

# 20-Year State Infrastructure Strategy Discussion Paper

National Heart Foundation of Australia  
Submission  
July 2019



The Heart Foundation welcomes the opportunity to provide comment and considerations to the South Australian Government's *20-Year State Infrastructure Strategy* open for public consultation.

We understand that this discussion paper focusses on prioritising the state's infrastructure needs to support South Australia's population growth targets.

Confronted by the potential for rapid population growth, we are recognising the need to rethink the way populations are housed and mobilised. Central to this consideration is the need to shift away from car dependent low-density suburban sprawl to more sustainable, compact and greener communities accessible by active transport.<sup>1</sup>

The paper states that the plan will ensure that South Australia has the infrastructure to:

- Grow the economy
- Create jobs
- Improve **liveability**
- Provide sustainable environmental stewardship.

Despite increasing use of the concept of 'liveability' and its intuitive meaning, it is rarely explicitly defined. The 2011 State of Australian Cities report defined liveability as: ... the degree to which a place supports quality of life, health and wellbeing. In broad terms, liveable cities are healthy, safe, harmonious, attractive and affordable. They have high amenity, provide good accessibility and are environmentally sustainable.<sup>2</sup> Liveability is the foundation of good social fabric.

### The Heart Foundation submission

The Heart Foundation submission will focus on two domains where infrastructure can improve quality of life, health and wellbeing, namely:

- **Physical activity** – focussing on walking and cycling for transport – and connecting people to public transport
- **Greener cities** – our natural and living infrastructure assets are key.

Whilst we applaud the strong focus on public transport infrastructure this paper does not adequately address the role that transport infrastructure can play in increasing active living and active transport opportunities.

This submission supports the [30-Year Plan for Greater Adelaide Target 3](#): Increase the share of work trips made by active transport modes by residents of Inner, Middle and Outer Adelaide by 30% by 2045.

We also applaud the strong focus on health facilities (hospitals, rehabilitation services, clinics, ambulance stations, tele-health) however this paper does not adequately address the role that green infrastructure\* can play in supporting quality of life, health and wellbeing.

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\* Green infrastructure is defined as being the network of vegetation and water systems in urban areas across the public and private realms.

This submission supports the [30-Year Plan for Greater Adelaide Target 5](#): Urban green cover is increased by 20% in metropolitan Adelaide by 2045.

**Heart Foundation's Key Recommendations:**

1. Walking and cycling must be considered as legitimate and important forms of transport and the Infrastructure Strategy must provide for increasing pedestrian and bike infrastructure providing access to public transport stops.
2. Green infrastructure must be recognised as an asset in its own right acknowledging the role it plays in supporting better health and wellbeing outcomes, liveability, the environment, and the economy.

## 1. About the Heart Foundation

For 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.

The Heart Foundation is the leading Australian non-government organisation working to improve 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 governments that facilitate and encourage physical activity and for governments to avoid processes and activities that are not health promoting.

We recognise the many co-benefits that come from increased use of walking, cycling and public transport (active transport) combined with a reduction in private vehicle use, including reduced traffic congestion and better air quality. Through our 9-year lead of the *SA Active Living Coalition* we have a long local history of cross agency collaboration to work towards integrating active living principles into built environments. Our Nationally recognised [Healthy Active by Design](#) (HABD) resource provides the best available evidence, checklists and case studies to support the development of healthy walkable neighbourhoods.

Infrastructure such as connected footpaths and bike paths can support healthy behaviours by increasing opportunities to walk and cycle. They can also affect people's travel mode choices and encourage greater use of public transport. Meanwhile road networks to support urban sprawl increase car dependence and are significant contributing factors to overweight and obesity, and preventable chronic diseases such as heart disease.

Our key recommendations support an ageing population which the discussion paper rightly identifies as one of our biggest challenges. The South Australian population is ageing faster than that of other mainland states. By 2031, there will be more than 440,000 people in South Australia aged over 65, making up more than 1 in 5 of South Australia's total population.

Our key recommendations have the potential to impact at least five major areas of government policy:

1. congestion - more bike paths and footpaths reduce cars on the road
2. local economy - towns with high levels of public transport use are wealthier, happier and more sustainable
3. climate change and pollution - fewer cars and more trees reduces greenhouse gases and improves air quality
4. prevention - physical activity reduces chronic disease and social isolation
5. budget savings - by easing the economic burden of chronic disease caused by inactivity.



