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## **Heart Foundation and Walking SA response to Green Adelaide Draft Regional Landscape Plan 2021-26**

The Heart Foundation and Walking SA welcome the opportunity to respond to Green Adelaide.

We commend the government's commitment to a cooler, greener, wilder and climate-resilient city, particularly as this will have significant impacts on how we live, whether we walk, and our health and wellbeing.

This submission will focus on key focus areas G1, G2 and G3 under *Green streets and flourishing parklands: increase the extent and quality of urban green cover*.

Lack of physical activity is a leading risk factor for heart disease, type 2 diabetes, some cancers and for poor mental health.<sup>1</sup> Only 15% of adults meet all the Australian Physical Activity Guidelines (ABS 2018). Walking is a simple, accessible and equitable physical activity way of reducing key risk factors.

If more people walk for recreation, sport, transport and health for 30 minutes each day, evidence supports there will be a reduction of 35% in cardiovascular disease.<sup>2</sup> Unfortunately, more than 85% of Australian adults are not achieving this level of exercise according to the Australian Bureau of Statistics.<sup>3</sup>

We believe that green streets and flourishing parks and urban environments have an important role to play in getting people walking.

### **Green streetscapes and public spaces**

The “green-ness” of our streets and public spaces determines the liveability of our city, suburbs and regions and is ultimately a key determining factor as to whether people will choose to live here in the future.

Cities around the world now regard trees and other vegetation as critical urban infrastructure – as important to how a city functions as the “hard infrastructure” such as roads, and particularly vital to the health and wellbeing of communities.

Our streets are particularly important because they make up a substantial part of the open space available to communities, and can be better utilised as places to play, relax, socialise, grow food, be active, sit and create.

We accept that population growth concentrated in Adelaide and our urban areas is inevitable, and that increasing residential density should be part of the overall plan for South Australian population growth.

As we move towards increases in medium density housing, the success lies in convincing the community of the necessity of smaller private spaces and the challenge is to expand and improve public open spaces nearer to where we live.<sup>4</sup> The intensification of development in Greater Adelaide's urban areas requires that built environment professionals and developers consider the role of streetscapes as not solely the domain of motor vehicles but also for pedestrians and cyclists.

Conventional streets favour and prioritise the movement of vehicles, with the quantity and quality of space for people on foot often only considered as an afterthought.<sup>5</sup> Instead, to support walking, the role of the street must be re-considered as a place to *be* somewhere, not just *get* somewhere. Our streets are becoming increasingly important as public spaces for social and commercial interaction.

For streets to work as effective public spaces, they need to be 'lively' and to foster social interactions. Great streets for people should be pleasant places to walk, should protect us from the weather and should respond to climate change.

It is not enough to accelerate greening of our streetscapes and public spaces.

We must have mature trees with canopy that provides shade.

Mature streets trees can encourage walking and promote wellbeing in several ways:<sup>6</sup>

- By providing facilitative settings encouraging people to walk for both exercise and transport;
- By facilitating social interaction and a sense of community;
- Trees can aid the healing process for those recovering from stress related illnesses;
- Trees planted along a kerb, especially if closely spaced; define a pedestrian zone separated from vehicular traffic, creating a sense of safety both physically and psychologically. The perception of safety is an important component of walkability, and trees create a protective barrier which reduces the risk of being hit by a 'run-off-the-road' vehicle. -
- By mitigating the adverse effects created by urban heat islands – ensuring people are still able to walk on hotter days under a canopy of connected trees providing shade, in relative comfort.
- Trees (low-allergen) absorb considerable quantities of airborne pollutants and the resulting cleaner air cuts childhood asthma levels.

The *Heart Foundation's Healthy Active by Design* guidelines aim to assist planners, urban designers and related professionals to design healthy urban environments that enable people to make healthy lifestyle choices and in particular incorporate walking and cycling into their daily routine. The guide suggest that planners use tree planting and landscaping to contribute to the functionality of streets and open spaces, improve the microclimate and create attractive and legible routes and spaces that encourage active use.<sup>7</sup>

Trees and landscaping in the street are critical in creating an environment that people want to walk in, especially for recreation. The benefits for walkers are both aesthetic and practical, with street trees providing shelter from the sun and, to some extent, rain.<sup>8</sup> An Australian study found the presence of trees providing shade in open spaces was positively associated with an increased likelihood of being active.<sup>9</sup>

### **The big tree argument**

Large, mature trees are considered to deliver more significant benefits than smaller stature trees.

