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Urban sprawl + politics + cars = Canberra vs. Compact city + innovative politics + active forms of transport = healthy Canberra

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1 ABSTRACT

Canberra, Australia is a city of excellence in terms of urban design principals from the 1960s and 70s. A true green city with a large quantity of open spaces for recreation, large avenues and roundabouts, the parliamentary triangle and sufficient car parking. A nation's capital that meets all the criteria of a well planned city of the 20th century. However, nothing lasts forever and new planning principles are required for a capital city in the 21st century. We are facing serious challenges such as climate change, peak oil and an increasing burden of chronic disease (such as cardivoasuclar diseases and obesity) caused in particular by physical inactivity.

How do we face this challenge, resolve these issues and embed solutions into the built environment in order to achieve a more healthy and sustainable Canberra for future generations? Certainly, doing business as usual cannot be the answer.

Researchers have shown that the built environment can have a significant impact on a person's level of physical activity. For instance, urban sprawl increases the demand for travel and gives too much priority to private vehicles, rather than encouraging people to walk, cycle and use public transport.

For the Australian Captial Territory (ACT) the Heart Foundation has established an Active Living project funded by the ACT Government. The project commenced in late 2009 and is guided by three key evidence based documents: Healthy Spaces and Places; the Heart Foundation's posititon statement, The built environment and walking and the Blueprint for an active Australia. Healthy Spaces and Places has been produced by the Heart Foundation and its partners, the Planning Institute of Australia and the Australian Local Government Association to support the development of healthy urban planning. This national guide to designing places for healthy living provides design principles that are the foundation stones of healthier, more active communities; different development types where these principles can be applied; and best practise case studies. An overview of Heathy Spaces and Places will be provided.

A comprehenive scoping study has been undertaken and some key findings will be presented on how these might be translated to the Canberra setting.

2 ACTIVE LIVING AND THE BUILT ENVIRONMENT

There is growing international recognition of the impact that the built environment has on physical activity. Urban sprawl with long distances between places increases the demand for travel and gives priority to cars, rather than encouraging people to walk, cycle, use public transport and be more physical active. Research has shown that increasing housing density, mixed-density, mixed-use planning and connectivity all contribute to the increased use of active transport[1]. Additionally, people lived in an aesthetically pleasing environment were 41 per cent more likely to walk[2].

Europe has been particularly responsive in considering the influence of the built environment on physical activity. For example, over ten years ago the European Division of the World Health Organzation adopted the Charter on Transport, Environment and Health which recognised the connection between transport, environment and health policies. Notably, the Charter recommended that the health impact of policies has to be better intregrated into approval procedures, impact assessments, and cost-benefit analyses of transport plans, land use planning, and infrastructure programmes and investments[3]. Europe has also benefited from a built environment that was largely planned and built before cars asserted their dominance.

By contrast, the urban landscape of many English-speaking industrialized countries, such as Australia were shaped after the second world war as cars became more affordable and planning principles responded by

[1] Gebel et al., 2005
[2] Humpel N. et al., 2004
[3] WHO Europe Charter on Transport, Environment and Health, 1999 p. 3-4

encouraging convenient and fast-traveling infrastructure wherever possible. In particular, planning principals outlined in the Athens Charter of CIAM[4], the city beautiful movement and the garden city prinicpals have encouraged built environments that are fragmented, have segregated land use, very low urban densities, are disconnected and have out of human scale road networks, poor public transport network and less local employment opportunities[5],[6],[7].Currently in Australia, urban developments have created an "obesogenic" environment[8], reinforcing sedentary behavior and car dependent lifestyles. The impact on the population is compounded by Australia being one of the most highly urbanized countries in the world with around 90% of its population living in urban centers[9].

This situation has helped create a number of health, environmental and economic problems within Australia.

Australia is one of the most overweight of the developed nations in the world. Obesity and overweight affects about one in two Australian adults and up to one in four children[10]. Cardiovascular disease is Australia's leading cause of death and the second highest burden of disease in the country.