## 2. A snapshot of poor health, risk factors and heart disease in South Australia

One of the greatest challenges facing Australia in the 21st Century is the obesity epidemic. The prevalence of overweight and obesity have been steadily rising over the last 30 years.<sup>3</sup> We can now claim to be one of the most overweight developed nations in the world. In South Australia, we now have 458,500 (35.6%) adults who are overweight, and 386,900 (30.0%) adults who are obese.<sup>4</sup>

COAG has agreed that obesity is a priority and has started the development of a National Healthy Weight Strategy. The Strategy will focus on adults and children, primary and secondary prevention, equity and the social determinants of health, including the targeting of specific groups including Aboriginal and Torres Strait Islander peoples, rural and remote communities and disadvantaged communities.

We know that physical inactivity is a major factor in the obesity epidemic. While Australians see themselves as a fit and sporty nation, the statistics show only 45% of South Australian adults engage in the recommended 150 minutes (or more) of physical activity each week.<sup>5</sup>

For our ageing population the statistics are even worse. According to the Australian Bureau of Statistics, only around one in four (26%) Australians aged 65 and over are active enough to get health benefits.<sup>6</sup>

Physical inactivity is responsible for 19% of the diabetes burden, 16% of the bowel cancer burden, 16% of the uterine cancer burden, 14% of the dementia burden, and 11% of both the coronary heart disease burden and the breast cancer burden.<sup>7</sup>

Also concerning is the increasing sedentary behaviour of children (screen time, in cars, sitting at school). Particularly the downward trend in active travel to school, with less than a third of Australian children now regularly walking or cycling to school.<sup>8</sup> 70% of primary school children in SA are driven to school each day.<sup>9</sup>

The increasing burden of chronic diseases is adding further pressure to our health services and is responsible for 83% of all premature deaths in Australia.<sup>10</sup> Nearly all Australian adults have at least one risk factor for chronic disease and half have two or three.<sup>11</sup> An extra 30 minutes of brisk walking by each person 5 days per week could reduce the burden of disease by 26%.<sup>12</sup>

2017 data shows heart disease continues to be the leading single cause of death in South Australia, with 1,542 lives lost to heart disease and 674 lives lost from heart attack.<sup>13</sup>

Cardiovascular disease (heart, stroke and blood vessel disease) is still the costliest disease group at \$7.7bn a year, or 10.4% of direct healthcare expenditure, including \$4.5bn in hospital admissions and \$1.65bn in pharmaceuticals.

## 2.1 Health is everybody's business

While the Heart Foundation supports the role played by individuals in maintaining good health, we also assert that policy and legislation across all sectors must be oriented to support health and wellbeing. This concept, embedded in the Ottawa Charter for Health Promotion and described by the World Health Organization as healthy public policy, recognises that many of the factors that influence health are situated outside the health sector. Sectors, such as education, environment, energy, justice, transport and planning, impact significantly on the health status of the community, often without realising it.

That's because the health of individuals and populations is shaped by broad societal factors—collectively referred to as the determinants of health.

Aligning sectoral agendas with initiatives to promote population wellbeing and health equity offers considerable scope for achieving co-benefits in different sectors. A healthier population produces a better workforce, a sustainable economy, and more resilient communities. Increased population wellbeing may also reduce government spending on health services, freeing up funds for expenditure elsewhere.<sup>14</sup>

We are pleased to see that Infrastructure SA will work across the sectors and use an integrated systems-based approach to ensure a common vision, coordination and efficient use of resources and outcomes (see Discussion Paper page 20).

We **strongly support** the collaboration of Infrastructure SA with SA Health, in particular [Wellbeing SA](#), in the planning and decision-making of critical health promoting infrastructure, to support better health outcomes across the population and across ages.

### 3. The 20-Year Infrastructure Strategy

*Discussion Paper Questions:*

*What strategies should be adopted to ensure Adelaide maintains its liveability as it grows?*

*How should infrastructure be planned in increasingly urban environments with ageing populations?*

*What complementary infrastructure can be built to support better health outcomes across the population?*

*How can South Australia take the lead on reducing emissions from transport?*

#### 3.1 Focus on a new urban form: active transport infrastructure

Footpaths (especially important for the ageing population), trails and bike paths are major infrastructure investments that have not been identified as key transport and health infrastructure in this discussion paper – and this readjustment in priorities towards more sustainable transport choices plays a key role in creating more “sustainable”, “resilient”, “vibrant”, “healthy” and “liveable” communities.

Footpaths, trails, and bike paths are not just “green infrastructure” (see Discussion Paper page 15) they are transport infrastructure options.

