERVICE DIVERSITY WITHIN A NEIGHBOURHOOD

Ensure there are sufficient and appropriate sites for businesses and services to provide adequate jobs.#

Consider whether residential areas could be capable of adaptation and/or business uses in the longer term.#

The street and lot layout should ensure that anticipated enhancements such as grey water distribution systems and enhanced communication networks can be incorporated either at the point of development, or in the future.#

PROVIDING MULTI-PURPOSE BUILDING USE WITHIN A NEIGHBOURHOOD

Design buildings to facilitate a variety of uses within a neighbourhood, providing opportunities for activities at different periods of the day or night e.g. schools as a community facilities after hours.*^#

Schools may be located in conjunction with district parks enabling joint use and maintenance of public open space, such as playing fields.#

Design buildings to address access issues for those less mobile, as well as providing convenient and visible stairwells.§

PROVIDING MULTI-PURPOSE PUBLIC SPACE WITHIN A NEIGHBOURHOOD

Design facilities and open space that accommodate as many different activities as possible with only minor adjustment and that can be adapted to suit the changing needs over time of the community they serve.¤*

Provide facilities and open space areas for a range of ages and combination of uses including:*§¤^

- play equipment or markings on the ground, such as hopscotch, for young people
- informal and passive recreation for aged
- on and off leash areas
- formal sporting activities and associated activities
- community activities and events
- pedestrian and cycle movements services and facilities
- bush trails and walking areas
- community garden

Facilities can be a variety of low, medium or high level of maintenance. For example:

- Low maintenance: open level grassed areas, bush walking trails
- Medium maintenance: basketball rings, skateboard park
- High maintenance: children's play equipment

Identify and set aside land for recreation facilities and open spaces to meet the needs of existing and future populations.¤

Where land is designated for future business use, and demand does not exist in the short term, such sites may be used for suitable interim purposes.#

REFERENCES

* The Planning Group Pty Ltd. (2005). *Sustainable Urban Village Demonstration Project: Phase 3 Report. Project sustainability assessment: Assessment of project sustainability against sustainability matrix*. Accessed 26/02/2007 at http://www.dhw.wa.gov.au/landsales/site_files/corporate/sustainability_phasethree.pdf

¥ Western Australian Planning Commission Liveable Neighbourhoods. (2004). *Liveable neighbourhoods: A Western Australian Government sustainable cities initiative*. 3rd Edition. Western Australia Planning Commission.

^ National Heart Foundation of Australia (2004). *Healthy by design: A planner's guide to environments for active living*. National Heart Foundation of Australia (Victorian Division).

§ Edwards, P. and Tsouros, A. (2006). *Promoting physical activity and active living in urban environment: The role of local governments*. World Health Organization, Europe.

¤ Daley, J. W. (2002). *Recreation and Sport Planning and Design*. 2nd Edition. Champaign, Human Kinetics.

† Ageing and Disability Department, NSW Health (1998). *NSW Healthy Ageing Framework, 1998-2003*. NSW Department of Health.

1F. Commonwealth of Australia. (2004). *Age friendly built environments - background paper*. Background Paper presented to the Community and Disability Services Ministers' Conference on 28 July 2004. Available from http://www.health.gov.au/internet/wcms/publishing.nsf/Content/ageing-agefriendlybuilt-afbe.htm

2F. World Health Organization (2002). *Active ageing: A policy framework*. A contribution of the World Health Organization to the Second United Nations World Assembly on Ageing, Madrid, Spain, April 2002. Available from http://whqlibdoc.who.int/hq/2002/WHO_NMH_NPH_02.8.pdf

ASSESSMENT OF HEALTH AND SOCIAL IMPACTS

ANY CURRENT OR PROPOSED DEVELOPMENT (OR ACTION) IS REQUIRED TO SUBMIT A DEVELOPMENTAL APPLICATION TO THE APPROPRIATE BODY, SUCH AS LOCAL GOVERNMENT. AS PART OF THIS PROCESS, IT IS RECOMMENDED THAT HEALTH AND SOCIAL IMPACT ASSESSMENTS BE UNDERTAKEN TO ASSESS THE HEALTH AND SOCIAL IMPACTS OF A CURRENT OR PROPOSED ACTION.