The Australian Institute of Health and Welfare refers to Australia's ranking for adult obesity rates since 1987 as, "the 'worst' third of all OECD countries on this measure"[11]. Replacing trips in motor vehicles with walking or cycling for transport will lower greenhouse gas emissions, and air and noise pollution[12].In 2008, it was estimated that the total cost of physical inactivity in Australia, including direct health costs and lost productivity amounted to $13.8 billion.

Due to this growing burden on Australian society, governments across all levels and communities are interested in the work regarding the built environment and physical activity. The National Preventive Health Taskforce has recommended the development of a strategy that supports interventions in the built environment, primary health care and workplaces. This supports the strategic direction of the Heart Foundation which has been delivering projects across Australia for several years to promote supportive environments for active living.

Given Canberra's status as the capital of Australia it could be expected to apply the latest design principles to address the problems discussed above. Unfortunately, Canberra exhibits many of the features of urben design prinicples from the 1960s and 70s. Encouragingly, the Heart Foundation was funded by the Australia Captial Territory (ACT) Government to establish the Active Living Project which aims to identify opportunites to improve the built environment of the ACT to promote active living.

3 THE ACTIVE LIVING PROJECT IN THE AUSTRALIAN CAPITAL TERRITORY

The Heart Foundation understands the importance of the relationship between the built environment and physical activity and is using its key documents Healthy by Design; Healthy Spaces and Places; and Blueprint for an Active Australia as well as the Built Environment and Walking position statement for awareness raising and actively advocating for change to the built environment.

Healthy Spaces and Places is a national guide for planning, designing and creating sustainable communities that encourage active healthy living. The document has been produced by the Heart Foundation and its partners, the Planning Institute of Australia and the Australian Local Government Association to support the development of healthy urban planning. This national guide to designing places for healthy living provides evidence for the particular need for environments that support physical activity and shows the strong links between peoples overall health and regular physical activity.

As part of the Active Living Project in the ACT, Healthy Spaces and Places was used to examine the built environment in Canberra with a focus on the implications for active living. The findings are as follows.

[4] Congrès Internationaux d'Architecture Moderne (engl.: International Congress of Modern Architecutre)
[5] Jan Gehl at his speech at the RAIA Walter Burley Giffin Memorial Lecture on the 30th November 2009 in Canberra
[6] Newman P. et al., 1989
[7] Newman P. et al., 2000
[8] Swinburn B., et al., 1999
[9] Capon A., Dec 2007a
[10] House of Representatives Standing Committee on Health and Ageing, 2009, Weighting it up: obesity in Australia, House of Representatives Standing Committee on Health and Ageing, Canberra.
[11] AIHW, 2008, p. 7
[12] Davis A. et al., 2007 and NHFA, 2009a

3.1 Active transport

In order to encourage active forms of transport for a wider part of the community, transport infrastructure needs to have:

- High level of amenity, in particular around key destinations such as workplaces schools and neighborhood centres;
- Mixed land uses and densities; and
- Choices of destinations.[13]

Canberra does have a wide and extensive off road network of cycle paths that can support active transport. Recently the ACT government introduced new supporting infrastructure for individuals to cycle to bus stations and then finish their journey on public transport (Bike'n'Ride) and is working on a new Transport Plan. However, the current network is far from being sufficient or completed. Amenity issues occur in town centers such as Belconnen and Woden. Mixed use developments are fragmented throughout the settlement footprint of Canberra and play a significant role in the choice of destination, particularly when social infrastructure is nearby residential developments.

The emphasis on active transport in Canberra is still far from adequate and will require more than just the provision of infrastructure, but also major behaviour change campaigns.

3.2 Aesthetics

Aesthetics relate directly to the human and his or her individual impression of the attractiveness of an area.

Canberra, as the nation's capital, contains several representative government buildings with a particular and distinct architectural charm. Often these buildings are solitaires such as the National Portrait Gallery, Old Parliament House or the National Library. Green spaces are part of the aesthetic composition of Canberra and underpin its reputation as the 'bush capital'. Due to the car-friendly planning approach, most of the streetscape is out of scale. Often people feel lost if walking through the suburbs. Good aesthetics assist by providing a natural point of orientation and support navigation. Many parts of Canberra have a lack of connection between architecture and landscape components and make poor use of the cityscape. However, it should be noted that Canberra has strong view connections and vistas with a great appreciation by the local population of its green character.