Therefore large tree species should be planted, and trees should be allowed to grow to maturity to maximize their benefits. For example, large trees provide greater benefits of improved shade, water quality and air quality than smaller trees.<sup>10</sup> Large trees out-perform small trees in moderating air temperatures, blocking UV radiation, conserving energy, sequestering carbon and reducing air pollution, in a manner directly related to the size of the tree canopy.<sup>11</sup> A study by McPherson<sup>12</sup> estimated that a large tree with a height of 14 metres provides three times the annual environmental benefits of a similarly aged 7 metre high tree, and that the value of benefits increases faster than the costs of managing a larger tree.

Larger trees also have greater visual presence, and are often more highly valued by residents, especially where 'canopy closure' over the street is achieved.<sup>131415</sup> In one study the single largest factor in determining the attractiveness of a street scene was the size of the trees and their canopies. This was supported by a study in which there was a preference for large canopied trees in a tree replacement program.<sup>16</sup> A canopy of mature trees arching over the street and shading properties has defined the character of many urban and suburban communities. In fact it is the enduring nature of large trees in a rapidly changing urban environment that contributes to their high symbolic value and a sense of permanence in our fast changing society.<sup>17</sup>

We strongly advocate for the value of trees in our communities for health, social economic and environmental reasons.

The benefits of trees in our urban environment are well known and documented. Adequate space in our streets for trees is critical to ensure that the inherent benefits for our communities are achieved.

The 30-Year Plan for Greater Adelaide sets a target that urban canopy cover is increased by 20% in metropolitan Adelaide by 2045. This is a target we strongly support.

We draw your attention to the value of trees and refer you to the section "The Value of Trees" on Page 16 of [Creating Greener Places for Healthy and Sustainable Communities: Ideas for Quality Green Public Space in South Australia \(PDF 7MB\)](#).

However, as development intensity continues to place pressure on existing suburbs, private development on private land must accommodate space above and below the ground to ensure a range of tree sizes can be planted, grow, thrive and mature to achieve the State's target.

Guidance on suitable trees, appropriate root zones, sizes of new trees (height and girth) as well as establishment periods and regimes is also a contributing factor to the establishment of healthy, large and beneficial trees in our streets.

## **Existing Trees**

Trees are under threat in our city – greater Adelaide is losing a phenomenal number of trees - about 1-6% since 2013.<sup>18</sup> If this continues, there is no hope of reaching Adelaide's goal of becoming 'a green liveable city';

Urban infill is necessary, we appreciate that our population is growing and the demand for residential properties will mean smaller housing allotment with less space for trees and permeable surfaces to capture rainfall to sustain green cover.

Trees can be challenging to live with, trees need maintenance and can involve risk to a household, but the benefits to the householder and the wider community are worth it.

Retaining trees on a block can be a real challenge when development takes place - some consider it costly to retain trees, yet 'smart infill' and careful design to maximise the retention of existing trees and gain the benefits offered by mature trees rather than the small shrubs or immature trees often favoured in new developments *is* possible.

Our recommended practical solutions aim to balance the current tensions between our planning system and the community's need for a green liveable city; including:

- Support for retaining tree canopy on private land that accounts for 80% of metropolitan Adelaide (not just new tree planting on public land).
- Clearer rules and simpler and quicker processes in Councils and Government for homeowners and developers, and;
- Help for the tree owners who, as custodians, currently bear all the cost and risk while nearby properties share in the aesthetic and coolness benefits.

We also believe advocacy on the value of trees in contributing to green corridors, connected canopies, cooling benefits and cost benefits within the private homes will change community expectations in achieving the State's canopy targets.

