Planning for healthy, liveable spaces and places

The Heart Foundation submission to South Australia’s State Planning Commission

State Planning Policies

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The Heart Foundation is the leading Australian NGO working to improving the design of our cities, towns, streets and buildings to make it easier for Australians to lead heart-healthy lives.

For nearly 60 years, the Heart Foundation has been working to reduce the risk of cardiovascular disease and help our communities achieve optimal heart health through our work in prevention, support and care, and research.
Introduction

The Heart Foundation warmly welcomes the opportunity to make a written submission regarding the State Planning Policies.

The Heart Foundation is the leading Australian NGO working to improving the design of our cities, neighbourhoods, streets and buildings to make it easier for Australians to lead heart-healthy lives.

In particular, the Heart Foundation advocates for policy and activities of State Government and Local Government that facilitate and encourage physical activity, active living, liveability and better access to healthy food for health and wellbeing.

The Marshall government’s manifesto states “A government’s role is to make it as easy as possible for people to make healthy choices...”.¹ There is a clear evidence that the built environment plays a key role in health and wellbeing and it is well known that where you live has as much impact on your health as how you live.

Built environments that support healthy choices also play a key role in broader economic and social goals such as:

• Fit and active workers are more productive, take fewer sick days and make a positive contribution to our economic wellbeing.
• Walking, cycling and public transport are affordable and sustainable solutions to traffic congestion.
• Cleaner air, reduced carbon emissions and sustainable living.
• Active neighbourhoods and cities are more liveable, with higher levels of social capital and community cohesion and lower levels of crime.
• Enable older Australians to live more independently with reduced risk from disabling falls and costly chronic diseases and stay socially connected.

We look forward to our new reformed planning system that will deliver health and wellbeing, liveability, and sustainable development, leading to greater economic prosperity for South Australia.

Our vision

Our vision is for the South Australian Planning System to make a significant contribution to improving health by delivering built environments that support physical activity, access to healthy food and connected communities. This vision is supported by over 20 years of compelling evidence that says the built environments directly influences the health and wellbeing of our communities.

To achieve this, we need a people-centred planning system.

New neighbourhoods must have convenient and safe pedestrian and cycling infrastructure, quality public transport, and use zoning to locate retail activities in these areas, thereby ensuring that there are places to walk and cycle to and encouraging walking as a mode of transportation.²
State vision for planning

We are concerned that there is currently no overarching, clearly articulated vision for the state. This makes it difficult to understand the full extent of the outcomes of the planning system, particularly across the different sectors.

The Heart Foundation supports the suite of targets from the 30-Year Plan for Greater Adelaide. However, the target to increase the number of residents living in “walkable neighbourhoods” is inadequate. We also need to set targets around:

- People walking to local transit stops;
- Children walking to school;
- People walking to local facilities.

State planning policies must address community concerns

We acknowledge that there are a number of topical planning issues for our communities that aim to be addressed by the state planning policies including:

- Insensitive, inappropriate and poor-quality housing design;
- Insensitive and inappropriate housing placement;
- Affordable housing;
- Inadequate transport, amenities, green infrastructure and social infrastructure incorporated into medium density development;
- Loss of private green space without equal compensation of quality green space in the public realm;
- Safe pedestrian environments;
- Traffic congestion and parking.

To this end, the Heart Foundation offers some feedback and recommendations on how the state planning policies could be improved.

Summary

1. Infill development to increase residents living in established walkable neighbourhoods should be along fixed rail and similar transport services in preference to noisy vehicular routes.

2. Rezoning/renewal process around activity centres must be accompanied by improvements to streets and public places to support active travel.

3. Regeneration of neighbourhoods will not create affordable housing, but areas with existing affordable housing should be regenerated.

4. The development of buildings and places should also ensure that they specifically support increased levels of physical activity, whether incidental or deliberate.

5. High quality public green spaces must help to meet the community’s recreational, sporting, play and social needs, as well as contributing to urban cooling and other environmental functions.
6. A wider variety of transport modes must be encouraged through better facilities and building appropriate infrastructure for walking and cycling. Every time there is an investment in building major infrastructure, such as roads, the role of the pedestrian and the cyclist must be placed front and centre.

We suggest the use of the Heart Foundation’s Healthy Active by Design evidence portal to assist DPTI to support and enhance the state’s liveability and prosperity.

And finally, many of the policies have a metropolitan focus. A guiding statement, incorporating regional elements of the vision for the state would go some way to balancing this.

The Heart Foundation would be happy to be a part of any further consultation or clarification or to contribute as the lead of the South Australian Active Living Coalition.
State Planning Policy 1: Integrated Planning

**Policy 1**: Plan growth in areas of the state that are connected to, integrated with, and protect, existing and proposed transport routes, infrastructure, services, employment lands and their functions.