3.3 Connectivity

Networks with a high amount of permeability ideally contain short links, several intersections, and minimal amount of Cul de sacs. Depending on the past development phases, some of Canberra's suburbs have poor permeability that fail to provide convenient links for walkers and cyclists. Newer subdivision plans include more effective connections, but do not include travel plans or provide information about context to the surrounding built enviornment. Nonetheless, many streets do not currently have footpaths, in part or entirely[14]. Specifically, an estimated 600 km of streets are without footpaths[15]. A high proportion of Canberra's 64,000 school children[16] and around 10,000 bus commuters[17] are unable walk to a bus stop without walking on the road reserve. Furthermore, subdivisions have many interrupted street crossings that potentially discriminate against pedestrians.

3.4 Environments for all people

"Engendering a sense of belonging can positively benefit an individual's personal mental health and wellbeing."[18]

Urban sprawl with monotone types of land use does not provide the ideal framework for environment for all Canberrans. Even with a large number of recreation and open spaces that can provide equal space for all

[13] WA Planning Commission, 2004
[14] Canberra's Pedestrian Forum, Media release from 6th Nov 2009
[15] Canberra's Pedestrian Forum in Comment on Cycling & Pedestrian Network Review – December 2009 draft report
[16] www.det.act.gov.au/_data/assets/pdf_file/0008/54278/ACT_School_Census_Publication_February_2009.pdf Access on 2 Feb 2010
[17] ABS, 2006b
[18] NHFA, 2009

members of the community, the city is unable to create an environment that attracts a sufficient amount of people to support a healthy sense of belonging on most times of the day.

3.5 Mixed density

Already research has shown that increased housing density or mixed density is one of the built environment features that contributes to increased active transport, along with mixed use planning and increased connectivity[19]. At the regional and city wide scale, increasing housing density can improve the proximity between homes and destinations. This is a major factor influencing active transport to encourage physical activity.

Canberra just recently started to apply higher densities along major transport corridors including North Canberra, Civic (city centre), Acton, Kingston and Manuka. Nonetheless,Canberra is currently far from having sufficiently dense areas with its settlement footprint. Low density neighbourhoods result in activities being spread out resulting in car dependence and geographic inequity (including stratification of the population) as wealthier people move to locations that minimise their travel. In order to encourage active living in an urban environment it is important that developments are located within walking distance of bus or tram stops (400 metres), which is not currently the case in the ACT.

The current ACT Government is undertaking several key projects that impact on land use and transport planning in a more holistic way than previously. A first step toward more integrated planning is the Sustainable Future workshop finding report and the Sustainable Transport Action Plan. Both documents are solid framework documents, but missed an opportunity to be groundbreaking by hesitating to call for a major reprioritization that sees active transport options as highest priority and radical densification within the existing urban footprint.

In general Australia has an ageing population. Canberra is not an exception in this regard. It is clear that Gungahlin and Belconnen will experience an increase in the total number of children and will require especially family friendly environments. Other districts such as Gungahlin/ Hall, North Canberra, South Canberra and Weston Creek should cater for higher densities rather new greenfield developments to meet their growth targets. Areas like Tuggeranong and Woden Valley need to start thinking about shrinking and the challenges for existing built environment.

3.6 Mixed land use

Mixed land use involves a range of complementary land uses that are ideally located together in a balanced mix, including residential development, shops, employment community, recreation facilities and parks and open space.

The current situation in Canberra is far from ideal because most parts of the city are low density neighbourhoods with a few local destinations seperated by land use types – which means fewer people walk and more people drive.

Districts such as New Action, Civic, Kingston and Manuka and partly Belconnen are starting to provide some hope. Ideally mixed land uses should occur wherever it does not result in environmental constraints (noise, air pollution or amenity issues). Therefore mixed land use excludes industrial types of land use as well as large scale offensive commercial activities. Most districts of Canberra have dedicated areas for retail and commercial activities. Currently these centers do not provide sufficient opportunity for mixed use, with consumer activities within walking distance. Redeveloping these centers by increasing densities with shop top living could vastly improve how livable these neigbourhoods are.

