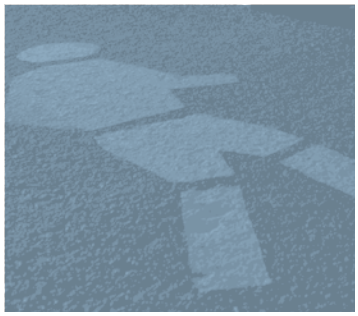
Heart Foundation®

Active Living impact checklist

A tool for developments in the Australian Capital Territory



Acknowledgements

This Active Living impact checklist was developed with input from:

Nerida Bellis,[1] Johannes Botha,[2,*] Rolf Fenner,[3,*] Gregor Mews (lead author),[1,*] Anne Moroney,[4,*] Suzanne Moulis,[5,6,*] Catherine Neilson,[6] Nicole Porter,[6,*] Faye Powell, Gesa Ruge,[7,*] Hamish Sinclair,[4] Peter Strang,[8,*] and Karen Wright[*].

1. Heart Foundation
2. ACT Government Environment and Sustainable Development Directorate – Planning and Policy Authority
3. Australian Local Government Association
4. Planning Institute of Australia ACT Division
5. GHD
6. Australian Institute of Landscape Architects
7. VIRIDIS E3
8. GTA consultants
9. SGS Economics and Planning

* Heart Foundation Active Living impact checklist working group

The Heart Foundation would also like to thank all other organisations and people who provided feedback on the draft versions of the Active Living impact checklist, including the NSW Premier's Council for Active Living, the ACT Government Health Directorate and the Australian Institute of Architects.

Further information

Heart Foundation
15 Denison Street
Deakin ACT 2600
T: (02) 6269 2631
F: (02) 6282 5877

ISBN 978-1-74345-014-7

PRO-131

Suggested citation: National Heart Foundation of Australia. Active Living impact checklist – A tool for developments in the Australian Capital Territory. Canberra: National Heart Foundation of Australia, 2012.

Foreword

The Australian Capital Territory (ACT) is one of the most active places in Australia. However, the rates of obesity and overweight in the ACT are increasing.

The evidence clearly demonstrates that our built environment can either facilitate or discourage physical activity.

As a community we often underestimate the importance of creating opportunities within our urban environment to improve our physical activity levels and general wellbeing.

The National Urban Design Protocol 'Creating Places for People – An Urban Design Protocol' identified a gap for guidance on designing places for Active Living on site level in the ACT. While urban planners and related professionals work to provide good design in all their projects, the Heart Foundation would like to provide support through usable and specific guidance in the ACT in creating spaces that support Active Living.

We believe that the Active Living impact checklist for developments will be a valuable tool in the ACT.

Tony Stubbs
CEO – Heart Foundation (ACT)

Contents

Introduction

Our vision is a built environment that promotes health, happiness and wellbeing. Planning for a healthy built environment considers the issues related to broader social capital and sense of community to ensure that everyone benefits from a quality urban form.[1] However, the Heart Foundation acknowledges that a single checklist cannot be the only option to create a healthy human environment. Due to the complexity of thinking about health and wider implications on the built environment holistically, the checklist will focus on one major aspect of the problem, physical inactivity, with a focus on individual developments.[2]

As identified in the ACT Active Living Scoping Study strategic action areas, the Active Living impact checklist has been developed to inform the planning phase of development.[3] The checklist will support Active Living as a fundamental design principle for new developments.

This checklist is informed by the Heart Foundation's healthy planning design objectives and the previous work undertaken by the enHealth Council, Department of Health and Ageing,[4] the Premier's Council for Active Living NSW,[5,6] the Australian Local Government Association, the Planning Institute of Australia and the Heart Foundation.[7,8] ACT-specific policy content has been included through the work of a local expert working group.

Target audience

The target audiences for the Active Living impact checklist include:

- planning and design professionals
- other interested stakeholders (land owners, developers, funders, investors, ACT Government Directorates, occupiers and community groups).

The national document *Healthy Spaces and Places*[9] provides the framework for the Active Living impact checklist. The checklist is an easy-to-use guide to show how a proposed development can cater for Active Living, which can ultimately create a built form that supports a more active and healthy Canberra.

Ultimately, we hope that the checklist encourages the inclusion of Active Living design principles in future developments in the ACT.

Why Active Living?

Background

Physical inactivity is a significant independent risk factor for poor health in Australia. Being obese and overweight is closely linked to low levels of physical activity and poor eating habits. Obesity has reached pandemic proportions and is a major contributor to the burden of disease and deaths. This burden is, and will continue to create, enormous challenges for the Australian health system, the economy and, in turn, the community.

Active Living is a fundamental part of improving the physical health and general wellbeing of the community. Research evidence suggests that the environment can be modified to make it easier for people to become more physically active.

The National Preventative Health Task Force discussed this issue in its recent report *Australia: the healthiest country by 2020*.[10] The report established the key national priorities for preventative health activities and identified that low-density, car-dependent planning approaches are creating 'urban obesity-promoting environments'.[10]

It noted the need to reshape urban environments towards healthy options. This can be achieved through consistent town planning and building design that encourages greater levels of physical activity, and through appropriate infrastructure investments (e.g. for walking, cycling, food supply and recreation).[2,9,11–13]

In 2009 the Heart Foundation, in partnership with the Planning Institute of Australia and the Australian Local Government Association, developed *Healthy Spaces and Places*, a national guide to promote healthy living.[9] The purpose of this document is to guide the planning, design and creation of sustainable communities that encourage healthy living.

Healthy Spaces and Places outlines the particular need for active places and shows the strong links between overall health and regular physical activity.[9] The guide identifies 10 key design principles to plan for healthy and more active communities and can be accessed at www.healthyplaces.org.au.

The Heart Foundation has also released a position statement on the built environment and walking that underpins interrelated factors associated with transport-related walking.[14] These include spatial land-form patterns, population density and mixed land use.