The Heart Foundation generally supports planning growth in areas integrated with public transport. Neighbourhoods integrated with public transport support walking as most public transport journeys have a walking component.

Integrating housing with high quality public transport also supports equity; better heart (and general) health is known to be associated with a number of social determinants of health including safe affordable housing and accessible transport\(^3\). Easy access to quality public transport increases the child and age-friendliness of a city, especially important given South Australia’s relatively aged population.

**Location of growth areas**

**Along electrified public transport.** The location of growth areas for housing adjacent to fixed electrified rail, tram and O-Bahn is supported, provided other factors that promote walkable neighbourhoods (as discussed later in the document) can be met.

**Along busy roads.** The Heart Foundation is cautious regarding proposals to expand housing along major arterial roads due to the potential negative health and amenity effects of air pollution and noise from motor vehicles. A literature review prepared for the Heart Foundation *Increasing density in Australia: maximising the health benefits and minimising harm*\(^4\) found consistent evidence that proximity to busy roads, high traffic density and increased exposure to pollution are linked to a range of respiratory conditions, ranging from severe conditions (i.e. a higher incidence of death) to minor irritations (i.e. a respiratory tract irritation). Cardiovascular disease was also associated with exposure to environmental stressors such as air pollution and traffic. Other reviews commissioned by the Heart Foundation\(^5\) found studies linking chronic noise annoyance to hypertension (high blood pressure), migraines and depression in adults, and respiratory symptoms in children.

We note this issue has been raised by your Department; *The interface between busy movement corridors and residential neighbourhoods must be carefully managed to avoid health impacts through exposure to emissions, noise and vibration. Ensuring these interfaces are well managed is critical to our new urban form and the health and liveability of our neighbourhoods*\(^6\)
The Heart Foundation notes that the impact of air pollution on the residents of transit-orientated developments was previously considered by the South Australian Government. Factors that can be considered (some prior to re-zoning) include:

-locating, where possible, the residential areas away from areas where vehicles accumulate and idle (e.g. where deliveries are made within the commercial precinct, busy intersections)

-ensuring that prevailing winds are considered at the design stage to avoid creating features that capture and concentrate air pollutants

-exploring options to reduce potential impacts of poor air quality, for example establishing buffers such as commercial premises closer to, and family residences further from, sources of poor air quality; and locating air conditioning intakes away from sources of poor air quality

-using greenways as buffers between sources of poor air quality and residential areas, as they can confer both physical and psychological protection, particularly from particulate matter from vehicle emissions

-ensuring that localised traffic congestion is prevented, where possible, through the implementation of a traffic management plan.

The Heart Foundation notes the development and publication of the Noise and Air Emissions Overlay, Minister’s Specification SA 78B – Construction Requirements for the Control of External Sound and associated guidelines Reducing noise and air impacts from road, rail and mixed land use — A guide for builders, designers and the community. These guidelines apply to individual development proposals and do not address whether land is appropriately located for noise sensitive development to start with.

The overall position of the Heart Foundation is to support growth in neighbourhoods along fixed rail and similar services that meet other walkability criteria, while exercising caution in proposing growth in housing and other noise sensitive development along busy vehicular routes. When noise sensitive development is approved along busy vehicular routes, the Ministers specification must be met.

**Policy 2:** Ensure that areas of rural, landscape, environmental or food production significance within Greater Adelaide are protected from urban encroachment as provided for by the Environment and Food Production Areas legislation.

The Heart Foundation supports the protection of viable peri-urban and urban fringe food production areas from conversion to non-agricultural uses to help ensure a supply of seasonal fresh produce in a timely manner. It is considered that ensuring local sources of food may prove to be a more resilient option than a fresh food supply reliant on transport or extensive irrigation from distant sources. Research has found reliance on transportation for food supply can have significant effects on water, energy and material requirement and affect the availability, price, quality, variety and nutritional value of the final product.

**Policy 6:** Enable the regeneration and renewal of neighbourhoods to provide diverse, high quality and affordable housing supported by infrastructure, services and facilities.

**Policy 7:** Support housing choice and mixed-use development around activity centres, public transport nodes and strategic transit corridors with reduced carparking to encourage greater use of active transport options such as public transport, walking and cycling.
In principle the Heart Foundation supports regeneration and renewal of existing neighbourhoods to underpin close walking access by residents to services and facilities. Our research has shown that mixed use developments that support a healthy lifestyle include employment, recreation, education, retail, fresh and healthy food outlets interwoven with cycling, walking and public transport access.  

It appears that the above policies along with other State Planning Policies are aiming to encourage population density in key selected areas by changing existing zoning to allow for mixed use developments and higher density housing. As this is the State Planning Policy related to Integrated Planning some of the interwoven factors that ensure the successful creation of neighbourhoods that support healthy lifestyles are discussed here.  