3.7 Parks and open space

Open spaces and recreational areas are ideally a consistent network throughout a settlement area in the right scale to sustain a decent vitality. For Canberra it is important to understand how parks influence each other in order to create evidence on the jettison confusion between its real use and mythical use. Jane Jacob said once about the parks that planners consider them the lungs of the city, “It takes about three acres of woods to absorb as much carbon dioxide as four people excude in breathing, cooking and heating. The ocean of air

[19] Gebel et al., 2005

circulation about us, not parks, keep cities from suffocating."[20] Bad air is a result of too much vehicle traffic and even large parks will not be able to resolve this issue.

It is important to understand that urban parks are volatile elements stabilizer of values or of their neighborhood and district. Therefore parks are directly and drastically affected by the way the neighborhood acts upon them. They tell a lot about the success of physical interaction in the neighborhood. A physical diversity among the users and their individual schedules can be directly translated into the success of an open space or park. Jacobs mentioned that city playgrounds can not be populated by mothers with their children alone. It needs also office workers and older adults comprise in a mixture of classes. A high quantity of parks can also serve as a barrier or interruption to the functioning of a healthy city.

In accordance to Jacobs what it needs to create a functional open space or park is economic and social diversity that results in people with different schedules using the space. Open spaces and parks should never be oversimplified.

3.8 Safety and surveillance

Researchers provided evidence that safety and security are major concerns throughout Australian communities[21]. The federal government has reacted on this matter and created Crime Prevention Through Environmental Design (CPTED) guidelines[22] for the built environment. Healthy Spaces and Places also refers to the health related benefits that encourage physical activity by improving safety and surveillance. Traffic calming measures, active street fronts and passive surveillance close to footpaths can potentially facilitate physical activity.

By introducing more mixed use developments, with high percentage of living within each centre, more facades become activated and provide a safer environment for its residence. In Canberra, the design of newer developments often fail to correspond to their street fronts or provide sufficient passive surveillance. Small windows, hatches, walls and high fences communicate fear or a feeling of spatial exclusion with their immediate surroundings. In combination with poor street lighting, it creates unsecure places especially at nighttime. Most of Canberra's roads do not even have street lighting on footor bike paths that provides safety and encourages passive surveillance.

3.9 Social inclusion

Social inclusion policies facilitate access to employment, education, health, housing and democratic processes. These socially inclusive policies create health and wellbeing for individuals by creating a supportive community.[23]

As mentioned earlier, Canberra has a large number of spaces for recreation. However, quantity does not necessarily translate into space for social inclusion.

Social inclusion functions are fragmented throughout Canberra. Through observations, selected areas such as Manuka shops, Curtin shops, New Acton, parts of Civic (pedestrian zone and Bunda street), Dickson town centre, Lyneham shops and parts of the Australian National University (ANU) campus provide a sense of social inclusion. Interestingly, all of these areas have low speed environments where a high number of people walk and cycle.

3.10 Supporting infrastructure

Not just the provision of a park itself is important, but also the size, range of facilities and aesthetic and landscape features influence its use[24]. Adults are more likely to walk if they have good access to attractive and large public open space.[25] Furthermore, children are more likely to be active if they have sufficient public spaces available which contain exercise related facilities such as basketball courts[26]. Quality public

[20] Jacobs J., 1992, p. 119
[21] Cozens P., 2007
[22] Cozen P., 2005
[23] Ferrie D., 2008
[24] Giles- Corti B. et al., 2005
[25] Giles- Corti B. et al., 2005
[26] Cohen et al, 2006

infrastructure that supports active transport, such as Bike'n Ride or Walk'n Ride, quality footpath or off-street cycle paths also contributeto better designed built environments.

In Canberra, basic infrastructure exists. However, there is scope to improve the quality of the infrastructure. Technical infrastructure will only work if all the are factors are convenient. For example, a bike rack placed too close to a concrete wall with no shade or lighting will not encourage people to park their bikes, even though on paper the development meets all criteria to support active transport infrastructure provision requirements. Therefore, the supportive infrastructure is highly relevant but must meet certain quality standards to achieve physical activity.