Compelling reasons

- Physical inactivity is a significant factor in the epidemic of overweight and obesity.[15]
- The proportion of people who are overweight or obese increased from 48.7% (2004–05) to 57.8% (2007–08) in the ACT.[16]
- Between 1998–99 and 2004 the ACT's ecological footprint increased from 7.4 to 8.5 global hectares.[16]
- Contact with people outside the household declined by 16.4% between 2002 and 2006 in the ACT.[17]
- Healthcare costs in the ACT are increasing by 11% per annum, which is currently higher than any other jurisdiction in Australia.[18]
- The top four environmental barriers to walking in the ACT:[19]
  1. Poorly lit areas
  2. No amenities in walking distance
  3. Poor pavement
  4. Nowhere to rest if needed.

Aim of the Active Living impact checklist

The Active Living impact checklist is a useful tool to support design and planning professionals to address Active Living principles in their work. The checklist promotes the key principles of Active Living in a design and planning context for the ACT. The main aims of the impact checklist are:

- to increase the incorporation of Active Living principles in individual developments to achieve better health outcomes through convenient, safe and attractive environments
- to build and enhance the knowledge and skills of the workforce (e.g. planning and design professionals).

Where can the checklist be applied?

Active Living design principles can be applied at the street and site-specific scales of development and planning, from the design of individual dwellings through to the planning of a larger development sites. Each scale, and each project, will have its own set of Active Living issues and possible solutions. The checklist has been produced specifically to inform the design of good quality Active Living outcomes throughout the lifecycle of a development. It should complement and enhance the ACT Crime Research and Urban Design Resource Manual[20] and the Canberra Central Design Manual.[21]

How does the checklist relate to official planning decisions legislation and development approval?

Canberra is a unique, planned city. Since Walter Burley Griffin originally designed Canberra, the city's layout has been influenced by several planning streams, such as Ebenezer Howard's garden city concept, and unique planning responsibilities have evolved. Self-governance dictates that planning is a shared responsibility of the Commonwealth and Territory governments. Canberra's role and function as the national capital remains the responsibility of the Commonwealth through the National Capital Authority (NCA) and the National Capital Plan (NCP). The ACT's second responsibility to the city is managed by the ACT Government Environment and Sustainable Development Directorate (ESDD) through the Territory Plan and Spatial Plan, under the Planning and Development Act 2007. For further details about ACT planning legislations, policies and the different roles and responsibilities of government authorities please visit the following websites:

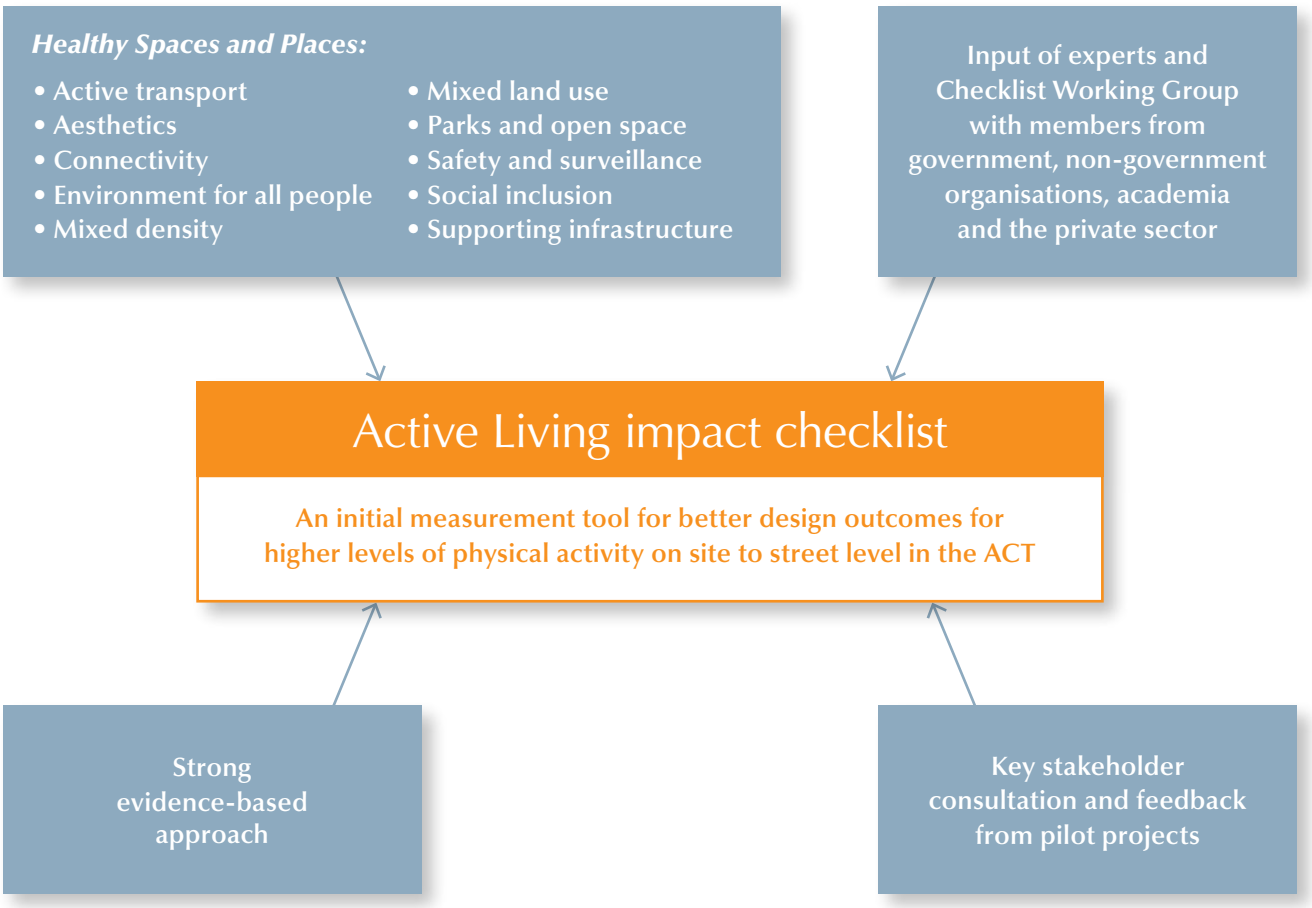
- National Capital Authority, www.nationalcapital.gov.au
- ACT Government Environment and Sustainable Development Directorate Planning and Policy, www.actpla.act.gov.au.

