

# Submission form: Victoria's draft 30-year infrastructure strategy

## Your details

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## About you

Please tell us which best describes you:

<input type="checkbox"/> Victorian resident
<input type="checkbox"/> Victorian business owner/operator
<input type="checkbox"/> Industry Professional
<input type="checkbox"/> Community organisation representative
<input type="checkbox"/> Local government representative
<input type="checkbox"/> State government representative
<input type="checkbox"/> Researcher
<input checked="" type="checkbox"/> Other (please specify): National Peak Body

# Your focus areas

Select the topics or regions you are providing feedback on (select all that apply):

Topics	Regions
<input type="checkbox"/> Across sectors	<input checked="" type="checkbox"/> Regional Victoria
<input type="checkbox"/> Circular economy	<input checked="" type="checkbox"/> Urban growth areas
<input checked="" type="checkbox"/> Cities	<input checked="" type="checkbox"/> Melbourne
<input checked="" type="checkbox"/> Climate change	
<input checked="" type="checkbox"/> Community infrastructure	
<input type="checkbox"/> Education	
<input type="checkbox"/> Energy	
<input type="checkbox"/> Freight	
<input checked="" type="checkbox"/> Health	
<input checked="" type="checkbox"/> Housing	
<input type="checkbox"/> Infrastructure for Victoria’s First Peoples	
<input checked="" type="checkbox"/> Transport	
<input type="checkbox"/> Water	

## Your feedback

Add as many sections as you need to provide all your feedback in this submission.

<b>Topic/area:</b>	Victorians have good access to housing, jobs, services and opportunities
<b>Recommendation name:</b>	<p>Rezone locations near existing infrastructure for more home choices</p> <p>Mandate more affordable homes near existing infrastructure</p> <p>Extend Melbourne's trams to encourage more new homes nearby</p> <p>Run faster bus services, more often, in Victoria's largest cities</p> <p>Build a new bus rapid transit network</p> <p>Extend metropolitan trains and run more services in Melbourne's west</p> <p>Run more bus and coach services in regional Victoria</p> <p>Make off-peak public transport cheaper and simplify regional fare zones</p>
<b>Recommendation number:</b>	7, 8, 9, 10, 11, 12, 13, Future option
1. Do you support this topic or recommendation?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> In part
2. Tell us why	<p>Compact urban form that supports the integration of transport, mixed land-use zoning and residential density is crucial to help achieve many of the interconnected themes and recommendations outlined within the draft Strategy.</p> <p>Evidence indicates that the availability and quality of transport directly influences social equity. This is because people's ability to access amenities, destinations and essential services, along with the affordability and the variety of transport options, significantly affects their daily lives.<sup>1</sup></p>
3. Share any supporting evidence or examples	<p>Density and mixed-use zoning are essential to support a shift towards active and public transport.</p> <p>For people to be able to walk, wheel (use of wheelchairs, prams, walking aids and other wheeled mobility devices) and ride bikes in urban areas, there needs to be a range of community services and other destinations, within a 15-minute catchment.<sup>2</sup> This can include access to public transport stops.</p> <p>Research shows that people experiencing socioeconomic disadvantage, including those living in socioeconomically disadvantaged neighbourhoods, are significantly less likely to meet physical activity guidelines and more likely to be sedentary compared to more advantaged populations.<sup>3</sup></p> <p>This issue is further compounded in low-density, outer-suburban and growth areas, where geographic distance and limited infrastructure increase reliance on private vehicles.<sup>4</sup> For people with limited mobility or access to transport, this can create substantial barriers to healthcare, employment and education.<sup>5</sup></p>

	<p>Transport related social inequities also have implications for cardiovascular health. Studies have found a positive relationship between the presence and density of public transport stops and walking across all age groups.<sup>6</sup> This occurs because of people walking to nearby public transport stops. Increased physical activity can significantly reduce heart disease and the burden of a range of other chronic diseases.<sup>7</sup></p> <p>To address these challenges in new growth areas, it is critical that infrastructure and services, such as local schools, shops and frequent public transport, are established as communities grow. These must be situated within a 15-minute walking, wheeling, bike riding and/or public transport catchment to promote equitable and healthy urban living.<sup>8</sup></p>
4. Include proposed changes and improvements	n/a