3.11 Policy/Strategies

Canberra has two major planning authorities who share control: ACT Planning and Land Authority (ACTPLA) and the National Capital Authority (NCA). This is a unique Australian situation where a federal authority has direct control over land within a state. Therefore different design strategies apply within the Territory.

Most of the greenfield developments occur under the jurisdiction of ACTPLA. Key documents are the Territory Plan, General Policy Plan (NCA) and the Canberra Spatial Plan. Recently ACTPLA has undertaken a sustainable future workshop and the major outcome messages was that business as usual is not a sustainable option for Canberra.A more integrative approach is needed that is adequately performance-based and can monitor and respond to changes. Another conclusion was that measures should be applied in order to evaluate the effects of change over long term.

The workshop identified two fields that require action; a comprehensive review of the policy content in the land use codes in the Territory Plan; and an evaluation of the Canberra Spatial Plan to achieve the ACT Government's policy agenda on affordability, liveability and sustainability with zero net carbon emissions by 2060.

According to the workshop publication[27] the new policy direction for the Spatial Plan will be a more compact form with consideration of the following aspects:

- De-carbonisation of the ACT economy;
- Economical and social prosperity for a more sustainable development;
- Resilience and adaptation of climate, cultural and demographic changes;
- Focus on climate change interventions;
- No spatial and access barriers that encourage sustainable behaviour;
- Environmental sensitivity towards the assets of the natural environment;
- A better community network;
- Canberra as a beautiful and liveable city.

It is clear that the built environment is an important consideration when encouraging large numbers of people to be physically active. However, it is essential that people behave in a particular way to realise the benefits of any environment. In the context of the Active Living Project in the ACT, social marketing will need to be used to both encourage people to be more active in the immediate future and demand more appropriate urban design from government and developers in the long-term.

In the case of the former, there are many examples of how to encourage people to be more active and include awareness campaigns, workplace programs and physical activity events. The latter will prove more challenging and probably require marketing upstream to the public who are the ones will have the greatest influence on government (through voting) and developers (through buying). This would ideally involve helping people to make the long-term consequences of their decisions to buy or live in particular areas more apparent and tangible.

[27] ACTPLA, 2009

4 CONCLUSION

Cities differ from each other and so do neighbourhoods within the cities.[28] Poor health standards occur in some neighbourhoods in the ACT which share particular health-damaging characteristics including:

- Substandard of housing;
- Limited connectivity;
- Poor access to public transport options;
- Often located in proximity to undesirable land uses such as busy roads;
- Lack of access to healthy food and overexposure to unhealthy fast food, alcohol and tobacco;
- Poorly designed and maintained open spaces for recreation;
- Signs of vandalism, excessive traffic, uncontrolled graffiti, external walls, dirty streets or poor pavement.

ACT areas that experience these characteristics may generate direct health risks by discouraging physical activity. They require adequate attention and innovative action by the ACT Government.

Some of the key findings from the Scoping study for Active Living in the ACT include:

- People in the ACT are the most active in the country but more than 22 per cent of the people are not physical active enough to gain health benefits;
- There is a commitment from the government to take on a more integrated and holistic approach in planning;
- Challenges remainbecaue the current built environment is not conducive to physical activity and greenfield development will remain at 60 percent of any developments that occur in the ACT.
- A great commitment in planning documents, but often the implementation or excecution requires constant involvent of NGO's to ensure healthy planning.
- Not suffiencent information about walking and cycling behaviour throughout the city

Due to the hosistic approach of Healthy Spaces and Places and other Heart Foundation key documents, it is recommended that a Chief Minister's Taskforce for active living be created to address this challenge and develop effective solutions. Potential tasks for this Taskforce may include the development of strategies and actions to get people out of the cars, steering of evidence research in the built environment, create tools to achive healthy planning in suburbs, influence decision- making processes wherever suitable, create efficient social marketing campaigns and provide advocacy for walking in the ACT.

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