Public realm and streetscape features that connect and improve movement networks as well as the amenity of a neighbourhood include street lighting, shade trees, and the installation and maintenance of footpaths and street-crossing aids. The introduction of this walking and cycling infrastructure as well as traffic-calming and other traffic diversions have the potential to facilitate local walking and cycling.<sup>15</sup>

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>16</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.

Footpaths form a major part of the public realm and their quality has a direct impact on the pedestrian experience. Ensuring that footpaths are safe, attractive and well maintained will enhance the pedestrian environment and help to sustain regular physical activity, and community wellbeing. Installing more footpaths has been shown to increase the proportion of people initiating transportation-related walking, and the time they spent walking.<sup>17</sup>

Streetscape amenity and the perception of the greenness of a neighbourhood affect rates of walking, particularly recreational walking. Green infrastructure is a necessary part of this streetscape and contribute value at the social, environmental and economic levels.

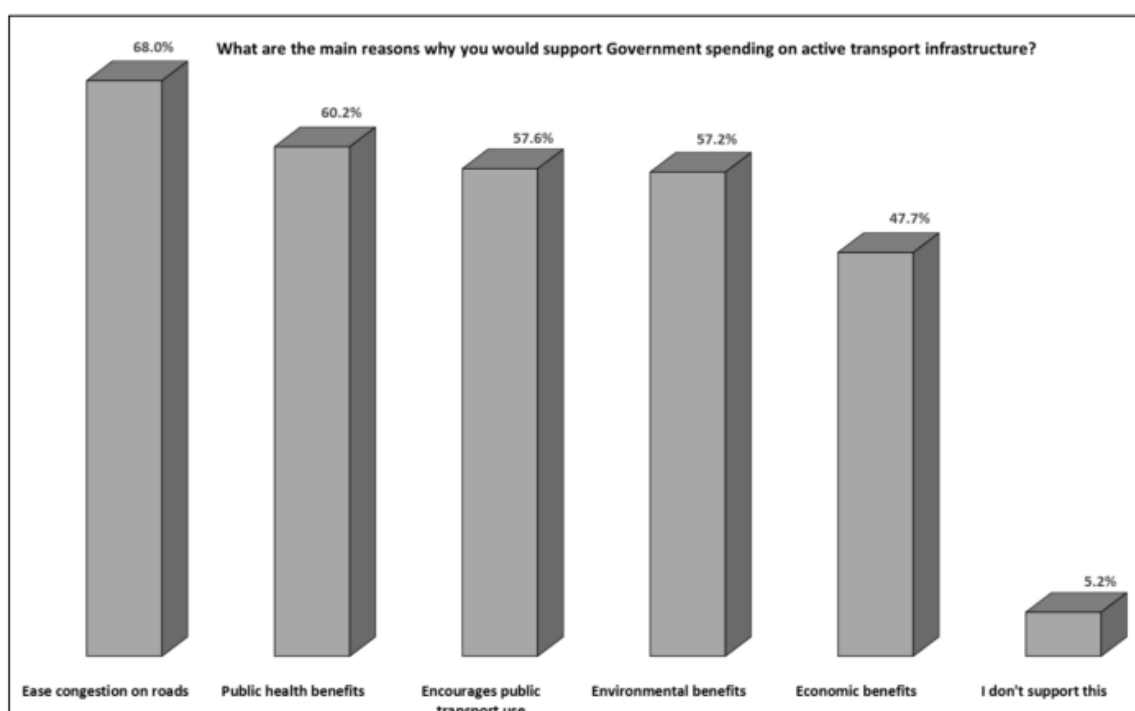
The evidence shows that public transport is important to active lifestyles. People who use public transport spend significantly more time walking than those who drive cars to work. A Melbourne study found those who used public transport on average spent 41 minutes walking and/or cycling as part of their journey compared with an average of just 8 minutes for those who used private transport.<sup>18</sup>

Car travel still accounts for the majority of trips in our cities, with many of these trips only short distances. For example, in our capital cities 15.3% of commuters travel less than five kilometres, and in the rest of the nation 28.6%. 71% of people who live within five kilometres of work, drive to work.<sup>19</sup>

The 2016 Census data showed that the number of people travelling to work by car in SA increased by 3% from 2011 to 2016. Of the Australian capital cities, Adelaide has the highest proportion of people who drive to work, at 80% while the numbers of people catching the bus to work and walking both fell since the last census, by 2% and 12% respectively.<sup>20</sup>