**The supporting role of density.** The Heart Foundation understands that increasing density underpins walkable neighbourhoods; delivering a minimum threshold of population density ensures the viability of public transport and local shops and services closer to where people live. This increases opportunities and convenience for local residents to walk for commuting, daily errands and recreational purposes.  

Our research shows that single changes to the built environment, such as simply zoning for higher residential densities, will not automatically reduce car use and increase walking by those who live there unless a number of other factors are present.  

The Heart Foundation’s discussion paper *Does Density Matter?* examining the impact of density found that land use features associated with more walking and active transport can be categorised into ‘six Ds’: Density, Design, Diversity, Distance to public transport, Destination accessibility, and Demand management (parking policies). The six D’s work together with Placemaking to create walking friendly areas.
The six Ds and a P with density underpinning other built environment features

*When all of those variables are present and working in combination, they have synergistic benefits that are much greater than those of any single element by itself. Research confirms the more D variables in an area, the more walking (and less driving) that takes place.\(^\text{12}\)

**Choosing a location for renewal.** The above two policies (6 and 7) relate to many of the six D’s including: increasing population and housing Density, altering zoning for a Diversity of Land uses, and addressing caparking (Demand Management), and perhaps Distance to Public Transport.

Does Density Matter?\(^\text{13}\) found that re-zoning in the right location is necessary to foster the necessary interaction between Density and other key variables and translate into lively streets and more walking. The consensus is that the best and most viable location for higher density development is close to:

- High quality public transport (diverse, safe and convenient).
- Activity centres supporting a diversity of uses.
- Existing concentrations of jobs and services

The Heart Foundation asks that careful consideration is given to potential rezoning/renewal locations for greater density that meet as much of the other ‘six D’s’ as possible.

**Ensuring the street network and public spaces support active travel.** The walkable quality of the street environment is fundamental to the appeal of a neighbourhood. While the combination of the six Ds has been shown to increase the amount of walking, much of the potential will be unmet if re-zoned areas are not designed, constructed or retrofitted to support a pleasant walking and cycling environment at the street level. The Design factor must also be applied to any adjacent public transport stop to ensure it is safe and pleasant (which improves Destination accessibility). More discussion of regarding design to support healthy lifestyles will be discussed under the proposed ‘Design Quality’ State Planning Policy.
The Heart Foundation will be keen to see discussion in the upcoming state policy discussion papers on how the necessary improvements to streets and public spaces can be delivered concurrently as part of a re-zoning/renewal process.

Guidance on evidence-based design requirements is available from Heart Foundation resources such as Healthy Active by Design (Movement Networks), Healthy by Design SA (2012), Streets for People; A Compendium of Best Practice, and government publications. The Heart Foundation acknowledges the work of selected local governments in commissioning street design manuals using the Link and Place methodology to improve local streetscapes.

Other aspects of liveability

**Housing Density.** The Heart Foundation recognises that the concept of higher population or housing density is not always popular, often due to reservations regarding high rise buildings, crowding and lack of parking. Our research shows that higher density does not have to mean or require high rise buildings and that **compact development that retains a human scale** is more appealing for pedestrians\(^{14}\). **Does Density Matter?** found that development up to approximately six-storeys creates a compact urban form that is walkable, yet retains a human scale - which is important in terms of creating a pleasant, convivial, vibrant and walkable environment. The below shows row dwellings and townhouses at medium density as part of the *Understanding Residential Densities* handbook\(^{15}\).

![Images of Stanley St North Adelaide 53.2 dw/ha (DPTI, 2006)](image1)

![Images of Rundle St Kent Town - 53.7dw/ha (DPTI, 2006)](image2)

The Heart Foundation would recommend that zoning for increasing density includes lower rise development including row dwellings and townhouses as well as higher rise buildings (where they can be sited appropriately).
**Integrating planning for renewal with green space.** Policy 6 refers to planning for regeneration and renewal. As part of integrated planning for urban renewal, access to green space also needs to be considered at the early/structure/masterplanning stages. There is substantial evidence that people with better access to high quality open space and green space are more likely to walk and undertake physical activity than those that don’t. Cross-sectional studies show that access to natural or green environments including vegetated areas, such as parks, open spaces, and playgrounds, is associated with a range of health benefits, as well as mental health outcomes and factors protective of mental health.

Higher density and ‘affordable housing’ often has reduced private open space available to residents. New higher density neighbourhoods should consider varied, high quality green and open spaces as part of early planning - acknowledging that in many cases the green space may already be in existence. Consideration of green space will assist with the perceived attractiveness of medium density housing to the market. *Does Density Matter?* found that:

> researchers concluded that POS (public open space) is more important to people living in higher density housing compared with others because it substitutes for the private space available to residents of low-density housing. Moreover, Gruber and colleagues found that neighbourhood attractiveness (including the amount of green space) was the most important correlate of housing satisfaction in apartment dwellers, and much more so than for residents of other types of housing. Housing and neighbourhood satisfaction is an important factor influencing mental health.