Topic/area:	Victorians are healthy and safe
Recommendation name:	<p>Make local streets safer for children and communities</p> <p>Build safe cycling networks in Melbourne and regional cities</p> <p>Help government schools share their grounds</p>
Recommendation number:	14, 15, 16
5. Do you support this topic or recommendation?	<p><input checked="" type="checkbox"/> Yes</p> <p><input type="checkbox"/> No</p> <p><input type="checkbox"/> In part</p>
6. Tell us why	<p>Urban design and transport planning that considers the health of local communities contributes significantly to increased participation in physical activity.<sup>9</sup> In doing so, it reduces cardiovascular disease by making walking, wheeling, bike riding and use of public transport the easy choice to get from point A to point B.</p> <p>Research shows that people who live in walkable communities are 1.5 times more likely to get enough physical activity<sup>10</sup> and nearly 2.8 times more likely to have a healthy cardiovascular risk profile<sup>11</sup> than those who live in areas where walking is unsafe, inconvenient or difficult.</p>
7. Share any supporting evidence or examples	<p>The Heart Foundation supports themes and recommendations in the draft Strategy that will result in reduced car dependency by prioritising urban and transport planning that supports active and public modes of transport.</p> <p>Reducing reliance on private vehicles can help lower air pollution caused by transport emissions. This has a dual benefit: it improves cardiovascular health by addressing the impacts of climate change and air pollution, and it also encourages higher levels of incidental physical activity.<sup>12</sup></p>

	<p>To support greater use of active and public modes of transport, improved separation between different modes and speeds of travel is needed.<sup>13</sup> As one example, bike lanes need to be fully separated from vehicular traffic. Improved separation across all modes of transport can be achieved through road space reallocation which prioritises a people-first approach. This refers to the appropriate allocation of road space for all road users, prioritising people walking, wheeling and bike riding.</p> <p>A critical component to improve the walkability of the built environment and local neighbourhoods includes road safety and the need to reduce speed limits to 30kph in built-up urban areas and local neighbourhoods, including around schools. Research shows that there is a 10% chance of fatality when a person walking, wheeling or bike riding is hit by a vehicle travelling at 30 kph, compared with 20% at 35kph, 40% at 40kph and 90% at 50kph.<sup>14</sup></p> <p>In many new growth areas, schools and other local community facilities are not delivered until well after residents have moved in. As a result, children are often required to travel long distances each day, often by private vehicle.<sup>15</sup> Research shows that children who live within 800m of their school are more likely to walk or ride to school.<sup>16</sup></p> <p>Research also shows that positive and stimulating environments where children and teenagers can play and socialise are critical for their physical, social, emotional and cognitive childhood development, benefitting a range of health outcomes.<sup>17</sup></p> <p>Improving access to community facilities, including stronger links between schools and local community engagements, can encourage continued participation in physical activity after adolescents leave their school environments. This helps children develop lifelong physical activity habits into adulthood.<sup>18</sup></p> <p>The Heart Foundation's Blueprint for an Active Australia presents an irrefutable and urgent case for change. It provides evidence-based actions that can form the basis of a community-wide approach to address the major public health problem of physical inactivity. The Blueprint states the need for:</p> <ul style="list-style-type: none"> <li>• a variety of grassed surface spaces, access to equipment, and playground line markings that are engaging and accessible to children of various abilities and motivations; and</li> <li>• an increase in access to play areas at lunchtime and outside of school hours.<sup>19</sup></li> </ul>
<p>8. Include proposed changes and improvements</p>	<p>Walking is an accessible, free and easy way for people to be more physically active. Regular walking is one of the best ways to reduce the risk of heart disease for many people living in Australia.<sup>20</sup> The Heart Foundation would welcome clear recommendations in the Strategy for infrastructure that supports walking. This can include:</p> <ul style="list-style-type: none"> <li>• improved footpath connectivity, path widening and maintenance</li> <li>• street lighting</li> <li>• kerb ramps</li> <li>• safe and convenient crossings</li> <li>• seating</li> <li>• shade and shelter</li> <li>• separation from other modes of transport</li> </ul>