The Active Living impact checklist is **not** intended to be a **rating or ranking tool**, or to add to approval requirements. It is intended to complement and enhance the design and development process and lead towards higher voluntary standards in ACT Government and industry. This tool is not designed to assess health equity for individual sites as it targets opportunities for improved physical activity only, but it can help to address the issue. **Be aware that some criteria in the checklist may or may not be applicable to a development as urban form, context, density and scale varies from site to site.** However, we are confident that it will encourage discussion and raise awareness around designing for healthy ageing and Active Living. The Heart Foundation hopes this tool improves the long-term health outcomes for people and cities.

What are the Active Living key design principles?

Healthy Spaces and Places contains a comprehensive overview of important evidence-based information that promotes the design of built environments that encourage physical activity.[9] It identifies 10 key design principles for Active Living that can help to plan and design healthy communities.

The Active Living impact checklist builds on *Healthy Spaces and Places* and considers other new evidence on health and design principles. The figure below shows the approach taken to create this checklist for the ACT.



Overview of *Healthy Spaces and Places* key design principles

Active transport

Active transport includes non-motorised forms of transport involving physical activity, such as walking and cycling. It also includes public transport for longer distance trips, as public transport trips generally include walking or cycling components as part of the whole journey. Active transport requires the urban structure to be designed so that walking and cycling trips are convenient, safe and pleasant in a green and landscaped setting.

Aesthetics

Attractiveness of the neighbourhood environment, together with a functional landscape performance, is associated with improved overall experience and use for activities such as walking, cycling, viewing and conversation. If a neighbourhood is attractive it invites people to use and enjoy its public spaces and places and to feel safe in doing so. This includes living walls and roofs in compact built environments.

Connectivity

Intersection types and density in an area influence the directness of travel between destinations. This determines how people move around (i.e. by foot, bike, public transport or car).

High connectivity, including improved habitat connectivity and ecological function for other species, with good provision of walking and cycling facilities, is more likely to encourage walking and cycling for transport and recreation within the human movement system.

Environments for all people

Environments for all people means that neighbourhoods, towns and cities are safe and easily accessible for all members of the community regardless of age, ability or income. A suitable range of facilities and services are available to everyone. The aim is for people to feel connected to, and part of, a community. Regenerative, green environments can also help to improve air quality, lessen the impact of heat islands and reduce noise pollution.

Mixed density

Residential development that contains mixed housing types, such as single dwellings and multi-storey units and a variety of development forms, promotes healthy, active lifestyles. Mixed density is encouraged for new residential developments to provide a range of housing choices, which have performance-related outcomes and prescriptive height specifications. It can also help to maximise infrastructure and land use and support the provision of public transport.

Mixed land use

Mixed land use refers to a range of complementary land uses that are located together, including residential development, shops, employment, community and recreation facilities, and parks and open space. This makes alternative forms of transport to the car, such as public transport, walking and cycling, more viable. Mixed land use can enhance the vitality and perceived security of areas by increasing the number of people on the street and in public spaces. It can incorporate design interventions, which support direct linkage and relationships with broader landscape activity nodes and networks. It can also improve the retail and economic development of an area (smart growth).

Parks and open spaces

Parks and open space vary in size, form and the range of functions they perform. The landscape quality, character and opportunity is important as it has the greatest direct benefit to Active Living. Public open space is usually categorised into a hierarchy including neighbourhood, district and regional open space and may perform either a passive or active recreation role. The provision of suitable parks and open space can help people to meet the following Australian physical activity recommendations:

- children and adolescents – at least 60 minutes of moderate to vigorous activity each day
- adults – 30 minutes of moderate-intensity activity each day.

Safety and surveillance

Perceptions of safety influence the nature of, and extent to which people use, spaces and places. Street and place design that aims to reduce crime can enhance the physical, mental and social wellbeing of a community.

Social inclusion

International research shows that social inclusion can lead to greater social cohesiveness and better standards of health. Designing facilities to encourage meeting and social interaction in communities can improve mental health. Cycling, walking and public transport can stimulate social interaction on the streets as well as providing health benefits for residents. Suburbs that depend solely on cars for access can isolate people – particularly the young and old – without cars. Social isolation and lack of community interaction are associated with poorer health.

Supporting infrastructure

Appropriate, well-designed and maintained infrastructure that promotes Active Living is critical to support recreation, social interaction and active transport options. Both the public and private sector have a role to play in providing a range of facilities and infrastructure to support better health outcomes for the community.

Benefits of using the Active Living impact checklist

A development proposal should aim for good design outcomes. Over the past decade there has been a significant shift towards designing and redesigning places that promote active forms of transport such as walking and cycling. Good design can lead to a more sustainable performance of a development. Investments in relevant Active Living design principles result in significant co-benefits and value for money.

The value statement on page 10 provides an overview of these benefits for all stakeholders involved in the planning and life cycle of a development.

Historically, cost-benefit analyses have underestimated the value of an active transport environment, because very few studies have accounted for the impacts of increased activities. The Heart Foundation commissioned a discussion paper that highlights the financial benefits to retailers and residents in making commercial streets more walking and bicycling friendly. The report found the following:

- a high proportion of all retail expenditure comes from local residents and workers
- space allocated to bicycle parking can produce much higher levels of retail spending than the same space devoted to car parking
- many car-borne shoppers are 'drive-through' shoppers, who shop to pick up one item on the way to their eventual destination, rather than people for whom shopping is their main purpose for visiting the area
- it is difficult to estimate the value of non–drive-through spending for main streets; however, it is always greater than we think
- retail vitality would be best served by traffic restraint, public transport improvements, and a range of measures to improve the walking and bicycling environment.[22]

The case studies in the report show that making streets more walking and bicycling friendly will:

- increase retail values
- increase sale prices of nearby homes
- significantly increase pedestrian and bicyclist activity
- generate more business and stimulate the local economy
- revitalise 'drive-through' districts into lively places that people want to visit
- encourage people to spend time outside their homes
- reduce noise levels
- create attractive and popular places.[22]

The full report can be accessed at www.austroads.com.au/abc/images/pdf/hf_goodforbusinessfinal.pdf.