**Housing choice and affordability.** The Heart Foundation urges caution regarding the assumption in Policy 6 that increasing density and creating walkable neighbourhoods will improve housing affordability. Rather than lowering house prices, quality properties in compact walkable neighbourhoods have the potential to be more expensive and generate better returns than properties in less walkable neighbourhoods. For example, an analysis of inner-city Melbourne properties using walkability data from ‘Walkscore’ found a positive correlation between a suburb’s Walkscore (walkability) and pricing.

There is every reason to expect that an attractive walkable neighbourhood with excellent amenity and facilities will come with a price premium – even for smaller, more ‘affordable’ properties. As a consequence, the Heart Foundation supports the renewal of existing neighbourhoods, including those with below average housing prices (providing the other enabling factors above can be met) and that housing is available to those on lower and middle incomes in new walkable communities.
State Planning Policy 2: Design Quality

**Policy 2:** Promote best practice in access and inclusion planning in the design of buildings and places by applying the principles of Universal Design, Access for All, Crime Prevention Through Environmental Design, Environmentally Sustainable Design and Water Sensitive Urban Design.

The Heart Foundation supports this principle. Since 2004 the Heart Foundation has published guidelines which provide specific guidance to designers and policy makers with regards to the above principles.

In 2012 the Heart Foundation published *Healthy by Design SA* which provides further specific guidance with regards to South Australia’s regulatory framework. In the Matrix of Design Considerations (p45-49) specific guidance for a health promoting environment is provided with regards to:

- Shade
- Crime Prevention Through Environmental Design
- Accessibility
- Road User Safety
- Age-Friendly
- Child/Youth Friendly
- Pet Friendly
- Water-sensitive urban design

More information can be found at [https://www.healthybydesignsa.com.au/](https://www.healthybydesignsa.com.au/)

Our experience in applying the *Healthy by Design* guidelines to developments such as Lightsview and Bowden was that working upfront with designers before plans were finalised was absolutely crucial to an inclusive built form outcome for no or minimum extra cost. When plans or environments had to be modified at a later stage; this was significantly more time consuming, frustrating and potentially expensive for developers, councils and other stakeholders.

Integrating the above principles into design processes upfront also helps to build consensus amongst stakeholders who will develop, approve, maintain and use new buildings and places. This was the experience of using the Link and Place method as part of a *Streets for People: a Compendium of Best Practice* workshop for the Tonsley development. Considering the access requirements of all the potential varied users from students to large delivery vehicles helped to coalesce the road design to provide a balance between road and place users – including pedestrians/cyclists and those using prams/wheelchairs and other mobility aids.
Example 1. Using the Matrix of Like Considerations at Lightsview (new development). Instead of a regular footpath the path connecting a retirement village to a shopping centre features: appropriate width to allow family cycling, wheelchair/scooter use and dog walkers with ease, a gently curving design to reduce cyclist speeds, barrier free to reduce cyclist injury, trees and lawn for urban shading and cooling, seats with backs and arms at regular interval for pedestrian comfort, climate appropriate planting and recycled water to reduce/eliminate use of mains water. The path is continuously fronted by townhouses – enhancing.

Example 2. Using Healthy by Design principles and the Streets for People compendium at Bowden. Consideration of all of the above principles within the confines of existing urban form. The result is a more ‘shared space’ arrangement with no vertical separation of pedestrians from vehicles/cyclists allowing easy crossing at any point. Tactile tile has been laid for visually impaired users. Traffic is slowed to approximately 30km/h using raingardens and tree plantings as well as parked cars. A central drain in the road also collects stormwater. Shade and passive surveillance is provided to improve amenity and pedestrian safety.
The Heart Foundation supports an integrated approach incorporating the above principles at planning and design stages; acknowledging that this may result in different design outcomes depending on the individual project.

**Policy 3:** Ensure the development of safe, welcoming, comfortable and efficient buildings and places to reduce economic and social disparity.

The Heart Foundation supports the intent of the above policy although it is not entirely clear which features of safe, welcoming, comfortable buildings and places are being promoted in this policy to reduce economic and social disparity.

The Heart Foundation recognises that the social determinants of health are thought to be responsible for a far greater proportion of chronic disease (including heart disease) than first estimated. The quality and perceived safety of our neighbourhoods can determine how physically active we are. The Heart Foundation recognises we can’t keep promoting individuals to change their behaviours and lifestyle when the environment in which they live and work gives little attention to facilitating healthy choices.

Most adults and children spend the vast majority of their day in and around buildings. The location of buildings, as well as their external and internal design can encourage or constrain physical activity and social interactions.