<b>Topic/area:</b>	Victoria has a thriving natural environment
<b>Recommendation name:</b>	Reduce greenhouse gas emissions from infrastructure Better use government land for open space and greenery
<b>Recommendation number:</b>	24, 26
9. Do you support this topic or recommendation?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> In part
10. Tell us why	<p>Ambient air pollution is a preventable risk factor for cardiovascular disease.<sup>21</sup> In 2019, nearly seven million deaths globally were attributed to air pollution (both indoor and outdoor).<sup>22</sup> Of these, 22% of deaths from coronary heart disease and 15% from stroke were linked to air pollution.<sup>23</sup> These figures highlight air pollution as the greatest environmental health risk for cardiovascular conditions.<sup>24</sup> Research shows strong associations between air pollution exposure and increased rates of heart attack, coronary heart disease, and cardiovascular mortality.<sup>25</sup> The World Heart Federation identifies air pollution as the sixth leading cause of global death and the top environmental risk factor for poor health.<sup>26</sup> It also advocates for active travel as a means to increase physical activity and reduce harmful vehicle emissions.<sup>27</sup></p> <p>Cities generate over two-thirds of global carbon emissions, primarily from transport and energy use.<sup>28 29</sup> In Australia, the transport sector contributed 19% of total emissions in 2022, with 60% of these from passenger cars and light commercial vehicles.<sup>30</sup> Without intervention, transport is projected to become Australia's largest emissions source by 2030.<sup>31</sup></p> <p>Beyond its environmental impact, high car dependency in Australian cities contributes to physical inactivity, further increasing cardiovascular risk.<sup>32 33</sup> Reducing transport emissions is among the most effective strategies to improve heart health.<sup>34 35</sup> Shifting to active transport modes such as walking, wheeling and bike riding supports cardiovascular health by improving air quality and increasing physical activity.<sup>36</sup></p>
11. Share any supporting evidence or examples	<p>Active and public transport provide multiple benefits toward improving cardiovascular health.<sup>37 38</sup> These include improved rates of physical activity and reduction in sedentary behaviour as well as improvements in air quality by reducing emissions associated with motorised modes of travel.</p> <p>Investing in public and active transport infrastructure is significantly more cost-effective than funding infrastructure for private vehicles.<sup>39</sup> In addition to lower upfront and ongoing costs, it delivers broad benefits across a range of cost-benefit analyses.<sup>40</sup> For example, every kilometre of active travel infrastructure is estimated to return \$2 for every dollar invested.<sup>41</sup></p> <p>High-quality public open spaces are especially important in neighbourhoods with increased density and urban infill, as they provide essential places for recreation, play and socialising.<sup>42</sup></p>

	<p>Evidence has shown that the quality and maintenance of green spaces is important for physical and mental health.<sup>43</sup></p> <p>Recent research has shown that Australia's annual public health costs related to cardiovascular disease could be reduced by \$19.3 million per 100,000 individuals if local tree canopy is increased from less than 10 % to 30 % or higher.<sup>44</sup> This highlights the substantial health and economic benefits of investing in well-designed, green urban environments.</p> <p>Proximity to green spaces has well-established benefits for heart health and the reduction of cardiovascular risk factors. These benefits are influenced by the quality, accessibility, and specific features of green environments:</p> <p>Living in areas with a higher density of green spaces is associated with lower rates of hypertension, high cholesterol and diabetes, particularly among women.<sup>45</sup> These health improvements are likely due to a combination of reduced stress, increased physical activity, and lower exposure to air and noise pollution.<sup>46</sup></p> <p>Accessibility and walkability enhance the health impact of green spaces. A large study involving over one million adults found that individuals living in areas with both high "nature scores" and high walkability had 9% lower odds of cardiovascular risk factors, including hypertension, obesity, and diabetes, compared to those in low-scoring areas.<sup>47</sup></p> <p>The presence of sports facilities within green spaces further strengthens cardiovascular benefits. One study found that people living farthest from such spaces had an 11% higher prevalence of cerebrovascular disease and a 9% higher prevalence of diabetes compared to those living nearby.<sup>48</sup></p> <p>Even small green areas within 100 metres of a residence can positively influence physical activity levels, which in turn supports cardiovascular health. Increases in local greenness are consistently linked with greater engagement in physical activity.<sup>49</sup></p> <p>The cardiovascular benefits of green space exposure are likely driven by increased opportunities for outdoor activity, reduced stress, and supportive environments for healthy behaviours.<sup>50</sup> Green space interventions have also been shown to reduce physiological stress markers, such as cortisol, across all age groups.<sup>51</sup></p>
12. Include proposed changes and improvements	n/a

## More feedback (optional)

Tell us about infrastructure challenges, gaps or opportunities not covered by the draft strategy. This can include things you think we should add to an existing recommendation, or suggestions for a new recommendation.