The Active Living impact checklist does not provide a specific ranking for a development to allow users to cater for the greatest impact with a limited amount of money. Ideally, a development should meet as many criteria as possible to enable a healthy built environment that contributes to greater health, social, environmental and economic benefits for all members of the community, and the community as a whole.

Value statement

The general benefits of good design for Active Living are outlined in the following table.[23] Please note that some values listed may occur in both the short and long term.

Stakeholder	Short-term value	Long-term value
Landowner	Potential increase in land value	Attracts a high value of land uses through recognition of a proven desirable location
Funder	Potential greater security of investment depending on market	Encourages cross-sector funding and lending support based on proven outcomes and long-term value increase
Government Directorate	Strong links to government planning policies for healthy, safer and accessible urban environments	Improved social, economic and environmental outcomes for urban communities and government
Developer	Increased public support and negotiation Swifter approval of development applications Higher sales value potential Increased funding potential Allows difficult sites to be dealt with	Increased reputation within the community Future collaboration more likely Integration of healthy design and planning into early development process
Design professional	Increased business and repeat commissions from clients Identify and integrate design, engineering and urban planning aspects in the early project development stages	Enhanced professional development Ease of reference material Better quality management Basis for promoting sustainable design solutions to clients
Investor	High rental returns, lower vacancies Increased asset value Quality urban living product Competitive investment edge Enhanced asset differentiation	Higher asset value base through higher neighbourhood involvement Reduced maintenance costs Higher re-sale value Higher quality, long-term tenants Higher value of portfolio asset

Stakeholder	Short-term value	Long-term value
Occupier	Greater accessibility to other uses/facilities Increased occupier prestige Enhanced basis for community safety and belonging within site and precinct Encourages outdoor neighbourly activities	Better health and wellbeing Better productivity Increased business confidence Greater accessibility to other uses/facilities Reduced security expenditure Increased occupier prestige Reduced running cost (fewer vehicles)
Public interest	Renewal potential Less public/private discord Public realm brought closer to community realm tends to reduce vandalism after completion Physical and aesthetic improvement in overall outcome is recognised Key agencies can contribute on site, social and local issues and inform impact assessment	Reduced public expenditure More time for positive planning Increased economic viability for neighbouring uses/development opportunities Increased local tax revenue More sustainable and healthy environment
Community interest	Better accessibility and equity Sense of place Potentially more efficient public transport system Better active travel Increase in active lifestyles More socially inclusive public spaces Greater community ownership that leads to civic pride Higher property prices	Better community health (physically and mentally) Better security and less crime Enhanced and increased cultural vitality Less pollution Less stress Better quality of life Better accessibility and equity Sense of place Potentially more efficient public transport system Better active travel

Glossary

Term	Definition
Accessibility	The ease with which people can physically enter a place, or use a service (e.g. actively trying to enter bus network facilities).
Active frontage	Ground floor shop windows or transparent frontages that allow the activity within the building to be visible from the street. Ideally this should include opportunities for activity to spill out onto pavements through street cafés and shop displays. These active frontages should ideally relate to ground floor retail spaces, cafés, restaurants, bars and well-designed townhouses, and houses with useable front yards. However, they can also include hotel public facilities, office receptions, galleries and public facilities. These should, where possible, be included on the ground floor of residential and office developments.
Active street	A street along which people shop, work, meet, relax and often live. It is usually well serviced by public transport.
Active transport (travel)	Walking, cycling and/or using public transport.
Aesthetics	The study of appreciation of beauty and good taste.
Amenity	Relates to the qualities, characteristics and attributes people value about a place, which contributes to their experience of a high quality of life. These include physical landscape or streetscape; areas of vegetation and public and private open space for recreation, such as parks, reserves and gardens; urban design, including the scale and dominance of buildings; historic and cultural heritage; public views and outlooks; privacy; public safety; and the accessibility of places.
Car pooling	The planning and shared use of a car or other motor vehicle by the driver and one or more passengers travelling in the same direction at the same time.
Car sharing	Shared-use motor vehicles provided by a membership-based organisation with a centralised booking and billing system. Vehicles can be booked for as little as one hour.
Complexity	The visual richness of a place. The complexity of a place depends on the variety of physical elements.
Connectivity	Refers to the directness of travel between destinations.
Crime prevention through environmental design	A crime prevention strategy that focuses on the planning, design and structure of cities and neighbourhoods. It reduces opportunities for crime using design and place management principles that reduce the likelihood of essential crime ingredients (law, offender, victim or target, opportunity) intersecting in time and space.
Enclosure	The degree to which streets and other public spaces are visually defined by buildings, walls, trees, and other vertical elements.

Term	Definition
End of trip facility	Items required at a destination to facilitate walking and cycling as an alternative means of transport. This includes facilities that cater for the needs of both the cyclists and their equipment.
Green plot ratio (GPR)	The GPR determines required outcomes in terms of the percentage of functional landscape incorporated within a development. The GPR is based on a biological parameter called the leaf area index (LAI), which is defined as the single-sided leaf area per unit ground area. The LAI measures the greenery on site. It is presented as a ratio similar to the building plot ratio (BPR) currently in use in many cities to control maximum allowable built-up floor area in building developments. BPR is the ratio of gross liveable area of a site. The GPR can also be defined as the ratio of the total single-sided leaf area of the planted landscape to the plot or site area.
Human scale	The size, texture, and articulation of physical elements that match the size and proportions of humans (e.g. the Modulor principle) and, importantly, correspond to the speed at which humans walk.
Imageability (legible)	The quality of a place that makes it distinct, recognisable and memorable. A place has high imageability (legible) when specific physical elements and their arrangement capture attention, evoke feelings, and create lasting impressions.
Liveability	In a planning context, liveability refers to the perceived quality of a place, including the built environment and open space, as well as the location and accessibility of services and facilities required to undertake daily activities. It can also encompass intangible elements such as a place's character, cultural heritage and 'sense of place'.
Local area traffic management	Involves re-engineering local roads to distribute, and in some cases reduce, traffic in particular streets through the use of traffic calming devices. It also encourages traffic to slow down.
Maintenance plan	A plan designed to address the continuous protective care of an item or area, as distinguished from repair, which involves restoration or reconstruction.
Mode share	The proportion of travel that is undertaken using different forms of transport, such as public transport, car, bicycle and walking.
Parks and open spaces	Land that has been reserved for the purpose of sport and recreation, preservation of natural environments, provision of green space and/or urban stormwater management.
Passive surveillance	Can be natural, as undertaken by people as they go about their daily activities, with 'eyes on the street or place'. Places where all publicly/semi-publicly accessible, well-defined spaces or routes and entrances can be overlooked at all times.