The siting of buildings with proximity to quality public transport in conjunction with safe, attractive streetscapes promotes active transport to a building or place. Providing quality public transport increases equity as low income, disability and increasing age may restrict access to transport and hence opportunities to participate in employment, education and community-related activities. Vulnerable groups are often heavily reliant on walking, public transport, and lifts from family, friends and neighbours.

A review of research found that clever building design can promote physical activity for no or low cost to the individual. As well as promoting individual comfort, using Crime Prevention through Environmental Design (CPTED) principles is particularly important. Perceived fear for personal safety can be a deterrent to the use of public transport, walking and use of public spaces.

**External** features in a building that support physical activity and equity include:

- maximising natural surveillance including designing buildings to overlook streets,
- providing well-lit entrances accessible to all users,
- limiting long stretches of blank walls and inactive spaces.
- transparent building facades, which allow people inside to see the street and vice-versa
- active ground floor uses, such as cafes and shops to encourage pedestrian activity
- building awnings extending over footpaths provide shade and protection from the rain

Encouraging people to use stairs is an easy way to incorporate more physical activity into daily routines. These small but frequent bursts of activity can accumulate into significant positive health benefits. **Internal** design features in a building that can support physical activity and social interaction include:

- Prominent and attractive staircases that encourage stair use
- End-of-trip facilities or amenities (such as showers and bicycle storage) to support cycling and walking.
Policy 4: Ensure design advice is considered early in the planning process for complex developments and utilises consistent and credible processes (such as a Design Review) to ensure better outcomes.

Policy 5: Promote a culture of good design to foster creative thinking, innovation and effective design processes within the planning industry, allied fields and general public.

The Heart Foundation acknowledges that complex developments such as subdivisions go through a number of planning and design stages from masterplanning through to detailed design.

Our argument, echoed above and below is supportive of including health and equity promoting principles and our experience is that they can be applied successfully at different stages of the design process. A review of Healthy by Design (2004 version) by Jensen Planning and Design found that application of Healthy by Design principles at masterplanning level could assess three things:

- Open space amount and distribution
- Street layout and distribution
- Internal and external destinations and therefore likely routes of highest pedestrian/cycling demand

Considering these aspects of a development early, before entering into detailed design phases can assist with:

- Considering whether walkability thresholds for access to services and green spaces for households are being met – does anything need to be re-arranged?
- Prioritise where perhaps limited funds can be channelled towards urban design to the streets and places most likely to be used by pedestrians/cyclists

Example 2 – retrofitting existing environments. Identifying path networks most likely to be used by older people has allowed the City of Unley to selectively target and retrofit age-appropriate seating to support active transport amongst its ageing population.
Further design stages allow the application of detailed guidance such as provided by *Healthy by Design, Healthy Active by Design, Streets for People* and other like documents to ensure that development promotes active and healthy lifestyles. The Heart Foundation has found that design review processes that include all stakeholders including; designers, developers, state and local governments, non-government organisations, and local users (where possible) delivers the best outcome.

One argument against design review processes is that they can add further time (and therefore expense) to a project’s timeline. It has been our experience that a Design Review or similar process inclusive of local and relevant authorities, speeds acceptance through any subsequent development approval, which is ultimately more cost effective.

Example 2: Experienced designers use the *Streets for People* compendium to apply the Link and Place methodology and health promoting principles to new street design. Design to support a range of users with a priority on pedestrians and cyclists is first and foremost.

The application of detailed guidance through a process such as Design Review can add to the built form expression of Principles of Good Planning as embedded in the Act. In particular reference to Heart Foundation and similar guidelines will support the Act to deliver s14d (iii) *neighbourhoods and regions should be planned, designed and developed to support active and healthy lifestyles and to cater for a diverse range of cultural and social activities.*
**Policy 6:** Provide high quality, functional and accessible public green spaces and streetscapes, particularly in areas with increasing infill development, housing diversity, population growth, medium to high residential densities and urban renewal.

**Streetscapes** The Heart Foundation supports Policy 6. The importance of providing high quality functional and attractive streetscapes cannot be underestimated. Our review of relevant research\(^{27}\) found that among adults, local streets and footpaths are consistently reported as the most frequently used facilities for physical activity. Good movement networks support the community’s health by:

- Encouraging physical activity through walking and cycling for transport and recreation;
- providing safe and easy access to needed services;
- reducing social isolation; and
- providing places for social interaction

There is strong evidence that the aesthetic presentation of streets promotes active transport and recreational walking, particularly for adults and older adults\(^{28}\).

Design features to ensure streets are attractive, convenient, functional, comfortable and safe include:

- Footpaths
- Shade and plantings
- Safe crossings
- Seating
- Signage
- Lighting and other CPTED considerations
- Drinking fountains and dog-walking infrastructure

Without improving streetscapes in areas of redevelopment or urban renewal there is the risk of worsening urban heat island effect, exposure to pollution, increasing congestion, risks to safety. Trees and other green infrastructure is necessary as reduced private open space in a medium density environment means the public realm must support greening for compensate for the loss.