Please provide evidence for your suggestions. This can include data, specific examples, cost benefit analyses, surveys, or program evaluations. Also, explain how your suggestions align with the objectives of our draft strategy (see page 11 of the draft strategy).

Suggestions for new recommendations should point towards infrastructure opportunities that can deliver long-term benefits for Victorians. They should also be areas where the Victorian Government has a leading role.

## Increasing physical activity

The Heart Foundation welcomes the opportunity to respond to the Victorian Government's draft 30-year infrastructure strategy and recommendations.

The Heart Foundation is Australia's trusted for-purpose organisation working to improve heart disease prevention, detection, and support for all people living in Australia. Cardiovascular disease is the cause of 1 in 4 of all deaths in Australia, with more than half of the population having 3 or more key risk factors for cardiovascular disease.<sup>52 53</sup>

Physical inactivity remains a major health issue and is calculated to cost Australia \$2.4 billion each year in additional health costs alone.<sup>54</sup> Most cardiovascular disease risk factors are preventable through a healthy lifestyle, including a healthy diet, regular exercise and maintaining a healthy weight <sup>55</sup>. In 2022, 77% of people aged 15 years and over did not meet physical activity guidelines, and two thirds of adults were living with overweight or obesity, placing them at increased risk of cardiovascular disease and a range of other chronic diseases.<sup>56,57</sup>

The built and natural environments, together with transport mode choice, can play a significant role in helping people engage in regular physical activity, reducing their risk of developing cardiovascular disease.<sup>58</sup>

## Support for the draft strategy

The recommendations as set out in the draft Strategy should help increase levels of physical activity, reduce transport emissions and improve heart health for people living in Australia. The draft Strategy provides an integrated, holistic approach which will help address social, environmental and cultural determinants of health. The Heart Foundation has recently released our 25-year vision for heart health in Australia, 'Health for Every Heart'. In our vision, we note the need to create environments and systems that enable healthy behaviours.

To this end, the Heart Foundation offers our support that Victoria's 30-year draft Infrastructure Strategy aligns mixed land use and transport planning, in compact cities with speed limits of 30 kph in local streets.

Further to this, the inclusion within the Strategy for community facilities such as libraries and aquatic centres, public open space, helping government schools share their grounds, and shade and greenery will contribute to more walkable, liveable local neighbourhoods and built environments.

The Heart Foundation further offers our support for the following initiatives and recommendations contained in the draft Strategy:

- Build safe cycling networks
- Improved public transport
- Rezoning locations near existing infrastructure for more home choices and mandating more affordable homes near existing infrastructure

## References

<sup>1</sup> Cantilina et. al. 2021. 'Approaches and barriers to Addressing Equity in Transportation: Experiences of Transportation practitioners'. Published in Sage Journals 8 June 2021, Vol. 2675, Issue 10. <https://journals.sagepub.com/doi/full/10.1177/03611981211014533>