To assist in developing easy to access and understand information, high quality and accurate mapping of tree canopies, like flood mapping, needs to be made accessible to all. Similarly, mapping of all significant and regulated trees should be considered as a critical overlay in the Code, noting that trees mature and change over time.

## **The impact of new infill housing development on green streetscapes**

Adelaide's urban infill development is depleting urban street tree canopy and both public and private green space.

Public green spaces are a core facet of urban infill development being attractive, liveable and sustainable. When liveability and attractiveness are considered, urban infill development can deliver many positive health, environment and economic outcomes.

More and more however, we are seeing examples of suburban densification in Adelaide where private owners knock down one house and replace it with two or more smaller houses<sup>1</sup>. Often this type of development occurs with minimal consideration of integration between the new dwellings and broader street and neighbourhood context. Done on an ad-hoc basis (compared with other larger site development), this style of development has the potential to negatively impact the place-making functions of the street and neighbourhood.



Specifically, poor quality infill may affect:

- The footpath quality and connectivity
- The street trees, landscaping and shading
- The aesthetics of the streetscape
- The microclimate and heat island effect
- The safety of pedestrians
- Accessibility to transport and other local destinations.

The legislation must change to give protection to trees. This is imperative for Adelaide to retain its quality urban form, safeguard liveability in the face of a hotter and drier climate, and ensure that the city is a place that is inviting, and supportive of a thriving economic. This matter is too integral to strategic planning outcomes to be left to chance alone.

There must be incentives to keep mature trees in new development through the new planning system.

We must establish urban tree conservation areas such as the Adelaide Parklands and significant tree-lined streets, which protect mature trees from being felled.

Deep soil zones are required to retain existing vegetation on an existing or redeveloped site as well as areas to accommodate new deep root vegetation. Deep soil zones allow for a range of tree species to provide shade, improve evapotranspiration, cooling, increase private canopy cover and soften the appearance of buildings. Our concern is that the design of spaces to allow deep soil zones needs to be considered on a site-by-site basis.

For example, a deep soil zone that is too narrow and along the boundary will not accommodate any trees, so that the quantitative measures might be achieved; however, the qualitative benefits of the tree canopy are never achieved. Therefore, the design of sites is critical.

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<sup>1</sup> Also known as knock down rebuild = teardown rebuild = two for one = three for one = housing intensification.

Therefore, we advocate that deep soil zones need to be considered contextually on a site-specific basis, and to educate on the importance of suitable and adequate planting areas as a fit-for-purpose exercise as part of good practice and is reinforced by various legislative requirements and regulation.

There is also an opportunity for innovation in slab design, house position and orientation, the inclusion of wrap-around courtyards and root trenches that improve the deep root zone of trees. There are also a range of hard surfaces that are designed to be permeable to allow for water penetration to the soil zone (e.g., for driveways). Baseline provisions will not achieve the targets that the 30-Year Plan for Greater Adelaide sets out.

New and denser developments must include tree planting that will provide a legacy, that are fit for purpose, and address species diversity to ensure the best environmental outcomes. New developments need to reinforce, reference and mandate the important role that front yards have in connecting green space with streetscapes.

We believe that more than 7% of a site's area is required for deep soil zones for medium to high rise development and should be included to lead change and support State's targets.

## **Recommendations**

*We recommend the following:*

- *Guidelines be developed to include details of minimum tree size and quality at time of installation*
- *All landscaping is established prior to occupancy*
- *The Botanic Gardens of SA Plant selector and local Council lists used to develop suitable plant species by zone, postcode, or a similar guide*
- *Greater focus on larger tree species rather than defaulting to small trees*
- *The City of Adelaide recognise and utilise the City of Melbourne's Urban Forest Strategy in developing and focussing on the importance of urban forest.*
- *That this strategy explicitly describes its importance, relevance and relationship within a framework of other strategies across South Australian government portfolios, including state biodiversity, climate change, water, strategic planning, recreation and open space, education, walking and health and wellbeing strategies.*

Thank you for this opportunity and we wish you great success.