**The Heart Foundation will closely watching further discussion into who will fund and deliver the extra green infrastructure in conjunction with re-zoning for greater housing density and urban renewal.**

**Public green space.** The Heart Foundation supports policy to provide high quality, functional and accessible public green spaces, especially in areas of infill and population growth.
As discussed in State Planning Policy 1: access to green space needs to be considered at the early/structure/masterplanning stages of infill development. Suter Planners (2012) in a report for the Local Government Association recommended the preparation of master plans that guide the provision and design of open space to ensure appropriate delivery and staging of development.

There is a wealth of strong evidence that public open space supports physical activity by providing destinations to walk to and facilities for a wide range of activities. Research has also found that siting public and greenspaces into the broader walking and cycling network is essential to support physical activity and to connect people to open spaces. This includes good street connectivity, connections between green spaces, and connections beyond the development area.

Significant private and public funds are invested in the development and maintenance of public space. Early consideration of the placement or integration of a diverse range of green and public spaces within close proximity of homes allows the full benefit of this investment to be reaped.

The appropriate provision of quality green spaces help meet a community’s recreational, sporting, play and social needs as well as providing urban cooling and other environmental services. People who use green public open space are more likely than others to achieve the recommended levels of physical activity. Other health and wellbeing benefits they provide include:

- Restorative landscapes for mental health
- Improved community cohesion
- Encouraging children’s active play
- Provision of ecosystem services

Living in neighbourhoods with more green space has a positive effect on a variety of health outcomes, including mental health, obesity and mortality.

The characteristics of green open space affects whether they are used and the activities they support. To satisfy the different needs and expectations of the community, a diverse ‘portfolio of places’ is need to satisfy the broader community and meet the needs of multiple users from children through to older adults. A recent literature review found the following characteristics were important for encouraging park use and physical activity:

- Safety (including accessibility for all ages and abilities)
- Aesthetics
- Amenities
- Maintenance
- Proximity

People are more likely to visit and be physically active in **higher-quality** parks, leading to greater health benefits. Similarly Davern et al (2016) found that well designed and good quality space tends to attract more users and cater to a wider range of activities than poor quality spaces. Amenities shown to increase use include:

- Trees, grassed areas and water features
- Playgrounds, shaded paths and shaded seating for children and their parents
- Sports fields, playground slides and skateparks for adolescents
- Paved and unpaved paths for all age groups and genders (larger parks)
- Designs that promote safety and security, and opportunities for socialising and contact with nature for older adults
- Dog related facilities

Identifying the needs of the current and predicted future community (including sporting needs) is considered practical and proactive for planners to achieve best practise. Understanding the demographics of current and future communities in areas of infill and utilising community engagement will help designers maximise community ownership and use of new/refurbished spaces.

**Specific requirements for Infill and Higher Density projects.**

The Best Practice Open Space in Higher Density Developments Project was initiated by the City of Charles Sturt and funded through the Local Government Research and Development Fund. The report echoed the above approach for a needs bases assessment and found that infill and higher density developments require a good distribution of quality and flexible open space. Particularly there is need for a spread of parks and activity nodes that provide opportunities for frequent use to compensate for reduced private open space.

Their review of research found that different types of open space with different hierarchy levels and diverse qualities are required to meet community needs, including:

- Linear connections (that support walking and bike riding) and Parks (various sizes)
- Plazas, laneways and boulevards
- Stormwater management areas (detention, retention and wetlands)
- Nature based spaces (trees, landscapes, habitats)
- Productive landscapes and community gardens (opportunities for people to interact and manage their own environment)
- Playscapes (opportunities for play through formal and informal playspace design and play interventions though out the public realm)

The report noted that the provision of high quality open space has economic benefits for developers and home owners, including the attraction of wider communities into the higher density development to contribute to the viability of commercial components.
Example: open space planning at Bowden. New spaces are built of high quality robust materials and provide for passive and active recreation for all ages and abilities. The popularity of this park draws community from outside the development area to support commercial enterprises within the development. Immediately adjacent to the new development an existing park was refurbished as a joint exercise between the (government) developer and the local council; with existing users and surrounding community consulted on the re-design of the park. Open spaces at Bowden are planned and delivered as part of an overall open space strategy. It is not clear what mechanisms will exist for infill development without a master developer to deliver an integrated approach to streetscape/open space development in conjunction with re-zoning of land.
The Heart Foundation supports the provision of high quality green spaces, particularly into infill development. We recognise that a ‘One size fits all’ approaches is not appropriate for infill development and instead a variety of sizes, designs, physical features and types of spaces are required. There is excellent guidance available in both our publications and others referred to here as to how to deliver appropriate green and open spaces in infill development. We look forward to seeing this reflected in future planning policy and code documents to ensure the maximum health benefits are available to the broader community from public open spaces.