HEALTH AND SOCIAL IMPACT ASSESSMENTS

An impact assessment is a structured process involving the identification of potential consequences of a current or proposed action. Impact assessments seek to predict and understand what impacts may occur, attempting to reveal unintentional, avoidable consequences of a proposed action.

Ideally an impact assessment should be conducted on a proposal before it is implemented, preferably after the formal planning stage.

There are many types of impact assessments focusing on different issues: social, health, and the environment. Although each type of impact assessment varies slightly in the issues it assesses, the processes are similar and they ultimately examine which community groups will be affected by the proposed development.

Below is an outline of the steps involved in an Equity-Focused Health and Social Impact Assessment.

Stage 1: Screening of the proposal

The aim of this stage is to determine if an impact assessment is required.

Stage 2: Scoping of the proposal

The aim of this stage is to outline how to manage the impact assessment. It is a project planning stage, specifying the boundaries of the impact assessment. A task of this stage is to determine the level of impact assessment: rapid, intermediate or comprehensive. A rapid impact assessment would be completed when there is restricted time and resources, resulting in limited consultation, and using existing evidence with the impacts largely known. A comprehensive level impact assessment is resource and time intensive, involving extensive consultation time with the impacts potentially serious and/or complex.

Stage 3: Identification of potential impacts

This stage involves developing a profile of the population groups that may potentially be affected population groups. It also entails collecting information about the potential impacts on these population groups.

Stage 4: Assessment of potential impacts

This stage involves the assessment of identified potential impacts, taking into account the nature and size of the impacts, as well as the type and strength of the evidence available.

Stage 5: Development of recommendations

Decision makers need to be aware of what can be done to change a proposed action to ameliorate the potential negative impacts and emphasise the potential positive ones. The purpose of this stage is to create a series of recommendations aimed at influencing the decision process and subsequently the proposed action.

Stage 6: Monitoring and evaluation

This stage involves the evaluation of the impact assessment. Ideally it should involve process, impact and outcome evaluation of the impact assessment. It should also determine indicators or an agreed method for monitoring the implementation of the proposed action.

For more details on impact assessments please see the References and Useful Documents Section.

REFERENCES AND USEFUL DOCUMENTS

Ageing and Disability Department, NSW Health. (1998). *NSW Healthy Ageing Framework, 1998-2003*. NSW Department of Health, Sydney.

American Planning Association. (2006). *Smart Growth Codes*. Accessed 31/5/2006 at: http://www.planning.org/smartgrowthcodes

Australian Local Government Association. (2006). *Age-friendly built environment: Opportunities for local government*. Commonwealth of Australia, Canberra.

Butterworth, I., & Breton, E. (2006). *A Systematic Review of the Health Impacts of Legislative Interventions for Healthy Built Environments: Report to the Planning Institute of Australia (Victoria)*. Deakin University, Melbourne.

Cave, B. & Molyneux, P. (2004). *Healthy sustainable communities. A spatial planning checklist*. Milton Keynes and South Midlands Health Social Care Group.

Commonwealth of Australia. (1997). *AMCORD: A national resource document for residential development*. Commonwealth of Australia, Canberra.

Daley, J. W. (2002). *Recreation and Sport Planning and Design*. 2nd Edition. Champaign, Human Kinetics.

Department of Environment and Conservation NSW. (2006). *Action for Air*. NSW Government, Sydney.

Department of Human Services. (2001). *Environments for Health Promoting Health and Wellbeing through Built, Social, Economic and Natural Environments. Municipal Public Health Planning Framework*. State Government Victoria.

Department of Transport, Energy and Infrastructure. (2007). *Energy efficient housing*. Government of South Australia.

Edwards, P. & Tsouros, A. (2006). *Promoting physical activity and active living in urban environment: The role of local governments*. World Health Organization, Europe.

Environmental Protection Agency. (2003). *EPA Smart Growth Strategy*. Accessed 31/5/2006 at: http://www.epa.gov/smartgrowth/pdf/EPA%20Smart%20Growth%20Strategy.pdf

Hancock, T. (2001). People, partnerships and human progress: building community capital. *Health Promotion International, 16(3)*, 275-280.