As you will know the Heart Foundation has been commissioned by Wellbeing SA to lead the development of a state-wide Walking Strategy. We consider Green Adelaide's Landscape Plan as one of the key policies that will support the Walking Strategy and we look forward to continuing our conversation with you during the development process.

If you would like any further information, evidence or clarification on this submission please do not hesitate to contact me.

Yours sincerely



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### **About the Heart Foundation**

For over sixty years the Heart Foundation has been fighting for Australian Hearts.

We have a vision of an Australia free of heart disease and our mission is to prevent heart disease and improve the heart health and quality of life of all Australians through our work in risk reduction, support and care, and research.

As part of our work we are committed to seeing more Australians more active, more often.

The Heart Foundation is the leading Australian organisation advocating for environments that promote and support physical activity and work in partnership with a range of industry, government, non-government and academic organisations to create environments that support healthier living through better planning, built environments and transport solutions.

### **About Walking SA**

Our vision is to see more people walking more often.

Walking SA is the not-for-profit peak body that leads, promotes and supports all forms of walking in South Australia, including walking for recreation, transport, health, wellbeing, organised events, adventure, environmental appreciation and fun experiences. Our vision is to see more people walking more often. Our members include walking clubs, informal groups, individuals and organisations whose aims, and objectives align with those of Walking SA.

## References

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- <sup>1</sup> World Health Organisation. Global Action Plan on Physical Activity, WHO, Geneva, 2018.
- <sup>2</sup> UK Chief Medical Officer. 2019. UK Chief Medical Officers' Physical Activity Guidelines. United Kingdom  
Government: United Kingdom
- <sup>3</sup> Australian Bureau of Statistics 2018, National Health Survey: First results, 2017-18, cat. no. 4364.0.55.001, December. ABS: Canberra.
- <sup>4</sup> Udell T, et al. Does density matter? The role of density in creating walkable neighbourhoods. Melbourne: National Heart Foundation of Australia. 2014.
- <sup>5</sup> Government of South Australia, National Heart Foundation of Australia. Streets for People. A Compendium for South Australian Practice. Adelaide 2012.
- <sup>6</sup> Heart Foundation SA: Position snapshot: Making the case for investment in street trees and landscaping in urban environments. 2012.
- <sup>7</sup> National Heart Foundation of Australia. Healthy Active By Design <https://www.healthyactivebydesign.com.au/>
- <sup>8</sup> Vic Walks <http://www.victoriawalks.org.au/trees/>
- <sup>9</sup> Timperio, A., et al. Features of public open spaces and physical activity among children: Findings from the CLAN study. *Preventive Medicine*, 2008; 47(5), 514–518.
- <sup>10</sup> McPherson, J. R., et al. (2005). Municipal Forest Benefits and Costs in Five US Cities. *Journal of Forestry*(December).
- <sup>11</sup> Nowak, D. J. (2004). Assessing environmental functions and values of veteran trees. Proceedings of the International Conference on the Protection and Exploitation of Veteran Trees, Torino, Italy.
- <sup>12</sup> McPherson, E. G. (2005). "Trees with benefits." *American Nurseryman* 201(7).
- <sup>13</sup> Kalmbach, K. L. and J. J. Kielbaso. Resident attitudes toward selected characteristics of street tree planting. *Journal of Arboriculture*. 1979; 5(6): 124-129.
- <sup>14</sup> Schroeder, H. W. and W. N. Cannon. The aesthetic contribution of trees to residential streets in Ohio towns. *Journal of Arboriculture*. 1983; 9: 237-243.
- <sup>15</sup> Sommer, R., et al. Household evaluation of two street tree species. *Journal of Arboriculture*. 1989; 15: 99-103.
- <sup>16</sup> Heimlich, J., et al. Attitudes of residents toward street trees on four streets in Toledo, Ohio, U.S. before removal of Ash trees from Emerald Ash borer." *Journal of Arboriculture and Urban Forestry* 34(1): 47-53.
- <sup>17</sup> Dwyer, J. F., et al. (2003). "Sustaining urban forests. *Journal of Arboriculture*. 2008; 29(1): 49-55.
- <sup>18</sup> Conservation Council SA. What's happening to Adelaide's trees? June 2020