Term	Definition
Permeability	The ease with which people can move around an urban area. A permeable urban area has plenty of streets, laneways and paths, and it is possible to move through the area by a variety of routes.
Public domain guidelines	A set of construction level plans, sections and details showing the public domain surrounding the proposed development.
Social inclusion	A society in which all people and communities are given the opportunity to participate fully in political, cultural, civic and economic life.
Supportive infrastructure	Built facilities that encourage regular and safe physical activity (e.g. footpath, lighting, water bubblers, seating, shade, showers and signage).
Transparency	The degree to which people can see or perceive objects and activity – especially human activity – beyond the edge of a street.
Walkability	In qualitative terms, walkability is the relative condition of an area that makes it accessible by foot. In quantitative terms, walkability is defined by drawing a line along all streets to a distance of 400 m (for a centre) or 800 m (for a centre that includes a public transport stop) and identifying all sites accessible from that line.
Walkability catchment (also known as pedshed)	The space within which it is considered possible to readily reach a location on foot. The catchment area is generally defined as a radius of 400 m (or a 5-minute walk) around a centre, and 800 m (or a 10-minute walk) around a centre that includes a public transport stop.
Wayfinding	Wayfinding refers to the manner in which people orientate themselves in their physical environment and navigate from one place to another. It incorporates the processes of knowing where you are, where you are going, the best way to get there, recognising when you have arrived at your destination and knowing how to leave the area. Wayfinding can also include indications of where people should not go.

Glossary definitions sourced from:

Australian Local Government Association, National Heart Foundation of Australia and the Planning Institute of Australia. Healthy Places and Spaces: A national guide to designing places for healthy living. Canberra: Australian Local Government Association, National Heart Foundation of Australia and the Planning Institute of Australia, 2009.

NSW Premier's Council For Active Living. Development and Active Living: Designing projects for Active Living. NSW: NSW Premier's Council For Active Living, 2010.

Nottingham City Council. Nottingham City Centre Urban Design Guide, May 2009. Manchester: URBED, 2009.

Active Living impact checklist

1. Active transport: The level of intent is to achieve better health for people who walk, bicycle or take public transport.				
	Yes	No	n/a	Justification/comments
1.1 Depending on density, vehicle amount and speed, minimise contact between cars and pedestrians in the walkability catchment through provision of footpath (if possible with a separate bicycle lane) on both sides of the street (where possible as part of a coherent movement network).[9]	○	○	○	
1.2 Easy wayfinding achieved (e.g. signs, landmarks, path lighting, public art) and provide a human scale.[24,25]	○	○	○	
1.3 Design to reduce traffic conflict;[26] location of vehicular access points away from major bus stops; possible confinement of vehicular access to side streets (through lot consolidation if necessary) and avoid slip lanes.	○	○	○	
1.4 Maximise pedestrian and bicycle priority at road crossings,[19,*] reduce wait times and circuitous routes. (Items such as pedestrian crossings, prioritising natural walking paths, and faster pedestrian lights makes walking and bicycling for transport more attractive.)[27] * The ACT Government signed the *International Charter for Walking* on 1 November 2010 and undertook the *Making Walking Count* audit.	○	○	○	
1.5 If density and road casualties are high, reduce vehicle speed through local traffic calming measures[28–30] by at least 25% of the traffic speed of nearby arterial roads.[31,32]	○	○	○	
1.6 Integrate appropriate landscaping – including canopy trees and secondary structural vegetation – within all walking and bicycling routes.[33,34]	○	○	○	
1.7 If residential development only: ensure restriction of parking (e.g. local resident parking pass, visitors).[35,36]	○	○	○	
1.8 Design for bicycle access: interface design/gradients, bike friendly/bike parking next to entrance (weather protected if possible) in accordance with ACT Government Design Standard 13 but with consideration of Complete Street guidelines.[37,38]	○	○	○	
1.9 Achieve Access and Mobility General Code[39] for footpath or shared paths, pavement, slip resistance and edge treatments: grades and materials.[9,40]	○	○	○	
1.10 Design for clear, safe and accessible routes to bus stop locations where possible. Provide amenities such as seating and lighting.[20]	○	○	○	

Active Living impact checklist

2. Aesthetics: The level of intent is to achieve better health for people through friendly and safe places that will invite people and encourage exploration by foot or bicycle.

	Yes	No	n/a	Justification/comments
2.1 Design of building exterior and massing contributes to a walking friendly urban environment (active frontage) that includes maximum variety and transparency, well lit with opportunities for passive surveillance; high quality amenity including canopies.[20]	○	○	○	
2.2 Incorporate orientation features (e.g. landmarks, key sites, public art, lighting) into public space planning.[41]	○	○	○	
2.3 Incorporate 'living green' canopies and other landscape infrastructure provisions to create a range of health co-benefits, including opportunities for urban air and water quality.[43]	○	○	○	

3. Connectivity: The level of intent is to achieve better health for people through convenient and direct routes, whether by active travel for transport or recreation.

	Yes	No	n/a	Justification/comments
3.1 Provide travel links that are attractive, safe, direct and convenient to ensure permeability, creating better accessibility towards a destination (e.g. street layout and subdivision pattern for walking and bicycling).[9]	○	○	○	
3.2 Internal movement network promotes equal accessibility and connectivity to shared spaces and zones.[27,39]	○	○	○	
3.3 Incorporate actions for improved habitat connectivity and ecological function within pathways.[43]	○	○	○	
3.4 Accessible local facilities within easy walking distance to neighbourhood hubs/activity centres and public transport (ideally 400 m from residence, but dependent on attractiveness of destination).[9]	○	○	○	
3.5 If shared paths are considered ensure they are carefully designed, with sufficient width, adequate sightlines, gentle gradients and turns, and marked centrelines.[37]	○	○	○	

Active Living impact checklist

4. Environments for all people: The level of intent is to achieve better overall health for people by creating places where people can have a sense of belonging, comfort and be part of a community.