Positively, in recent years, there has been a steady increase in cycling in Australian cities and there is enormous scope to increase the modal share of cycling further, particularly for those commuting to work, school or study, or those making short local trips. However, the uptake of walking and cycling depends greatly on how easy and safe it is.<sup>21</sup>

**Figure 1: RAA Survey on Active Transport 2019**



Respondents of a recent RAA Active Transport survey suggested that they might walk more if there were better quality footpaths (46%), lighting and pedestrian facilities. The most effective ways of securing safety were also footpath upgrades and lighting as well as clearing vegetation and separation from other road users that travel at higher speed. The majority of respondents were supportive of government funding being redirected from road projects onto pedestrian infrastructure.<sup>22</sup> Figure 1 shows that the biggest driver of public support towards government spending on active transport infrastructure was to ease congestion on the roads, followed by the public health benefits.



An extensive international review of evaluations of walking environments in 2011 showed positive cost benefit ratios of up to 37.6<sup>23</sup>. In comparison with other transport projects, investments in walking were found to be excellent value for money. The highest value for money transport projects were smarter choices, cycle and pedestrian schemes, local safety schemes and some bus schemes. This suggests that investment in the walking environment is likely to be at least, if not better, value for money than other transport projects.

In 2018 the Heart Foundation SA commissioned Jensen Plus and Tonkin Consulting to find the most feasible options for achieving cost-effective delivery and maintenance of footpaths.<sup>24</sup> A key finding of the project was the opportunities to use recycled materials for footpaths – further details on the findings are available on request.

The Heart Foundation **strongly supports** the evidence that increasing participation in active transport not only improves population health and wellbeing (especially physical activity), it also has the potential to demonstrate cross sector benefits through impacts on relieving traffic congestion, reducing pollution and carbon emissions, improving road and pedestrian safety and upgrading urban attributes.

While “traditional” bike riding for recreation and transport is steadily growing, the use of electric bikes (e-bikes) is predicted to rise by an incredible 40,000% by 2050 in the UK, with people seeking more eco-friendly transport, an interest in health and wellbeing and vast improvements in e-bike technology. The Australian market in e-bikes is also predicted to grow and will require new infrastructure to support both industry and riders. Currently less than 1% of the state transport budget is allocated to cycling infrastructure which is restricting growth in the [SA Bike Economy](#).

The discussion paper highlights the importance of data collection, using new technologies. The Heart Foundation **strongly recommends** the use of new technologies to regularly collect household travel data, for transport modelling and planning, including walking, cycling and public transport.<sup>25</sup>

The Heart Foundation **strongly recommends** that Infrastructure SA develop a 20-Year Infrastructure Strategy which will achieve a more balanced transport system. Infrastructure SA must think to the future and provide South Australians with a greater choice of travel modes by including pedestrian and bike infrastructure within the Strategy, providing sufficient funding, and looking ahead, to developing a walking and cycling action plan.

### Key Recommendation #1

Walking and cycling must be considered as legitimate and important forms of transport and the Infrastructure Strategy must provide for increasing pedestrian and bike infrastructure providing access to public transport stops.

## 3.2 Green infrastructure for health and wellbeing

For clarification in this submission we define 'green infrastructure' as being the network of vegetation and water systems in urban areas across the public and private realms. It is the green and blue spaces in cities and towns that connect and support people, plants and animals.

The discussion paper does not formally recognise green infrastructure as an asset in its own right, and one that should be valued during business case development of major projects. Green infrastructure can no longer be considered an optional add-on, a nice enhancement or a dutiful nod towards biodiversity, but as a fundamental element of the solution to obtaining a healthy and liveable South Australia.<sup>26</sup>

In recent times the focus on densifying has seen the quality of our urban environments at risk through the loss of green cover from our private space (backyards) and our public areas (streets). A National [report](#) *Where Should All The Trees Go?* found that Adelaide's tree coverage is the lowest of Australia's capitals with Adelaide's tree canopy coverage just 27% - less than half of Hobart's (the highest in the country at 59%). The report also highlighted marked variations between Adelaide suburbs - with 44% in the Adelaide Hills to 12% in Port Adelaide and Enfield. There was also a reported increase in hard surfaces.<sup>27</sup>

The Heart Foundation recognises and supports the need for higher density development in Greater Adelaide, and evidence shows that higher density in the right location, with appropriate height, good design and accompanying amenity *can* contribute to creating walkable environments and encourage more physical activity including active travel.<sup>28</sup>

More density alone does not provide the built environment richness needed for creating a new walkable urban form.