The Heart Foundation also looks forward to further discussion from the Department on how planning for public and green spaces can be integrated into infill and areas of population growth when there is no overall master developer driving delivery of those spaces.
State Planning Policy 5: Climate Change

**Policy 3.** Ensure the development of climate-smart buildings that reduce our demand for water and energy and mitigate the impacts of rising temperatures by encouraging water sensitive urban design, green infrastructure, urban greening and tree canopy enhancement.

The Heart Foundation supports the intent of this policy both on both direct and indirect health effects. However, is it possible that this policy was intended to cover ‘climate-smart development’ given that the aspects of urban greening proposed relate to more than just buildings? Initiatives such as improving water sensitive urban design (WSUD), green infrastructure and tree canopy enhancement are unlikely to apply under individual building development applications.

Perhaps an alternative is to strengthen the proposed Policy 2 to clarify that the design of public places also encourages WSUD, urban greening and tree canopy enhancement. The current Policy 2 ‘Encourage the design of public places increases climate change resilience and future liveability’ is vague in its intent and is therefore difficult to assess.

To see the intent of these policies delivered it would seem that a combination of planning code requirements for individual buildings AND planning code/design review requirements for streetscape improvements is needed.

The Heart Foundation has previously written to the Department regarding the decreasing green cover in South Australia. It must be recognised that there is much less opportunity to enhance urban tree cover within private development if there is a move to small lot housing and medium/high density residential development. There is a need to green our public open spaces, including our streetscapes.

**The importance of street trees.** A review of evidence on street trees found that within cities, trees provide a multitude of environmental, economic, social, and health and wellbeing benefits. At street-level, the tree canopy provides shade, enhancing walkability, improving the aesthetics of neighbourhoods and creating a more pleasant environment. The temperature under tree canopies is 5-15°C cooler than on streets without trees, improving the thermal comfort and air quality for pedestrians. This cooling reduces the risk of heat-related illnesses therefore street trees are therefore particularly important in areas with hot climates such as Adelaide. In addition; people who live in neighbourhoods with a higher density of trees on their streets perceive themselves to be significantly healthier and have fewer cardio-metabolic conditions.

Street trees on routes to school encourage children to walk to school and promote walking and cycling in adolescents and adults. Street trees also increase pedestrian and cyclist safety and perceptions of safety by slowing traffic speeds, and providing a physical and psychological buffer between the sidewalk and traffic. Trees are also effective at reducing air pollution, including ground-level ozone, sulphur dioxide, smog and particulate matter.

**Urban Greening.** Vegetated areas are also cooler than the surrounding built environment and can counteract an increase in the urban heat island effect as the result of increasing housing and population density. Larger and smaller but connected vegetated areas have particularly strong cooling effects with trees with trees again being responsible for about 80% of cooling.

**Overall the Heart Foundation supports the provision of tree canopy and all forms of urban greening for its direct and indirect health benefits.** Adelaide has a hot climate and an ageing population who are susceptible to heat-related illnesses and have a greater reliance on walking for transport.
**State Planning Policy 6: Housing Supply and Diversity**

The Heart Foundation is generally supportive of policies contained within this State Planning Policy. The Heart Foundation supports the provision of housing choice near essential services and amenities and in areas that are ‘walkable’ and contain the urban qualities discussed earlier in this submission.

Our review of research\(^41\) found that a mix of housing types and lot sizes increases residential density which can help create a local population large enough to support a vibrant community. Higher density and a mix of housing can produce a more diverse range of residents and this increased population density can mean access to a broader range of services is supported within walking or cycling distance.

State Planning Policy 6 mentions supporting housing for various life stages including post-retirement. Our research found that housing diversity can support older residents by providing suitable and affordable housing options as they age – and if housing is within a walkable neighbourhood, promote active transport to destinations they are already familiar with. This is especially important in Adelaide with our ageing population; relocating within the same neighbourhood can help to maintain social connections and promote the continuity of relationships with service providers such as medical practitioners.

However the planning policies must zone for housing that is both attractive and supportive for older residents, otherwise this vision will fall short. In addition to building code requirements, housing aspirations and requirements for older Australians need to be understood and enabled by the planning code to promote downsizing within their existing neighbourhoods.

Our evidence paper *Increasing density in Australia: maximising the health benefits and minimising the harm* \(^42\) showed an increase is housing diversity is a positive with a few caveats. For older adults, mobility, perceived and actual safety, and opportunities for socialisation are key factors to consider when planning housing. The provision of facilities and services (including public open space) that encourage physical and social activities will help to promote good health, and prevent or delay the onset of chronic disease.