	Yes	No	n/a	Justification/comments
4.1 Provision of an on-site focus for social interaction with transitional zones (public, semi-public and private spaces) such as communal open spaces, meeting rooms, communal gardens (possible roof-top/podium), with seating, children's active facilities, shading and weather protection.[44,45]	○	○	○	
4.2 Weather protection from heat, rain and wind at key locations and all public transport locations.[46,47]	○	○	○	
4.3 Ensure a high level of air quality and pay attention to acoustic level; maximise cross-ventilation.[48]	○	○	○	
4.4 Climate conscious design solutions included in design (e.g. green roofs, avoid strong wind tunnels, noise pollution and air pollution, impacts of sun, heat islands).[49,50]	○	○	○	
4.5 Incorporate multi-functional landscape design elements as a priority in developing climate conscious design solutions with microclimate benefits (e.g. living walls, roofs) to screen and buffer spaces from noise and air pollutants.[51]	○	○	○	

5. Mixed density: The level of intent is to achieve better overall health for people by creating a variety of buildings that support a broad selection of healthy and active lifestyles within a smaller footprint.

	Yes	No	n/a	Justification/comments
5.1 Ensure the building height has an environmental performance–related outcome that complements/supports the surrounding density mix with a focus on social return (e.g. green plot ratio).[9,48,52,53]	○	○	○	

Active Living impact checklist

6. Mixed land use: The level of intent is to achieve better overall health for people by having destinations in close proximity to make active transport more viable and convenient.

	Yes	No	n/a	Justification/comments
6.1 Site location relatively close to centres (including public transport), open space and other key destinations and incorporates design solutions, which support direct linkage and relationships with broader landscape activity nodes and networks.[9]	○	○	○	
6.2 Consideration and inclusion of active land use and transit-supportive activities/active uses at bus stops (corner shops, phone boxes, Wi-fi hotspots).[54]	○	○	○	
6.3 Does the development comply with the Liveable Housing Design Guidelines (Commonwealth Government).[55]	○	○	○	

7. Parks and open spaces: The level of intent is to achieve better overall health for people as parks and open spaces can have the highest direct benefits to Active Living.

	Yes	No	n/a	Justification/comments
7.1 Stimulating and attractive routes to key destinations: landscaping, shade, opportunities to stop, rest and enjoy (seating at least every 100 m within an approximately 400 m radius of a key destination).[9,43]	○	○	○	
7.2 Ensure provision and protection of street trees (consider façade greening, canopy effect).[54–57]	○	○	○	
7.3 Sun protection/shading: public spaces and external areas.[14,58,59]	○	○	○	
7.4 Check for potential contribution to public space planning (consider partnership arrangement for management and maintenance).[60]	○	○	○	
7.5 Accommodate multiple forms of recreation to enable environments for different ages,[38] and ensure easy access (e.g. limited barriers to access such as significant changes in level).[59,61]	○	○	○	
7.6 Development should be developed in relation to broader green infrastructure network context and within the walkability catchment to local parks and recreation areas.[43]	○	○	○	
7.7 Optimise opportunities to integrate landscape design solutions at site level with broader neighbourhood and urban design, planning and management objectives for Active Living.[61,62]	○	○	○	

Active Living impact checklist

8. Safety and surveillance: The level of intent is to achieve better overall health for people through a reduction of places that are perceived as unsafe. This can enhance the physical, mental and social wellbeing of a community.

	Yes	No	n/a	Justification/comments
8.1 Crime prevention through environmental design general code; surveillance, territorial reinforcement, access control and space management; 'natural surveillance' preferred; well lit/overlooked by buildings/clear sightlines.[35,61–63]	○	○	○	
8.2 Multiple entrances that are highly visible and unobstructed from the street; separated from traffic where possible; include creative solution/public art and consider imageability[25] from a child perspective.[9,64,65]	○	○	○	
8.3 Integrate accessibility and legibility for all users, especially the young, aged or frail, through design, construction and maintenance.[43]	○	○	○	

9. Social inclusion: The level of intent is to achieve better overall health for people through greater social cohesiveness, a reduction of social isolation and increased social interaction.

	Yes	No	n/a	Justification/comments
9.1 Consider contribution to the public realm, to maximise social inclusion across a range of ages, cultures and abilities.[9,14]	○	○	○	
9.2 Convenient access for people who are mobility impaired (elderly, parents with prams, and disabled people),[39,70] including, for example, ramps, priority parking spaces for electric bikes and other forms of transport, and safe, connected routes.	○	○	○	
9.3 Provide opportunities for input into the decisions about facility management and place making for future occupants (e.g. basketball courts, play equipment, community gardens to attract people to interact).[66]	○	○	○	
9.4 Promoting a street focus with human scale; addressing the street consistently in plans and documentation (e.g. avoid blank walls, short distances between entrances, good semi-public space design).[67,68]	○	○	○	

Active Living impact checklist

10. Supporting infrastructure: The level of intent is to achieve better overall health for people as quality infrastructure can support the level of recreation, social interaction and active transport choices.

	Yes	No	n/a	Justification/comments
10.1 Provision of supporting infrastructure in desirable locations of the development with shade if needed (e.g. resting areas, entertainment space, information boards, toilets, water bubblers).[9]	○	○	○	
10.2 Encourage stair use through provision of conveniently, well-designed and prominently located stairways both inside and outside buildings.[69]	○	○	○	
10.3 Posting motivational and directional signage for cycling/walking routes to key destinations (outside) and to encourage stair use for future building occupants (inside) with consistent themes to encourage familiarity (if possible in minutes and with internationally recognised symbols).[24,70]	○	○	○	
10.4 Provision of end-of-trip facilities on site (e.g. cycle parking, change rooms and showers) and assessed/rated by Pedal Power.[9]	○	○	○	
10.5 Lighting for night-time safety, located to light up walkways, meeting places, road crossings, signage, public transport stops and other well-used night-time areas.[69]	○	○	○	
10.6 Drinking water access is important in many public areas; consideration should be given to providing water fountains in destinations and rest areas.[25]	○	○	○	
10.7 Facilities' ease of long-term maintenance and access for cleaning, servicing and repairs of all soft and hardscape elements as well as ground infrastructure.[46,47]	○	○	○	