- <sup>2</sup> Wolański M, 2023, The Potential Role of Railway Stations and Public Transport Nodes in the Development of “15-Minute Cities”. *Infrastructures*. 2023; 8(10):141. <https://doi.org/10.3390/infrastructures8100141>
- <sup>3</sup> Cleland V, Ball K, Dollman J, & Turrell G. (2019). Action area 7: Disadvantaged populations. In *Blueprint for an active australia*. 3rd ed. Melbourne, Australia: National Heart Foundation of Australia.
- <sup>4</sup> Giles-Corti et.al., 2022. 'Spatial and socioeconomic inequities in liveability in Australia's 21 Largest cities: Does city size matter?'. Published in *Health and Place Journal* Vol 78, Nov 2022. <https://www.sciencedirect.com/science/article/pii/S1353829222001605>
- <sup>5</sup> Ward, C, Walsh D, 2023, 'I just don't go nowhere: How Transportation disadvantage reinforces social exclusion', published in *Journal of Transport Geography*, Vol 110 June 2023, <https://doi.org/10.1016/j.jtrangeo.2023.103627>
- <sup>6</sup> McCormack et. Al. 2008. 'The relationship between destination proximity, destination mix and physical activity behaviours'. Published in *Pub Med Journal* vol 46 Jan 2008. <https://pubmed.ncbi.nlm.nih.gov/17481721/>
- <sup>7</sup> Heart Foundation. 2019. 'Blueprint for an Active Australia'. Third edition. <https://www.heartfoundation.org.au/getmedia/6c33122b-475c-4531-8c26-7e7a7b0eb7c1/Blueprint-For-An-Active-Australia.pdf>
- <sup>8</sup> Grodach C, Kamruzzaman L and Harper L, n.d. '20 Minute Neighbourhood – Local Living Research project', Monash University, Mambourin Report – Staging Community Infrastructure, Prepared for Resilient Melbourne, [https://www.planning.vic.gov.au/\\_data/assets/pdf\\_file/0026/653255/Mambourin-Report-Staging-Community-Infrastructure.pdf](https://www.planning.vic.gov.au/_data/assets/pdf_file/0026/653255/Mambourin-Report-Staging-Community-Infrastructure.pdf)
- <sup>9</sup> Giles-Corti B et al. 2019. Action area 1: Built environments. In: White K, editor. *Blueprint for an Active Australia* 3rd ed. Melbourne: National Heart Foundation of Australia.
- <sup>10</sup> Monica L. Wang, Marie-Rachelle Narcisse, Pearl A. McElfish, 2022, 'Higher walkability associated with increased physical activity and reduced obesity among United States adults', published in *Obesity – A Research Journal*, 12 Dec 2022, Vol 31 Issue 2, pp553-564. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9877111/>
- <sup>11</sup> Makram et. Al., 2023, 'Favourable Neighbourhood Walkability is Associated with Lower Burden of Cardiovascular Risk Factors Among Patients Within an integrated Health System', <https://www.sciencedirect.com/science/article/abs/pii/S0146280623000592>
- <sup>12</sup> Nieuwenhuijsen M, 2020, 'Urban and transport planning pathways to carbon neutral, liveable and healthy cities: A review of the current evidence', published in *Environment International* Vol 140 July 2020, <https://doi.org/10.1016/j.envint.2020.105661>
- <sup>13</sup> Fishman, E., Naseri, M., Davies, L., Tran, J., and Katsu, T, 2024, 'Prioritising Active transport', report prepared for Austroads, [https://austroads.gov.au/\\_data/assets/pdf\\_file/0031/653368/AP-R711-24\\_Prioritising\\_Active\\_Transport.pdf](https://austroads.gov.au/_data/assets/pdf_file/0031/653368/AP-R711-24_Prioritising_Active_Transport.pdf)