Residential and neighbourhood satisfaction is protective of mental health. Generally, high-rise living was found to be associated with lower levels of satisfaction and a poorer sense of community in older adults and our report that the densification of housing intended for older adults be achieved through low- to mid-rise developments. As mentioned earlier; feelings of safety and perception of crime are of particular importance and relevance to older adults thus incorporating CPTED features appear to be critical.

The South Australian government has produced the guidance document *Communities for All: Our Age-friendly Future* \(^43\) which go some way to outlining the current regulatory arrangements and recommendations for developing ‘age-friendly cities’. It is also understood that the ageing and aged-care sectors have been consulted as part of the current review of the planning system. The Heart Foundation would be interested in the results of that consultation being made public so that interested organisations, such as ours, continue to be informed of the aspirations of older Australians with regards to the urban environment.

State Planning Policy 11: Strategic Transport Infrastructure

Policy 6: Enable and encourage the increased use of a wider variety of transport modes including public transport, walking and cycling to facilitate a reduced reliance on private vehicle travel.

The Heart Foundation is strongly supportive of this policy. Physical inactivity is a major modifiable risk factor for cardiovascular disease and other chronic diseases. Promoting walking is an effective way to increase population levels of physical activity and safe, accessible and connected movement networks encourage physical activity through walking and cycling. Research has shown that movement networks that do not provide convenient walking, cycling and public transport options encourage private car use.

Promotion of walking whether in new development or infill is crucial, particularly in South Australia which has the oldest population of all the States and Territories. Promoting walking enables independence and ‘ageing in place’; providing significant benefits and savings to both individuals and across government.

Considering walking from a transport perspective also has equity benefits. Walking is free and available to those who cannot/choose not to drive including the very old and young. Australian research consistently finds that walking is popular among adults, particularly women and people in low socioeconomic groups. Design features which support walking also support other forms of transport such as mobility scooters, wheelchairs and prams.

Enabling cycling provides opportunities for active transport over distances longer than practical for walking. Commuting by bicycle can, in some instances, be faster than driving or catching public transport. The Heart Foundation notes that several recent large strategic transport infrastructure projects have included cycling and supports those efforts to promote cycling as a genuine convenient choice for transportation.

Encouraging public transport use has a role to play in improving health as well as its core role as an affordable and equitable form of transportation. The Heart Foundation recognises that each public transport journey is also often a walking journey – 29% of public transport users achieve ≥ 30 minutes of daily physical activity solely by walking to and from public transport.

The Heart Foundation will be looking to see that this policy translates into infrastructure projects and design requirements in the new Planning and Design Code. In particular the following points are considered particularly important in translating into new Regional Plans and Code requirements.

Route Planning and Connected Environments. Walkers and cyclists require direct, safe and pleasant routes to local destinations and activity centres. Identification of local destinations and desire lines for both cyclists and walkers (including to public transport stops) and route planning is key to reducing reliance on private vehicles. Continuous paths of travel are consistently correlated to higher levels of walking. With many strategic infrastructure transport projects subject to multiple authorities, including crossing Council boundaries, there is the potential for route planning to be missed, leading to disconnected infrastructure for pedestrians and cyclists.

Development of route planning can be implemented as part of broader masterplanning or redevelopment processes and can help to prioritise where often scarce resources in the public realm should be spent.
**CPTED.** Incorporation of Crime Prevention Through Environmental Design is important to increase the use and uptake of public areas and facilities. They are especially important for promoting use by ageing and younger populations and to promote equity. Research shows that public transport stops where people are often required to linger need to be clean, comfortable and safe with safe well-lit crossings.

Increasing population and mixed-use development near public transport routes as foreshadowed by the Planning Policy may not see the desired increase in use if infrastructure is not designed or retrofitted to provide those conditions.

**Specific Infrastructure.** In addition to route planning; safety and comfort are important factors in the use of walking as a mode of transport. Development that enables and encourages walking includes footpaths on both sides of the street, safe and convenient crossings at destinations and along routes, seating, signage, trees, landscaping and lighting.

A number of infrastructure, programs and policies have been shown to increase cycling. These include on-street markings and cycle lanes, bike share stations, separate cycle ways, improved traffic safety, undercover and secure bike storage and end-of-trip facilities. Particularly relevant is improving traffic safety for cyclists. This would include continuous routes (route planning), clear and safe intersections, sufficient width for on-road cycle lanes and provision of separate facilities on roads with higher vehicular volumes and speeds.

Considering active transport infrastructure such as trees and cycle paths as ‘strategic transport infrastructure’ is a change from traditional transport planning; but if active transport modes are to be promoted as a genuine transport choice and vehicle kilometers reduced, the above factors have been shown to boost participation.

**The Heart Foundation looks forward to seeing these requirements reflected in the new Planning and Design code.**
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