Density along with 6 other key built environment features work together to deliver "density done well". They are:

1. Distance to public transport
2. Destination accessibility
3. Diversity of land uses - mixed land use
4. Design, including intersection density and street connectivity
5. Cost and availability of parking
6. Placemaking - making streets for people.

The Heart Foundation **strongly supports** a focus on urban development that delivers higher density done well with appropriate amenity.<sup>29</sup> There is a trend towards creating compact and walkable communities with convenient access to employment nodes, centres, open space and recreational facilities, community

facilities and educational establishments because they improve health and quality of life and address congestion, climate change and economic progress.

The Heart Foundation's [Low density development: Impacts on physical activity and associated health outcomes](#) report<sup>30</sup> recommends at least 20 dwellings per hectare to encourage walking, and between 34-43 dwellings per hectare to support local services and public transport and reduce residents' reliance on cars.

Green space is a major component in making density work. As urban planning seeks to maximise land-use, it is important to ensure good provision of open space as well as higher quality and flexible open space to compensate for the lack of private open space. We should not be reducing suburban lot sizes without increasing public open green spaces within a 5-minute walk (400m) of all dwellings.<sup>31</sup>

Urban green infrastructure has many benefits that support sustainable and liveable cities and healthy and connected communities, including:<sup>32</sup>

- cooling cities and mitigating the 'heat island effect'
- slowing stormwater runoff
- filtering air pollution
- improving human immune systems
- providing habitat for plants and animals
- making people happier and calmer
- creating areas for active sport
- encouraging walking and cycling
- promoting social interaction.

The Healthy Parks Healthy People South Australia 2016-2021 initiative<sup>33</sup> has identified collaborative action for increased green infrastructure in urban settings as a priority focus area. Arising from this is the Quality Green Public Space (QGPS) action plan sponsored by DPTI, ODASA, AILA SA and led by SA Health, with the Heart Foundation, DEW, LGA and selected councils on the Reference Group. John Schutz, Chief Executive, Department for Environment and Water was quoted as saying:<sup>34</sup>

"Quality Green Public Space provides an accessible means for people, especially those living in urban areas, to connect to the natural environment. They are also part of the solution to addressing the environmental challenges associated with urban growth and improving health and wellbeing."

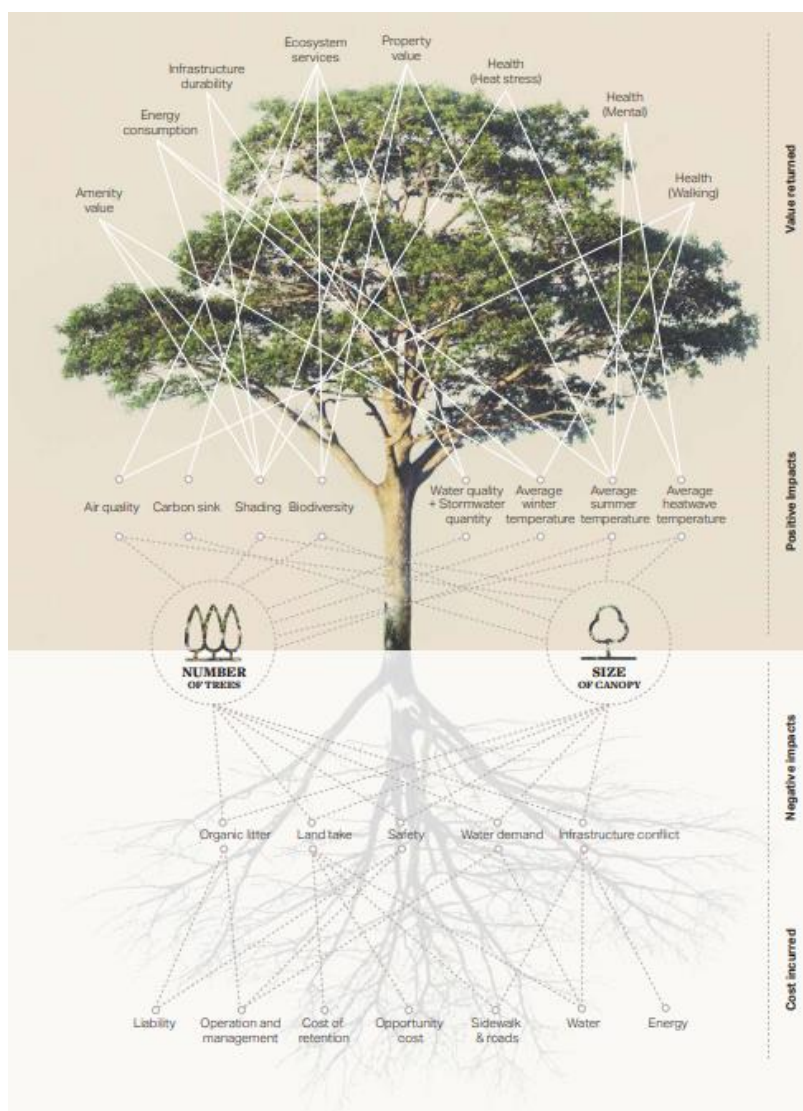
A literature review as part of the QGPS project sought to describe the multiple benefits of public green space and identify key considerations for planning for maintaining urban liveability.<sup>35</sup> The paper confirmed that investing in green infrastructure in areas with high or increasing housing density, will promote health, produce essential ecosystem service benefits, protect the environment and enhance biodiversity.