SAVE PRINT

References

1. Giles-Corti B. The impact of urban form on public health. Paper prepared for the 2006 Australian State of the Environment Committee. Available from: www.environment.gov.au/soe/2006/publications/emerging/public-health/pubs/public-health.pdf. Accessed 27 June 2011.
2. Pikora TJ, Giles-Corti B, Knuiman MW, et al. Neighbourhood environmental factors correlated with walking near home: using SPACES. Med Sci Sports Exerc 2006; 38(4):708–714.
3. Bellis N, Mews G, Mogg D, et al. ACT Active Living Project. Scoping study – key findings. Canberra: National Heart Foundation of Australia, 2010.
4. enHealth Council and Department of Health and Ageing. Health impact assessment guidelines. Canberra: enHealth Council and Department of Health and Ageing, 2001.
5. Premier's Council for Active Living New South Wales. Development & active living: designing project for active living – a development assessment resource & navigation tool. Available from: www.pcal.nsw.gov.au. Accessed 4 April 2012.
6. Premier's Council for Active Living New South Wales. Development & active living: developer's checklist with case studies. Available from: www.pcal.nsw.gov.au. Accessed 4 April 2012.
7. National Heart Foundation of Australia. Healthy by design. A guide to planning and designing environments for active living in Tasmania. Hobart: National Heart Foundation of Australia, 2009.
8. The University of Sydney. Healthy urban environment site assessment audit. Available from: http://sydney.edu.au/medicine/public-health/cpah/research/healthy.php. Accessed 27 June 2011.
9. Australian Local Government Association, National Heart Foundation of Australia and the Planning Institute of Australia. Healthy spaces and places: a national guide to designing places for healthy living. Available from: www.healthyplaces.org.au. Accessed 23 June 2011.
10. National Preventative Health Taskforce. Australia: the healthiest country by 2020 – national preventative health strategy. Canberra: Department of Health and Ageing, 2009.
11. Papas MA, Alberg AJ, Ewing R, et al. The built environment and obesity. Epidemiol Rev 2007; 29:129–143.
12. Hoehner CM, Brennan Ramirez LK, Elliott MB, et al. Perceived and objective environmental measures and physical activity among urban adults. Am J Prev Med 2005; 28(2):105–116.
13. Donovan J, Larsen K, McWhinnie J. Food-sensitive planning and urban design: a conceptual framework for achieving a sustainable and healthy food system. Report commissioned by the National Heart Foundation of Australia (VIC). Melbourne: National Heart Foundation of Australia, 2011.
14. National Heart Foundation of Australia (chief authors: Klaus Gebel, Adrian Bauman, Neville Owen, Sarah Foster, Billie Giles-Corti). The built environment and walking. Position statement prepared on behalf of the National Physical Activity Program Committee. Melbourne: National Heart Foundation of Australia, 2009.
15. National Heart Foundation of Australia. Blueprint for an active Australia. Melbourne: National Heart Foundation of Australia, 2009.
16. ACT Government. Measuring our progress. Available from www.measuringourprogress.act.gov.au. Accessed 23 June 2011.

17. Australian Bureau of Statistics. General social survey results. Canberra: Australian Government, 2006; cat. no. 4159.0.

18. Australian Bureau of Statistics. In fact – statistical information on the ACT and region. Canberra: Australian Government, 2010; cat. no. 1308.8.

19. ACT Government. Making walking count audit results, December 2011. Available from: www.transport.act.gov.au/references-docs/Making%20Walking%20Count.pdf. Accessed 6 December 2011.

20. Sarkissian Associates Planners in collaboration with ACT Planning and Land Management. ACT crime prevention and urban design resource manual. Canberra: ACT Department of Urban Services – Planning and Land Management, 2000.

21. ACT Government. Canberra central program. Available from www.tams.act.gov.au. Accessed 14 December 2011.

22. National Heart Foundation of Australia. Good for busine$$ – the benefits of making streets more walking and cycling friendly. Melbourne: National Heart Foundation of Australia, 2011.

23. Carmona M, de Magalhaes C, Edwards, M. The value of urban design. London: CABE, 2001, p. 26 (modified).

24. Apelt R, Crawford J, Hogan D. Wayfinding design guidelines. Brisbane: Cooperative Research Centre for Construction Innovation, 2007.

25. Lynch K. The image of the city. Cambridge, MA: MIT Press, 1960.

26. Ewing R. Pedestrian- and transit-friendly design: a primer for smart growth. Washington, DC: Urban Land Institute, American Planning Association, 2009.

27. ACT Government. Draft ACT Road Safety Strategy 2011–2020 and Draft ACT Road Safety Action Plan 2011–2013. Canberra: ACT Government, 2011.

28. Pikora T, Giles-Corti B, Bull F, et al. Developing a framework for assessment of the environmental determinant of walking and cycling. Soc Sci Med 2003; 56(8):1693–1703.

29. Rietveld P. Non-motorised modes in transport systems: a multimodal chain perspective for the Netherlands. Transportation Res D-TR E 2000; 5(1):31–36.

30. Morrison D, Thompson H, Petticrew M. Evaluation of the health effects of a neighbourhood traffic calming scheme. J Epidemiol Community Health 2004; 58(10):837–840.

31. National Highway Traffic Safety Administration, National Centre for Statistics and Analysis. Traffic safety facts: older population. Washington DC; National Highway Traffic Safety Administration, 2007.

32. Tranter PJ. Speed kills: the complex links between transport, lack of time and urban health. J Urban Health 2010; 87(2):155–166.

33. Pretty J, Peacock J, Sellens M, et al. The mental and physical health outcomes of green exercise. Int J Environ Health Res 2005; 15(5):319–337.

34. West ST, Shore KA. The impact of building a greenway on proximate residents' physical activity. J Phys Act Health 2011; 8(8):1092–1097.

35. ACT Government Environment and Sustainable Development Directorate. Transport for Canberra 2011–2031 Strategy. Canberra: ACT Government Environment and Sustainable Development Directorate, 2011.