- <sup>14</sup> Jurewicz C, Sobhani A, Woolley J, Dutschke J and Corben B, 2016, 'Exploration of Vehicle Impact Speed – Injury Severity Relationships for Application in Safer Road Design', published in *Transportation Research Procedia* V14 2016 pp4247-4256, [Exploration of Vehicle Impact Speed – Injury Severity Relationships for Application in Safer Road Design - ScienceDirect](https://www.sciencedirect.com/science/article/pii/S2468111816300000)
- <sup>15</sup> Sarkar et. Al. 2021. 'New Housing Supply, Population Growth, and Access to Social infrastructure'. Australian Housing and Urban Research Institute Ltd Melbourne. <https://www.ahuri.edu.au/sites/default/files/migration/documents/AHURI-Final-Report-356-New-housing-supply-population-growth-and-access-to-social-infrastructure.pdf>
- <sup>16</sup> Larsen K, Bullung R, Faulkner G, 2013, 'Safety and School Travel: How does the environment along the route relate to safety and mode choice?' *Transport Res Rec*, pp 9-18.
- <sup>17</sup> Badland, H., Villanueva, K., Alderton, A., Davern, M., & Goldfeld, S. (2023). An urban neighbourhood framework for realising progress towards the New Urban Agenda for equitable early childhood development. *Children's Geographies*, 21(6), 1087–1105. <https://doi.org/10.1080/14733285.2023.2192339>
- <sup>18</sup> Citation: Salmon J, Ridgers N, Morgan P, et al. Action area 9: Children and adolescents. In: *Blueprint for an Active Australia*. 3rd ed. Melbourne: National Heart Foundation of Australia, 2019.
- <sup>19</sup> Citation: Salmon J, Ridgers N, Morgan P, et al. Action area 9: Children and adolescents. In: *Blueprint for an Active Australia*. 3rd ed. Melbourne: National Heart Foundation of Australia, 2019.
- <sup>20</sup> Brouillard, M., Coleja E., Gadaleta, T., and Lang, K., 2024, 'Walking our Way to a Healthier Australia', published in *Heart, Lung and Circulation*, Volume 33, Issue 1p144 January 2024, [https://www.heartlungcirc.org/article/S1443-9506\(24\)00017-9/fulltext](https://www.heartlungcirc.org/article/S1443-9506(24)00017-9/fulltext)
- <sup>21</sup> Zhang S, Chen L, Qian Z, et al., 2024, Associations between air pollution and the risk of first admission and multiple readmissions for cardiovascular diseases. *Heart*. 2024;110(5):337-345. doi:10.1136/heartjnt-2023-322682
- <sup>22</sup> Miller M et. Al., 2024, 'World Heart Report 2024 – Clearing the Air to address pollution's cardiovascular health crisis', World Heart Federation, [https://world-heart-federation.org/wp-content/uploads/World\\_Heart\\_Report\\_Online.pdf](https://world-heart-federation.org/wp-content/uploads/World_Heart_Report_Online.pdf)
- <sup>23</sup> World Heart Federation. World Heart Report 2024: clearing the air to address pollution's cardiovascular health crisis. 2024. Accessed 24 June 2024. <https://world-heart-federation.org/resource/world-heart-report-2024/>
- <sup>24</sup> World Heart Federation. (2023). *World Heart Report 2023: Confronting the world's number one killer*. <https://world-heart-federation.org/wp-content/uploads/World-Heart-Report-2023.pdf>
- <sup>25</sup> de Bont J, Jaganathan S, Dahlquist M, Persson Å, Stafoggia M, Ljungman P., 2022, Ambient air pollution and cardiovascular diseases: An umbrella review of systematic reviews and meta-analyses. *J Intern Med*. Jun 2022;291(6):779-800. doi:10.1111/joim.13467
- <sup>26</sup> World Heart Federation, 2024, 'World heart Report 2024: Clearing the Air to Address Pollution's Cardiovascular Health Crisis'. Geneva, Switzerland, [https://world-heart-federation.org/wp-content/uploads/World\\_Heart\\_Report\\_Online.pdf](https://world-heart-federation.org/wp-content/uploads/World_Heart_Report_Online.pdf), date accessed 1 July 2024