### **Are trees the answer?**

Trees and other vegetation are undervalued in financial terms, as opposed to other types of infrastructure such as roads and hospitals, yet they are worth millions of dollars to our state.

The environmental and property value cost benefits alone have been calculated at \$5.82 for every \$1.00 spent on tree planting and management.<sup>36</sup> In Adelaide a four-year-old tree is estimated to generate a gross annual benefit of \$171/tree, consisting of energy savings, air quality improvements, stormwater management, aesthetics and other benefits. It has been suggested that this value is closer to \$424/tree.<sup>37</sup> A study in Sydney found that a 10% increase in the size of the canopy across a suburb showed an increase in the property value of 7.7% for the average house.<sup>38</sup> These findings indicate that investing in green infrastructure can provide positive financial terms.

Trees have shown their value in providing protection in our increasingly frequent extreme weather events. It has been estimated that by doubling the leaf canopy there would be up to 28% fewer heat-related deaths.<sup>39</sup> AECOM measured the air temperature at 4 degrees Celsius lower in streets with 28% canopy coverage than in streets with 20% canopy coverage, and asphalt in sunlight was 54.6 degrees, compared to 35.6 degrees in the tree shade. Australian daily temperatures and mortality data from 2001-2015 found that the number of deaths due to heatwaves was 549 in Adelaide making it the hardest-hit capital city on a per-capita basis.<sup>40</sup>



Source: AECOM, A brilliant cities report: green infrastructure.

Street trees are an underappreciated asset that can have a significant impact on our street experience. But unfortunately, they are seen as an afterthought to good design and development, rather than an integral part of it. For governments deciding on where to direct expenditure in order to improve a street, planting trees will give the best return as trees can transform a street more easily than any other physical improvement.

**Key Recommendation #2**

Green infrastructure must be recognised as an asset in its own right acknowledging the role it plays in supporting better health and wellbeing outcomes, liveability, the environment, and the economy.



## 4. Concluding comments

Thank you for this opportunity to contribute to the 20-Year State Infrastructure Strategy.

The recognition of walking and cycling as legitimate modes of travel and the acknowledgement of the important role of green infrastructure must be accompanied by significant investment to ensure that the rhetoric around a long-term vision for vibrant, liveable communities is substantiated by a respectable budget allocation, and re-orienting of existing budgets.

To address this, we suggest that the government must also:

- Reorient transport policy, planning and funding to prioritise investment in walking, cycling and public transport infrastructure.
- Include walking and cycling infrastructure as part of all major government-funded urban transport projects.<sup>41</sup>
- Prioritise infrastructure investment in walking, cycling and public transport projects; allocate resources firstly to underserved neighbourhoods, such as those on the urban fringe and regional areas;
- Provide funding to local government to maintain and enhance community infrastructure (including green infrastructure) that promotes physical activity;
- Consider investment into stormwater capture for irrigation so that green infrastructure stays green;
- Facilitate social infrastructure charging and coordination between public and private sectors. Consider the Caroline Springs Partnership from Victoria - Demonstrated innovative approaches to integrated land use planning and community infrastructure in a growth area.<sup>42</sup>
- Improve processes ensuring that funding for infrastructure is agreed in advance of changes to land zoning and development approval.

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

The Heart Foundation would be happy to provide further assistance with the development of the Strategy.

Yours sincerely

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<sup>42</sup> Local Government Association of South Australia. 2012. Planning for social infrastructure and community services for urban growth areas.