36. ACT Government. Parking supply option study. Canberra: ACT Government, 2010.

37. ACT Government Transport and Municipal Services. Design standards for urban infrastructure, DS13 Pedestrian & Cycle Facilities. Canberra: ACT Government Transport and Municipal Services, 2007.

38. Institute of Public Works Engineering Australia, Queensland Division. Complete streets – guidelines for urban street design. Brisbane: Institute of Public Works Engineering Australia, Queensland Division, 2010.

39. ACT Government Planning and Land Authority. Access and mobility general code. Available from www.legislation.act.gov.au. Accessed 6 December 2011.

40. Pucher J, Dijkstra L. Promoting safe walking and cycling to improve public health: lessons from the Netherlands and Germany. New Jersey: Rutgers University, 2003.

41. Krier L, Thadani D. The architecture of community. Washington, DC: Island Press, 2009.

42. Grahn P, Stigsdotter U. Landscape planning and stress. Urban For Urban Gree 2003; 2(1):1–18.

43. Maller C, Townsend M, St. Leger L, et al. Healthy parks, healthy people – the health benefits of contact with nature in a park context – a review of relevant literature. 2nd edn. VIC: Deakin University and Parks Victoria, 2008.

44. Bower JK, Hales DP, Tate DF, et al. The childcare environment and children's physical activity. Am J Prev Med 2008; 34(1):23–29.

45. Burdette HL, Whitaker RC, Daniels SR. Parental report of outdoor playtime as a measure of physical activity in preschool-aged children. Arch Pediatr Adolesc Med 2004; 158:353–357.

46. City Council of Wellington. Public space design policy. New Zealand: City Council of Wellington, 2010.

47. City Council of Wellington. Walking policy. New Zealand: City Council of Wellington, 2008

48. Giles-Corti B, Ryan K, Foster S, 2012, Increasing density in Australia: maximising the health benefits and minimising the harm, report to the National Heart Foundation of Australia, Melbourne.

49. Zhang D, Shou Y-X, Dickerson R. Upstream urbanisation exacerbates urban heat island effect. Geophys Res Lett 2009; 36:L24401, doi.1029/2009gl041082.

50. Stone B, Hess J, Frumkin H. Urban form and extreme heat events: are sprawling cities more vulnerable to climate change than compact cities? Environ Health Perspect 2010; 118(10):1425–1428.

51. Australian Institute of Landscape Architects. Designed for change: creating adaptable urban places. A report on an AILA seminar and workshop 'Working on green infrastructure'. Available from: http://www.aila.org.au/designedforchange/docs/AILA-Designed-for-change.pdf. Accessed 10 April 2012.

52. Boon LO. Green plot ratio: an ecological measure for architecture and urban planning. Landscape Urban Plan 2003; 63(4):197–211.

53. Yeh AGO 2011, 'High density living in Hong Kong', Proceedings of the Cities, Health and Well-being conference, London School of Economics and Alfred Herrhausen Society in partnership with the University of Hong Kong, Hong Kong, pp. 31–32.

54. National dialogue on universal housing design. Liveable housing design guidelines, revision 1. Canberra: National dialogue on universal housing design, 2011.

55. Berman M, Hartig T. Does the outdoor environment matter for psychological restoration gained through running? Psychol Sport Exerc 2003; 4(2):141–153.

56. Kaplan S. The restorative benefits of nature: toward an integrative framework. J Environ Psychol 1995; 15:169–182.

57. Takano T, Nakamura K, Watanabe M. Urban residential environments and senior citizens' longevity in megacity areas: the importance of walkable green spaces. J Epidemiol Commun H 2002; 56:913–918.

58. Barnett G, Doherty M, Beaty M. Urban greenspace: connecting people and nature. Environment 13. Available from: www.griffith.edu.au/__data/assets/pdf_file/0007/81376/environmental-city-13-barnett.pdf. Accessed 24 August 2011.
59. Thompson S. Factsheet: Design for open space. Available from: www.yourdevelopment.org. Accessed 6 December 2011.
60. Australian Government – Infrastructure Australia. National public private partnership guideline. Canberra: Australian Government – Infrastructure Australia, 2008.
61. GreenLINK coalition. Blue sky green space. UK: GreenLINK coalition, 2010.
62. Clarke RV. Situational crime prevention. In: Tonry M, Farrington DP. Building a safer society: strategic approaches to crime prevention. Chicago: The University of Chicago Press, 1995.
63. Cozen P. Crime Prevention Through Environmental Design (CPTED): a review and modern bibliography. J Property Management 2005; 23:328–356.
64. Sharpe S, Tranter P. The hope for oil crisis: children, oil vulnerability and (in)dependent mobility. In: Australian Planner 2010; 47(4):284–292.
65. Davison K, Lawson CT. Do attributes in the physical environment influence children's physical activity? A review of the literature. Int J Behav Nutr Phys Act 2008; 3:19.
66. Corburn J. Towards the healthy city. USA: MIT Press, 2009.
67. Gehl J. Life between buildings using public space. New York: Van Nostrand Reinhold, 1989.
68. Carmona M, Tiesdell S, Heath T, at al. Public places – urban spaces: the dimension of urban design. 2nd edn. Oxford: Elsevier Ltd., 2010.
69. City of New York. Active design guidelines – promoting physical activity and health in design. New York: City of New York, 2010.
70. Australian Local Government Association. Age-friendly built environments: opportunities for local government. VIC: Deakin University, 2006.

Notes

Heart Foundation

For heart health information
1300 36 27 87
www.heartfoundation.org.au

ISBN 978-1-74345-014-7

PRO-131

Disclaimer: The Active Living impact checklist pilot tool for selected developments in the ACT has been developed by the Heart Foundation for general information. The statements and recommendation it contains are, unless labeled as expert opinion, based on independent review of the available evidence. While care has been taken in preparing this content, the Heart Foundation and its employees cannot accept any liability, including for any loss or damage, resulting from the reliance on the content, or for its accuracy, currency and completeness.

This material may be found in third parties' programs or materials (including but not limited to show bags or advertising kits). This does not imply an endorsement or recommendation by the Heart Foundation for such third parties' organisations, products or services, including these parties' materials or information. Any use of Heart Foundation material by another person or organisation is done so at the user's own risk.