- <sup>27</sup> World Heart Federation, 2024, 'World heart Report 2024: Clearing the Air to Address Pollution's Cardiovascular Health Crisis', Geneva, Switzerland, [https://world-heart-federation.org/wp-content/uploads/World\\_Heart\\_Report\\_Online.pdf](https://world-heart-federation.org/wp-content/uploads/World_Heart_Report_Online.pdf), date accessed 1 July 2024
- <sup>28</sup> UN Habitat, n.d., 'Climate Change', <https://unhabitat.org/topic/climate-change>, date accessed 4 Sept 2024
- <sup>29</sup> Delafoulhouze, M., 2021, 'Cities in Australia are a major cause of emissions – but they can be a part of the climate solution too', blog published 15 Nov 2021, Climateworks Centre, Melbourne, <https://www.climateworkscentre.org/project/net-zero-cities/>
- <sup>30</sup> Department of Climate Change, Energy, the Environment and Water, 2024, 'Reducing Transport Emissions', <https://www.dcceew.gov.au/energy/transport>, date accessed: 27 August 2024
- <sup>31</sup> Department of Climate Change, Energy, the Environment and Water, 2024, 'Reducing Transport Emissions', <https://www.dcceew.gov.au/energy/transport>, date accessed: 27 August 2024
- <sup>32</sup> Climate Council, 2017, 'Transport Emissions: Driving Down Car Pollution in Cities' Fact Sheet, <https://www.climatecouncil.org.au/wp-content/uploads/2017/09/FactSheet-Transport.pdf> date accessed 4 Sept 2024
- <sup>33</sup> Jacobsen, A. P., Khiew, Y. C., Duffy, E., O'Connell, J., Brown, E., Auwaerter, P. G., Blumenthal, R. S., Schwartz, B. S., & McEvoy, J. W. (2022). Climate change and the prevention of cardiovascular disease. *Am J Prev Cardiol*, 12, 100391. <https://doi.org/10.1016/j.ajpc.2022.100391>
- <sup>34</sup> Department of Health and Aged Care, Australian Government, 2023, 'National Health and Climate Strategy', <https://www.health.gov.au/sites/default/files/2023-12/national-health-and-climate-strategy.pdf>
- <sup>35</sup> Jacobsen AP, Khiew YC, Duffy E, O'Connell J, Brown E, Auwaerter PG, Blumenthal RS, Schwartz BS, McEvoy JW. Climate change and the prevention of cardiovascular disease. *Am J Prev Cardiol*. 2022 Sep 11;12:100391. doi: 10.1016/j.ajpc.2022.100391. PMID: 36164332; PMCID: PMC9508346.
- <sup>36</sup> Mizdrak A, Blakely T, Cleghorn CL, Cobiack LJ. Potential of active transport to improve health, reduce healthcare costs, and reduce greenhouse gas emissions: A modelling study. *PLoS One*. 2019 Jul 17;14(7):e0219316. doi: 10.1371/journal.pone.0219316. PMID: 31314767; PMCID: PMC6636726.
- <sup>37</sup> Patterson R, Webb E, Hone T, Millett C, Lavery AA. Associations of Public Transportation Use With Cardiometabolic Health: A Systematic Review and Meta-Analysis. *Am J Epidemiol*. 2019 Apr 1;188(4):785-795. doi: 10.1093/aje/kwz012. PMID: 30689686; PMCID: PMC6438807
- <sup>38</sup> Celis-Morales C, Lyall D, Welsh P, Anderson J, Steell L, Guo Y, Maldonado R, Mackay D, Pell J, Saattar N, Gill J. 2017, 'Association between active commuting and incident cardiovascular disease, cancer and mortality: prospective cohort study', published in *The BMJ*, 19 April 2017, 357:j1456, <https://doi.org/10.1136/bmj.j1456>
- <sup>39</sup> Litman T, 2025, 'Evaluating Active Transport Benefits and Costs: Guide to Valuing Walking and Cycling Improvements and Encouragement Programs', Victoria Transport Policy Institute Canada
- <sup>40</sup> Litman T, 2025, 'Evaluating Active Transport Benefits and Costs: Guide to Valuing Walking and Cycling Improvements and Encouragement Programs', Victoria Transport Policy Institute Canada
- <sup>41</sup> Climate Council of Australia, 2023, 'Shifting Gear: The Path to Cleaner Transport', ACT, [https://www.climatecouncil.org.au/wp-content/uploads/2023/05/CC\\_MVSA0354-CC-ReportRoad-to-Personal-Transport\\_V5-FA-Screen-Single.pdf](https://www.climatecouncil.org.au/wp-content/uploads/2023/05/CC_MVSA0354-CC-ReportRoad-to-Personal-Transport_V5-FA-Screen-Single.pdf)
- <sup>42</sup> McCormack GR, Rock M, Toohey AM, Hignell D. 2010, Characteristics of urban parks associated with park use and physical activity: A review of qualitative research. *Health Place*. Jul 1;16(4):712–26
- <sup>43</sup> Davern M, Farrar A, Kendal D, Giles-Corti B, 2027, 'Quality Green Space Supporting Health, Wellbeing and Biodiversity: A Literature Review', report prepared for the Heart Foundation, Government of South Australia and Local Government Association of South Australia, [https://lrp.cdn-website.com/541aa469/files/uploaded/Green\\_Spaces\\_Evidence\\_Review\\_-\\_FINAL\\_website.pdf](https://lrp.cdn-website.com/541aa469/files/uploaded/Green_Spaces_Evidence_Review_-_FINAL_website.pdf)
- <sup>44</sup> Feng, X., Navakatikyan, M., Eckermann S., and Astell-Burt, T., 2024, 'Show me the money! Associations between tree canopy and hospital costs in cities for cardiovascular disease events in a longitudinal cohort study of 110,134 participants'. *Environment International*, 185, 108558.
- <sup>45</sup> Moxley E, 2022, 'Green Space and Heart Health – What's the Connection', Preventative Cardiovascular Nurses Association, <https://pcna.net/green-space-and-heart-health-whats-the-connection/> date accessed 27 June 2024
- <sup>46</sup> Plans E, Gullón P, Cebrecos A, Fontán M, Díez J, Nieuwenhuijsen M, Franco M. 2019, Density of Green Spaces and Cardiovascular Risk Factors in the City of Madrid: The Heart Healthy Hoods Study. *Int J Environ Res Public Health*. Dec 5;16(24):4918. doi: 10.3390/ijerph16244918. PMID: 31817351; PMCID: PMC6950753.
- <sup>47</sup> Christensen T, 2023, 'For green spaces to be most beneficial, they need to be walkable', published in American Heart Association News 30 Nov 2023, <https://www.heart.org/en/news/2023/11/30/for-green-spaces-to-be-most-beneficial-to-health-they-need-to-be-walkable> date accessed 27 June 2024
- <sup>48</sup> Christensen T, 2023, 'For green spaces to be most beneficial, they need to be walkable', published in American Heart Association News 30 Nov 2023, <https://www.heart.org/en/news/2023/11/30/for-green-spaces-to-be-most-beneficial-to-health-they-need-to-be-walkable> date accessed 27 June 2024
- <sup>49</sup> Cardinali M, Beenackers M, van Timmeren A, Pottgiesser U, 2024, 'The relation between proximity to and characteristics of green spaces to physical activity and health: A multi-dimensional sensitivity analysis in four European cities', published in *Environmental Research* Vol 241, 15 January 2024, <https://doi.org/10.1016/j.envres.2023.117605>