Hiss, T. (1990). *The experience of place*. New York: Alfred A. Knopf.

National Heart Foundation of Australia. (2004). *Healthy by design: A planner's guide to environments for active living*. National Heart Foundation of Australia: Victorian Division.

NHS London Healthy Urban Development Unit. *Watch Out For Health - Planning Checklist*. Accessed 31/08/2006 at: http://www.healthyurbandevelopment.nhs.uk/documents/checklist_for_health/Watch_Out_For_Health_Planning_Checklist.pdf

NSW Department of Health. (2004). *Rainwater Tanks*. Accessed 26/2/2007 at: http://www.health.nsw.gov.au/pubs/r/pdf/rainwater020067.pdf

NSW Department of Planning. (2007). *BASIX: Building Sustainability Index*. NSW Government. Accessed 26/2/2007 at: http://www.basix.nsw.gov.au/information/index.jsp

NSW Department of Urban Affairs and Planning. (2001). *Crime prevention and the assessment of development applications*. Guidelines under section 79C of the Environmental Planning and Assessment Act 1979. Accessed 26/2/2007 at: http://www.police.nsw.gov.au/community_issues/crime_prevention/safer_by_design

NSW Government. (2006). *Water for life: 2006 Metropolitan Water Plan*. Accessed 26/2/2007 at: http://www.waterforlife.nsw.gov.au/education_and_resources/resource_centre/publications

Relph, E. (1976). *Place and placelessness*. London: Pion Ltd.

Smart Growth Network. (2006). *Smart Growth Online. A service of the smart growth network*. Accessed 5/5/2006 at: http://www.smartgrowth.org/about/default.asp

Srinivasan, S., O'Fallon, L. R., & Dearry, A. (2003). Creating healthy communities, healthy homes, healthy people: Initiating a research agenda on the built environment and public health. *American Journal of Public Health, 93(9)*, 1446-1450.

The Planning Group Pty Ltd. (2005). *Sustainable Urban Village Demonstration Project: Phase 3 Report. Project sustainability assessment: Assessment of project sustainability against sustainability matrix*. Accessed 26/02/2007 at: http://www.dhw.wa.gov.au/landsales/site_files/corporate/sustainability_phasethree.pdf

The Office of Children and Young People. (2002). *2002-2006 NSW Youth Policy: Working together, working for young people*. NSW Government.

Weintraub, B.A. (1995). Defining a fulfilling and relevant environmental education. *Urban Education, 30(3)*, 337-366.

Western Australian Planning Commission Liveable Neighbourhoods. (2004). *Liveable neighbourhoods: A Western Australian Government sustainable cities initiative*. 3rd Edition. Western Australia Planning Commission.

Health and Social Impact Assessment Documents

Becker, H. A. (2001). Social Impact Assessment. *European Journal of Operational Research, 128*, 311-321.

Cox, G. & Miers, S. (1995). *Social Impact Assessment for Local Governments. A handbook for Councillors, Town Planners and Social Planners*. Local Government and Shires Association.

Dannenberg, A.L., Jackson, R.J., Frumkin, H., Schieber, R.A., Pratt, M., Kochtitzky, C., & Tilson, H.H. (2003). The Impact of Community Design and Land-use Choices on Public Health: a scientific research agenda. *American Journal of Public Health, 93(9)*, 1500-1508.

Ison, E. (2000) *Resource for Health Impact Assessment: Volume one*. National Health Service.

Mindell, J. & Joffe, M. (2003). A glossary for health impact assessment. *Journal of Epidemiology Community Health, 57*, 647-651.

Mahoney, M., Simpson, S., Harris, E., Aldrich, R. & Stewart Williams, J. (2004). *Equity-focused Health Impact Assessment Framework*. The Australasian Collaboration for Health Equity Impact Assessment (ACHEIA).

Simpson, S., Harris, E., Harris, E. & Harris-Roxas B. (2004). Health Impact Assessment: an introduction to the what, why and how. *Health Promotion Journal of Australia, 15(2)*, 150-155.

Taylor, L. & Blair-Stevens, C. (2002). *Introducing Health Impact Assessment (HIA): Information for the decision-making process*.