- <sup>50</sup> Christensen T, 2023, 'For green spaces to be most beneficial, they need to be walkable', published in American Heart Association News 30 Nov 2023, <https://www.heart.org/en/news/2023/11/30/for-green-spaces-to-be-most-beneficial-to-health-they-need-to-be-walkable> date accessed 27 June 2024
- <sup>51</sup> Christensen T, 2023, 'For green spaces to be most beneficial, they need to be walkable', published in American Heart Association News 30 Nov 2023, <https://www.heart.org/en/news/2023/11/30/for-green-spaces-to-be-most-beneficial-to-health-they-need-to-be-walkable> date accessed 27 June 2024
- <sup>52</sup> Australian Institute of Health and Welfare. 2024. Heart, stroke and vascular disease: Australian facts. (Accessed 22 July 2024). <https://www.aihw.gov.au/reports/heart-stroke-vascular-diseases/hsvd-facts/contents/risk-factors/multiple-risk-factors>
- <sup>53</sup> Australian Institute of Health and Welfare. Heart, stroke and vascular disease: Australian facts (Internet). Canberra: Australian Institute of Health and Welfare, 2024 (cited 2025 Apr. 16). Available from: <https://www.aihw.gov.au/reports/heart-stroke-vascular-diseases/hsvd-facts>
- <sup>54</sup> Australian Institute of Health and Welfare. 2023. Economics of Sport and Physical Activity Participation and Injury. (Accessed 22 July 2024). [www.aihw.gov.au/reports/sports-injury/economics-of-sport-and-physical-activity/contents/about](http://www.aihw.gov.au/reports/sports-injury/economics-of-sport-and-physical-activity/contents/about)
- <sup>55</sup> World Health Organization. (2021). *Cardiovascular diseases (CVDs)*. Retrieved 4 Oct 2024 from <https://www.who.int/news-room/fact-sheets/detail/cardiovascular-diseases-cvds>
- <sup>56</sup> Australian Bureau of Statistics, 2024, 'National Health Survey: State and Territory findings', <https://www.abs.gov.au/statistics/health/health-conditions-and-risks/national-health-survey-state-and-territory-findings/latest-release#tasmania> Accessed: 18 Sept 2024
- <sup>57</sup> Tasmanian Government Department of Health, 2023, 'Results from the Tasmanian Population Health Survey 2022 released, [https://www.health.tas.gov.au/news/news/results-tasmanian-population-health-survey-2022-released#:~:text=Three%20percent%20of%20Tasmanians%20regularly,%2C%2034%20percent%20in%202022\),](https://www.health.tas.gov.au/news/news/results-tasmanian-population-health-survey-2022-released#:~:text=Three%20percent%20of%20Tasmanians%20regularly,%2C%2034%20percent%20in%202022),) accessed 18 Sept 2024
- <sup>58</sup> Australian Institute of Health and Welfare. (2024). *Built environment and health*. Retrieved 4 Oct 2024 from <https://www.aihw.gov.au/reports/australias-health/built-environment-and-health>